

PITTSBORO PEDESTRIAN TRANSPORTATION PLAN

the town of pittsboro, north carolina | 2009



Prepared for:
**The Town of Pittsboro, NC and
The North Carolina Department of Transportation,
Division of Bicycle and Pedestrian Transportation**



Prepared By:
Greenways Incorporated

ACKNOWLEDGEMENTS

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Division of
Bicycle &
Pedestrian
Transportation

EXECUTIVE SUMMARY *for the* PITTSBORO PEDESTRIAN TRANSPORTATION PLAN

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OVERVIEW

The Town of Pittsboro, local organizations and individual citizens have long been involved in efforts to improve conditions for pedestrian safety, access, and mobility. This plan combines past planning efforts with new research and analysis, plus a full public input process. The result is a complete, up-to-date framework for moving forward with tangible pedestrian transportation improvements.

VISION STATEMENT

Vision statements and project goals were collected through public workshops, project steering committee meetings, input from Town staff, and an online survey of local residents. These were combined, condensed, and crafted into the following:

“Pittsboro’s vision is to develop a comprehensive and connected pedestrian network that provides safe access to homes, schools, workplaces, park and recreational facilities, and other important destinations as part of an active and walkable community. We envision children walking safely to school, seniors walking to nearby destinations, citizens moving safely in high traffic areas, tourists moving about community and downtown areas easily on foot, and motor vehicles driving at safe speeds in Pittsboro. Pittsboro’s goals and objectives will help guide town officials, staff, citizens, and other stakeholders to help make this vision a reality.”

BENEFITS OF PEDESTRIAN TRANSPORTATION

Communities across the United States and throughout the world are implementing strategies for serving the walking needs of their residents, and have been doing so for many years. They do this because of their

obligations to promote health, safety and welfare, and also because of the growing awareness of the many benefits of walking. Walking helps to improve people’s health and fitness, enhance environmental conditions, decrease traffic congestion, and contributes to a greater sense of community. Scores of studies from experts in the fields of public health, urban planning, urban ecology, real estate, transportation, sociology, and economics have supported such claims and have acknowledged the substantial value of supporting walking as it relates to active living and alternative transportation. *See Chapter 1 for details.*

EXISTING CONDITIONS

Pittsboro has a minimal and incomplete sidewalk network and few town-owned off-road pathways. Some sidewalks are in place but, overall, they are disconnected and limited to a few arterials and collectors. In recent years, the town has required developers to install sidewalks but they are characterized more as piecemeal sections than a network. This has left many important destinations not well served by a pedestrian system, including the community college and most residences. Few intersections in town have either marked crosswalks or pedestrian signals. The primary routes through downtown – 15-501 and US 64 – are both difficult to cross for pedestrians, especially during daylight hours. Town officials and NC DOT have made an effort to improve the sidewalk network in recent years. *These efforts and other plans and studies are summarized in Chapter 2.*

THE TOWN OF PITTSBORO, NORTH CAROLINA

Clockwise, starting top left: A sidewalk project in Potterstone Village, Pittsboro; a natural surface greenway trail at Town Lake Park, Pittsboro; the American Tobacco Trail, a regional example of a paved surface greenway trail; and, a pedestrian crossing at the County Courthouse, Pittsboro



RECOMMENDATIONS

A variety of sources were consulted during the development of the Pedestrian Network: previous plans and studies, maps of existing pedestrian conditions, the consultant’s fieldwork inventory, public input, and noted pedestrian trip attractors. The Proposed Pedestrian Network for Pittsboro consists of sidewalk projects, crossing improvements, and off-road greenways. Together these proposed facilities should be developed or improved to create a safe and connected pedestrian network throughout the Town.

IDENTIFYING PROJECTS PRIORITIES

The criteria used to rank each segment was based on public input, steering committee input, and data collected pertaining to Pittsboro’s existing conditions. Furthermore, the criteria were weighted according to standards used throughout North Carolina, and modified to reflect input from Pittsboro’s online public survey results. For details on this process, see Appendix E.

FACILITY DEVELOPMENT

Chapter 5 describes different construction methods for the proposed pedestrian facilities, covering the following:

- NCDOT Transportation Improvement Program
- Local Roadway Construction and Reconstruction
- Residential and Commercial Development
- Retrofit Roadways with New Pedestrian Facilities
- Bridge Construction or Replacement
- Signage and Wayfinding Projects
- Existing Town Easements

FUNDING

Implementing the recommendations of this plan will require a combination of funding sources that include local, state, federal, and private money. Appendix B defines and describes 30 possible funding sources that could be used to support the planning, design and development of pedestrian and greenway improvements.

PRIORITY PEDESTRIAN FACILITIES AND ESTIMATED COSTS

Priority Rank	Pedestrian Route	From	To	Facility Type	New Sidewalk or Trail, Total LF	Sidewalk Cost: \$50-\$75/ LF	Trail Cost: \$133/ LF	# of new crosswalks	New Crosswalks Total LF	\$4.80/LF	Totals
1	Courthouse Roundabout	East & West (US 64)	Hillsboro & Sanford (15-501)	Crosswalk Improvements	0	\$0	\$0	1	22	\$106	\$105.60
2	Hillsboro (15-501)	East & West (US 64)	Launis	New Sidewalk & Crosswalk, Plus Improvements	1,800	\$90,000	\$0	11	264	\$1,267	\$91,267.20
3	East (US 64)	Hillsboro & Sanford (15-501)	Martin Luther King Jr	New Sidewalk & Crosswalks	2,400	\$120,000	\$0	13	405	\$1,944	\$121,944.00
4	West (US 64)	NC 87	Hillsboro & Sanford (15-501)	Crosswalk Improvements	0	\$0	\$0	14	429	\$2,059	\$2,059.20
5	Creek Corridor	Chatham County Community College	Town Lake Park	Multi-Use Trail/Greenway	3,000	\$0	\$399,000	2	79	\$379	\$399,379.00
6	Graham Rd (NC 87)	West (US 64)	Cooper Farm Rd	New Sidewalk & Crosswalks	6,680	\$501,000	\$0	3	72	\$346	\$501,345.60
7	Sanford (15-501)	East & West (US 64)	Horton	New Sidewalk & Crosswalks	2,420	\$181,500	\$0	9	216	\$1,037	\$182,536.80
8	Hillsboro (15-501)	Powell Place/Lowes	Launis	New Sidewalk & Crosswalks	14,560	\$1,092,000	\$0	10	240	\$1,152	\$1,093,152.00
9	Goldston (NC 87)/Pitts. Elem. School Rd	West (US 64)	McClenahan	New Sidewalk & Crosswalks	4,000	\$300,000	\$0	4	96	\$461	\$300,460.80
10	Salisbury	Credle	CCCC & West (US 64)	New Sidewalk & Crosswalks	6,320	\$474,000	\$0	10	240	\$1,152	\$475,152.00
11	Sewer Easement	Town Lake Park	Cornwallis	Multi-Use Trail/Greenway	4,000	\$0	\$532,000	0	0	\$0	\$532,000.00
12	Sanford (15-501)	Horton	Moncure-Pittsboro & Goldston (NC 87)	New Sidewalk & Crosswalks	3,640	\$273,000	\$0	6	144	\$691	\$273,691.20
<i>grand total:</i>											\$3,973,093

Sidewalk linear foot costs: \$75 is used when curb and gutter are included; \$50 is used when curb and gutter are not included. Crosswalk linear foot costs: \$4.80 assumes high-visibility thermoplastic striping. Greenway trail costs: \$700 per mile is recommended by NCDOT and is used for the table below, although some NC municipalities have built them for less (\$500-\$600K)

Legend

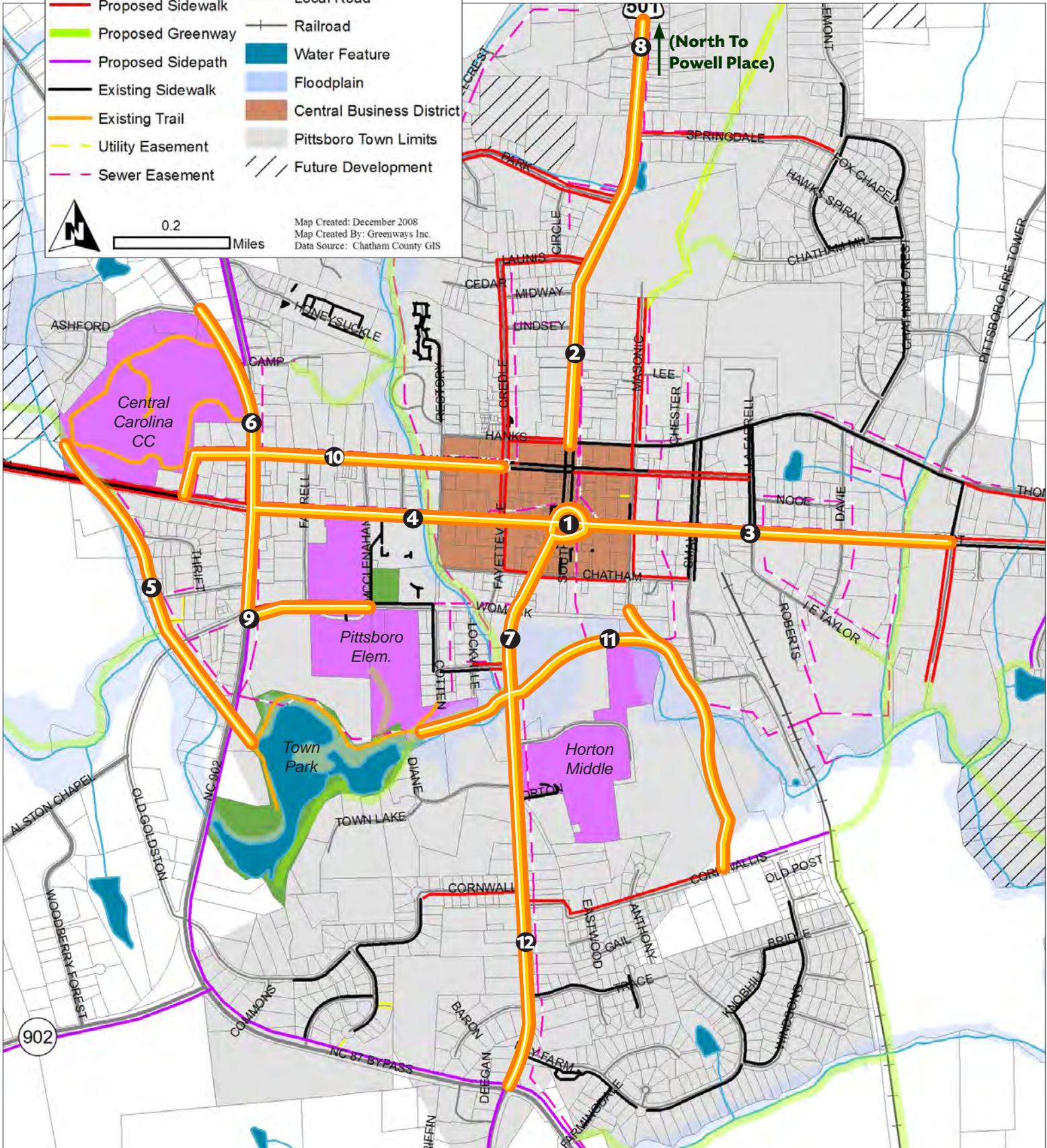
- | | |
|---|---------------------------|
| # Top Priority Labels
(match to table on p. E-5) | — Federal Highway |
| Top Priority Segments | — State Road |
| Proposed Sidewalk | — Local Road |
| Proposed Greenway | — Railroad |
| Proposed Sidepath | Water Feature |
| Existing Sidewalk | Floodplain |
| Existing Trail | Central Business District |
| Utility Easement | Pittsboro Town Limits |
| Sewer Easement | Future Development |



0.2 Miles

Map Created: December 2008
 Map Created By: Greenways Inc.
 Data Source: Chatham County GIS

**TOP 12 PRIORITY PEDESTRIAN PROJECTS
 TOWN OF PITTSBORO**



PUBLIC INPUT

Appendix A summarizes the various avenues of public outreach that were employed to gather input during the planning process, including the comment form, two public workshops and other forms of outreach. Below are some key findings, according to the 140+ people who submitted comments through the online comment form:

- 94 percent said that the goal of creating a walkable community is “very important”.
- People are walking for both transportation and recreation, but most are walking only a few times per month.
- 82 percent identified “availability of a safe route” as the top factor in whether or not they choose to walk; other key factors influencing the choice to walk include “the need for exercise” and “weather”.
- The lack of sidewalks and trails, unsafe crossings, and deficient sidewalks were identified as the top factors that keep people from walking in Pittsboro.
- Conversely, the top needs identified include crossing improvements, improved greenway and trail systems, new and improved sidewalks, and pedestrian-friendly land uses.
- 15-501 and US 64 were identified as the top roadway corridors most in need of sidewalk improvements.
- The top three walking destinations people would most like to get to are restaurants, shopping, and greenways.
- 95 percent said that public funds should be used to improve pedestrian facilities (sidewalks, crosswalks, trails, etc.), including state and federal grants, capital improvements bonds, and existing local taxes.



Images from the Pedestrian Planning Workshop at the Pittsboro Farmers Market, 2008.



PROGRAMS + POLICIES

Meeting the goals of the Town of Pittsboro Pedestrian Transportation Plan will require more than construction and installation of recommended pedestrian facilities. It will also require the initiation and continued support of pedestrian-related programs from the local officials, local residents, and community organizations. In addition, the implementation of these facilities and programs will require the adoption and enforcement of new pedestrian-related policies. Chapter 4 outlines recommended programs, policies, and in some cases, policy changes for the Town of Pittsboro.

KEY ACTION STEPS

- 1) Adopt this Plan
- 2) Begin Top Priority Projects
- 3) Improve and Enforce City Regulations
- 4) Support Continued Efforts of the Parks and Recreation Advisory Board
- 5) Take Advantage of All Opportunities
- 6) Seek Multiple Funding Sources and Facility Development Options
- 7) Develop Pedestrian Programming
- 8) Ensure Planning Efforts Are Integrated Regionally



CHAPTER OUTLINE:

1.0 OVERVIEW

1.1 VISION STATEMENT

1.2 MEASURABLE GOALS

1.3 THE PLAN AND THE PLANNING PROCESS

1.4 PUBLIC BENEFITS OF PEDESTRIAN TRANSPORTATION

1.0 OVERVIEW

The Town of Pittsboro, local organizations and individual citizens have long been involved in efforts to improve conditions for pedestrian safety, access, and mobility. Most recently, in 2007, the Town applied for and was awarded a grant from the North Carolina Department of Transportation (NCDOT) to conduct a comprehensive pedestrian planning process. This plan combines past planning efforts with new research and analysis, plus a full public input process. The result is a complete, up-to-date framework for moving forward with tangible pedestrian transportation improvements.

A Steering Committee composed of local citizens, town staff, regional planners, and public health advocates was assembled to guide the development of the Pedestrian Transportation Plan. Greenways Incorporated, an alternative transportation planning firm, led the planning process. Having included a significant public input component, this document is a result of the dedication and efforts of the Town of Pittsboro and its residents.

This document presents an assessment of existing pedestrian facilities in Pittsboro, along with the findings of the public input process. From these findings, a set of phased recommendations is developed for a pedestrian system that meets the current and future needs of local residents. These recommendations include an integration of both on-road and off-road pedestrian facilities along with improved roadway crossings. The recommendations include both physical changes and policy changes to help guide pedestrian-friendly growth. The Plan also provides program recommendations to promote walking and funding sources to facilitate the Plan's implementation.

1.1 VISION STATEMENT

Vision statements and project goals were collected through public workshops, project steering committee meetings, input from Town staff, and an online survey of local residents. These were combined, condensed, and crafted into the vision statement on page 2. The statement expresses the desired outcome of the plan, as opposed to current conditions.

Pittsboro's Pedestrian Plan Vision Statement:

"Pittsboro's vision is to develop a comprehensive and connected pedestrian network that provides safe access to homes, schools, workplaces, park and recreational facilities, and other important destinations as part of an active and walkable community. We envision children walking safely to school, seniors walking to nearby destinations, citizens moving safely in high traffic areas, tourists moving about community and downtown areas easily on foot, and motor vehicles driving at safe speeds in Pittsboro. Pittsboro's goals and objectives will help guide town officials, staff, citizens, and other stakeholders to help make this vision a reality."

1.2 GOALS AND OBJECTIVES

These goals reflect input from local residents, the project Steering Committee, and the project goals of the Town staff and NCDOT. While the Town of Pittsboro must lead the effort to fulfill these goals, overall success will require continued, active participation and encouragement from local residents and community organizations.

Goal 1: Increase routine walking for transportation and recreation.

- Objective A: Increase signage to promote safe walking.
- Objective B: Increase media and programs to promote safe walking.
- Objective C: Increase overall walking trips.

Goal 2: Improve pedestrian safety along roadways, at intersections, and off-road.

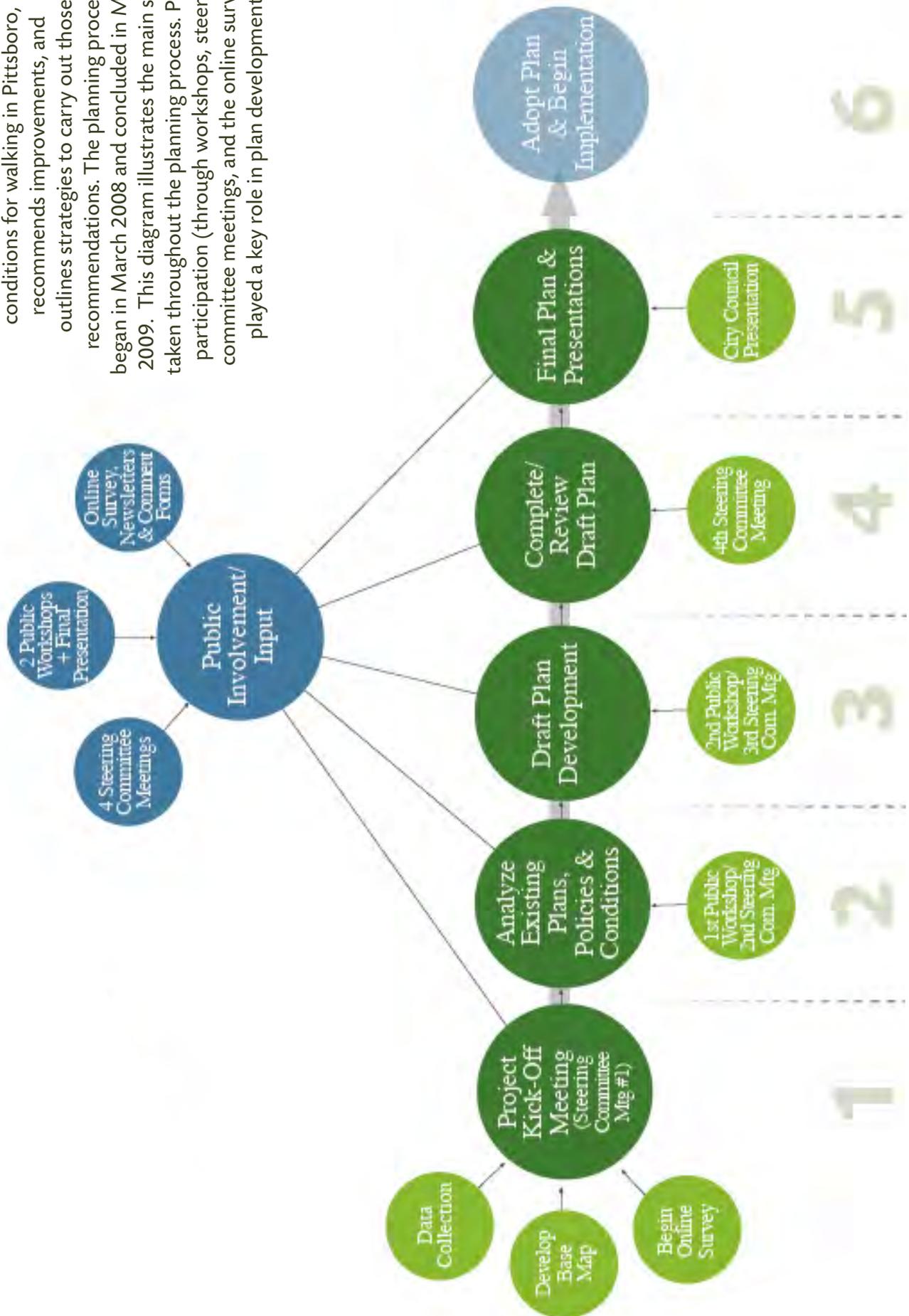
- Objective A: Increase the ratio of roads with sidewalks.
- Objective B: Increase connectivity of the existing sidewalk network.
- Objective C: Increase off-road paved and unpaved walkways.
- Objective D: Increase law enforcement patrols to increase motorists' yielding to pedestrian.
- Objective E: Reduce automobile traffic speeds in town.
- Objective F: Increase the ratio of intersections with appropriate crossing devices, e.g. crosswalks, ped heads, ped signs.

Goal 3: Include updates for pedestrian transportation in new comprehensive land use plan.

- Objective A: Update the requirements for sidewalks and walkable areas to be included in development plans.
- Objective B: Develop design plans and criteria for sidewalks and public space.
- Objective C: Develop a plan for looping area existing sidewalks that will connect to a destination.
- Objective D: Develop safety features along roadway and highway to point out pedestrian usage of sidewalks.

1.3 THE PLAN AND THE PLANNING PROCESS

This plan communicates the current conditions for walking in Pittsboro, recommends improvements, and outlines strategies to carry out those recommendations. The planning process began in March 2008 and concluded in March 2009. This diagram illustrates the main steps taken throughout the planning process. Public participation (through workshops, steering committee meetings, and the online survey) played a key role in plan development.



1.4 PUBLIC BENEFITS OF PEDESTRIAN TRANSPORTATION

When considering the level of dedication in time and valuable resources that it will take to fulfill the goals of this plan, it is also important to assess the immense value of pedestrian transportation. As stated in comments from over 230 Town of Pittsboro residents, walking will help to improve people’s health and fitness, enhance environmental conditions, decrease traffic congestion, and will contribute to a greater sense of community.

Scores of studies from experts in the fields of public health, urban planning, urban ecology, real estate, transportation, sociology, and economics have supported such claims and have acknowledged the substantial value of supporting walking as it relates to active living and alternative transportation. Communities across the United States and throughout the world are implementing strategies for serving the walking needs of their residents, and have been doing so for many years. They do this because of their obligations to promote health, safety and welfare, and also because of the growing awareness of the many benefits of walking.



By providing attractive, safe, and accessible places for people to walk (such as this sidewalk corridor heading downtown from West 64), the Town will encourage increased health and physical activity among its residents.

INCREASED HEALTH AND PHYSICAL ACTIVITY

A growing number of studies show that the design of our communities—including neighborhoods, towns, transportation systems, parks, trails and other public recreational facilities—affects people’s ability to reach the recommended daily 30 minutes of moderately intense physical activity (60 minutes for youth). According to the Centers for Disease Control and Prevention (CDC), “physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic.” The increased rate of disease associated with inactivity reduces quality of life for individuals and increases medical costs for families, companies, and local governments.

The CDC determined that creating and improving places to be active could result in a 25 percent increase in the number of people who exercise at least three times a week.

The CDC determined that creating and improving places to be active could result in a 25 percent increase in the number of people who exercise at least three times a week. This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits. The establishment of a safe and reliable network of sidewalks and trails in Pittsboro will have a positive impact on the health of local residents. The Rails-to-Trails Conservancy puts it simply: “Individuals must choose to exercise, but communities can make that choice easier.”

ECONOMIC BENEFITS

Walking is an affordable form of transportation. According to the Pedestrian and Bicycle Information Center (PBIC), of Chapel Hill, NC, the cost of operating a car for a year is approximately \$5,170, while walking is virtually free. The PBIC explains, “When safe facilities are provided for pedestrians and bicyclists, more people are able to be productive, active members of society. Car ownership is expensive, and consumes a major portion of many Americans’ income.”

Walking becomes even more attractive from an economic standpoint when the rising price of oil (and decreasing availability) is factored into the equation. Since 2000, oil prices have more than quadrupled. The rising cost of fuel reinforces the idea that local communities should be built to accommodate people-powered transportation, such as walking and biking. Pittsboro’s traditional mixed-use and generally compact land development pattern, combined with new strategies for improving pedestrian transportation, could allow for a local reduction in auto- and oil-dependency.

From a real estate standpoint, consider the positive impact of trails and greenways, which are essential components of a complete pedestrian network. According to a 2002 survey of homebuyers by the National Association of Home Realtors and the National Association of Home Builders, *trails* ranked as the second most important community amenity out of a list of 18 choices (incidentally, ‘highway access’ ranked first). Additionally, the study found that ‘trail availability’ outranked 16 other options including security, ball fields, golf courses, parks, and access to shopping or business centers. Findings from the American Planning Association (*How Cities Use Parks for Economic Development*, 2002), the Rails-to-Trails Conservancy (*Economic Benefits of Trails and Greenways*, 2005), and the Trust for Public Land (*Economic Benefits of Parks and Open Space*, 1999) further substantiate the positive connection between trails and property values across the country.

ENVIRONMENTAL IMPROVEMENTS

When people choose to get out of their cars and walk, they make a positive environmental impact. They reduce their use of gasoline, which then reduces the volume of pollutants in the air. Other environmental impacts can be a reduction in overall neighborhood noise levels and improvements in local water quality as fewer automobile-related discharges wind up in the local rivers, streams, and lakes. Furthermore, every car trip replaced with a pedestrian trip reduces U.S. dependency on fossil fuels, which is a national goal.

Trails and greenways are also part of the pedestrian network, conveying their own unique environmental benefits. Greenways protect and link fragmented habitat and provide opportunities for protecting plant and animal species. Aside from connecting places without the use of air-polluting automobiles, trails and greenways also reduce air pollution by protecting large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metal. Finally, greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, preventing soil erosion and filtering pollution caused by residential development and agricultural and road runoff.



*Environmental benefits can be further promoted through walking by offering interpretive signs that educate passers by about the local environment and environmental systems.
(Photo from americantrails.org)*



By walking for our trips that are less than 2 miles, we could eliminate 40% of local car trips.

TRANSPORTATION BENEFITS

In 2001, the National Household Travel Survey found that roughly 40% of all trips taken by car are less than 2 miles. By taking these short trips on foot, rather than in a car, citizens can have a substantial impact on local traffic and congestion. Additionally, many people do not have access to a vehicle or are not able to drive. An improved pedestrian network provides greater and safer mobility for these residents.

According to the Brookings Institution, the number of older Americans is expected to double over the next 25 years. All but the most fortunate seniors will confront an array of medical and other constraints on their mobility even as they continue to seek an active community life. Trails that are built as part of the pedestrian transportation network generally do not allow for motor vehicles. However, they do accommodate motorized wheelchairs, which is an important asset for the growing number of senior citizens who deserve access to independent mobility.

For age demographic projections specific to Chatham County, please consult the Chatham County Council on Aging. As seen in Appendix A, the majority of survey respondents were over the age of 45, indicating a very engaged demographic.

Children under the age of 16 are another important subset of our society who deserve access to safe mobility. According to the *U.S. Environmental Protection Agency*, fewer children walk or bike to school than did so a generation ago: In the past few decades, the percent of students between the ages of 5 and 15 who walked or biked to or from school has dropped from roughly 50% to about 15%.

QUALITY OF LIFE

Many factors go into determining the quality of life for the citizens of a community: the local education system, prevalence of quality employment opportunities, and affordability of housing are all items that are commonly cited. Increasingly though, citizens claim that access to alternative means of transportation and access to quality recreational opportunities such as parks, trails, greenways, and bicycle routes, are important factors for them in determining their overall pleasure within their community. Communities with such amenities can attract new businesses, industries, and in turn, new residents. Furthermore, quality of life is positively impacted by walking through the increased social connections that take place by residents being active, talking to one another and spending more time outdoors and in their communities.

**PEDESTRIAN TRANSPORTATION PLAN
EXISTING CONDITIONS**

MAP 2.8: EXISTING PEDESTRIAN CONDITIONS

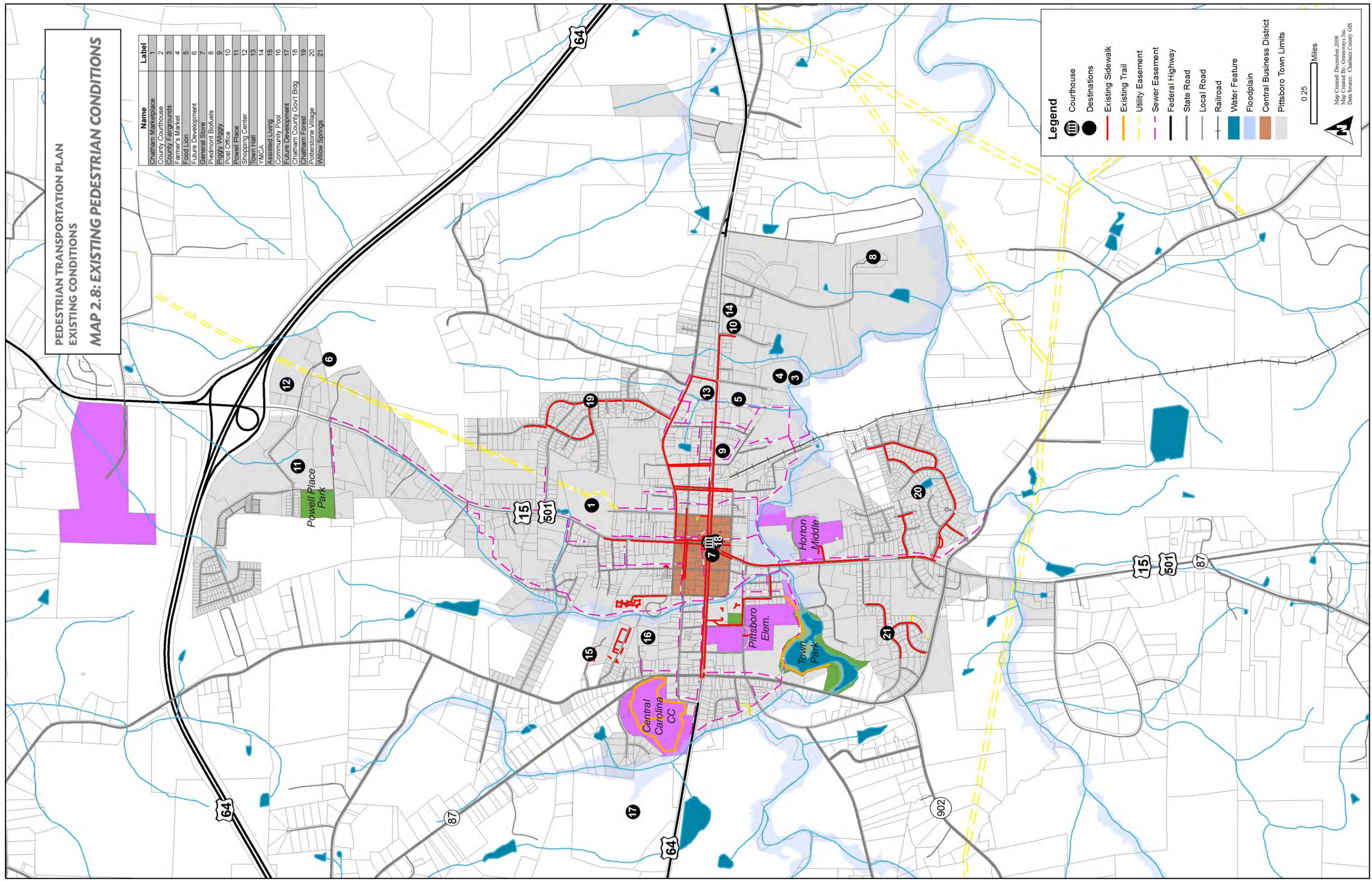
Name	Label
Chatham Marketplace	1
County Courthouse	2
County Fairgrounds	3
Farmer's Market	4
Food Lion	5
Future Development	6
General Store	7
Piedmont Biofuels	8
Piggly Wiggly	9
Post Office	10
Powell Place	11
Shopping Center	12
Town Hall	13
YMCA	14
Assisted Living	15
Community Pool	16
Future Development	17
Chatham County Gov't Bldg	18
Chatham Forest	19
Potterstone Village	20
Willow Springs	21

Legend

- Courthouse
- Destinations
- Existing Sidewalk
- Existing Trail
- Utility Easement
- Sewer Easement
- Federal Highway
- State Road
- Local Road
- Railroad
- Water Feature
- Floodplain
- Central Business District
- Pittsboro Town Limits

0.25 Miles

Map Created: December 2008
Map Created By: Greenways Inc.
Data Source: Chatham County GIS



*Note: This page was intentionally left blank to
accommodate the 11x17 fold-out map
for the previous page.*



EXISTING CONDITIONS

CHAPTER OUTLINE:

2.0 OVERVIEW

2.1 DEMOGRAPHICS

2.2 LAND USE AND DEVELOPMENT

2.3 TRIP ATTRACTORS

2.4 PEDESTRIAN CONDITIONS

2.6 CURRENT PEDESTRIAN USE AND NEEDS

2.7 SUMMARY OF EXISTING DOCUMENTS

2.0 OVERVIEW

This chapter provides an inventory of existing conditions related to pedestrian planning and pedestrian facilities in the Town of Pittsboro, North Carolina. Much of the information presented below originally appeared in the Town of Pittsboro's pedestrian planning grant application to the North Carolina Department of Transportation (NCDOT). Additional research and all mapping was developed specifically for this chapter, including the results from the online public comment form, and intersection inventory and analysis.

2.1 DEMOGRAPHICS

Incorporated Pittsboro is a small community, comprising three square miles, with an extraterritorial jurisdiction (ETJ) of 44 square miles. Thus, Pittsboro is potentially very walkable because distances between destinations are minimal. Aside from the 2009-estimated population for the Town of Pittsboro (3,175 within the town limits and 2,820 in the ETJ), most of the demographic information in this section relies on data from the 2000 Census. As of the writing of this plan, this data is dated, yet remains the best source of broad demographic data for the Town.

In 2000, the racial/ethnic distribution was 64% white, 27% African-American, and Hispanics represented 9% of the population. Pittsboro had a median age of 39.3 and many new families with children were moving to town, spurred on by new residential developments. Pittsboro had been experiencing annual growth rates of 3.5% until recently; a more realistic growth rate projecting out from now would be 5% (or higher).

Also in 2000, 12.7% of households had someone who was 65 or older. The many older residents with limited mobility options could better "age in place" if the town was more pedestrian-friendly. The town hosts three assisted living facilities with a total population of 245 people and an autism center with a resident population of 15. Other user groups include Hispanics, who have recently arrived in large numbers in Chatham County. Many of these new residents do not drive and must walk out of necessity. Important user groups also include children who could walk to/from school if the street system was safer, visitors who shop in town on weekend, and employees of downtown offices.

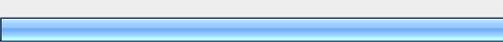
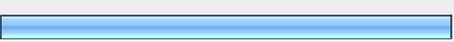
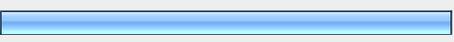
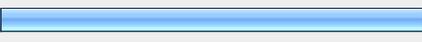
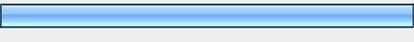
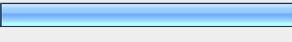
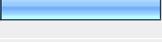
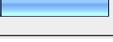
2.2 LAND USE AND DEVELOPMENT

Pittsboro’s street landscape is changing as it grows. Several recent residential subdivisions, Chatham Forest and Potterstone Village continue to build-out and will reach a total of 389 homes. Another large mixed-use subdivision, Powell Place, is in the early phases of development and will ultimately host 1010 housing units. In addition, four other developers hope to receive approval and begin construction of large subdivisions within the next two years, which would add 15,000 new residents in Pittsboro over the next ten years inside the corporate limits. These new developments will bring opportunities to improve the pedestrian network in addition to the influx of new pedestrians and vehicles.

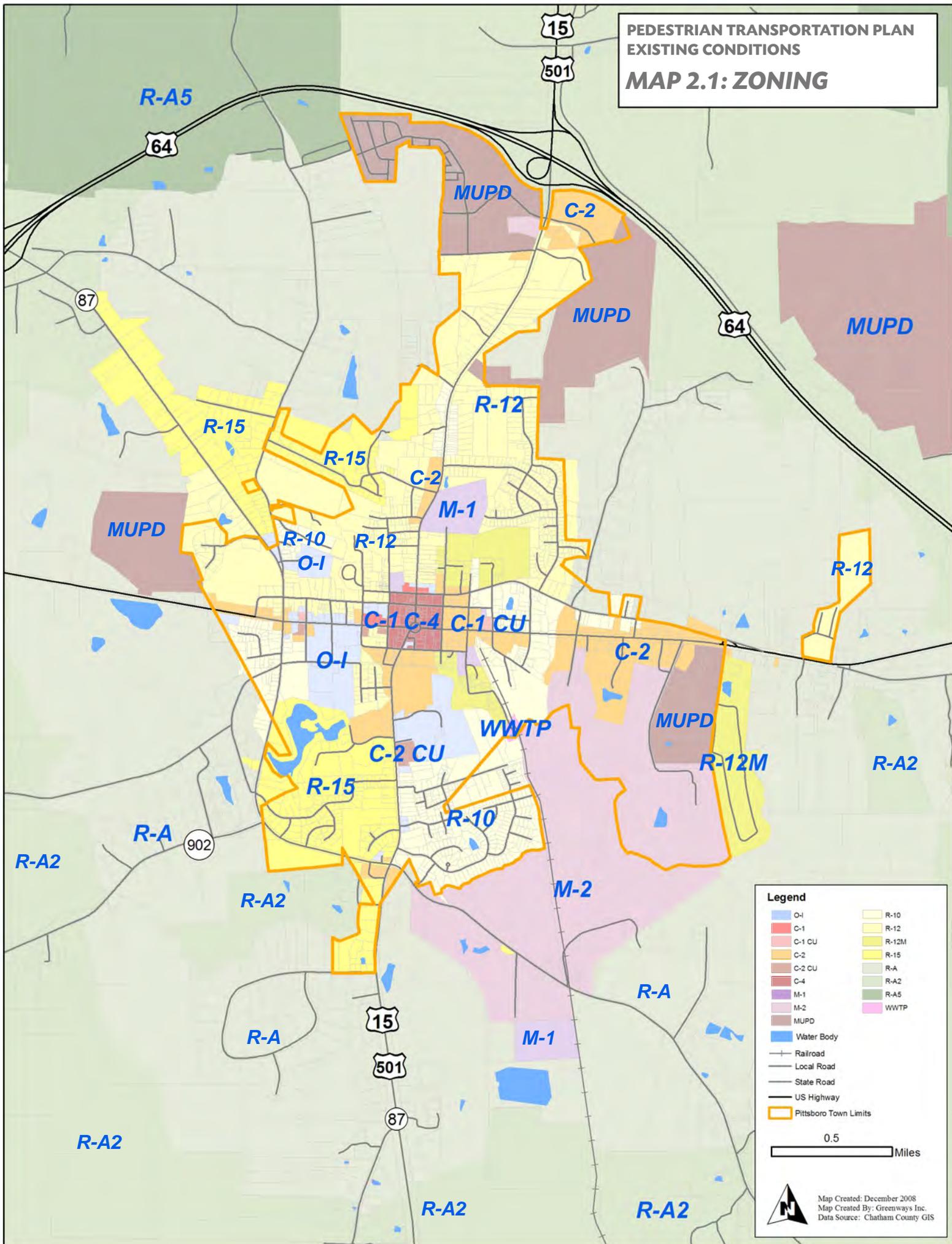
2.3 TRIP ATTRACTORS

Pittsboro is the seat of Chatham County and serves as headquarters for county government. Pittsboro Elementary School, Horton Middle School, and Central Carolina Community College are located in Pittsboro, serving as routine destinations for students of all ages (Northwood High School is separated from town by US 64, and less accessible). Pittsboro’s downtown is also known as a regional tourist destination because of its concentration of antique shops, galleries, and restaurants. Other businesses, services, and shopping destinations are located in downtown, which generate many trips - and opportunities for conflicts – for motor vehicles and pedestrians. In the center of Pittsboro, at the convergence of US 64 and 15-501, sits the Chatham County courthouse within one of the region’s few traffic circles, providing a welcoming vista for arriving motorists.

The chart below is from the online comment form (see Appendix A for full results), which shows walking destinations (a.k.a. ‘trip attractors’) people would most like to get to in Pittsboro.

What walking destinations would you most like to get to? Select all that apply.			
		Response Percent	Response Count
Restaurants		82.6%	109
Shopping		73.5%	97
Trails and greenways		73.5%	97
Parks		68.9%	91
Libraries or recreation centers		67.4%	89
Entertainment		47.7%	63
Public Transportation		28.8%	38
Place of work		25.8%	34
School		17.4%	23

**PEDESTRIAN TRANSPORTATION PLAN
EXISTING CONDITIONS
MAP 2.1: ZONING**



Legend

O-1	R-10
C-1	R-12
C-1 CU	R-12M
C-2	R-15
C-2 CU	R-A
C-4	R-A2
M-1	R-A5
M-2	WWTP
MUPD	

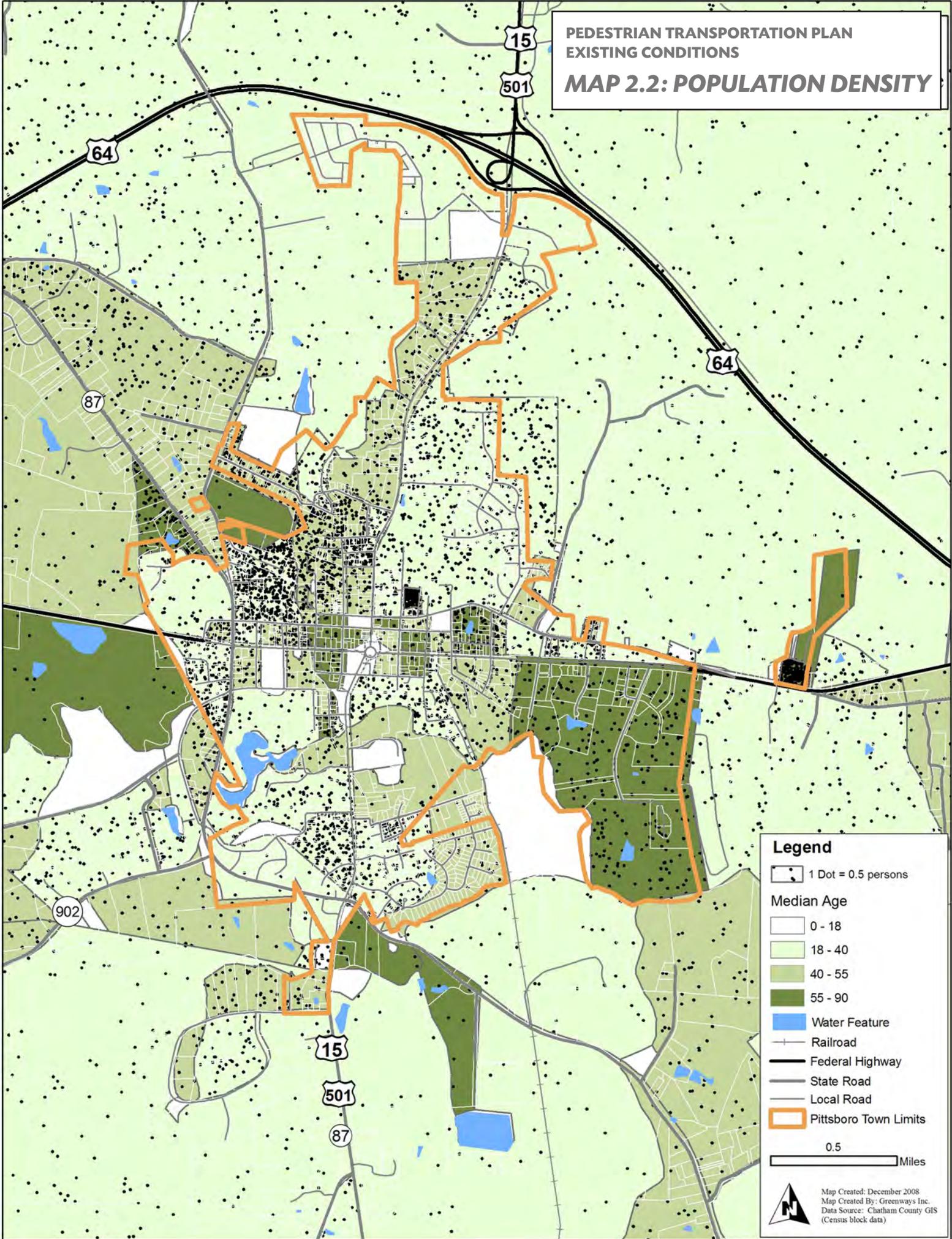
Water Body
 Railroad
 Local Road
 State Road
 US Highway
 Pittsboro Town Limits

0.5 Miles

Map Created: December 2008
 Map Created By: Greenways Inc.
 Data Source: Chatham County GIS

PEDESTRIAN TRANSPORTATION PLAN
EXISTING CONDITIONS

MAP 2.2: POPULATION DENSITY



Insert 11x17 fold-out:

MAP 2.8: EXISTING PEDESTRIAN CONDITIONS

*Note: This page was intentionally left blank to
accommodate the 11x17 fold-out map
for the previous page.*

2.4 PEDESTRIAN CONDITIONS

Pittsboro has a minimal and incomplete sidewalk network and few town-owned off-road pathways. Some sidewalks are in place but, overall, they are disconnected and limited to a few arterials and collectors. In recent years, the town has required developers to install sidewalks but they are characterized more as piecemeal sections than a network. This has left many important destinations not well served by a pedestrian system, including the community college and most residences. Few intersections in town have either marked crosswalks or pedestrian signals. The primary routes through downtown – 15-501 and US 64 – are both difficult to cross for pedestrians, especially during daylight hours.

Town officials and NC DOT have made an effort to improve the sidewalk network in recent years. In 2003, as a result of enhancement and local match funding, 4,110 feet of new sidewalks were constructed on Thompson Street and Pittsboro Elementary School Road. NC DOT has also included 7,300 feet of new sidewalk extensions along US 15-501 North in the 2007-2013 Transportation Improvement Plan. Town Lake Park has approximately one mile of unpaved trails and Central Carolina Community College hosts a one mile paved walking loop on its campus. This popular amenity is heavily used by walkers and joggers of all ages but it is disconnected – blocks away from the nearest sidewalk. Other barriers include a lack of adequate public right-of-way in key locations, such as on NC 87 just north of the intersection of US 64 and nearby to the community college (*note: funding was recently established for sidewalk improvements on NC 87, north from US 64*).



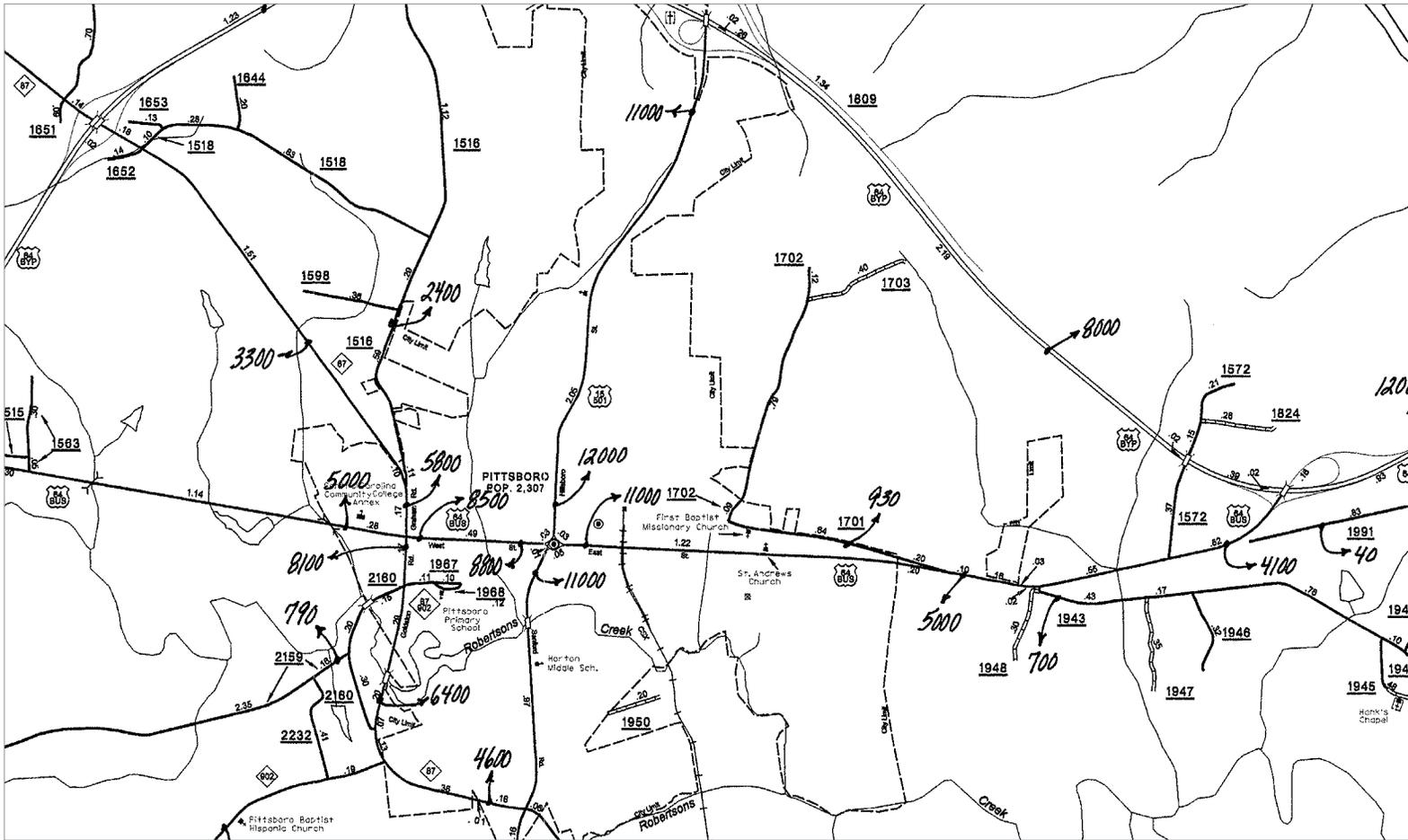
Pedestrian conditions are good in many areas of town, but could be greatly improved with simple additions (such as placing crosswalks along US 64, shown above).



The trail at Central Carolina Community College is a resource for pedestrians that could be better connected to downtown Pittsboro.

Annual Average Daily Traffic (AADTs)

This map shows the estimated daily traffic volumes on roads in the Town of Pittsboro (NCDOT, 2006)



NCDOT Crash Data

The following statistics are from North Carolina police-reported bicycle and pedestrian crashes (NCDOT, Division of Bicycle and Pedestrian Transportation, 2008).

<i>Pedestrian Crash Type - Pittsboro, NC</i>	1997	1998	1999	2000	2001	2002	2003	2004	2005	<i>Totals</i>
Dart-Out	0	0	0	0	0	0	0	1	0	1
Exiting/Entering Parked Vehicle	0	0	0	0	0	0	0	1	0	1
Motorist Left Turn - Opposite Direction	0	0	0	1	0	0	0	0	0	1
Pedestrian Failed to Yield	0	1	1	0	0	0	0	0	0	2
Walking on Road w/traffic; from behind	0	0	0	0	0	0	1	1	0	2
Totals	0	1	1	1	0	0	1	3	0	7

<i>Chatham Co. City & Rural Pedestrian Crashes</i>	1997	1998	1999	2000	2001	2002	2003	2004	<i>Totals</i>
Goldston	1	0	0	0	0	1	0	0	2
Non-City (Rural)	3	5	2	3	3	5	7	4	32
Pittsboro	0	1	1	1	0	0	1	3	7
Siler City	0	5	0	5	1	2	4	2	19
Totals	4	11	3	9	4	8	12	12	60

<i>Pedestrian Crash Type, Chatham County</i>	1997	1998	1999	2000	2001	2002	2003	2004	2005	<i>Totals</i>
Backing Vehicle - other/unknown	0	0	0	1	0	0	0	0	0	1
Backing Vehicle - parking lot	0	1	0	0	0	0	1	0	0	2
Dart-Out	0	0	0	1	0	0	0	1	0	2
Dash	2	0	0	0	0	0	2	0	0	4
Disabled Vehicle-Related	0	1	1	0	0	0	1	0	0	3
Driverless Vehicle	0	1	0	1	2	0	0	0	0	4
Emergency Vehicle-Related	0	0	0	0	0	0	1	0	0	1
Exiting/Entering Parked Vehicle	0	0	0	0	0	0	0	1	0	1
Motorist Left Turn - Opp. Direction	0	0	0	1	0	0	0	0	0	1
Off Roadway - parking lot	0	0	0	0	0	2	1	0	0	3
Other - non-intersection	0	1	0	0	0	1	0	0	0	2
Other - standing in the roadway	1	1	1	0	0	0	0	0	1	4
Pedestrian Failed to Yield	0	3	1	2	0	1	1	2	2	12
Pedestrian on Vehicle	0	0	0	0	0	0	0	1	0	1
Play-Vehicle Related	0	1	0	0	0	1	1	0	0	3
School Bus-Related	0	0	0	0	0	1	0	0	0	1
Vehicle-Vehicle/Object	0	1	0	1	1	0	1	0	1	5
Waiting to Cross: vehicle action unkn.	0	0	0	1	0	0	0	0	0	1
Walking on Road; against traffic; from behind	0	0	0	0	0	0	1	0	0	1
Walking on Road; against traffic; from front	1	0	0	0	0	0	0	0	0	1
Walking along Road; position unknown	0	1	0	0	0	0	0	0	0	1
Walking on Road w/traffic; from behind	0	0	0	1	1	1	1	3	2	9
Walking on Road w/traffic; from front	0	0	0	0	0	1	0	0	0	1
Working in Roadway	0	0	0	0	0	0	1	1	0	2
<i>Totals</i>	4	11	3	9	4	8	12	9	6	66

<i>Injury Type</i>	<i>Totals</i>
K Killed	12
A Type Injury (disabling)	11
B Type Injury (evident)	16
C Type Injury (possible)	27
O No Injury	4
Unknown	2
Totals	72

2.6 CURRENT PEDESTRIAN USE AND NEEDS

Citizens are interested in quality of life issues particularly in relation to their personal health and fitness. The Town of Pittsboro views this as an important goal to work towards in providing safe pedestrian sidewalks and walkways to enjoy and to experience healthy lifestyles.

Information about current pedestrian use and needs was gathered through an online comment form. Appendix A summarizes the various avenues of public outreach that were employed to gather input during the planning process (including the comment form), and features charts and graphs that outline the findings. Below are some key findings, according to the 140+ people who submitted comments through the online survey:

- 94 percent said that the goal of creating a walkable community is “very important”.
- People are walking for both transportation and recreation, but most are walking only a few times per month.
- 82 percent identified “availability of a safe route” as the top factor in whether or not they choose to walk; other key factors influencing the choice to walk include “the need for exercise” and “weather”.
- The lack of sidewalks and trails, unsafe crossings, and deficient sidewalks were identified as the top factors that keep people from walking in Pittsboro.
- Conversely, the top needs identified include crossing improvements, improved greenway and trail systems, new and improved sidewalks, and pedestrian-friendly land uses.
- 15-501 and US 64 were identified as the top roadway corridors most in need of sidewalk improvements.
- The top three walking destinations people would most like to get to are restaurants, shopping, and greenways.
- 95 percent said that public funds should be used to improve pedestrian facilities (sidewalks, crosswalks, trails, etc.), including state and federal grants, capital improvements bonds, and existing local taxes.

2.7 SUMMARY OF EXISTING DOCUMENTS + PLANNING EFFORTS

This Plan will build on past pedestrian planning efforts in the Town of Pittsboro. In particular, the contributions of the Safe Roads Committee and the Parks and Recreation Advisory Committee are valuable to the process and are summarized below. Existing planning documents are also summarized in this section, only as they relate to pedestrian planning. Recommended amendments to these plans are not included in this chapter, but can be found in Chapter 4: Programs and Policies.

Safe Roads Committee

In 1999, Pittsboro town officials convened a task force of citizens known as the Safe Roads Committee. This group conducted a comprehensive assessment of transportation safety issues through surveys, crash reports, and by inventorying sidewalks and pathways in town. The committee used assessment findings to propose a sidewalk map/plan for the town. In subsequent years, Pittsboro was awarded TEA-21 enhancement grants and District 8 discretionary funding to construct sidewalks along key corridors in town. Residents are now benefiting from the addition of several sidewalks resulting from the citizen led process.

Parks and Recreation Advisory Board (PARAB)

In 2006, the town council formed the Parks and Recreation Advisory Board (PARAB), a group of citizens from Pittsboro and the ETJ that is staffed by the town manager and advises the Town on parks- and recreation-related issues. The PARAB has initiated projects to improve not just parks and programming, but is addressing other quality of life issues, including pedestrian transportation, bicycle transportation, land use planning, and policies that will result in a more livable community. Timing for this grant is very good. PARAB members will be involved in an upcoming process to reconsider language that could influence pedestrians in the Comprehensive Plan. The committee also plans to assess the quality of current ordinances, design standards, and other policies.

Goals of the PARAB include influencing new development in town to include connected and walkable residential subdivisions. In addition, new parks will be built as part of a connected transportation system that serves the needs of all users, including pedestrians and bicyclists.

Some PARAB members also served on the Pedestrian Plan Steering Committee, attending meetings (left) and conducting public outreach (right).



Land Use Plan (2002 +2008 Update)

The existing Land Use Plan contains supporting statements about making Pittsboro a walkable town. It contains a recommendation that the zoning ordinance be amended to require sidewalks in new non-residential development. In addition, subdivision regulations require new projects to include sidewalks.

The 2002 Plan is being updated to reflect recent changes in the region and current and future growth and development, using the transect model for guiding growth in according to defined set of development intensity tiers (see map on following page). Recommendations from the update support the needs of pedestrians.

T4 GENERAL NEIGHBORHOOD



Note the restaurant and shop on the upper left corner. Amenities and services are within easy walking distance in the General Neighborhood District, thus reducing the number of cars on the road in these areas, which protects air quality.

The General Neighborhood District (GND) provides places for the town to grow into that are generally more than a quarter-mile from the Town Core. The GND seeks to promote communities centered around their own small "neighborhood centers" so that amenities and services associated with being "in-town" are within reasonable walking distance. There should also be enough households within walking distance to support these neighborhood centers.





Site design is extremely important to control the walkability and functionality of the neighborhood as well as creating a strong distinction between public (schools, pocket parks, streets, etc.) and private spaces.

Where would the General Neighborhood be located in the Transect Development Tier Map Scenario?

(General Neighborhood areas are in yellow)



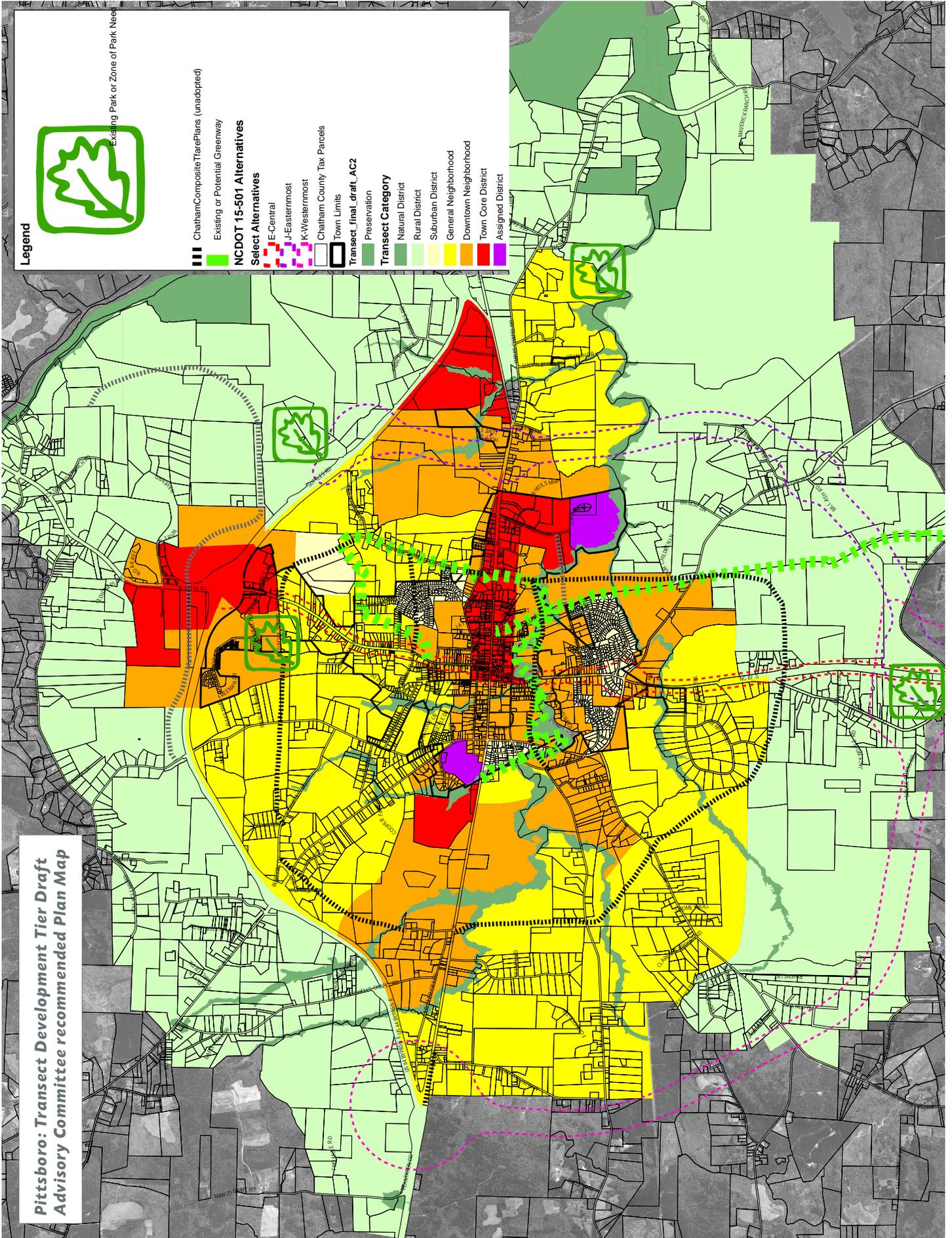
Development Focus Group Scenario - Created by Land Development Partners & Builders



TRANSECT



Left: Example summary sheet for one of seven development tiers defined in the Land Use Plan Update.



Zoning Ordinance (1994, amended 2007)

Some language within the Zoning Ordinance is supportive of pedestrian accommodations. However, there are opportunities for improvement in terms of policy that enhances the development of pedestrian-friendly environments. The policy section of Chapter 4 highlights specific recommendations for text amendments.

Subdivision Regulations (1993)

Pittsboro’s Subdivision Regulations define street classifications, without mention of the words “pedestrian”, “sidewalk”, “multi-modal”, “bicycle”, etc. Simple updates of street and street element definitions could be an opportunity for incorporation of ‘Complete Streets’ concepts.

Section 6. “Suitability of Land” and section 6.5 b “Easements, Dedications, and Reservations”, could include stronger language for greenways and greenways trail dedication and could be tied to recommended greenways in the Pedestrian Plan.

Section 6.2 “Streets”, should include requirements for pedestrian facilities such as sidewalks and crosswalks and could be tied to design standards of the Pedestrian Plan.

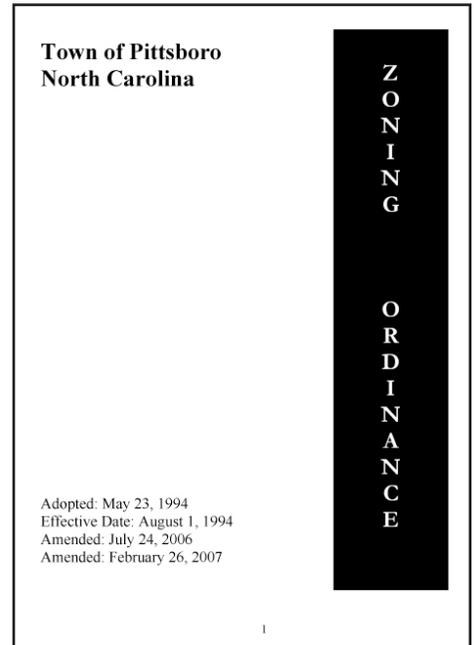
For more on ‘Complete Streets’ and other policy recommendations, see Chapter 4: Programs and Policies.

Chatham Parks and Recreation Plan

The Chatham Parks and Recreation Plan serves as a guide for the prioritization of recommended park upgrades, expansions and land acquisitions. The Plan emphasizes the potential for ‘connectivity’ of proposed projects with existing parks, schools, and greenways, and it recognizes the importance of alternative transportation systems in encouraging more active lifestyles. The plan also contains survey results (representing approximately 945 persons) indicating an overwhelming desire for increased walking, jogging, bicycle trails and open space (in the context of a full range of other recreational facilities available for survey respondents to choose from). Chapter Four of the Parks and Recreation Plan states that, “It is very clear from the [public] remarks that the participants want trails for hiking, walking, biking and horseback riding. The participants also support the idea of greenway trails that link various destination points within and without of the County.” Such a high level of countywide support for trails and greenways is a step in the right direction for regional pedestrian connectivity.

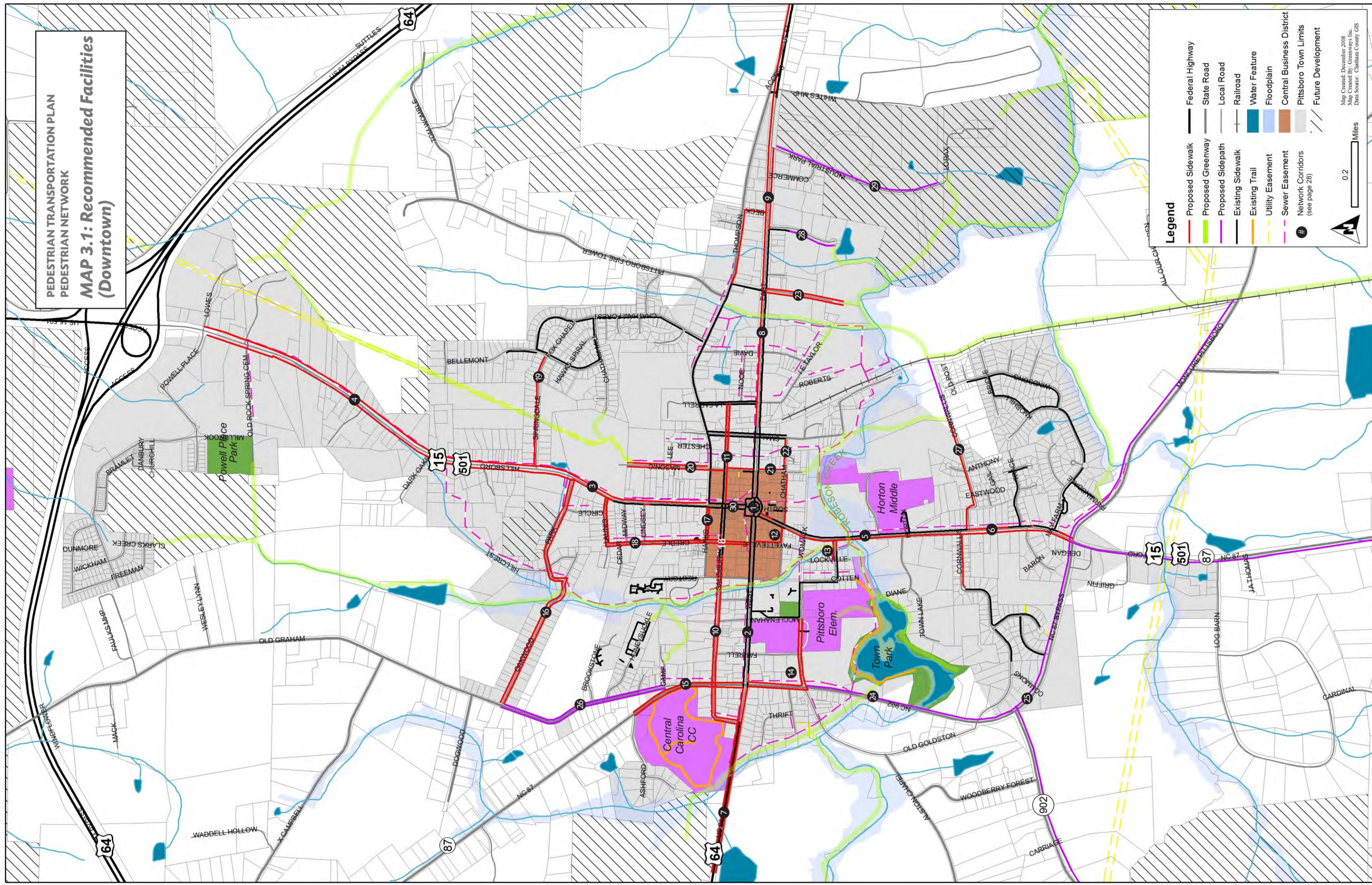
Town of Pittsboro Parks and Recreation Master Plan (Draft Planning Stage)

The PARAB and the Town of Pittsboro are currently working on drafting the first Parks and Recreation Master Plan for the Town that will be more suited to the needs of existing and projected Town and ETJ parks and recreation facilities.



“It is very clear from the [public] remarks that the participants want trails for hiking, walking, biking and horseback riding. The participants also support the idea of greenway trails that link various destination points within and without of the County.”

PEDESTRIAN TRANSPORTATION PLAN
PEDESTRIAN NETWORK
MAP 3.1: Recommended Facilities
(Downtown)

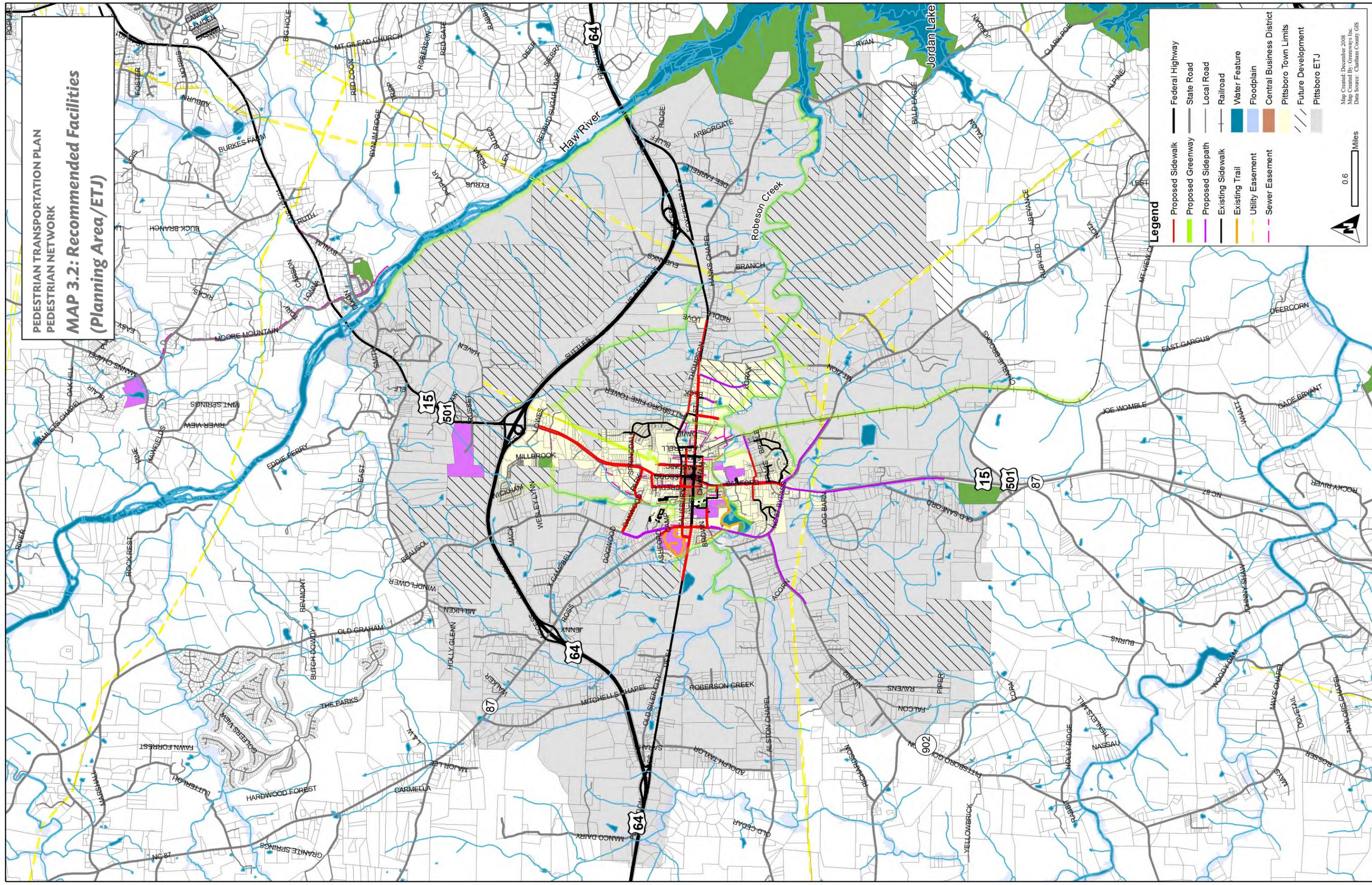


- Legend**
- Proposed Sidewalk
 - Proposed Greenway
 - Proposed Sidepath
 - Existing Sidewalk
 - Existing Trail
 - Utility Easement
 - Sewer Easement
 - Network Corridors (see page 28)
 - Federal Highway
 - State Road
 - Local Road
 - Railroad
 - Water Feature
 - Floodplain
 - Central Business District
 - Pittsboro Town Limits
 - Future Development

Map Created: December 2008
 Map Created By: Greenways Inc.
 Data Source: Chatham County GIS

0.2 Miles

**PEDESTRIAN TRANSPORTATION PLAN
PEDESTRIAN NETWORK
MAP 3.2: Recommended Facilities
(Planning Area/ETJ)**



Legend

- Proposed Sidewalk
- Proposed Greenway
- Proposed Sidepath
- Existing Sidewalk
- Existing Trail
- Utility Easement
- Sewer Easement
- Federal Highway
- State Road
- Local Road
- Railroad
- Water Feature
- Floodplain
- Central Business District
- Pittsboro Town Limits
- Future Development
- Pittsboro ETJ



0.6 Miles

Map Created: December 2006
Map Created By: Greenways, Inc.
Data Source: Chatham County GIS



PEDESTRIAN NETWORK

CHAPTER OUTLINE:

3.0 OVERVIEW

3.1 METHODOLOGY

3.2 THE PEDESTRIAN NETWORK

3.3 NETWORK CORRIDORS

3.4 INTERSECTIONS

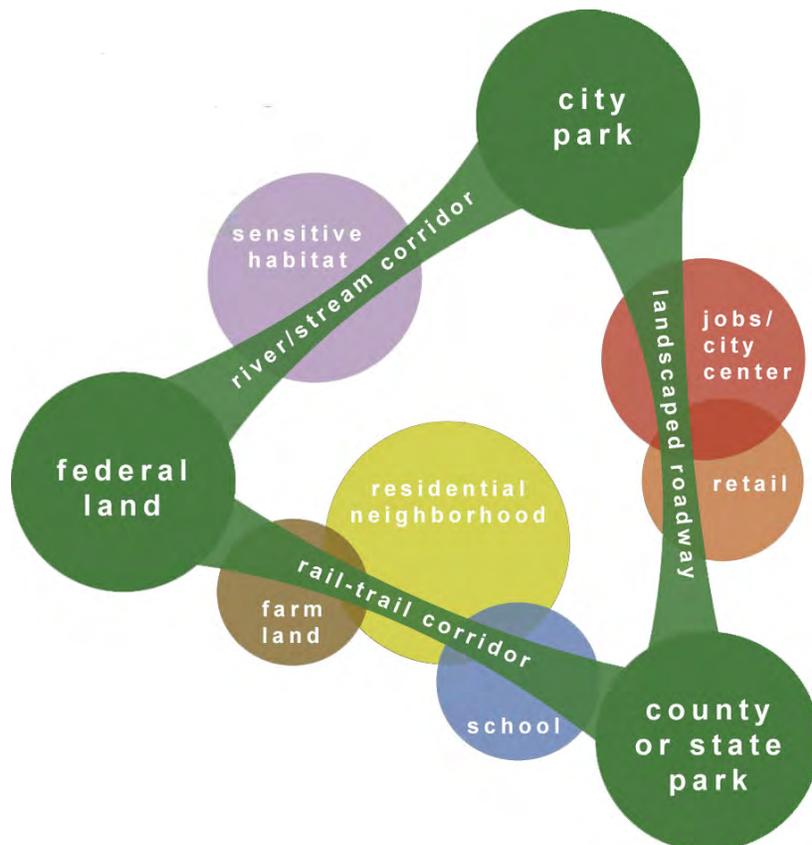
3.5 REGIONAL CONNECTIVITY

3.0 OVERVIEW

The proposed pedestrian network for the Town of Pittsboro is a series of pedestrian improvements that creates a more connected, comprehensive system. It has been developed from past planning efforts, public input, field analysis, and geographic information systems (GIS) mapping. This chapter presents the methodology, recommended pedestrian network facilities, and overall pedestrian network map. It also provides detailed recommendations for important network corridors and intersection improvements.

The guiding philosophy in devising this network is the hubs and spokes model. Pedestrian corridors (spokes) should connect to trip attractors (hubs) such as parks, schools, Downtown, shopping centers, and other pedestrian corridors. The network then becomes a practical solution for pedestrian connectivity.

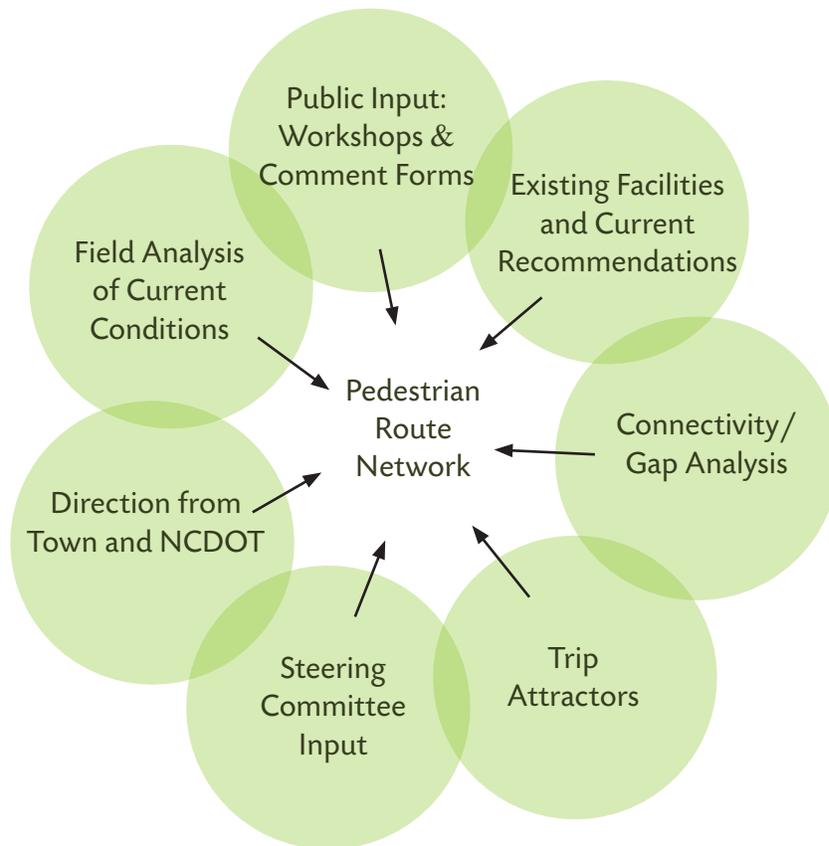
This 'hub and spokes' model for greenways (right) illustrates how key destinations can be linked through trail corridors. The principle of connectivity used in this model is conveyed to the pedestrian network as a whole, including sidewalks, crosswalks, and other pedestrian facilities as part of the networks 'spokes'.



3.1 METHODOLOGY

A variety of sources were consulted during the development of the Pedestrian Network: previous plans and studies, maps of existing pedestrian conditions, the consultant’s fieldwork inventory, public input, and noted pedestrian trip attractors. Fieldwork included an examination of conditions at all major intersections, greenway feasibility along sewer easements, conditions along primary corridors, and a consideration of gap connectivity. Map discussion and analysis was conducted at steering committee meetings and public meetings to pinpoint specific areas in need of pedestrian improvements. Specific consideration was given to the following:

INPUTS FOR PEDESTRIAN NETWORK DEVELOPMENT:



This diagram illustrates the many inputs and levels of analysis used to design the Pedestrian Route Network.

3.2 THE PEDESTRIAN NETWORK

The Proposed Pedestrian Network for Pittsboro consists of sidewalk projects, crossing improvements, and off-road greenways. Together these proposed facilities should be developed or improved to create a safe and connected pedestrian network throughout the Town. On-road and off-road components should be integrated to provide a connected pedestrian transportation and recreation network.

The network should be completed in phases as prioritized in Chapter 5, Implementation. However, network segments should be developed when there is opportunity, regardless of the order. New ordinances should be developed (discussed in Chapter 4) in order to make sidewalks a mandatory part of any commercial or residential development, especially as recommended in the pedestrian network map.

Regional connectivity should be considered during future development of the greenway network

Successful development of the pedestrian network will require a long-term, cooperative effort between the Town, the local North Carolina Department of Transportation Division 8, and other local and state agencies. Cooperative effort is important because the Town cannot implement recommendations for pedestrian facilities on state and federal roads without DOT sanction. Regional connectivity should also be considered during future development of the greenway network, with private, public and non-profit partnerships (also discussed in Chapter 5, Implementation).

All pedestrian corridor projects undertaken by the Town of Pittsboro should aim to meet the highest standards possible when topography and right-of-way allows. At a minimum, each pedestrian corridor should possess curb cuts with ramps at all driveways and intersections and be paved to increase accessibility and decrease maintenance costs. Within each identified corridor, roadway intersections should have marked crosswalks, and major intersections should have pedestrian crossing signals. Wider sidewalks, with curb cuts and improved surface conditions will correct sidewalks that currently do not satisfy the standards set forth by the American Disability Act of 1991.

Traffic calming measures, such as curb extensions, medians, and pedestrian refuge islands should be used to create a more hospitable environment for pedestrians in neighborhoods and commercial districts. See Chapter 6, Design Guidelines for specific descriptions of recommended facility standards. Finally, opportunities should be taken to incorporate pedestrian facilities into all municipal and state roadway improvement and widening projects.

Three main types of pedestrian projects have been identified for the Town of Pittsboro and are outlined on the following pages. They include sidewalks, crossing improvements, and off-road greenway corridors. Ancillary improvements to create a more hospitable pedestrian environment are also detailed. Design guidelines in Chapter 6 provide detailed information regarding proper placement and facility treatments.

SIDEWALK PROJECTS

Sidewalk projects are the major component of the proposed pedestrian network in Pittsboro. Sidewalks are located along road segments. In the long term, sidewalks should be constructed on both sides of arterial and collector roads wherever possible to provide adequate pedestrian connections throughout the Town of Pittsboro. The sidewalk network is focused on significant roadways that provide service to major destinations within Pittsboro and link multiple land uses, such as residential, recreational, institutional, and commercial. The proposed pedestrian facilities along significant roadways craft the spine of the entire pedestrian network. Some sections along these significant roadways have existing sidewalk. However, the existing sidewalk is at times segmented, creating gaps in the connectivity or lacking sidewalk on one side of the street. Sidewalk projects are prioritized in Appendix E: Prioritization, and high priority segments are illustrated on Map E.1.

PEDESTRIAN CROSSINGS

Improving the safety of roadway crossings is essential for making Pittsboro more walkable. Intersections present situations where a pedestrian must traverse the motor vehicle environment. Pedestrians have a much greater risk of being struck by a vehicle when crossing a roadway as opposed to walking on the shoulder or sidewalk beside it. Nationally, nearly 75% of all police-reported pedestrian crashes involve pedestrians crossing roadway travel lanes.

Consultant fieldwork and public input identified numerous intersections in Pittsboro that are in need of minor to significant pedestrian facility improvements. Adequate facilities should be provided specific to the intersection, to provide a safe crossing environment. Improvements may include marked crosswalks, curb extensions, curb ramps, and pedestrian-activated signals. Recommendations for each specific intersection are discussed in section 3.4.

In roadway crossings with a stop sign only, marked crosswalks and curb ramps should always be provided, where sidewalk exists. These would be installed parallel to the more significant roadway. This will provide greater visibility for pedestrian space. Good examples are the roadway crossings along East Street, where there are sidewalks, but no crosswalks.

It should be noted that this is a planning level analysis. Each of these locations will need a more detailed project-level review. The conclusions reached through more detailed review may vary from those presented herein.

GREENWAY TRAIL

A greenway is defined as a linear corridor of land that can be either natural, such as rivers and streams, or manmade, such as abandoned railroad beds and utility corridors. Most greenways contain trails. Greenway trails can be



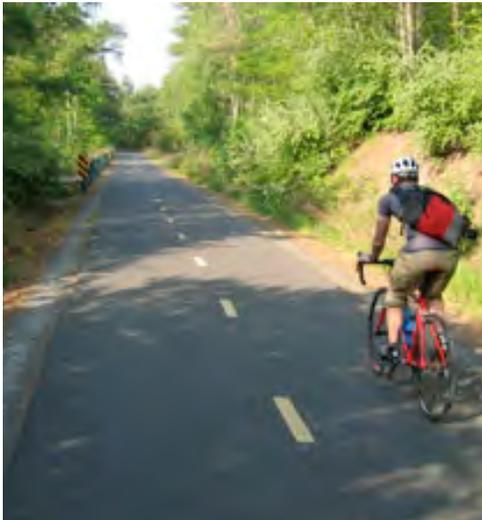
Above: A sidewalk project in Potterstone Village, Pittsboro



Above: A pedestrian crossing at the County Courthouse, Pittsboro



Above: A natural surface greenway trail at Town Lake Park, Pittsboro



Above: The American Tobacco Trail, a regional example of a paved surface greenway trail

paved or unpaved, and can be designed to accommodate a variety of trail users, including bicyclists, walkers, hikers, joggers, skaters, horseback riders, and those confined to wheelchairs.

Greenway corridors can serve environmental purposes, protecting forests, enhancing water quality, and offering ample opportunities for environmental education. Greenway trails can be constructed of natural materials, gravel, crushed stone, asphalt, or concrete, depending upon the projected usage and surrounding landscape. Greenway trails in Pittsboro should be integrated with and serve as an off-road extension of the on-road pedestrian network. Numerous greenway opportunities were identified throughout Pittsboro, via consultant fieldwork, public input, and other local and regional planning efforts. Proposed greenway corridors are illustrated on Map 3.1.

It should be further emphasized that this is also a planning level analysis for greenway corridors. Even though all sewer corridor easements in the Town of Pittsboro already contain provisions for pedestrian access, each greenway trail project should still have its own public input process, specifically including the property owners adjacent to each corridor. Particular attention should be given to the design of landscape screening and other treatments that help ensure the privacy (if so desired) of adjacent properties. The benefits of greenways (economic, environmental, etc), which are outlined on pages 4 through 7 of this Plan, should also be emphasized during the planning process for specific greenway corridors.

ANCILLARY TREATMENTS

In addition to the above facilities, a number of other important pedestrian treatments can improve safety throughout the pedestrian network. A full listing and description of these facilities and treatments can be found in Chapter 6 - Design Guidelines. Definitions of the most common treatments recommended in Section 3.3 are provided below.

Median Refuge Island: This refers to an island in the roadway median that offers a stopping or halfway point for a pedestrian.

Driveway Access Management: This refers to minimizing the size and amount of access points for motor vehicles crossing sidewalks to adjacent properties.

Traffic Calming: This refers to a range of measures that reduce the impact of vehicular traffic on residents, pedestrians and cyclists - most commonly on residential streets, but also now on commercial streets.

3.3 NETWORK CORRIDORS

The complete recommended network of sidewalks, crossing improvements, and off-road greenways can be found on Maps 3.1 and 3.2 (fold-out pages 29-30). Each segment is listed and prioritized in Appendix E. The corridors in the following table are featured here because they are key thoroughfares that connect multiple destinations and land uses. They also represent segments in need of significant improvements for pedestrian safety and connectivity. The ID number in the table correspond to the labels on Map 3.1.

ID	Corridor	From	To	Recommendations	Notes
1	Courthouse Roundabout	East & West (US 64)	Hillsboro & Sanford (15-501)	Crosswalk & Refuge Island Improvements	Lower speed limits approaching and through roundabout from 20 to 15.
2	West (US 64)	Goldston & Old Graham (NC 87)	Hillsboro & Sanford (15-501)	Crosswalk Improvements	No marked crosswalks are available across US 64/West
3	Hillsboro (15-501)	Springdale	Hanks	New Sidewalk & Crosswalks	Already in State TIP, but could be built ahead of TIP schedule.
4	Hillsboro (15-501)	Powell Place & Lowes	Springdale	New Sidewalk & Crosswalks	Already in State TIP
5	Sanford (15-501)	East & West (US 64)	Horton	New Sidewalk & Crosswalks	Existing sidewalk is mostly on east side only
6	Sanford (15-501)	Horton	Moncure-Pittsboro & Goldston (NC 87)	New Sidewalk & Crosswalks	Existing sidewalk is mostly on east side only
7	West (US 64)	Future Development (west of CCCC)	Goldston & Old Graham (NC 87)	New Sidewalk & Crosswalks and lowered median	Connection to new development with CCCC path and existing sidewalks is critical.
8	East (US 64)	Hillsboro & Sanford (15-501)	Martin Luther King Jr	New Sidewalk & Crosswalks and lowered median	Existing sidewalk is mostly on south side only
9	East (US 64)	Martin Luther King Jr	Industrial Park	New Sidewalk & Crosswalks and lowered median	Existing sidewalk is mostly on south side only
10	Salisbury	Credle	CCCC & West (US 64)	New Sidewalk & Crosswalks	ROW and drainage ditches present constraints
11	Salisbury	Hillsboro (15-501)	J A Farrell	New Sidewalk & Crosswalks	Some existing sidewalk on the north side
12	Fayetteville/Chatham	West (US 64)	Sanford (15-501)	New Sidewalk & Crosswalks	Wide sidewalk one side only (east and north sides)
13	Pittsboro Elem. School Rd	Lockville	Sanford (15-501)	New Sidewalk & Crosswalks	Nearby business parking is using the ROW where sidewalk should be.
14	Pittsboro Elem. School Rd/Goldston (NC 87)	West (US 64)	McClenahan	New Sidewalk & Crosswalks	Connecting Pittsboro Elementary to 64, and across to new library and residents north of 64
15	Goldston (NC 87)	West (US 64)	Ashford	New Sidewalk & Crosswalks	Connect to new library (use CCCC path where it parallels 87)
16	Oakwood/Park	Old Graham	Hillsboro (15-501)	New Sidewalk & Crosswalks	
17	Credle/Hanks	West (US 64)	Hillsboro (15-501)	New Sidewalk & Crosswalks	
18	Credle/Launis	Hanks	Hillsboro (15-501)	New Sidewalk & Crosswalks	
19	Fox Chapel/Springdale	Hillsboro (15-501)	Bellmont	New Sidewalk & Crosswalks	North side only
20	Masonic	Future Gwy at Chatham Marketplace	East (US 64)	New Sidewalk & Crosswalks	West side only from Thompson to Salisbury; East side only from Salisbury to West (US 64); Replace on-street parking with sidewalk where needed.
21	Masonic	East (US 64)	Chatham	New Sidewalk & Crosswalks	East side only.
22	Chatham	Sanford (15-501)	Small	New Sidewalk & Crosswalks	South side only from Sanford (15-501) to Masonic; North side only from Masonic to Small; Significant clearance of vegetation will be required.
23	MLK	County Fairgrounds	East (US 64)	New Sidewalk & Crosswalks	
24	Goldston (NC 87)	Pittsboro Elementary School Rd	Old Goldston	Sidepath	On east side only
25	Goldston (NC 87)	Old Goldston	Farmingdale	Sidepath	On north side only
26	Old Graham	Camp	Oakwood	Sidepath	
27	Cornwallis	Rail-Trail	Future Greenway	Sidepath	North side only
28	Chatham Business Dr	East (US 64)	Future Greenway	Sidepath	One side only
29	Industrial Park Dr	East (US 64)	Future Greenway	Sidepath	One side only
30	Hillsboro (15-501)	Hanks	East & West (US 64)	Sidewalk & Crosswalk Improvements	Already in State TIP, but could be built ahead of TIP schedule.

Insert 11x17 fold-out:

***MAP 3.1: Recommended Facilities
(Downtown)***

Insert 11x17 fold-out:

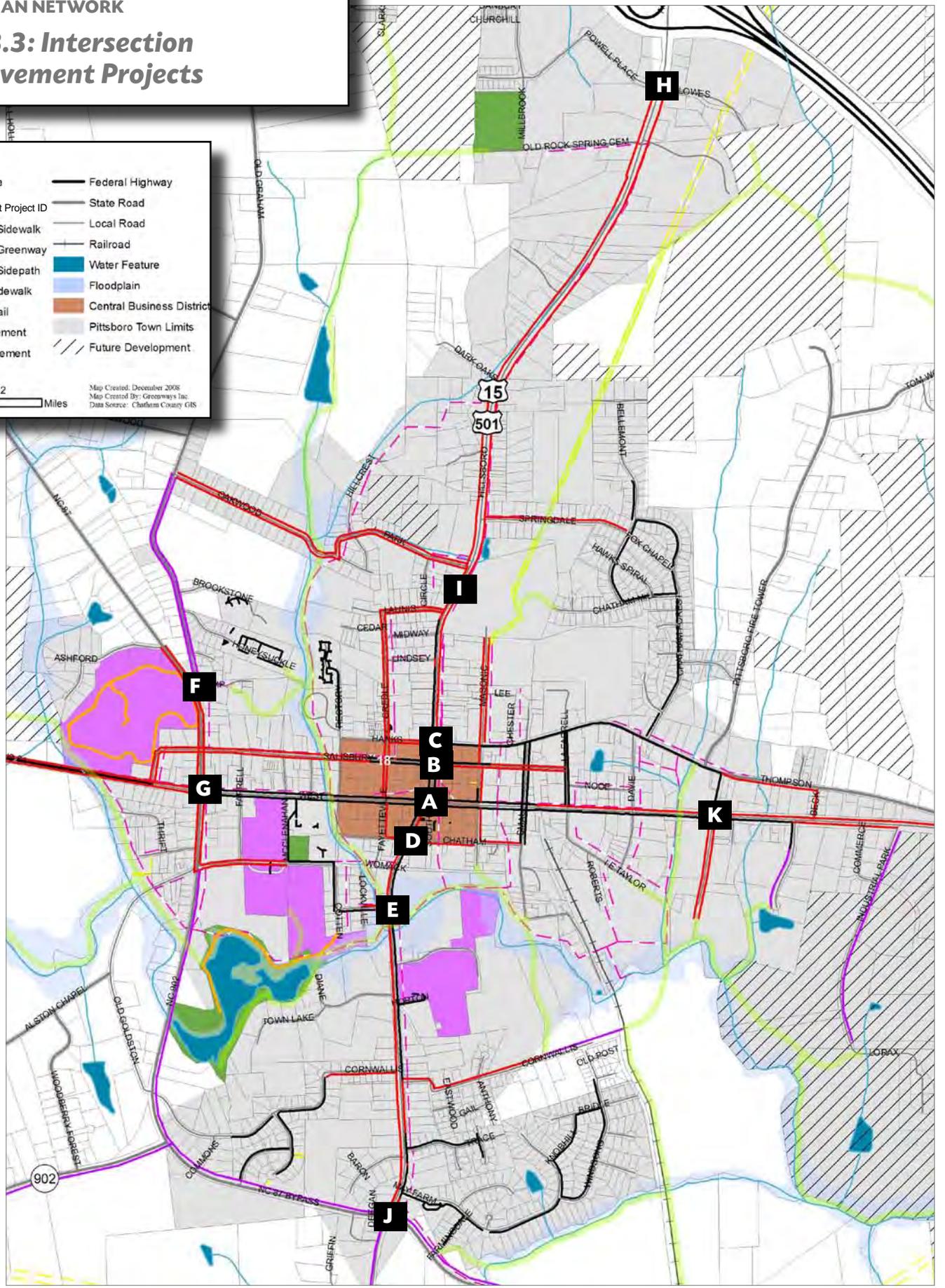
***MAP 3.2: Recommended Facilities
(Planning Area/ETJ)***

PEDESTRIAN TRANSPORTATION PLAN
PEDESTRIAN NETWORK
MAP 3.3: Intersection Improvement Projects

Legend

	Courthouse		Federal Highway
	Improvement Project ID		State Road
	Proposed Sidewalk		Local Road
	Proposed Greenway		Railroad
	Proposed Sidepath		Water Feature
	Existing Sidewalk		Floodplain
	Existing Trail		Central Business District
	Utility Easement		Pittsboro Town Limits
	Sewer Easement		Future Development

0.2 Miles
 May Created: December 2008
 Map Created By: Greenways Inc.
 Data Source: Chatham County GIS



3.4 INTERSECTIONS

Improving the safety of roadway crossings is essential for making Pittsboro more walkable. Intersections present situations where a pedestrian must traverse the motor vehicle environment. Pedestrians have a much greater risk of being struck by a vehicle when crossing a roadway as opposed to walking on the shoulder or sidewalk beside it. Nationally, nearly 75% of all police-reported pedestrian crashes involve pedestrians crossing roadway travel lanes.

Consultant fieldwork and public input identified numerous existing intersections in Pittsboro that are in need of minor to significant pedestrian facility improvements. Most crossings involved an existing stoplight which controls traffic well enough to consider making pedestrian improvements.

Adequate, complete facilities should be provided specific to the intersection, to provide a safe crossing environment. Improvements may include marked crosswalks, curb extensions, curb ramps, and pedestrian-activated signals. Some of these treatments have been proven to reduce crashes, as shown in the 2007 FHWA Crash Reduction Factors Study (<http://safety.fhwa.dot.gov>). The table below shows some typical countermeasures and associated crash reduction factors.

PEDESTRIAN CRASH REDUCTION FACTORS

Countermeasure	Crash Reduction Factor
<i>Install sidewalk</i>	74%
<i>Install pedestrian countdown signal heads</i>	25%
<i>Install pedestrian refuge islands</i>	56%
<i>Improve/install pedestrian crossings</i>	25%

In roadway crossings with a stop sign only, marked crosswalks and curb ramps should always be provided, where sidewalk exists. These would be installed parallel to the more significant roadway. This will provide greater visibility for pedestrian space. A perfect example is any residential roadway crossing of East Street and its sidewalk.

Finally, all new stoplights installed in the Town of Pittsboro should include comprehensive pedestrian crossing elements.

Recommendations for each specific intersection are discussed on the following pages. A comprehensive approach should be taken for each intersection as the addition of a single or a few treatments will be greatly enhanced with additional treatments. For example, a marked crosswalk will be a safer facility with countdown signals provided.

These recommendations are only a planning level analysis. Each of these locations will need a more detailed project-level review. The conclusions reached through more detailed review may vary from those presented herein.



A COURTHOUSE INTERSECTION

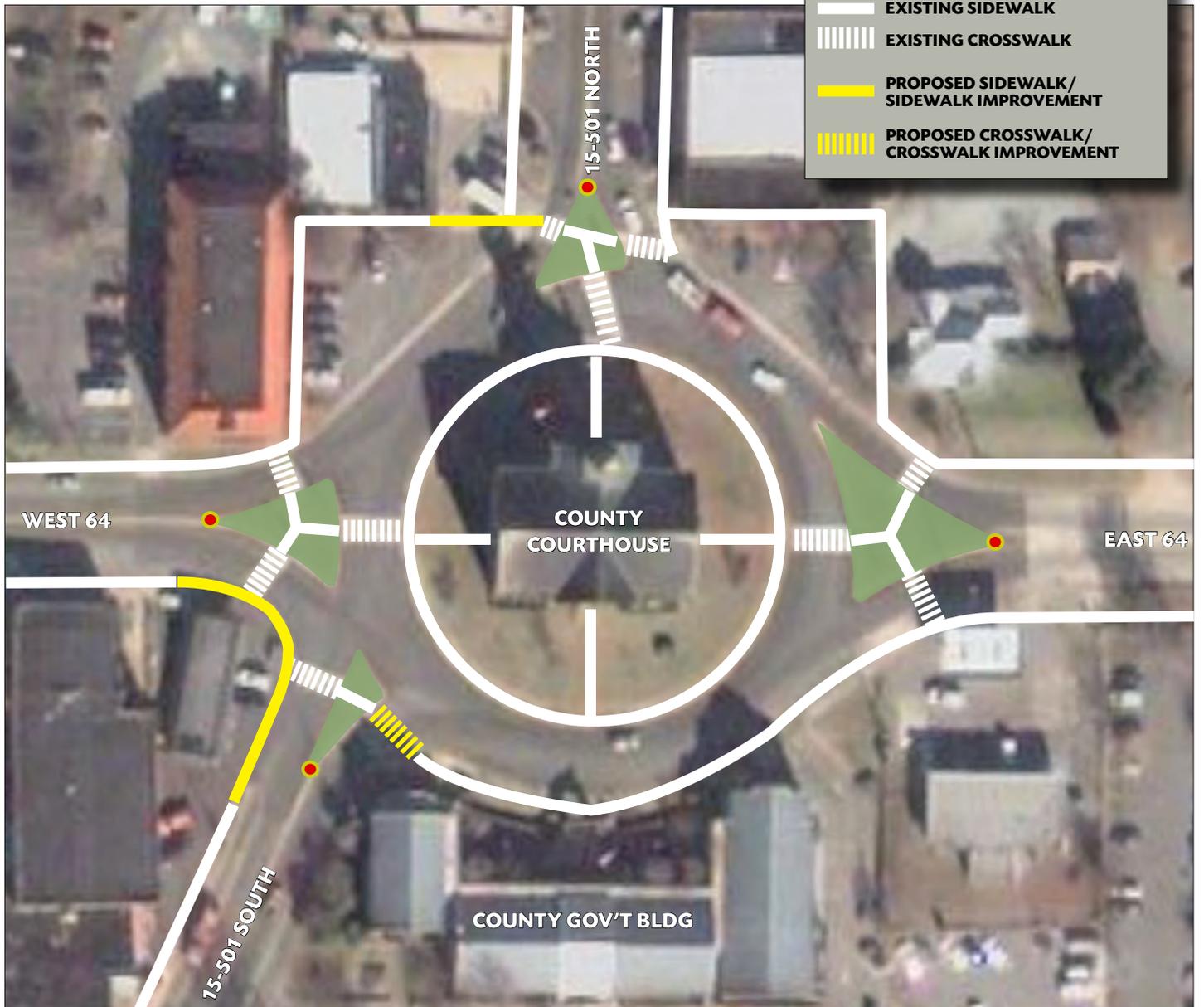
Importance

- Center of Downtown
- Major roadways
- High pedestrian traffic
- Existing pedestrian facilities

Recommendations

- Install “State Law: Stop for Pedestrian in Crosswalk” signs at all four entrances to the roundabout
- Restripe existing marked crosswalks (some faded)
- Consider landscaping additions in refuges

	SIGN: “STATE LAW STOP FOR PEDESTRIAN WITHIN CROSSWALK”
	LANDSCAPING ENHANCEMENT
	EXISTING SIDEWALK
	EXISTING CROSSWALK
	PROPOSED SIDEWALK / SIDEWALK IMPROVEMENT
	PROPOSED CROSSWALK / CROSSWALK IMPROVEMENT



B

US 15-501/SALISBURY STREET

Importance

- Major roadway corridor
- Downtown businesses
- Existing pedestrian facilities
- Denser pedestrian movements
- Residential areas nearby

Recommendations

- Restripe existing marked crosswalks with higher visibility markings (ladder)
- Reconstruct some of the existing curb ramps to standard
- In-roadway pedestrian crossing signs
- Advanced pedestrian warning signs



**The sidewalk and stairs on the southwest corner of this intersection are in need of complete redesign. A possible solution includes a curb extension/bulb-out just north of the current parking. Also, the area within the railings could be raised and combined with the extended curb to create more space for pedestrians waiting to cross. Ideally, this location would also be redesigned for ADA accessibility, with a ramp from the curb extension area to the existing sidewalk south of the intersection. The ramp would require creating more space in the right-of-way, through either a modification of the existing angle parking to parallel parking and/or the elimination of some parking.*

C US 15-501/THOMPSON STREET/HANKS STREET
 Importance

- Major roadway corridor
- Downtown businesses
- Existing pedestrian facilities
- Denser pedestrian movements
- Residential areas nearby

Recommendations**

- Complete sidewalk
- Reconstruct some of the existing curb ramps to standard
- Traffic calming
- Curb extensions
 - (south side of intersection)
- Median refuge island
- Advanced pedestrian warning signs
- In-roadway pedestrian crossing signs
- Countdown signals (if light installed)
- Marked crosswalks



**This intersection is currently not controlled with a stoplight. If a stoplight is added, all recommendations (at left) may be considered. Given the current situation, significant traffic calming must be associated with the listed recommendations which would include very low automobile traffic speeds that are enforced, median refuge island, curb extensions, and in-roadway pedestrian crossing signs.



D US 15-501/CHATHAM STREET

Importance

- Center of Downtown
- Major roadways
- High pedestrian traffic
- Existing pedestrian facilities
- Wide crossing of Chatham

Recommendations

- Curb extensions to shorten crossing over Chatham
- Marked crosswalk over Chatham
- No pedestrian facility recommended across US 15-501



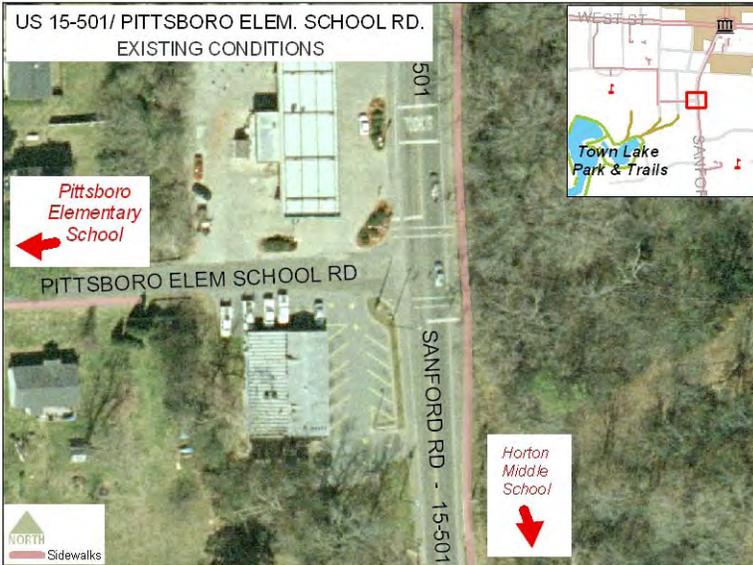
E US 15-501/PITTSBORO ELEMENTARY SCHOOL ROAD

Importance

- Schools
- Major roadway
- Near Downtown
- Some existing pedestrian facilities

Recommendations

- Complete sidewalk
- Restripe existing marked crosswalks with higher visibility markings (ladder).
- Improve overall pedestrian access/safety on north side of intersection
- Construct new curb ramps
- In-roadway pedestrian crossing signs
- Remove sight obstructions
- Improve pedestrian spaces at gas station/laundromat areas
- Make pedestrian push button (northwest side of intersection) more accessible



F NC 87/OLD GRAHAM ROAD-CAMP STREET

Importance

- Community college
- Library
- Nearby trails
- Future development



Recommendations

- Complete sidewalk
- Highly visible marked crosswalks
- Marked crosswalk would be best placed over Old Graham at Camp (south side). Pedestrian can use existing refuge island and then utilize marked crosswalks over NC 87
- Advanced stop lines
- Advanced pedestrian warning signs
- Remove sight obstructions
- Traffic calming and speed limit reduction, especially along NC 87



**This intersection is currently under design for a roundabout. If and when the intersection is reconfigured, it should have sidewalks, curb ramps, crosswalks to the splitter islands, and splitter islands that are designed to be accessible to pedestrians and wheelchairs.*

The stretch of road from US64 to the proposed roundabout is the subject of a CMAQ Funding Request. If approved, the sidewalk will connect US 64 to a new library on the CCCC Campus.





G WEST US 64/NC 87

Importance

- Major roadway corridor
- Major intersection
- Some commercial
- Some existing pedestrian facilities
- Main entrance to CCCC is on West US 64

Recommendations

- Complete sidewalk
- Highly visible marked crosswalks
- Advanced stop lines
- Construct new curb ramps
- Curb radius reduction or curb extensions
- Countdown signals
- Restrict "Right Turn On Red"
- Create better definition of pedestrian space through commercial parking lots and reduce size of parking lot entrances



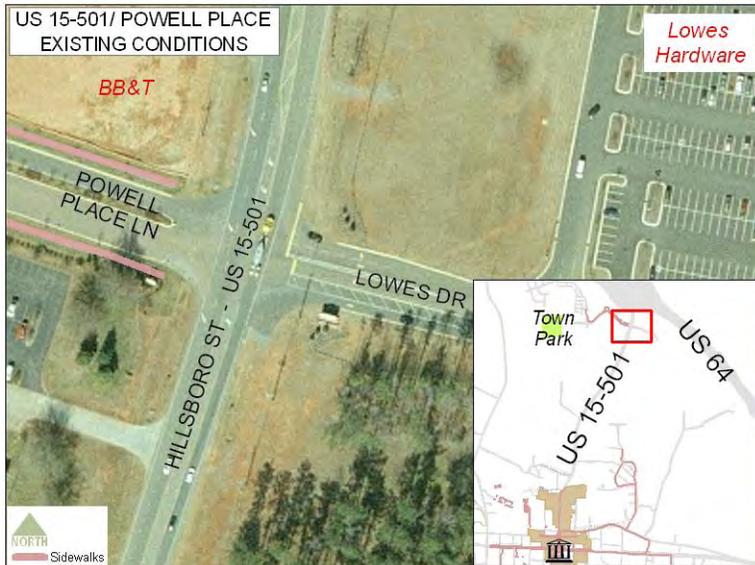
H US 15-501/POWELL PLACE

Importance

- New commercial and residential development
- Major roadway corridor
- Crossing from residential area to commercial development
- Some existing pedestrian facilities

Recommendations

- Complete sidewalk
- Highly visible marked crosswalks
- Advanced stop lines
- Reconstruct existing curb ramps
- Median refuge islands (extend and raise)
- Curb radius reduction or curb extensions
- Countdown signals
- Advanced pedestrian warning signs



I US 15-501/CHATHAM MARKETPLACE

Importance

- Residential connectivity
- Connection to Chatham Marketplace
- Major roadway corridor

Recommendations

When stoplight is installed, provide full suite of pedestrian crossing treatments (marked crosswalks, countdown signals, advanced stop lines, curb ramps, advanced pedestrian warning signs, curb radius reduction)



J US 15-501/ MONCURE-PITTSBORO ROAD (NC 87)*

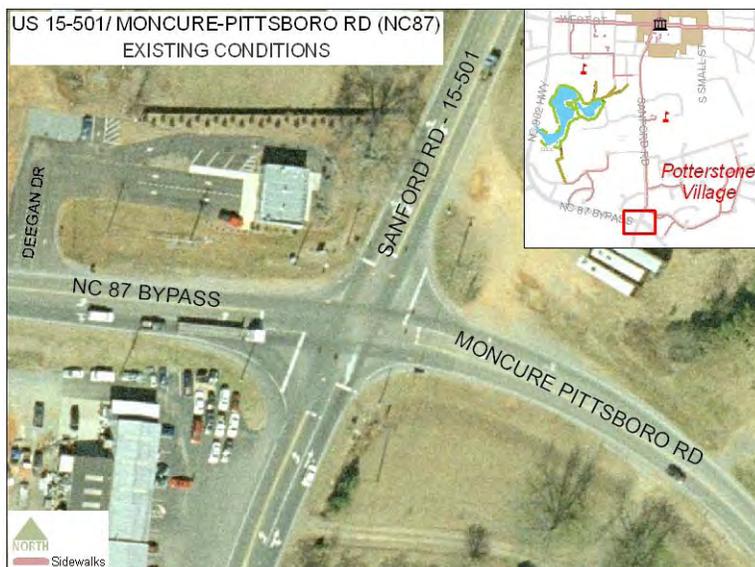
Importance

- Significant roadways
- Nearby residential area

Recommendations

- Complete sidewalk
- Highly visible marked crosswalks
- Advanced stop lines
- Curb radius reduction or curb extensions
- Remove sight obstructions

**Likely a longer-term project as development increases in this area and as curb/gutter is added.*



***NC 87 is also used as a connector to NCDOT Chatham County Bicycle Route 3 and Route 4, and Carolina Connection US Bike Route 1. This road is used extensively for normal bicycle use to these routes, especially on weekends.*

K EAST US 64/MLK, JR. DR.

Importance

- Major roadway corridor
- Shopping center
- Residential area
- Farmers Market
- Some existing pedestrian facilities

Recommendations

- Complete sidewalk
- Highly visible marked crosswalks
- Advanced stop lines
- Construct new curb ramps
- Countdown signals

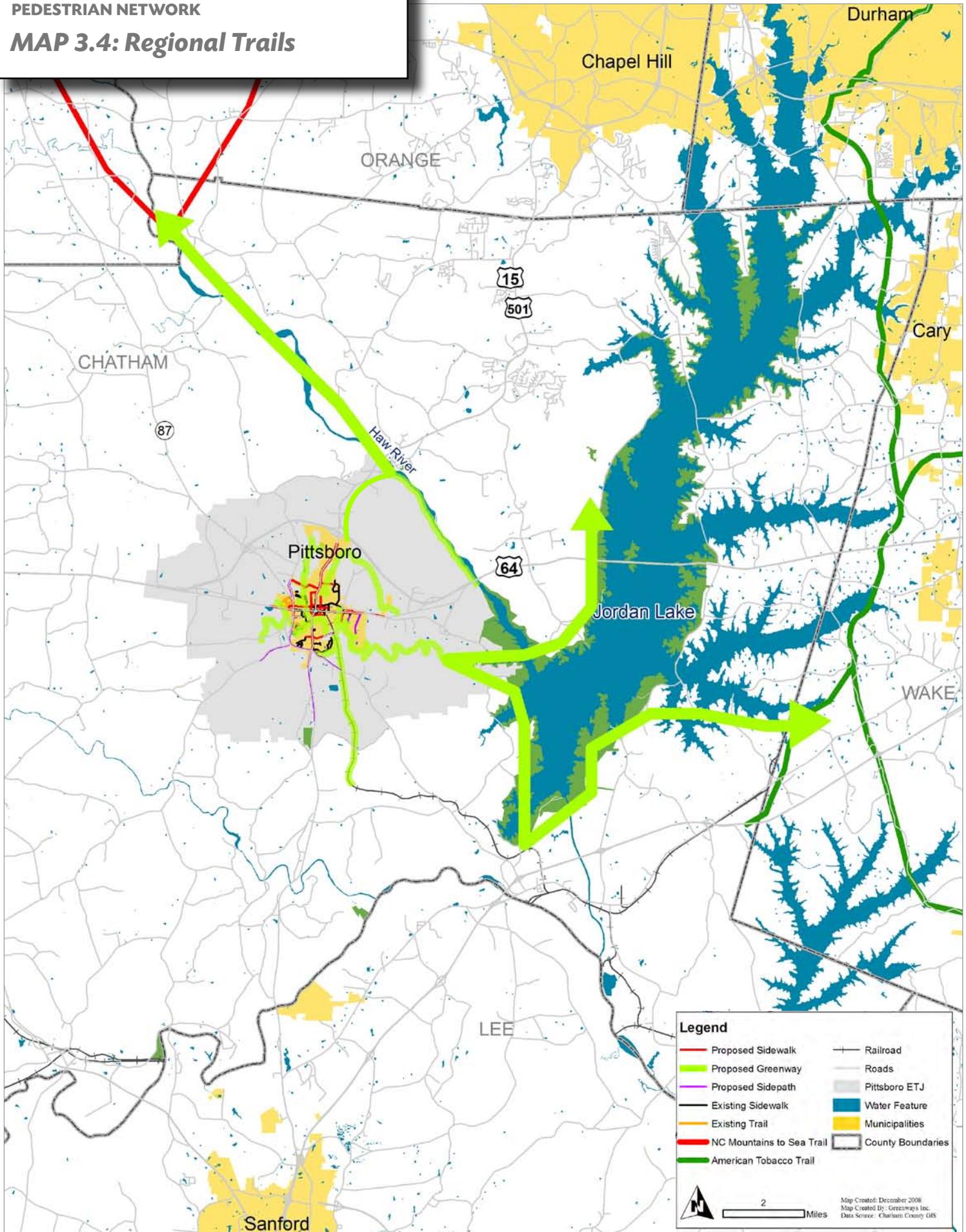


3.5 REGIONAL CONNECTIVITY

Pittsboro should look beyond its city limits and link pedestrian facilities to neighboring and regional destinations, such as the Haw River, Moncure, Siler City, etc. It is recommended that Pittsboro coordinate efforts with surrounding communities to create long distance connections for alternative transportation and recreation, particularly through greenway corridor development. Regional greenway trail connections will encourage and draw individuals to Pittsboro from surrounding areas. One opportunity is the abandoned rail corridor parallel to US 15-501. Opportunities to partner with the railroad should continue to be sought.

For Pittsboro, the most significant and valuable regional opportunities for pedestrian connections include the 'rails-to-trails' opportunity along the rail line from downtown Pittsboro to Moncure (through potential partnerships between Pittsboro, Moncure, and Chatham County); a greenway heading east from downtown along Robeson Creek (through potential land development dedication); and a greenway along the Haw River (through potential partnerships with local land trusts and the North Carolina Department of Environmental and Natural Resources).

MAP 3.4: Regional Trails





PROGRAMS + POLICIES

CHAPTER OUTLINE:

4.0 OVERVIEW

4.1 PROGRAM RECOMMENDATIONS AND RESOURCES

4.2 EDUCATION

4.3 ENCOURAGEMENT

4.4 ENFORCEMENT

4.5 POLICY RECOMMENDATIONS

4.0 OVERVIEW

Meeting the goals of the Town of Pittsboro Pedestrian Transportation Plan will require more than construction and installation of recommended pedestrian facilities. It will also require the initiation and continued support of pedestrian-related programs from the local officials, local residents, and community organizations. In addition, the implementation of these facilities and programs will require the adoption and enforcement of new pedestrian-related policies. This chapter outlines recommended programs, policies, and in some cases, policy changes for the Town of Pittsboro to meet the needs of pedestrians that cannot be met through facility construction alone.

4.1 PROGRAM RECOMMENDATIONS AND RESOURCES

Pedestrian-related programs fall into three main categories: education, encouragement, and enforcement. The programs listed below are provided to demonstrate the variety of opportunities that exist for promoting walking and active lifestyles in Pittsboro. Communities all across North America are using these programs. The Town of Pittsboro should work closely with local volunteers and community organizations to initiate at least one of the following programs or events (whichever are deemed the most appropriate and/or feasible to those organizing) within the first year of adopting this plan. Also, it will be necessary for staff to be assigned to focus on programming, researching additional program ideas, and working with local groups, non-profits, schools, and citizens to develop programs further.

4.2 EDUCATION

PEDESTRIAN ADVOCACY GROUPS (PARKS AND RECREATION ADVISORY BOARD)
The Town of Pittsboro should actively participate in the continued support of a local pedestrian advocacy groups, including, the Parks and Recreation Advisory Board and Active Chatham. Local advocacy groups are beneficial resources for promoting safe pedestrian travel, providing feedback on opportunities and obstacles within the pedestrian system, and coordinating events and outreach campaigns (such as the programs outlined throughout this section). Advocacy groups also play a critical role in encouraging and evaluating the progress of overall plan implementation. The Parks and Recreation Advisory Board should continue to evaluate, encourage and assist in implementation of the plan as needed.

PUBLIC EDUCATION

Educational materials can focus on safe behaviors, rules, and responsibilities. Information may include important pedestrian laws, bulleted keys for safe pedestrian travel, safe motor vehicle operation around pedestrians, and general facility rules and regulations. This safety information is often available for download from national pedestrian advocacy organizations, such as the Pedestrian and Bicycle Information Center website, www.walkinginfo.org.



Information can be distributed through brochures, newsletters, newspapers, bumper stickers, and other print media that can be inserted into routine mailings. It can also be posted on municipal websites. Local events should be utilized to distribute information and a representative from the pedestrian advocacy group can answer questions related to pedestrian safety. A booth could also be used to display safety information at various community events.

INTERNAL EDUCATION

'Internal' education refers to the training of all people who are involved in the actual implementation of the Pedestrian Transportation Plan. Internal training will be essential to institutionalizing pedestrian issues into the everyday operations of engineering, planning, and parks and recreation departments. In addition to relevant Town staff, members of the local planning board, NCDOT Division 8 staff, and Chatham County staff should also be included in training sessions whenever possible. This training should cover all aspects of the transportation and development process, including planning, design, development review, construction, and maintenance. This type of 'inreach' can be in the form of brown bag lunches, professional certification programs and special sessions or conferences. Even simple meetings to go over the Pedestrian Plan and communicate its strategies and objectives can prove useful for staff and newly elected officials that may not have otherwise learned about the plan. Pedestrian planning and design issues are complex, and national research and guidelines continue to evolve. Therefore, training sessions need to be updated and repeated on a regular basis.

Local law enforcement should be trained in accurate reporting of pedestrian crashes involving automobiles. In many communities, police do not always adequately understand the rights of pedestrians. Proper interpretation of individual circumstances and events is critical for proper enforcement and respect between motorists and pedestrians. Special training sessions should be instituted and occur annually for new employees within the Police Department that focus on laws relating to pedestrian travel.

ENVIRONMENTAL AND HISTORIC EDUCATION/INTERPRETATION

Educational programs and interpretative signage could be developed along greenways and pedestrian routes. Greenways provide opportunities for learning outside the classroom. Specific programs that focus on water quality and animal habitat are popular examples. Events such as learning walks about specific animals or insects, tree identification, wildflower walks, environmental issues, stewardship education, and sustainability could be led by area experts. Also, simple educational signage would offer interactive learning opportunities for people who use the trail.



These signage examples provided and designed by Cloud Gehshan Associates at www.cloudgehshan.com.



INTERPRETIVE TRAILS/GUIDED TOURS

An educational component to the pedestrian network could be added by developing historical, cultural, and environmental themes for the facilities. This idea can be adapted to create walking tours throughout the Town, using signage to identify the events, architecture, and landmarks that make the Town of Pittsboro unique. These tours should be simple to navigate and should stand alone as an amenity. However, brochures can be used to supplement signage with more detailed information and a map of the tour. Other ideas to supplement the signage could be organized “talks” or lectures by local experts.

EDUCATION ACTIONS

- The Town of Pittsboro should continue supporting the activities of local pedestrian advocacy groups.
- The Town of Pittsboro should consider sponsoring annual training sessions for pedestrian design/review
- The Town of Pittsboro should consider sponsoring a session for law enforcement focusing on pedestrian issues
- Create a self-guided walking tour of downtown historical/cultural sites
- Establish outdoor classrooms utilizing interpretative signage in open space, parks, greenways, etc.
- Produce and/or obtain a variety of safety materials for distribution to various age groups and at various events/locations

EDUCATION RESOURCES

America Walks is a national coalition of local advocacy groups dedicated to promoting walkable communities. Their mission is to foster the development of community-based pedestrian advocacy groups, to educate the public about the benefits of walking, and, when appropriate, to act as a collective voice for walking advocates. They provide a support network for local pedestrian advocacy groups. <http://americawalks.org>

Safe Communities is a project of the National Highway Traffic Safety Administration (NHTSA). Nine agencies within the U.S. Department of Transportation are working together to promote and implement a safer national transportation system by combining the best injury prevention practices into the Safe Communities approach to serve as a model throughout the nation. <http://www.nhtsa.dot.gov/safecommunities>



Speed Campaign Tool Kit. The intent of this National Highway Traffic Safety Administration (NHTSA) tool kit is to provide marketing materials, earned media tools, and marketing ideas for communities to distribute to fit local needs and objectives while at the same time partnering with other states, communities, and organizations all across the country on a speed management program. It includes messaging and templates you may choose from to support your speed management initiatives. Free TV and radio materials, posters, billboards, and other media materials can be downloaded here: <http://www.nhtsa.gov/speed/toolkit/index.cfm> Example posters below:



Stepping Out is an online resource for mature adults to learn about ways to be healthy by walking more often, and walking safely. www.nhtsa.dot.gov/people/injury/olddrive/SteppingOut/index.html

Pedestrian Fatalities Related to School Travel is a fact sheet pertaining to school age children (NHTSA).
<http://www.nhtsa.gov/gtss/kit/pedestrian.html>

Safe Kids Worldwide is a global network of organizations whose mission is to prevent accidental childhood injury, a leading killer of children 14 and under. More than 450 coalitions in 15 countries bring together health and safety experts, educators, corporations, foundations, governments and volunteers to educate and protect families. Visit their website to receive information about programs, involving media events, device distribution and hands-on educational activities for kids and their families.
<http://www.safekids.org/>



Rules of the Road for Grandchildren: Safety Tips is an information website for grandparenting. If you are a grandparent, you can play an important role in teaching your grandchildren the "rules of the road." AARP.
<http://www.aarp.org/confacts/grandparents/rulesroad.html>



Streets in America are Unsafe and Unforgiving for Kids. Article by the Pedestrian Safety Roadshow. U.S. Department of Transportation. Federal Highway Administration.
<http://www.tfhr.gov/safety/pedbike/articles/unsafe.htm>



Focusing on the Child Pedestrian. Pedestrian information related to children from the FHWA. <http://safety.fhwa.dot.gov/roaduser/pdf/PedFacts.pdf>



Eat Smart, Move More is a statewide movement that promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray. <http://www.eatsmartmovemorenc.com/>



NCDOT Division of Bicycle and Pedestrian Transportation provides significant information related to pedestrian programming.
<http://www.ncdot.org/transit/bicycle/>



4.3 ENCOURAGEMENT

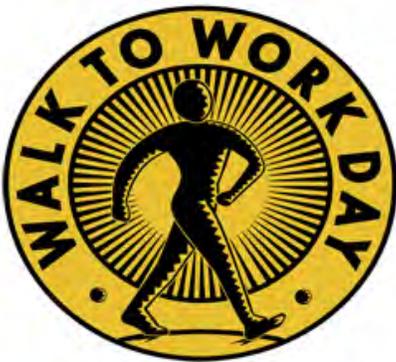
SCHOOL PROGRAMS

Many programs exist to aid communities in developing safer pedestrian facilities around schools. Programs can be adopted by parents or the schools to provide initiatives for walking or biking. Information is available to encourage group travel, prevent pedestrian related injuries, and sponsor commuter related events. For example, a ‘Walking School Bus’ is an encouragement program that provides an alternative way to transport children to school. A parent can be responsible for accompanying a group of children to school by utilizing the pedestrian system in Pittsboro.

Community leaders, parents and schools across the U.S. are using Safe Routes to School programs to encourage and enable more children to safely walk and bike to school. The National Center for Safe Routes to School aims to assist these communities in developing successful Safe Routes programs and strategies. The Center offers a centralized resource of information on how to start and sustain a Safe Routes to School program, case studies of successful programs as well as many other resources for training and technical assistance. For more information on Safe Routes to School, refer to the ‘Encouragement Resources’ section below.

AWARENESS DAYS/EVENTS

A specific day of the year can be devoted to a theme to raise awareness and celebrate issues relating to that theme. A greenway and its amenities can serve as a venue for events that will put the greenway on display for the community. Major holidays, such as July 4th, and popular local events serve as excellent opportunities to include pedestrian information distribution. The following are examples of other national events that the Town of Pittsboro can use to improve usage of pedestrian facilities:



WALK TO WORK DAY/INTERNATIONAL CAR FREE DAY (SEPTEMBER 22)

Designate one day a year for people to walk to work to help advance programs, promote active living, and raise awareness for environmental issues. Walk to Work Day can be at the end of an entire week or month of pedestrian promotional activities, including fitness expos, walking and jogging group activities, running and bicycling races and rides, etc.

“STRIVE NOT TO DRIVE DAY”

This event example, from the Town of Black Mountain, NC, is an annual event to celebrate and promote the Town’s pedestrian achievements for the year throughout their region. Awards for pedestrian commuters, as well as booths, contests, and other events are organized through their local MPO Bicycle and Pedestrian Task Force and the Land-of-Sky Regional Council. A similar event could be held in Pittsboro, as the Pedestrian Plan is implemented.



NATIONAL TRAILS DAY

This event is held every year in June. Other events, competitions, races, and tours can be held simultaneously to promote trail use within Pittsboro. The Parks and Recreation-Trails Division sponsors National Trails Day for the City of Greensboro every year and it has become a huge event for the City.

EARTH DAY

Earth Day is April 22nd every year and offers an opportunity to focus on helping the environment. Efforts can be made to encourage people to help the environment by walking to destinations and staying out of their vehicles. This provides an excellent opportunity to educate people of all ages in Pittsboro.

USE FACILITIES TO PROMOTE OTHER CAUSES

Network facilities, especially trails, could be used for events that promote other causes, such as health awareness. Not only does the event raise money/publicity for a specific cause, but it encourages and promotes healthy living and an active lifestyle, while raising awareness for pedestrian activities. Non-profit organizations such as the American Cancer Society, American Heart Association, and the Red Cross sponsor events such as Breast Cancer Walk, Diabetes Walk, etc.

PEDESTRIAN ACTIVITIES/PROMOTION WITHIN LOCAL ORGANIZATIONS

The Town of Pittsboro has numerous organizations that could be utilized to promote pedestrian activities (e.g. Active Chatham, Pittsboro Merchants Association, local schools/PTAs, neighborhood groups, homeowners associations, etc). Education, enforcement, and encouragement programs can be advertised and discussed in local organization newsletters, seminars, and meetings. Such organizations could even organize their own group walks, trail clean-ups, and other activities listed in this section.

ART IN THE LANDSCAPE

The inclusion of art along pedestrian corridors and trails would encourage use of facilities and provide a place for artwork and healthy expression to occur. Artwork could be displayed in a variety of ways and through an assortment of materials. Living artwork could be “painted” through the design and planting of various plant materials. Sculpture gardens could be arranged as an outdoor museum. Art through movement and expression could be displayed during certain hours during the day or during seasonal events. An “Art Walk” could be established as an event featuring destinations throughout the Town that display local art. Artwork can be provided by local schools, special interest clubs and organizations, or donated in honor or memory of someone.



4th Annual
**Active Chatham
5K Reindeer
Run**
Saturday,
December 13, 2008
8:00 am
Pittsboro, NC



WALKING/RUNNING CLUBS

Neighborhoods, local groups, or businesses could promote walking or running clubs for local residents or employees to meet at a designated area and exercise on certain days before or after work, during lunch breaks, or anytime that works for the group. This informal group could be advertised on local bulletin or information boards. These clubs could be specialized to attract different interest groups. Examples include:

- Relay for Life (cancer support)
- Mother's Morning Club (mom's with strollers)
- Walking Wednesdays (senior groups)
- Lunch Bunch (office workers who run during their lunch hour)

*ADOPT-A-TRAIL*

Local clubs and organizations provide great volunteer services for maintaining and patrolling trails. This idea could be extended to follow tour routes or specified streets/sidewalks. A sign to recognize the club or organization could be posted as an incentive to sustain high quality volunteer service. The Boy Scouts of America serve as a good model for participation in this type of program.

REVENUE GENERATING PROGRAMS

The Town of Pittsboro should be proactive in increasing revenue from programs and events that can help fund the building, management, and maintenance of future facilities. Fees could be increased in events annually or biannually to increase revenue. Specific program and event ideas that are being used to generate revenue across the country include:

- Races/triathlons (fees and/or donations)
- Concessions
- Educational walks/Nature walks/Historic walks (fees and/or donations)
- Fund-raisers including dinners/galas
- Moonlight bike rides and walks (fees and/or donations)
- Greenway parade (fees and/or donations)
- Concerts (fees and/or donations)
- Art events along greenway (fees and/or donations)
- Events coincident with other local events such as fairs, festivals, historic/folk events, etc.
- Media events and ribbon-cuttings for new walkways (donations)

ENCOURAGEMENT ACTIONS

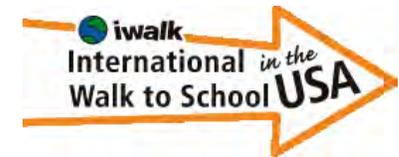
- Encourage children to walk to school, safely, through a combination of programs, listed under encouragement resources
- Establish awareness days
- Encourage the establishment of walking clubs
- Use pedestrian facilities, particularly trails, to promote causes and hold special events for causes
- Utilize greenways for artwork and plantings

ENCOURAGEMENT RESOURCES

Safe Routes to School is a national program with \$612 million dedicated from Congress from 2005 to 2009. Local Safe Routes to School programs are sustained by parents, community leaders, and citizens to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. Recently, the state of North Carolina has started the NC Safe Routes to School Program based off of the national program. The state has \$15 million over the next 5 years for infrastructure improvements within 2 miles of schools. This funding can also be used towards the development of school related programs to improve safety and walkability initiatives. The state requires the completion of a competitive application to apply for funding and a workshop at the school to determine what improvements are needed. <http://www.saferoutesinfo.org>



National Walk our Children to School Day is usually held in October with the objective to encourage adults to teach children to practice safe pedestrian behavior, to identify safe routes to school, and to remind everyone of the health benefits of walking. To register walking events in Pittsboro, go to the main webpage, and follow the International Walk to School links: www.walktoschool-usa.org



Walk a Child to School in North Carolina. Forty years ago, half of all U.S. school children walked to school. Today, according to the Centers for Disease Control, only an estimated 10 percent walk to school. In many communities, as much as 30 percent of morning commuter traffic is generated by parents driving their children to school. These traffic habits and children's lifestyle choices can have serious consequences. Traffic jams around our schools foul the air, waste fuel, and create safety problems for children. In addition, the U.S. Surgeon General recently reported that thirteen percent of children aged 6 to 11 years and 14 percent of adolescents aged 12 to 19 were overweight in 1999. This statistic has nearly tripled in the past two decades for adolescents. A growing number of community groups throughout the nation, such as health professionals, 'Smart Growth' advocates, traffic safety groups, local PTAs, and elected officials, are promoting walking to school initiatives. In North Carolina, Walk a Child to School Programs have gained a foothold and are growing each year. To date more than 5,000 students in 12 communities in the state have participated. <http://www.walktoschool.org>

Preventing Pedestrian Crashes: Preschool/Elementary School Children provides information to parents on pedestrian risks for preschool and elementary school children. Information about the Safe and Sober Campaign is available on the NHTSA website. www.nhtsa.dot.gov/people/outreach/safesobr/15qp/web/sbprevent.html





Kidswalk-to-School is a resource guide to help communities develop and implement a year-long walk-to-school initiative; sponsored by the Centers for Disease Control and Prevention.

<http://www.cdc.gov/nccdphp/dnpa/kidswalk/>

4.4 ENFORCEMENT

MOTORIST ENFORCEMENT

Based on crash data analysis and observed patterns of behavior, law enforcement can use targeted enforcement to focus on key issues such as motorists speeding, not yielding to pedestrians in crosswalks, parking on sidewalks, etc. Sidewalk parking, for example, is often not enforced but should be in order to maintain pedestrian accessibility, avoid maintenance issues, and comply with local ordinances. All of these key issues should be targeted and enforced consistently. The goal is for pedestrians and motorists to recognize and respect each other's rights on the roadway.

As traffic continues to increase on North Carolina's streets and highways, concern has grown over the safety of our children as they walk to and from school. At the same time, health agencies, alarmed at the increase in obesity and inactivity among children, are encouraging parents and communities to get their children walking and biking to school. In response, the Division of Bicycle and Pedestrian Transportation funded a study on pedestrian issues, including school zone safety, and decided to establish a consistent training program for law enforcement officers responsible for school crossing guards. According to the office of the North Carolina Attorney General, school crossing guards may be considered traffic control officers when proper training is provided as specified in GS 20-114.1.

PEDESTRIAN ENFORCEMENT

Observations made by local trail and pedestrian facility users can be utilized to identify any conflicts or issues that require attention. To maintain proper use of trail facilities, volunteers could be used to patrol the trails, particularly on the most popular trails and on days of heavy use. The volunteer patrol can report any suspicious or unlawful activity, as well as answer any questions a trail user may have. The volunteer patrol could be a responsibility of the pedestrian advocacy group. When users of the pedestrian network witness unlawful activities, they should have a simple way of reporting the issue to police. A hot line should be created, which would compliment trail patrol programs. People could call in and talk to a live operator or to leave a voice mail message about the activity they witnessed. Accidents could also be reported to this hot line. Accident locations could then be mapped to prioritize and support necessary facility improvements.

ENFORCEMENT ACTIONS

- Target and enforce all illegal motorist and pedestrian behavior that may jeopardize the success of the Pedestrian Network
- Require all crossing guards to complete an NCDOT Crossing Guard Training Program
- Establish a crossing guard program for peak school hours
- Establish a local “Trail Patrol”
- Establish an enforcement hot line
- Develop a simple brochure that outlines local leash laws, to be distributed as warnings from police officers and as education tools at pet stores and veterinarian offices. This may help to decrease incidents where pedestrians are intimidated or even harmed by unleashed dogs.

ENFORCEMENT RESOURCES

NCDOT School Crossing Guard Program

http://www.ncdot.org/transit/bicycle/safety/programs_initiatives/crossing.html

NCDOT’s A Guide to North Carolina Bicycle and Pedestrian Laws. For an online resource guide on laws related to pedestrian and bicycle safety (provided by the National Highway Traffic Safety Administration), visit www.nhtsa.dot.gov/people/injury/pedbimot/bike/resourceguide/index.html

4.5 POLICY RECOMMENDATIONS

While the physical recommendations described in this Plan represent an overall pedestrian network, strong pedestrian-oriented policies and regulations are also necessary to ensure these facilities are developed, especially when new development takes place. All recommended policy statements would help the Town of Pittsboro achieve its vision of becoming a pedestrian-friendly community. Town planning staff should become familiar with these policies and regulations to ensure the full suite of policy tools are used and enforced. Further tools to initiate pedestrian development are described in Chapter 5 and the appendices.

Policy statements that require pedestrian facilities with development must be somewhat flexible and practical within regulations for physical restrictions. All decisions need to be environmentally sensitive. Sidewalk locations and widths may need to be modified on a case-by-case basis. There must be a proven environmental constraint for pedestrian modifications.

ADDITIONS TO THE ZONING ORDINANCE AND SUBDIVISION REGULATIONS

Source Document	Reference	Existing Text	Recommended Change	Notes
Zoning Ordinance	ARTICLE V DISTRICT REGULATIONS; 5.3.3.37 Planned Unit Developed (PUD); F. (3)	Circulation - Proposed points of access and egress and proposed pattern of internal automobile and pedestrian circulation.	[Revise to]: Circulation - Automobile, pedestrian, and bicycle access and egress and proposed pattern of internal circulation.	This change makes clear that multiple modes of basic transportation apply to both internal circulation and to points of access and egress.
Zoning Ordinance	ARTICLE V DISTRICT REGULATIONS; 5.3.3.38 Public Buildings (no outside storage), Libraries, Museums, Art Galleries, etc.; C.	Site Plan Requirements (1) Internal circulation pattern (2) Provisions for parking (3) Points of access and egress.	[Revise to]: Site Plan Requirements (1) Circulation - Automobile, pedestrian, and bicycle circulation within, to, and from the site, including proposed points of access and egress and proposed pattern of internal circulation. (2) Provisions for automobile and bicycle parking	This change makes clear that multiple modes of basic transportation apply to internal circulation, points of access and egress, and parking.
Zoning Ordinance	ARTICLE V DISTRICT REGULATIONS; 5.3.3.44 Residences, Multi-Family; One Structure Per Lot; D. (3)	Circulation - Proposed points of access and egress and proposed patterns of internal automobile and pedestrian circulation.	[Revise to]: Circulation - Automobile, pedestrian, and bicycle access and egress and proposed pattern of internal circulation.	This change makes clear that multiple modes of basic transportation apply to both internal circulation and to points of access and egress.
Zoning Ordinance	ARTICLE V DISTRICT REGULATIONS; 5.3.3.47 Schools Academic; B. (2)	Circulation - Proposed points of access and egress and pattern of internal circulation.	[Revise to]: Circulation - Automobile, pedestrian, and bicycle access and egress and proposed pattern of internal circulation.	This change makes clear that multiple modes of basic transportation apply to both internal circulation and to points of access and egress.
Zoning Ordinance	ARTICLE V DISTRICT REGULATIONS; 5.3.3.48 Shopping Centers; D. (3)	Circulation - Proposed points of access and egress and proposed pattern of internal automobile and pedestrian circulation.	[Revise to]: Circulation - Automobile, pedestrian, and bicycle access and egress and proposed pattern of internal circulation.	This change makes clear that multiple modes of basic transportation apply to both internal circulation and to points of access and egress.
Zoning Ordinance	ARTICLE V. DISTRICT REGULATIONS; Mixed Use Planned Development District; 5.6.6 Standards; A. (4)	The development proposed in the MUPD Plan encourages cluster and compact development to the greatest extent possible, that is interrelated and linked by pedestrian ways, bike ways and other transportation systems.	No change recommended.	Listed here for reference only.
Zoning Ordinance	ARTICLE V. DISTRICT REGULATIONS; Mixed Use Planned Development District; 5.6.6 Standards; E. (1)	The MUPD Plan must demonstrate a safe and adequate on-site transportation circulation system. The on-site transportation circulation system shall be integrated with the off-site transportation circulation system of the Town.	No change recommended.	Note that 'Transportation' as defined in recommended changes to this zoning ordinance, includes pedestrians and bicyclists.
Zoning Ordinance	ARTICLE V. DISTRICT REGULATIONS; Mixed Use Planned Development District; 5.6.6 Standards; E. (4)(a)	The circulation system shall be designed to provide convenient access to all areas of the proposed development using the minimum practical roadway length. Roadway widths and proposed parking to satisfy development requirements shall be clearly delineated in the Master Plan. Internal pathways shall be provided to form safe and convenient systems for pedestrian access to dwelling units and common areas, with appropriate linkages off-site.	No change recommended.	Listed here for reference only.

Source Document	Reference	Existing Text	Recommended Change	Notes
Zoning Ordinance	ARTICLE V. DISTRICT REGULATIONS; Mixed Use Planned Development District; 5.6.6 Standards; E, (4)(c)	Principal vehicular access points shall be designed to provide for smooth traffic flow, minimizing hazards to vehicular, pedestrian or bicycle traffic. Where a MUPD abuts a major collector, arterial road or highway, direct access to such road or highway from individual lots, units or buildings shall be limited.	No change recommended.	Listed here for reference only.
Zoning Ordinance	ARTICLE VII. GENERAL DEVELOPMENT STANDARDS; Off-Street Parking and Off-Street Loading Requirements; 7.1.1 (e)	Where parking or loading areas are provided adjacent to a public street, ingress or egress thereto shall be made only through driveways or openings not exceeding 25 feet in width at the curb line of said street, except where the Town Engineer finds that a greater width is necessary to accommodate the vehicles customarily using the driveway. Detailed plans of all curb cuts and driveway openings shall be submitted to the Traffic Engineer for approval.	[Add] Curb cuts and driveway openings should be used only when absolutely necessary in order to minimize potential conflict points with pedestrians and bicyclists. Parking and loading activities shall not be permitted on sidewalks or crosswalks.	
Zoning Ordinance	ARTICLE XIL LEGAL PROVISIONS 12.1 Definitions	N/A	[Add New Definition] <i>Traffic</i> : Pedestrians and vehicles including bicycles, automobiles and other conveyances either singly or together while using streets for the purposes of travel.	This language was adapted for Pittsboro from the Uniform Vehicle Code (UVC), the national model code which forms a basis for most state codes. Using this definition ensures that pedestrians will be considered where 'traffic' is considered (in the classification of street types for example). Bicycles are also included in any definition that includes 'vehicle', because NC law defines bicycles as vehicles.
Zoning Ordinance	ARTICLE XIV REGULATION OF DEVELOPMENT WITHIN MAJOR TRANSPORTATION CORRIDORS; 14.1 Purpose and Intent	MTC districts are adopted for the following purposes:1) protecting the public investment in and lengthening the time during which highways can continue to serve their functions without expansion or relocation by expediting the free flow of traffic and reducing the hazards arising from unnecessary points of ingress and egress and cluttered roadside development; and 2) reserving adequate roadside space through which neighborhood traffic may be admitted to and from the highway system in a manner that avoids undue traffic concentrations, sudden turning, and stopping another hazards.	[Add]... and 3) providing adequate facilities for all types of traffic, including motorists, pedestrians, bicyclists, and transit users, and including of all levels of ability, such as those in wheelchairs, the elderly and the young.	
Zoning Ordinance	ARTICLE XIV REGULATION OF DEVELOPMENT WITHIN MAJOR TRANSPORTATION CORRIDORS; 14.5 Buffer	[Starting at 2nd paragraph, 3rd sentence] The trail may weave to avoid natural areas and have a maximum width of (5) feet. Selective thinning is allowed within one (1) foot of either side of the trail. However, no tree over 12 inches in diameter shall be removed in order to provide the trail. The trail shall not contain any impervious surface and shall be shown in detail on the site plan.	[Revise]: The trail may weave to avoid natural areas and have a maximum width of (10) feet. Selective thinning is allowed within one (1) foot of either side of the trail. However, no tree over 12 inches in diameter shall be removed in order to provide the trail. The trail can be either paved or unpaved and should follow the standards set forth in the Pittsboro Pedestrian Transportation Plan. The trail shall be shown in detail on the site plan.	
Zoning Ordinance	ARTICLE XIV REGULATION OF DEVELOPMENT WITHIN MAJOR TRANSPORTATION CORRIDORS; 14.8 Turn Lane Requirement/Driveways	The number of street and driveway connections permitted serving a single property frontage or commercial development along a state maintained roadway shall be the minimum deemed necessary for reasonable service to the property without undue impairment of safety, convenience and utility of the highway.	[Add]...or the bicycle facilities within the highway corridor.	

Source Document	Reference	Existing Text	Recommended Change	Notes
Zoning Ordinance	ARTICLE XIV REGULATION OF DEVELOPMENT WITHIN MAJOR TRANSPORTATION CORRIDORS	n/a	[Add New Section] 14.9 Pedestrian Facilities: All new development within the MTC District shall include the pedestrian facility indicated on the Recommended Facilities Maps in Chapter 3 of the Town of Pittsboro Pedestrian Transportation Plan.	
Zoning Ordinance	ARTICLE XV SITE PLANS 15.3 Preparation of Plans; B. 1. A	Designation of pedestrian walkways. Such walkways shall provide safe and convenient access between major buildings, housing clusters, parking areas, recreation areas, and other pedestrian destination points shown on the site plan. Walkways shall also be provided along the exterior boundaries of the proposed development where such walkways are deemed necessary to provide access to, or between, adjoining properties or nearby development. Any walkways provided along the exterior boundaries of the proposed development shall also be connected with the interior walkways shown on the site plan in order to create an overall pedestrian access network. Walkways may include sidewalks, asphalt pathways, or gravel trails as appropriate to the location and degree of use.	No change recommended.	3rd sentence: If exterior walkways are consistently not "deemed necessary", then consider using stronger language.
Zoning Ordinance	ARTICLE XV SITE PLANS 15.3 Preparation of Plans; B. 1. B	Connection wherever possible of all walkways, travel lanes and driveways with similar facilities in adjacent developments.	No change recommended.	Listed here for reference only.
Subdivision Regulations	Section 2. Definitions; 2.3	Streets and roads are hereby classified according to the function which they are to serve...	[Add new sentence after 2nd sentence of 'Streets' definition]: Regardless of classification, the design and construction of streets and intersections in the Town of Pittsboro should aim to serve all types of users, including pedestrians, bicyclists, and motorists, and should be inclusive of all levels of ability, such as those in wheelchairs, the elderly and the young.	Language for transit and transit users should also be added if and when such services are provided in Pittsboro.
Subdivision Regulations	Section 2. Definitions; 2.3	N/A	[Add New Definition] <i>Traffic</i> : Pedestrians and vehicles including bicycles, automobiles and other conveyances either singly or together while using streets for the purposes of travel.	This language was adapted for Pittsboro from the Uniform Vehicle Code (UVC), the national model code which forms a basis for most state codes. Using this definition ensures that pedestrians will be considered where 'traffic' is considered (in the classification of street types for example). Bicycles are also included in any definition that includes 'vehicle', because NC law defines bicycles as vehicles.
Subdivision Regulations	Section 6.1 Suitability of Land; C (3)	[2nd Sentence]: The developer must also provide evidence that the proposed site is not in the floodway and the development will not infringe on any designated greenway corridor.	[2nd Sentence]: The developer must also provide evidence that the proposed site is not in the floodway and the development will not infringe on any greenway corridor designated in the Town of Pittsboro Pedestrian Transportation Plan, unless to contribute to the development of greenway trails.	This revision ties the regulation to the most recent and comprehensive set of recommended greenway corridors (The Pedestrian Plan), while at the same time restating the regulation in a way that allows for the involvement of the developer in the creation of trails within designated corridors.
Subdivision Regulations	Section 6.5 b Easements, Dedications, and Reservations (2)	Pedestrian Easements: In such cases and at such locations as the Planning Board deems advisable, easements alongside or near lot lines not exceeding twenty (20) feet in width may be required for pedestrian or bicycle traffic to and from schools, neighborhood parks, and other public places.	[Revise]: Pedestrian Easements: In such cases and at such locations as the Planning Board deems advisable, easements alongside or near lot lines not exceeding twenty (20) feet in width may be required for pedestrian or bicycle traffic to and from schools, neighborhood parks, and other places that may attract or generate such traffic.	Revision allow for the justification of the easement to include destinations other than public places (for example, grocery stores, non-profit organizations, etc.)

Source Document	Reference	Existing Text	Recommended Change	Notes
Subdivision Regulations	Section 6.2 Streets; A. Classification	Classification. Streets and roads are hereby classified according to the function which they are to serve...	[Add new sentence after 1st sentence of "A. Classification]: Regardless of classification, the design and construction of streets and intersections in the Town of Pittsboro should aim to serve all types of users, including pedestrians, bicyclists, and motorists, and should be inclusive of all levels of ability, such as those in wheelchairs, the elderly and the young.	Language for transit and transit users should also be added if and when such services are provided in Pittsboro.
Subdivision Regulations	Section 6.2 Streets; B. Relation to Present, Proposed, and Future Street System	N/A	[Add new Part B.(7)]: The recommended pedestrian facilities within the Town of Pittsboro Pedestrian Transportation Plan shall be provided upon the development of land adjacent to them.	This or similar language should be used to require developers to provide the adopted recommendations for pedestrian facilities.
Subdivision Regulations	Section 6.2 Streets; B. Relation to Present, Proposed, and Future Street System	N/A	[Add new Part B.(8)]: Streets shall be bordered by sidewalks on both sides except on alleys, service drives, and principle arterials. The appropriate governing board may grant exceptions upon recommendation by the Planning Director if it is shown that local pedestrian traffic warrants their location on one side only.	Consider naming "appropriate governing board" in the new part B. (7).
Subdivision Regulations	Section 6.2 Streets; C. Design Standards for Streets	N/A	[Add new Part C.(9)]: Residential side-walks shall be a minimum of 5 ft in width. Sidewalks serving mixed use and commercial areas shall be a minimum of 8 ft in width (12–15 feet is required in front of retail storefronts). The design standards for all pedestrian facilities in the Town of Pittsboro Pedestrian Transportation Plan shall be adhered to for new streets and modifications to existing streets.	This or similar language should be used to require developers to adhere to the design standards for pedestrian facilities in the Pittsboro Pedestrian Transportation Plan.
Subdivision Regulations	Section 6.2 Streets; C. Design Standards for Streets	N/A	[Add new Part C.(10)]: Streets shall be designed with street trees planted in a manner appropriate to their function. Commercial streets shall have trees which compliment the face of the buildings and which shade the sidewalk. Residential streets shall provide for an appropriate canopy, which shades both the street and sidewalk. Street trees should allow the free movement of emergency vehicles.	
Subdivision Regulations	Section 6.2 Streets; C. Design Standards for Streets	N/A	[Add new Part C.(11)]: Wherever possible, streets should be designed to fit the contours of the land and should minimize removal of significant trees.	
Subdivision Regulations	Section 6.2 Streets; D. Construction Standards (1)	The design and construction of all public streets and roads, including the grading, roadbed, shoulders, slopes, medians, ditches, right-of-way and pavement widths, grades, curves, intersections and other proposed features shall conform the respective current standards of the North Carolina Department of Transportation Division of Highways and the Town of Pittsboro Subdivision Regulations.	[Revise to]: The design and construction of all public streets and roads, including the grading, roadbed, shoulders, slopes, medians, ditches, right-of-way and pavement widths, grades, curves, intersections, pedestrian facilities and other proposed features shall conform the respective current standards of the North Carolina Department of Transportation Division of Highways, the Town of Pittsboro Subdivision Regulations, and the Town of Pittsboro Pedestrian Transportation Plan.	Consider listing the pedestrian facilities (sidewalks, crosswalks, etc.) rather than only adding 'pedestrian facilities'; The advantage of only inserting 'pedestrian facilities' is that the phrase encompasses all types pedestrian facilities. The advantage of listing them is that less cross-reference is needed to know what types of pedestrian facilities are required.
Subdivision Regulations	Section 6.3 Blocks (A)	Cul-de-sac designed to have one end permanently closed shall be...	[Replace 'Cul-de-sac' paragraph with]: Cul-de-sac may be permitted only where topographic conditions and/or exterior lot line configurations offer no practical alternatives for connection or through traffic. Cul-de-sac, if permitted, shall not exceed 250 ft in length from the nearest intersection with a street providing through access (not a cul-de-sac). A close is preferred over a cul-de-sac.	For a great example of how such pro-connectivity policies have worked in other North Carolina communities, see the award winning Town of Davidson Planning Ordinance's section on streets.

Several high priority policies for pedestrian facilities are listed below. These requirements create a safer and more convenient environment for pedestrian transportation and should be integrated into all policy documents for the Town of Pittsboro. They apply to all new roadway construction and roadway reconstruction projects in the downtown, suburban, and rural areas, as appropriate (e.g., areas where new developments are being constructed).

ADDITIONAL POLICY RECOMMENDATIONS

More recommended policy statements and paragraphs by category are provided below that facilitate specific changes. The categories include pedestrian network and connectivity, safety, aesthetics, land use and development, and greenways.

PEDESTRIAN NETWORK AND CONNECTIVITY

Goal: Create and maintain a pedestrian route network that provides direct connections between downtown, trip attractors, schools, and residential/commercial areas.

- To the maximum extent possible, make walkways accessible to people with physical disabilities.
- Develop a system of informational and directional signage for pedestrian facilities and greenways.
- All roads surrounding schools should have sidewalks on both sides of the road with safe crosswalks.
- Pedestrian access should be provided through culs-de-sac and large parking lots, which are typical obstacles to pedestrian connectivity.
- Pedestrians and bicyclists should be accommodated on roadway bridges, underpasses, and interchanges and on any other roadways that are impacted by a bridge, underpass, or interchange project (except on roadways where they are prohibited by law). All new bridges should be constructed with bicycle lanes and wide sidewalks.
- Sidewalks and greenways should be developed in order of priority where possible as listed in Chapter 5 - Implementation. These segments facilitate immediate improvements and connections to major trip attractors within the Town of Pittsboro.

SAFETY

Goal: Strive to maintain a complete, safe sidewalk network free of broken or missing sidewalks, curb cuts, or curb ramps and that include safety features such as traffic calming, lighting, and sidewalk repairs.

- Raised medians or pedestrian refuge islands should be provided, where practical, at crosswalks on streets with more than three lanes, especially on streets with high volumes of traffic. They should be six- to ten-feet wide.
- Identify pedestrian facilities that are not ADA-compliant including missing, damaged, or non-compliant curb ramps, stairs, or sidewalk segments of inadequate width and create a plan for improving them.

- Develop a traffic calming program to slow traffic through downtown and on major corridors, making them aware that they share the corridors with pedestrians.
- Make pedestrian crossings a priority and initiate improvements recommended in Chapter 3. Consider variations in pavement texture and clear delineation of crosswalks. Also, ensure that crosswalks are properly lit at night.
- Implement pedestrian-scale lighting at regular intervals in areas of high pedestrian activity to promote pedestrian safety and discourage criminal activity.
- Develop and expand the Town’s maintenance program of sidewalk repairs, debris removal, and trimming of encroaching vegetation.
- The buffer space between the sidewalk and the curb and gutter should be maximized within the available right-of-way. 4’ is suggested as a minimum on major thoroughfares, but could be decreased in areas with slower and lower volume automobile traffic. Larger buffers are preferred for street tree health and pedestrian comfort. Suggested width is flexible related to environmental constraint.

AESTHETICS

Goal: Encourage the inclusion of art, historic, and nature elements along with street furniture, landscaping, and lighting in pedestrian improvement projects.

- Develop street design guidelines to incorporate recommendations of this plan (See Chapter 6 - Design Guidelines)
- Require street trees and planting buffers between the sidewalk and the street along all new roadways and sidewalk construction. Keep all vegetation trimmed.
- Encourage and/or require private owners (of residences and businesses) to keep their area in and around the sidewalk free of debris and litter.

LAND USE AND DEVELOPMENT

Goal: Promote land uses and site designs that make walking convenient, safe, and enjoyable.

- Use building and zoning codes to encourage a mix of uses, connect entrances and exits to sidewalks, and eliminate “blank walls” to promote street level activity.
- Sidewalks should have a minimum width of five feet but should be wider where pedestrian traffic is higher, including near schools, senior centers, and commercial areas or where sidewalks connect or overlap with recommended on-road greenway connections.
- Applicable buildings should be required to build to the sidewalk. Also, parking lots should be prohibited in front of buildings where possible to develop pedestrian oriented areas.
- Promote parking and development policies that encourage multiple destinations within an area to be connected by pedestrian

trips. Specifically, promote the connectivity of parking lots between businesses for increased safety and avoidance of roadway traffic.

- Parked vehicles shall not block pedestrian walkways.
- Require benches, shelters, sheltered transit stops, trees, and other features to facilitate the convenience and comfort of pedestrians.

GREENWAYS

- ‘Greenways’ should be defined as part of the Town of Pittsboro’s public infrastructure. Greenways are public infrastructure that provide important functions to not only offer transportation alternatives, but to protect public health safety and welfare. Within flood prone landscapes, greenways offer the highest and best use of floodplain land, mitigate the impacts from frequent flooding and offer public utility agencies access to floodplains for inspection, monitoring and management. Greenways filter pollutants from stormwater and provide an essential habitat for native vegetation that serves to cleanse water of sediment. Greenway trails provide viable routes of travel for cyclists and pedestrians and serve as alternative transportation corridors for urban and suburban commuters. Greenways serve the health and wellness needs of our community, providing close-to-home and close-to-work access to quality outdoor environments where residents can participate in doctor prescribed or self-initiated health and wellness programs. All of these functions make greenways a vital part of community infrastructure.

- Subdividers are required to provide natural buffers along both sides of all perennial streams. Public greenway trails with limited disturbance along perennial and intermittent streams are excellent uses for these spaces and should be dedicated during the subdivision process.

- Encourage utility corridor development practices that allow for maximum compatibility with pedestrian and bikeway corridors. Land and easements purchased for the purpose of providing utilities (such as water and sewer) can serve a greater community benefit if developed to accommodate a multi-use trail.



CHAPTER OUTLINE:

5.0 OVERVIEW

5.1 KEY ACTION STEPS

- 1) *Adopt this Plan*
- 2) *Begin Top Priority Projects*
- 3) *Improve and Enforce City Regulations*
- 4) *Support Continued Efforts of the Parks and Recreation Advisory Board*
- 5) *Take Advantage of All Opportunities*
- 6) *Seek Multiple Funding Sources and Facility Development Options*
- 7) *Develop Pedestrian Programming*
- 8) *Ensure Planning Efforts Are Integrated Regionally*

5.2 TOP PRIORITY PROJECTS

5.3 STAFFING

5.4 PERFORMANCE MEASURES (EVALUATION AND MONITORING)

5.5 PEDESTRIAN FACILITY DEVELOPMENT

5.6 GREENWAY ACQUISITION

5.0 OVERVIEW

The primary barrier to pedestrian facilities—such as sidewalks, safe intersections, and greenways—is funding. Pittsboro is a small town with a small tax base, in part because many downtown buildings are occupied by non-taxed county government offices. This financial barrier is precisely the rationale to prioritize the pedestrian improvements with the greatest impact for the fewest dollars.

Successful implementation will also require the dedication of Town staff and the continued support of Parks and Recreation Advisory Board members and local advocates. This chapter will serve as a simple guide with key action steps, top priority projects, staffing recommendations, an evaluation and monitoring process, methods of pedestrian facility development and greenway acquisition.

5.1 KEY ACTION STEPS

These following steps are integral to achieving the goals and vision of this Plan. As guiding recommendations and the clearest representation of specific items to accomplish, they should be referred to often. With the exception of the first step, there is no particular order in which these should be addressed.

ADOPT THIS PLAN.

Through adoption, the Plan becomes a legitimate planning document of the Town. Adoption shows that the Town of Pittsboro has undergone a successful, supported planning process. The Town can then use this document to receive funding through NCDOT and other resources. The Town Boards and Planning staff should become knowledgeable of this Plan and support ordinance amendments and policy recommendations. Finally, this Plan should also be integrated into future Town of Pittsboro planning documents.

BEGIN TOP PRIORITY PROJECTS.

The prioritization of pedestrian facility development provides a list of the most important projects to improve connectivity and safety. The prioritization matrix, found in Appendix B, lists the improvements in order of importance. Top priority projects are pulled from this matrix and described in the next section. Steering Committee input, public input, and

criteria such as sidewalk gap closure and proximity to schools and other trip attractors were used to develop this list. Immediate attention to the high priorities will instantly have a large impact on pedestrian conditions in Pittsboro. These high priority projects should be supported by local funding and part of the local Capital Improvement Program (CIP).

IMPROVE AND ENFORCE TOWN REGULATIONS.

To ensure future development provides pedestrian facilities and improves pedestrian friendliness, regulations should be updated and enforced. These policy recommendations are provided in more detail in Chapter 4. It should be the goal of the Planning Department to update zoning and subdivision regulations as soon as possible and to enforce these. All pedestrian-related regulations should be subject to case-by-case environmental evaluation. The most important regulation updates are:

- Adopt and implement Design Guidelines (Chapter 6).
- Mandatory development of sidewalk and greenway network when on adopted Town Plan map through an area of new development.
- The creation of a mandatory dedication, impact fee, or fee-in-lieu program for new development to provide pedestrian and greenway facilities.

SUPPORT CONTINUED EFFORTS OF THE PARKS AND RECREATION ADVISORY BOARD

Many communities across the State have commissions for this purpose. The PARAB should continue its advocacy role for on-road bicycle and pedestrian issues to provide a network of off-road and on-road facilities that connects people to places. The Board should help coordinate the implementation of this Plan, develop programs, continue to listen to community needs, promote the pedestrian network, and keep positive momentum going. Consider appointing a PARAB liaison or providing formal reports to the Planning Board and Town Board of Commissioners on development review issues related to pedestrian, bicycle, and greenway planning (or continue to do so if this function is already in place).

The PARAB can also help monitor the progress of the Town and NCDOT as they develop new facilities and programs. This group can push for additional improvements to build upon the recommendations of this plan. Coordination with NCDOT, specifically the Division of Bicycle and Pedestrian Transportation and the local Division 8 office, will prove critical if this plan is to be implemented successfully.

TAKE ADVANTAGE OF ALL OPPORTUNITIES

While it is ideal to develop pedestrian facilities in order of priority, it is wise to also create facilities when opportunity arises. Some of the most cost-effective opportunities to provide pedestrian facilities are during routine roadway construction, reconstruction, and repaving projects. A new commercial development or a roadway widening project, for instance, would provide the means to build sidewalks or trails as a component of an existing effort, saving costs.

SEEK MULTIPLE FUNDING SOURCES AND FACILITY DEVELOPMENT OPTIONS

Multiple approaches should be taken to support pedestrian facility development and programming. It is important to secure the funding necessary to undertake the short-term, top priority projects but also to develop a long term funding strategy to allow continued development of the overall system. Capital and Powell Bill funds for sidewalk, crosswalk, and greenway construction should be set aside every year, even if only for a small amount (small amounts of local funding can be matched to outside funding sources). A variety of local, state, and federal options and sources exist and should be pursued. These funding options are described in Appendix C. Other methods of pedestrian facility development and greenway acquisition that are efficient and cost-effective are described later in this chapter.

DEVELOP PEDESTRIAN PROGRAMMING.

Programming such as Safe Routes to School and others described in Chapter 4 can help educate and encourage users. Safe Routes to School offers a number of school workshop opportunities and construction funding for improvements around schools. Public events and media involvement should also be considered when announcing new walkways and upcoming projects.

ENSURE PLANNING EFFORTS ARE INTEGRATED REGIONALLY.

Regional efforts such as those described in Chapter 3 are opportunities for the Town of Pittsboro. Combining resources and efforts with surrounding municipalities, regional entities, and stakeholders is mutually beneficial. Regional, long-distance trails often spark the most excitement, use, and tourism. The Town should remain coordinated with Chatham County and neighboring municipalities on regional trail initiatives. It is important to stay aware and communicative with other municipal, county, state, and NCDOT efforts to ensure the Town takes advantage of funding opportunities and support. A PARAB member, for example, could have the responsibility of staying in tune and updating the Town on regional trail initiatives.

After adoption by the Town, the Town should ensure that this document is recognized in regional transportation plans, as well as into the official work schedule and planning of the local NCDOT Division 8.

5.2 TOP PRIORITY PROJECTS

As generated and listed in the Appendix B Prioritization Matrix, the top pedestrian projects in Pittsboro are ones that make the most efficient use of limited resources, serving multiple functions, such as connectivity and safety. These are projects that should occur in the short-term to have an immediate, visible and positive impact. These projects should be incorporated into the Town’s Capital Improvement Program (CIP) and/or State Transportation Improvement Program (TIP). In order to make the State TIP list or the Priority Needs List, the Town of Pittsboro will have to work directly to submit needs after adoption of the plan.

As described in Chapter 3, there are three core types of pedestrian facilities recommended: sidewalks, greenways, and intersection improvements. Intersection improvement recommendations are provided in Chapter 3, all of which are high priority. Sidewalks are prioritized in matrix format in Appendix E. Greenways are prioritized based on connections they provide and public input.

The following table lists the top 12 priority pedestrian projects and estimated costs. Cost per linear foot for sidewalks and crosswalks was provided by the North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation. These figures are for planning purposes only.

PRIORITY PEDESTRIAN FACILITIES AND ESTIMATED COSTS

Priority Rank	Pedestrian Route	From	To	Facility Type	New Sidewalk or Trail, Total LF	Sidewalk Cost: \$50-\$75/ LF	Trail Cost: \$133/ LF	# of new crosswalks	New Crosswalks Total LF	\$4.80/LF	Totals
1	Courthouse Roundabout	East & West (US 64)	Hillsboro & Sanford (15-501)	Crosswalk Improvements	0	\$0	\$0	1	22	\$106	\$105.60
2	Hillsboro (15-501)	East & West (US 64)	Launis	New Sidewalk & Crosswalk, Plus Improvements	1,800	\$90,000	\$0	11	264	\$1,267	\$91,267.20
3	East (US 64)	Hillsboro & Sanford (15-501)	Martin Luther King Jr	New Sidewalk & Crosswalks	2,400	\$120,000	\$0	13	405	\$1,944	\$121,944.00
4	West (US 64)	NC 87	Hillsboro & Sanford (15-501)	Crosswalk Improvements	0	\$0	\$0	14	429	\$2,059	\$2,059.20
5	Creek Corridor	Chatham County Community College	Town Lake Park	Multi-Use Trail/Greenway	3,000	\$0	\$399,000	2	79	\$379	\$399,379.00
6	Graham Rd (NC 87)	West (US 64)	Cooper Farm Rd	New Sidewalk & Crosswalks	6,680	\$501,000	\$0	3	72	\$346	\$501,345.60
7	Sanford (15-501)	East & West (US 64)	Horton	New Sidewalk & Crosswalks	2,420	\$181,500	\$0	9	216	\$1,037	\$182,536.80
8	Hillsboro (15-501)	Powell Place/Lowes	Launis	New Sidewalk & Crosswalks	14,560	\$1,092,000	\$0	10	240	\$1,152	\$1,093,152.00
9	Goldston (NC 87)/Pitts. Elem. School Rd	West (US 64)	McClenahan	New Sidewalk & Crosswalks	4,000	\$300,000	\$0	4	96	\$461	\$300,460.80
10	Salisbury	Credle	CCCC & West (US 64)	New Sidewalk & Crosswalks	6,320	\$474,000	\$0	10	240	\$1,152	\$475,152.00
11	Sewer Easement	Town Lake Park	Cornwallis	Multi-Use Trail/Greenway	4,000	\$0	\$532,000	0	0	\$0	\$532,000.00
12	Sanford (15-501)	Horton	Moncure-Pittsboro & Goldston (NC 87)	New Sidewalk & Crosswalks	3,640	\$273,000	\$0	6	144	\$691	\$273,691.20
<i>grand total:</i>											\$3,973,093

Sidewalk linear foot costs: \$75 is used when curb and gutter are included; \$50 is used when curb and gutter are not included.

Crosswalk linear foot costs: \$4.80 assumes high-visibility thermoplastic striping.

Greenway trail costs: \$700K per mile is recommended by NCDOT and is used for the table below, although some NC municipalities have built them for less (\$500-\$600K)

5.3 STAFFING

The Town of Pittsboro’s Planning Department is responsible for the coordination of pedestrian planning. The recent addition of an Assistant Planner has allowed for a much greater allocation of time dedicated specifically to this endeavor. In the past half year since the expansion of the department, the planners have provided project management and direction for this plan, increased the required sidewalk width from 4 feet to 5 feet and have applied for approximately \$200,000 worth of grants to provide new sidewalk and trail head improvements. The department is committed to implementing the policy recommendations of this plan in relatively short order.

The Town’s Governing Board, Planning Board, Parks and Recreation Advisory Board and Planning and Public Works Departments are all committed to increasing both the quantity and quality of pedestrian infrastructure. The Planning Department will continue to spearhead initiatives to manifest tangible, on the ground results, from this general sentiment of community support. Building upon the momentum generated from this plan, the department will continue to keep pedestrian infrastructure a high priority in all of its daily planning activities, including site review, maintenance of pedestrian related GIS files, and short to long range planning.

The Planning Department also handles the Town’s Parks and Recreation functions. As such, it has an interest in incorporating safe walking facilities within its growing park system and connecting their facilities via a viable greenways and sidewalk network. It’s recommended that key partnerships with the Chatham County Parks and Recreation Department be maintained, particularly in regards to regional greenway planning and development.

The Public Works Director should continue to participate in the construction and maintenance of all trail and pedestrian facilities. The Public Works Director should also be aware of—and be prepared to—implement the recommendations for pedestrian facilities discussed earlier in this plan. The Public Works Department could also assist the Planning Department in updating cost estimates for future facilities, and providing practical input on this Plan’s design guidelines.

CHATHAM COUNTY PARKS AND RECREATION DEPARTMENT

There is no Parks and Recreation Department within the Town of Pittsboro, though their assistant planner is responsible for parks and recreation related activities. The Chatham County Parks and Recreation Department could be a key partner in carrying out greenway recommendations for this Plan. The Town of Pittsboro should work with Chatham County to apply for funding and coordinate park and greenway facility development. This includes partnering on regional trail efforts, updating and publishing new maps, creating and updating GIS layers of all greenway facilities, proposing future alternative routes, and working with adjacent communities/counties

to coordinate linkages to other greenways. Education and encouragement program opportunities should be incorporated within existing parks, future parks, and recreation centers.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NCDOT Division 8 has shown interest and early support for this Pedestrian Plan. Division 8 maintains the state-owned roads in Pittsboro, affecting the pedestrian facilities (or lack thereof) on much of Pittsboro’s roadway environment. Recommendations for pedestrian facilities on NCDOT roads will have to be carried out through a coordinated effort between the Town of Pittsboro and NCDOT Division 8. Some assistance could also be provided through NCDOT’s Division of Bicycle and Pedestrian Transportation.

The Town and NCDOT should pursue a pedestrian facility development model used by other North Carolina municipalities (The Town of Cary, for example) for the development of priority projects that are on NCDOT roads. Rather than waiting for certain projects to make it on the TIP list (a process that can take many years), the Town of Pittsboro should pursue an agreement with NCDOT that allows the Town to complete pedestrian projects today, on NCDOT roads, with the understanding that those improvements would eventually be on the TIP. When the project year finally arrives on the TIP, NCDOT would then reimburse the Town for their original pedestrian improvements. For more information on this facility development model, contact the Town of Cary and/or NCDOT Division 5. For more on the TIP process, see section 5.5 of this chapter.

POLICE DEPARTMENT

The Pittsboro Police Department plays a vital role in pedestrian safety. All local police officers should be educated about North Carolina’s pedestrian laws to promote positive interactions between pedestrians and motorists. The Guide to North Carolina Bicycle and Pedestrian Laws, written by the NCDOT Division of Bicycle and Pedestrian Transportation, should be distributed to local law enforcement. Programs such as the Safe Routes to School grants, offer the opportunity for the Police Department to partner with other Town Departments to improve pedestrian safety.

VOLUNTEERS

Services from volunteers, student labor, and seniors, or donations of material and equipment may be provided in-kind, to offset construction and maintenance costs. Formalized maintenance agreements, such as adopt-a-trail/greenway or adopt-a-highway can be used to provide a regulated service agreement with volunteers. Other efforts and projects can be coordinated as needed with senior class projects, scout projects, interested organizations, clubs or a neighborhood’s community service to provide for many of the program ideas outlined in Chapter 4 of this plan. Advantages of utilizing volunteers include reduced or donated planning and construction costs, community pride and personal connections to the Town’s greenway and pedestrian networks.

5.4 PERFORMANCE MEASURES (EVALUATION AND MONITORING)

The Town of Pittsboro should establish performance measures to benchmark progress towards achieving the goals of this Plan. These performance measures should be stated in an official report within two years after the Plan is adopted. Baseline data should be collected as soon as the performance measures are established. The performance measures should address the following aspects of pedestrian transportation and recreation in Pittsboro:

- Safety. Measures of pedestrian crashes and injuries.
- Usage. Measures of how many people walking on on-road and off-road facilities.
- Facilities. Measures of how many pedestrian facilities are available and the quality of these facilities.
- Education/Enforcement. Measures of the number of people educated and/or number of people ticketed as a part of a pedestrian safety campaign.
- Institutionalization. Measures of the total budget spent on pedestrian and greenway projects and programs or the number of municipal employees receiving pedestrian facility design training.

When establishing performance measures, the Town should consider utilizing data that can be collected cost-effectively and be reported at regular intervals, such as in a performance measures report that is published every two years. As the process of collecting and reporting pedestrian and greenway data is repeated over time, it will become more efficient. The data will be useful for identifying trends in non-motorized transportation usage and conditions.

Land use, transportation, development, and the overall landscape will continue to change as Pittsboro grows resulting in a dynamic area. Also new opportunities or input from an on-going monitoring and evaluation process may emerge, leading to the need to adapt and update the recommendations of this Plan.

5.5 PEDESTRIAN FACILITY DEVELOPMENT

This section describes different construction methods for the proposed pedestrian facilities outlined in Chapter 3 of this Plan.

Note that many types of transportation facility construction and maintenance projects can be used to create new pedestrian facilities. It is much more cost-effective to provide pedestrian facilities during roadway and transit construction and re-construction projects than to initiate the improvements later as “retrofit” projects.

To take advantage of upcoming opportunities and to incorporate pedestrian facilities into routine transportation and utility projects, the assigned “Pedestrian Coordinator” should keep track of the Town’s projects and any other local and NCDOT transportation improvements. While doing this, he/she should be aware of the different procedures for state and local roads and interstates. More detail on facility design and treatment can be found in Chapter 6.

NCDOT TRANSPORTATION IMPROVEMENT PROGRAM (TIP) PROCESS

The Transportation Improvement Program (TIP) is an ongoing program at NCDOT which includes a process asking localities to present their transportation needs to state government. Pedestrian facility and safety needs are an important part of this process. Every other year, a series of TIP meetings are scheduled around the state. Following the conclusion of these meetings, all requests are evaluated. Pedestrian improvement requests, which meet project selection criteria, are then scheduled into a four-year program as part of the state’s long-term transportation program.

There are two types of projects in the TIP: incidental and independent. Incidental projects are those that can be incorporated into a scheduled roadway improvement project. Independent are those that can stand alone such as a greenway, not related to a particular roadway.

The Town of Pittsboro, guided by the Pedestrian Coordinator, should strongly consider important pedestrian projects along State roads to present to the Triangle Area Rural Planning Organization (RPO) and State. Local requests for small pedestrian projects, such as sidewalk links, can be directed to the RPO or the local NCDOT Division 8 office. Further information, including the criteria evaluated can be found at: http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html

LOCAL ROADWAY CONSTRUCTION AND RECONSTRUCTION

Pedestrians should be accommodated any time a new road is constructed or an existing road is reconstructed. All new roads with moderate to heavy motor vehicle traffic should have sidewalks and safe intersections. The Town of Pittsboro should take advantage of any upcoming construction projects, including roadway projects outlined in local comprehensive and transportation plans. Also, case law surrounding the ADA has found that roadway resurfacing constitutes an alteration, which requires the addition of curb ramps at intersections where they do not exist.

RESIDENTIAL AND COMMERCIAL DEVELOPMENT

As detailed in Chapter 4, the construction of sidewalks and safe crosswalks should be required during development. Construction of pedestrian facilities that corresponds with site construction is more cost-effective than retro-fitting. In commercial development, emphasis should also be focused on safe pedestrian access into, within, and through large parking lots. This ensures the future growth of the pedestrian network and the development of safe communities.

RETROFIT ROADWAYS WITH NEW PEDESTRIAN FACILITIES

For top priority pedestrian projects, it may be necessary to add new facilities before a roadway is scheduled to be reconstructed. In some places, it may be relatively easy to add sidewalk segments to fill gaps, but other segments may require removing trees, relocating landscaping or fences, regrading ditches or cut and fill sections.

BRIDGE CONSTRUCTION OR REPLACEMENT

Provisions should always be made to include a walking facility as a part of vehicular bridges, underpasses, or tunnels, especially if the facility is part of the Pedestrian Network. All new or replacement bridges should accommodate pedestrians with wide sidewalks on both sides of the bridge. Even though bridge replacements do not occur regularly, it is important to consider these in longer-term pedestrian planning. NCDOT bridge policy states that sidewalks shall be included on new NCDOT road bridges with curb and gutter approach roadways. A determination of providing sidewalks on one or both sides is made during the planning process. Sidewalks across a new bridge shall be a minimum of five to six feet wide with a minimum handrail height of 42".

SIGNAGE AND WAYFINDING PROJECTS

The Town should consider developing and adopting a signage style policy and procedure, to be applied throughout the entire community, to make it easier for people to find destinations. Pedestrian route and greenway signs are one example of these wayfinding signs, and they can be installed along routes as a part of a comprehensive wayfinding improvement project. For a step-by-step guide to help non-professionals participate in the process of developing and designing a signage system, as well as information on the range of signage types, visit the Project for Public Places website: http://www.pps.org/info/amenities_bb/signage_guide

EXISTING TOWN EASEMENTS

The Town has many existing easements throughout Pittsboro, offering an opportunity for greenway facilities. Sewer easements are very commonly used for this purpose, offering cleared and graded corridors that easily accommodate trails. This approach avoids the difficulties associated with acquiring land, and it utilizes the Town's existing resources.

5.6 GREENWAY ACQUISITION

Since not all greenways can be built on existing Town easements, land acquisition is an important component of greenway development. It will be necessary to work with landowners and future development projects. Land acquisition and resource protection methods should be strategic, efficient, and respectful. Non-profit land protection agencies, land trusts, and/or environmental organizations can assist when attempting to acquire or manage property. These entities often have a great deal of experience selling the greenway benefits of conservation. Because these types of organizations do not have the power to condemn land or the power to tax, they often have excellent personal and professional relations with local landowners. Many options are available to obtain different degrees of control and different ownership relationships to regulate resource use. Providing educational material to local landowners and developers about the benefits of greenways and land/easement donations is an excellent means to stimulate greenway acquisition. The following is a list of potential conservation tools, developing partnerships, development regulations, land management techniques, and acquisition/donation. A more detailed look at each of these tools is provided in Appendix D- Acquisition Strategies.

Given their role for water quality improvements in the Robeson Creek watershed, the Robeson Creek Watershed Council (RCWC) and the NCSU Water Quality Group (WQG) should also be a major stakeholders in the Town's efforts to conserve greenway corridors along waterways. The Town of Pittsboro is already an active partner with the RCWC and WQG, through numerous grants to improve water quality.

LAND ACQUISITION / CONSERVATION TOOLS

Partnerships

Partnerships with land trusts, local developers, and private land managers can assist the Town of Pittsboro in developing greenway facilities.

- Land Trusts
- Private Land Managers

Regulatory Methods

This type of resource protection is used to shape the use and development of the land without transferring or selling the land. The rules for this type of tool are established and enforced by a governing body.

- Exactions (Development/Impact Fee, Mandatory Dedications, Fee in Lieu)
- Growth Management Measures (Adequate Public Facilities Ordinances/Concurrency)

- Performance Zoning
- Incentive Zoning
(Dedication or Density Transfers)
- Conservation Zoning
(Buffer or Transition Zones)
- Overlay Zoning
- Negotiated Dedications
- Reservation of Land
- Planned Unit Development
- Cluster Development

Land Management

This type of resource protection refers to developing agreements and/or management plans for public use and greenway easements through private property. This method helps conserve the resources of an open space or greenway parcel or easement.

- Management Plans
- Conservation Easement
- Preservation Easement
- Public Use Easement

Acquisition

Land acquisition is a method used to acquire property rights to protect resources or to allow access and free movement of users on a property. This type of method is permanent. Acquisition methods can be divided into two categories: 1) landowners retain ownership of the land and preserve a resource through an easement or other mutual agreement, or 2) land ownership and management is transferred or donated from a landowner to a conservation agency (local government, land trust, or other preservation organization.)

- Donation (Tax Incentives)
- Fee Simple Purchase
- Easement Purchase
- Lease Back Purchase
- Bargain Sale
- Installment Sale
- Right of First Refusal
- Purchase of Development Rights
- Land Banking
- Condemnation
- Eminent Domain



DESIGN GUIDELINES

CHAPTER OUTLINE:

6.0 OVERVIEW

6.1 PEDESTRIAN WALKWAYS

6.2 PEDESTRIAN FACILITY ELEMENTS

6.0 OVERVIEW

These recommended guidelines originate from and adhere to national design standards as defined by the American Association of State Highway Transportation Officials (AASHTO), the Americans with Disabilities Act (ADA), the Federal Highway Administration (FHWA) Pedestrian Facilities Users Guide, the Manual on Uniform Traffic Control Devices (MUTCD), and the NCDOT. Another major source of information in this chapter is the Pedestrian and Bicycle Information Center, found online at <http://www.walkinginfo.org>. Should the national standards be revised in the future and result in discrepancies with this chapter, the national standards should prevail for all design decisions. A qualified engineer or landscape architect should be consulted for the most up to date and accurate cost estimates.

The sections below serve as an inventory of pedestrian design elements/treatments and provide guidelines for their development. These treatments and design guidelines are important because they represent minimum standards for creating a pedestrian-friendly, safe, accessible community. The guidelines are not, however, a substitute for a more thorough evaluation by a landscape architect or engineer upon implementation of facility improvements. Some improvements may also require cooperation with the NCDOT for specific design solutions.

6.1 PEDESTRIAN WALKWAYS

SIDEWALKS AND WALKWAYS

Sidewalks and walkways are extremely important public right-of-way components often times adjacent to, but separate from automobile traffic. In many ways, they act as the seam between private residences, stores, businesses, and the street. They are spaces where children play, neighbors meet and talk, shoppers meander casually, parents push strollers, and commuters walk to transit stops or directly to work. Because of the social importance of these spaces, great attention should be paid to retrofit and renovate areas with disconnected, dangerous, or otherwise malfunctioning walkways.

There are a number of options for different settings, for both downtown Pittsboro and more rural and/or suburban areas. From a wide promenade to, in the case of a more rural environment, a simple asphalt or crushed stone path next to a secondary road, walkway form and topography can vary greatly. In general, sidewalks are constructed of concrete although there are some successful examples where other materials such as asphalt, crushed stone, or other slip resistant material have been used. The width of the walkways should correspond to the conditions present in any given location (i.e. level of pedestrian traffic, building setbacks, or other important natural or cultural features). FHWA (Federal Highway Administration) and the Institute of Transportation Engineers both suggest five feet as the minimum width for a sidewalk. This is considered ample room for two people to walk abreast or for two pedestrians to pass each other. Often downtown areas, near schools, transit stops, or other areas of high pedestrian activity call for much wider sidewalks.

Sidewalks are typically built in curb and gutter sections but can also be planned in coordination with ditches or planted swales. They need to be kept completely free of obstructions such as utility poles, trash cans, overgrown bushes, etc. A four to eight foot buffer zone parallel to the sidewalk or walkway is recommended to separate pedestrian traffic from automobile traffic and to keep the sidewalk free of light pole obstructions. Much like the sidewalk and walkway itself, the form and topography of this buffer will vary greatly. Native street tree plantings have historically proven to work successfully within these buffer zones. They regulate micro-climate, create a desirable sense of enclosure, promote a local ecological identity and connection to place, and can act as a pleasant integration of nature into an urban environment. In the event that vegetation is not possible, a row of parked cars, bike lane, or street furniture can be used to create this buffer.

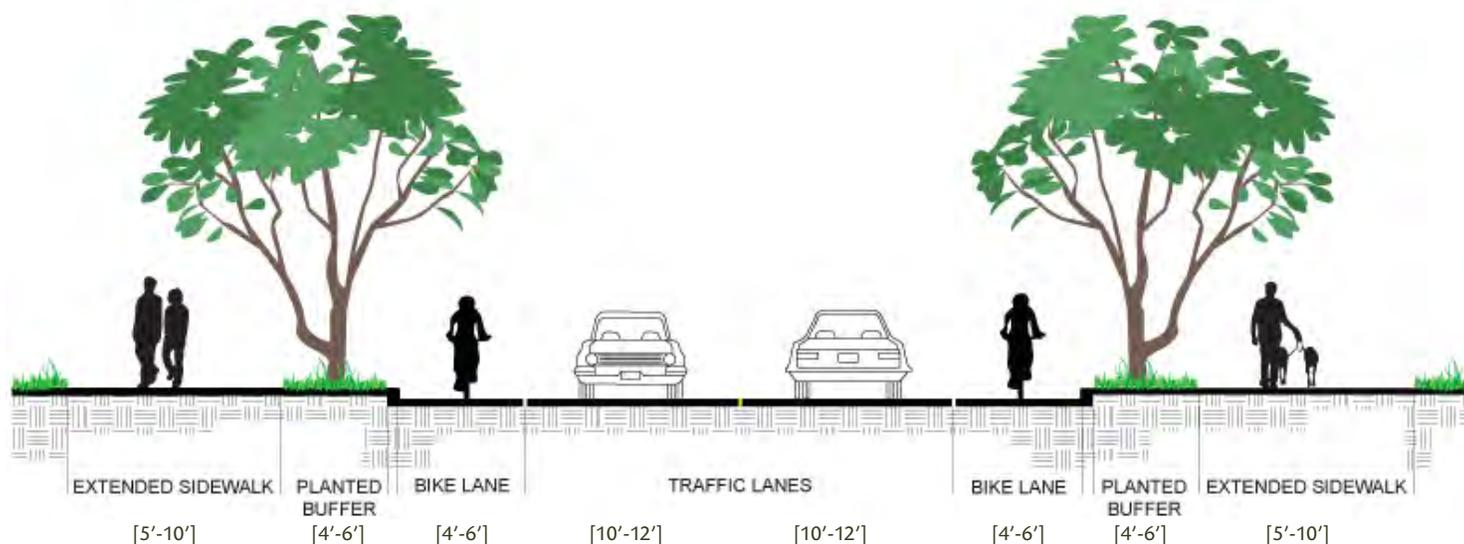


A well designed residential sidewalk will have a width of at least five feet. (Image from <http://www.walkinginfo.org>)



Sidewalk with a vegetated buffer zone. Notice the sense of enclosure created by the large canopy street trees. (Image from <http://www.walkinginfo.org>)

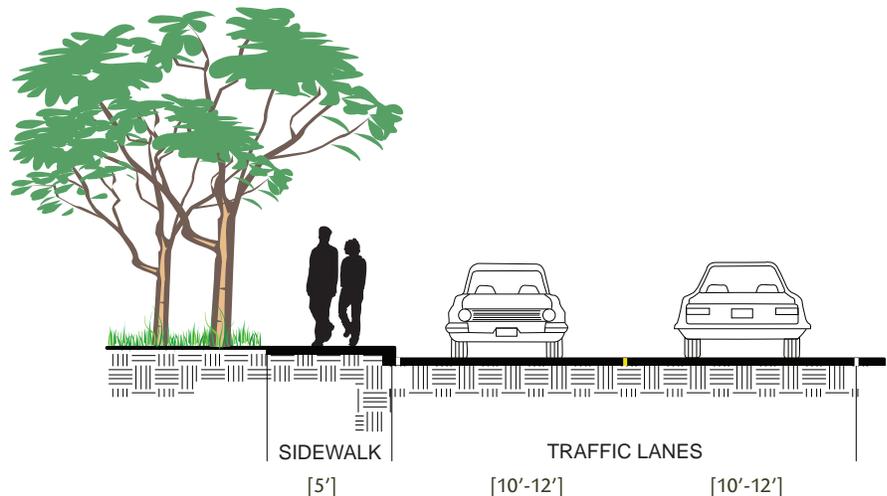
Below: Typical street with bike lanes and adjacent sidewalk.



SIDEWALKS AND WALKWAY GUIDELINES:

- Concrete is preferred surface, providing the longest service life and requiring the least maintenance. Permeable pavement such as porous concrete may be considered to improve water quality.
- Sidewalks should be built as flat as possible to accommodate all pedestrians; they should have a running grade of five percent or less; with a two percent maximum cross-slope.
- Concrete sidewalks should be built to minimum depth of four inches; six inches at driveways.
- Sidewalks should be a minimum of five feet wide; sidewalks serving mixed use and commercial areas shall be a minimum of 8 ft in width (12–15 feet is required in front of retail storefronts).
- Buffer zone of two to four feet in local or collector streets; five to six feet in arterial or major streets and up to eight feet in busy streets and downtown to provide space for light poles and other street furniture. See the Vegetation section later in this chapter for shade and buffer opportunities of trees and shrubs.
- Motor vehicle access points should be kept to minimum.
- In Pittsboro, if a sidewalk with buffer on both sides is not feasible due to topography and right-of-way constraints, then a sidewalk on one side is better than no facility. Each site should be examined in detail to determine placement options.

Right: Where space and topography are limiting, this cross section may be applied.

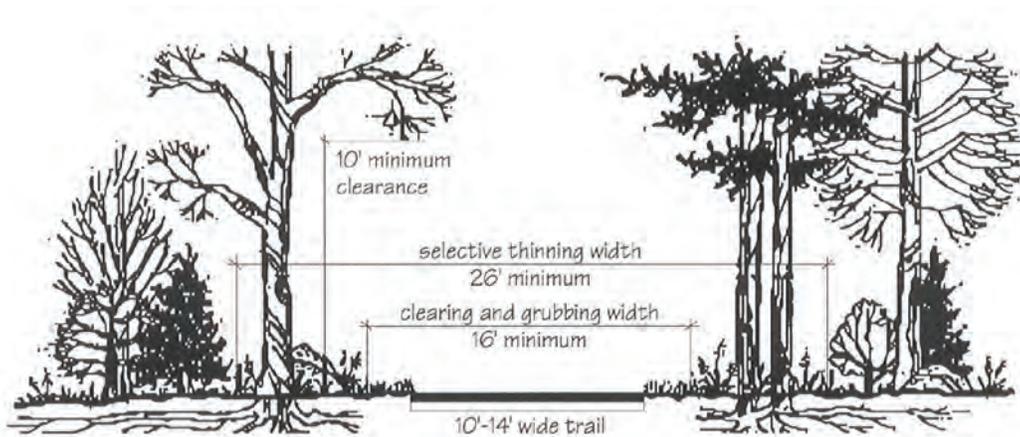


GREENWAY TRAIL

A greenway is defined as a linear corridor of land that can be either natural, such as rivers and streams, or manmade, such as abandoned railroad beds and utility corridors. Most greenways contain trails. Greenway trails can be paved or unpaved, and can be designed to accommodate a variety of trail users, including bicyclists, walkers, hikers, joggers, skaters, horseback riders, and those confined to wheelchairs.

Single-tread, multi-use trails are the most common trail type in the nation. These trails vary in width and can accommodate a wide variety of users. The minimum width for two-directional trails is 10', however 12'-14' widths are preferred where heavy traffic is expected. Centerline stripes should be considered for paths that generate substantial amounts of pedestrian traffic, or along curved portions of the trail, where sight-lines are limited. Possible conflicts between user groups must be considered during the design phase, as cyclists often travel at a faster speed than other users. Radii minimums should also be considered depending on the different user groups.

While the vegetative clearing needed for these trails varies with the width of the trail. The minimum width for clearing and grubbing a 14' wide trail is 16'. Selective thinning increases sight lines and distances and enhances the safety of the trail user. This practice includes removal of underbrush and limbs to create open pockets within a forest canopy, but does not include the removal of the forest canopy itself.



Left: Vegetation clearing guidelines

Typical pavement design for a paved, off-road, multi-use trail should be based upon the specific loading and soil conditions for each project. Asphalt or concrete trails should be designed to withstand the loading requirements of occasional maintenance and emergency vehicles.

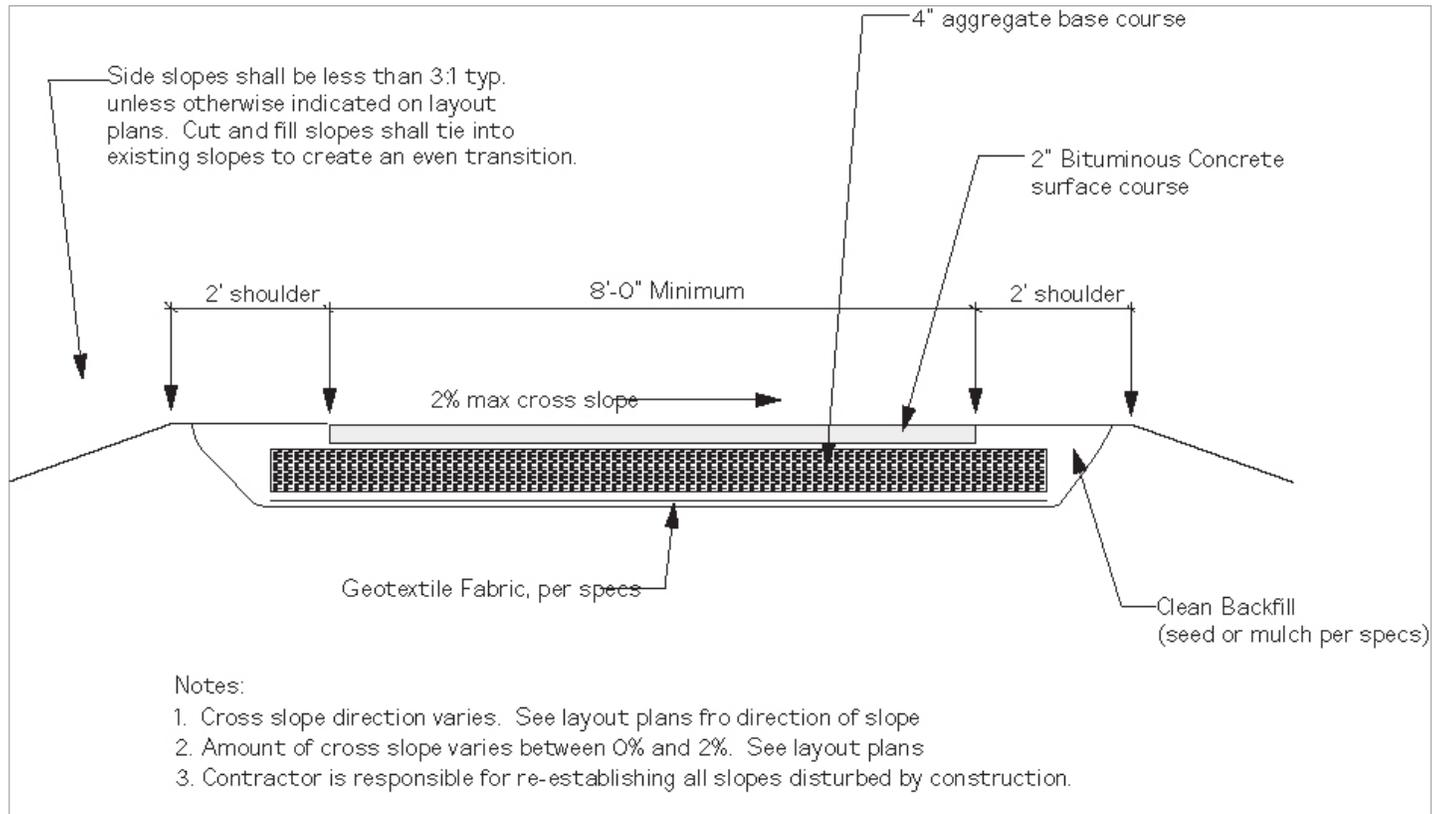
Right: Typical asphalt path section



Right: Typical natural surface trail section



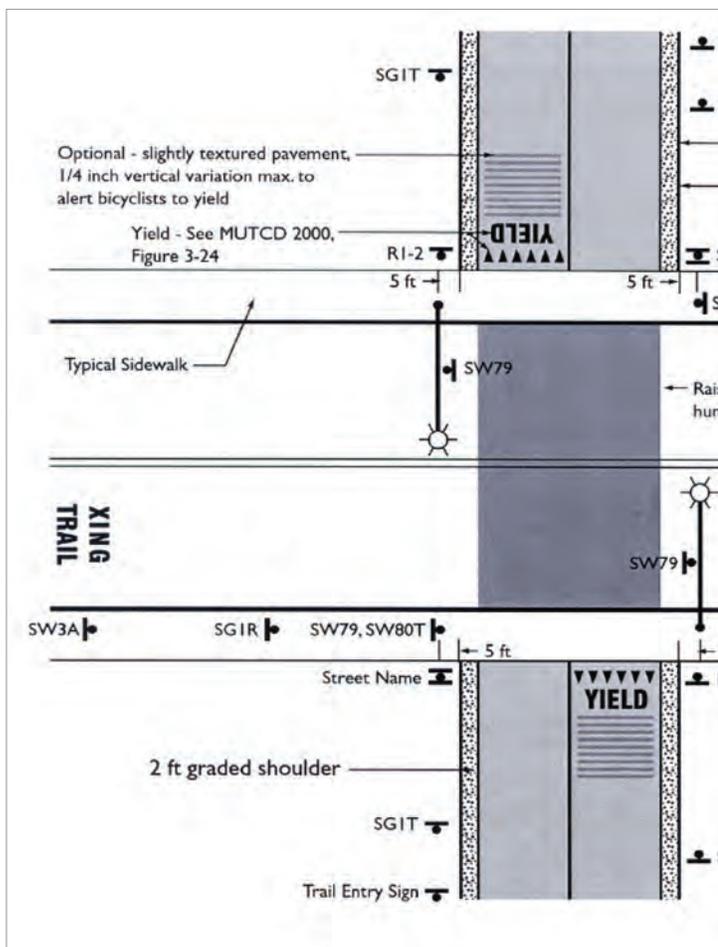
Below: Asphalt pavement construction detail



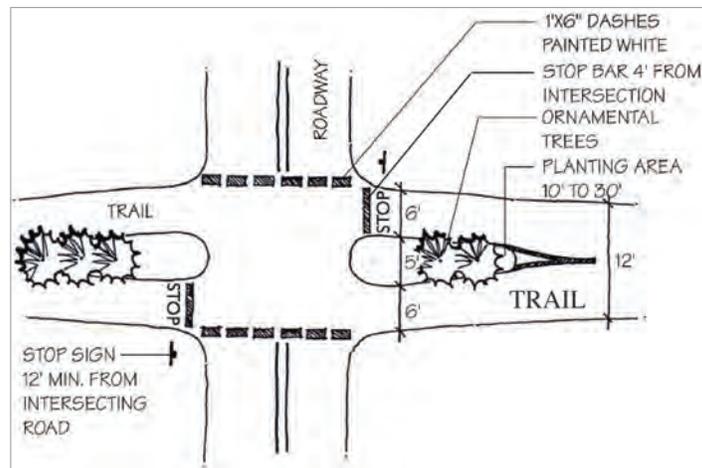
Concrete: In areas prone to frequent flooding, it is recommended that concrete be used because of its excellent durability. Concrete surfaces are capable of withstanding the most powerful environmental forces. They hold up well against the erosive action of water, root intrusion and subgrade deficiencies such as soft soils. Most often, concrete is used for intensive urban applications. Of all surface types, it is the strongest and has the lowest maintenance requirement, if it is properly installed.

Asphalt: Asphalt is a flexible pavement and can be installed on virtually any slope. One important concern for asphalt trails is the deterioration of trail edges. Installation of a geotextile fabric beneath a layer of aggregate base course (ABC) can help to maintain the edge of a trail. It is important to provide a 2' wide graded shoulder to prevent trail edges from crumbling.

Trail and Roadway Intersections: The images below present detailed specifications for the layout of intersections between trail corridors and roadways. Signage rules for such intersections are available in the Manual for Urban Traffic Control Devices (MUTCD).



Typical greenway trail crossing a roadway



Typical greenway trail approach to a roadway

6.2 PEDESTRIAN FACILITY ELEMENTS

MARKED CROSSWALKS



Notice the wide, well marked crosswalk with a crossing island in the middle. The crosswalk size and street furniture decoration make this a safe and visible pedestrian crossing (Image from <http://www.walkinginfo.org>).

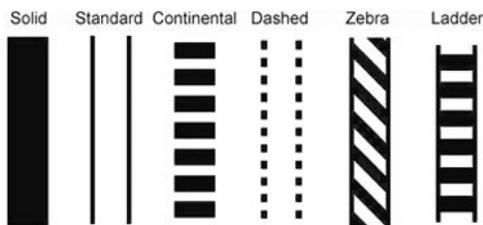
A marked crosswalk designates a pedestrian right-of-way across a street. It is often installed at controlled intersections or at key locations along the street (a.k.a. mid-block crossings) and in this Plan are prescribed for the downtown area, school areas, along East Street and West Street (US 64) and key residential and commercial areas where pedestrian activity is greatest. Although marked crosswalks provide strong visual clues to motorists that pedestrians are present, it is important to consider the use of these elements in conjunction with other traffic calming devices to fully recognize low traffic speeds and enhance pedestrian safety. In general, “marked crosswalks should not be installed in an uncontrolled environment [at intersections without traffic signals] where speeds exceed 40 mph” (AASHTO, 2004). Every attempt should be made to install crossings at the specific point at which pedestrians are most likely to cross: a well-designed traffic calming location is not effective if pedestrians are instead using more seemingly convenient and potentially dangerous location to cross the street.

Marked pedestrian crosswalks may be used under the following conditions: 1) At locations with stop signs or traffic signals, 2) At non-signalized street crossing locations in designated school zones, and 3) At non-signalized locations where engineering judgment dictates that the use of specifically designated crosswalks are desirable.



A variety of patterns are possible in designating a crosswalk; an example of a ‘continental’ design is shown above.

There is a variety of form, pattern, and materials to choose from when creating a marked crosswalk. It is important however to provide crosswalks that are not slippery, are free of tripping hazards, or are otherwise difficult to maneuver by any person including those with physical mobility or vision impairments. Although attractive materials such as inlaid stone or certain types of brick may provide character and aesthetic value, the crosswalk can become slippery. Potential materials can be vetted by requesting case studies from suppliers regarding where the materials have been successfully applied. Also, as some materials degrade from use or if they are improperly installed, they may become a hazard for the mobility or vision impaired.



A variety of color or texture may be used to designate crossings. These materials should be smooth, skid-resistant, and visible. Reflective paint is inexpensive but is considered more slippery than other devices such as inlay tape or thermoplastic. A variety of patterns may be employed as detailed at left. In areas with a high volume of pedestrian traffic, particularly at mid-block crossings, a crosswalk can be raised to create both a physical impediment for automobiles and a reinforced visual clue to the motorist. These can be provided on top of a speed table.

An engineering study may need to be performed to determine the appropriate width of a crosswalk at a given location, however marked crosswalks should not be less than six feet in width. In downtown areas or other locations of high pedestrian traffic, a width of ten feet or greater should be considered.

CROSSWALK GUIDELINES:

- Should not be installed in an uncontrolled environment where speeds exceed 40 mph.
- Crosswalks alone may not be enough and should be used in conjunction with other measures to improve pedestrian crossing safety, particularly on roads with average daily traffic (ADT) above 10,000 (East Street and 15-501).
- Width of marked crosswalk should be at least six feet; ideally ten feet or wider in downtown areas.
- Curb ramps and other sloped areas should be fully contained within the markings.
- Crosswalk markings should extend the full length of the crossings.
- Crosswalk markings should be white per MUTCD.
- Either the 'continental' or 'ladder' patterns are recommended for intersection improvements in Pittsboro for aesthetic and visibility purposes. Lines should be one to two feet wide and spaced one to five feet apart.

ADVANCE STOP BARS

Moving the vehicle stop bar 15–30 feet back from the pedestrian crosswalk at signalized crossings and mid-block crossings increases vehicle and pedestrian visibility. Advance stop bars are 1–2 feet wide and they extend across all approach lanes at intersections. The time and distance created allows a buffer in which the pedestrian and motorist can interpret each other's intentions. Studies have shown that this distance translates directly into increased safety for both motorist and pedestrian. One study in particular claims that by simply adding a "Stop Here for Pedestrians" sign reduced pedestrian motorist conflict by 67%. When this was used in conjunction with advance stop lines, it increased to 90% (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-enhancements.cfm>).

CURB RAMPS

Curb ramps are critical features that provide access between the sidewalk and roadway for wheelchair users, people using walkers, crutches, or handcars, people pushing bicycles or strollers, and pedestrians with mobility or other physical impairments. In accordance with the 1973 Federal Rehabilitation Act and to comply with the 1990 Federal ADA requirements, curb ramps must be installed at all intersections and mid-block locations where pedestrian crossings exist (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/roadway-ramps.cfm>). In addition, these federal regulations require that all new constructed or altered roadways include curb ramps. Although the federally prescribed maximum slope for a curb ramp is 1:12 or 8.33% and the side flares of the curb ramp must not exceed a maximum slope of 1:10 or 10.0%, it is recommended that much less steep slopes be used whenever possible.

It is also recommended that two separate curb ramps be provided at each intersection (see image below). With only one large curb ramp serving the entire corner, there is not safe connectivity for the pedestrian. Dangerous conditions exist when the single, large curb ramp inadvertently directs a pedestrian into the center of the intersection, or in front of an unsuspecting, turning vehicle.

For additional information on curb ramps see *Accessible Rights-of-Way: A Design Guide*, by the U.S. Access Board and the Federal Highway Administration, and *Designing Sidewalks and Trails for Access, Parts I and II*, by the Federal Highway Administration. Visit: www.access-board.gov for the Access board's right-of-way report.

CURB RAMP GUIDELINES:

- Two separate curb ramps, one for each crosswalk, should be provided at corner of an intersection.
- Curb ramp should have a slope no greater than 1:12 (8.33%). Side flares should not exceed 1:10 (10%).

Curb ramps shown have two separate ramps at the intersection (visible across the street) (Image from <http://www.walkinginfo.org>).



RAISED OR LOWERED MEDIANS

Medians are barriers in the center portion of a street or roadway. When used in conjunction with mid-block or intersection crossings, they can be used as a crossing island to provide a place of refuge for pedestrians. They also provide opportunities for landscaping that in turn can help to slow traffic. A center turn lane can be converted into a raised or lowered median thus increasing motorist safety.

A continuous median can present several problems when used inappropriately. If all left-turn opportunities are removed, there runs a possibility for increased traffic speeds and unsafe U-turns at intersections. Additionally, the space occupied may be taking up room that could be used for bike lanes or other treatments discussed in this chapter. An alternative to the continuous median is to create a segmented median with left turn opportunities.

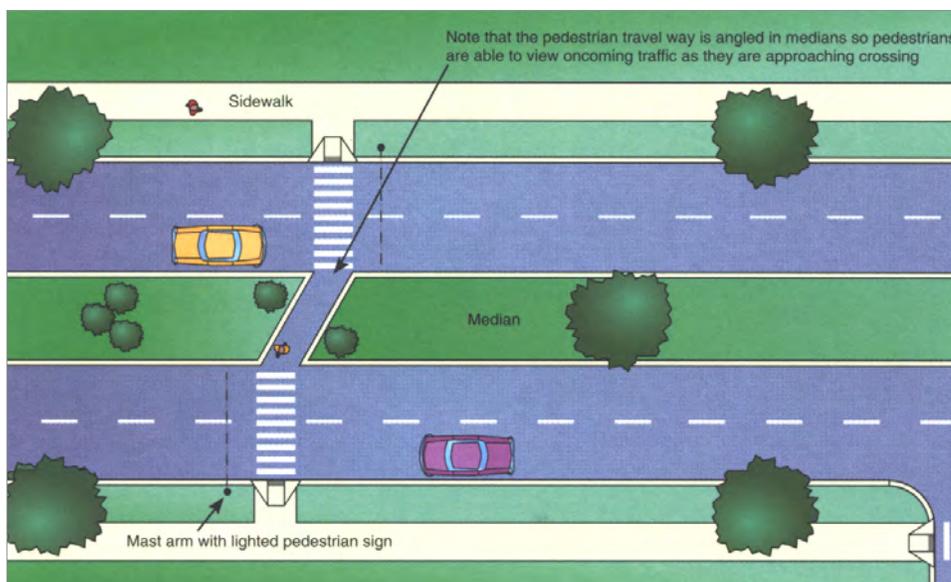
Raised or lowered medians are best suited for high-volume, high-speed roads, and they should provide ample cues for people with visual impairments to identify the boundary between the crossing island and the roadway.

MEDIAN GUIDELINES:

- Median pedestrian refuge islands should be provided as a place of refuge for pedestrians crossing busy or wide roadways at either mid-block locations or intersections. They should be utilized on high speed and high volume roadways.
- Medians should incorporate trees and plantings to change the character of the street and reduce motor vehicle speed.
- Landscaping should not obstruct the visibility between motorists and pedestrians.
- Median crossings should provide ramps or cut-throughs for ease of accessibility for all pedestrians.

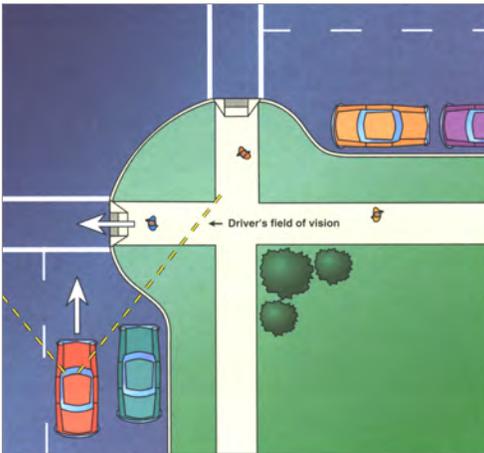


Above: an attractive lowered and landscaped median that collects stormwater, yet appears to be raised. (Image from AASHTO)



A lowered median can be used to filter storm water and provide refuge for pedestrians crossing a roadway (Image from AASHTO).

- Median crossings should be at least 6 feet wide in order to accommodate more than one pedestrian, while a width of 8 feet (where feasible) should be provided for bicycles, wheelchairs, and groups of pedestrians.
- Median crossings should possess a minimum of a 4 foot square level landing to provide a rest point for wheelchair users.
- Pedestrian push-buttons should be located in the median of all signalized mid-block crossings, where the roadway width is in excess of 60 feet.



By reducing a pedestrian's crossing distance, less time is spent in the roadway, and pedestrian vehicle conflicts are reduced (Image from AASHTO).

BULB-OUTS

A bulb-out, or curb extension, is a place where the sidewalk extends into the parking lane of a street. Because these curb extensions physically narrow the roadway, a pedestrian's crossing distance—and consequently the time spent in the street—is reduced. They can be placed either at mid-block crossings or at intersections.

Sightlines and pedestrian visibility are reduced when motor vehicle parking encroaches too close to corners creating a dangerous situation for pedestrians. When placed at an intersection, bulb-outs preclude vehicle parking too close to a crosswalk. Also, bulb-outs at intersections can greatly reduce turning speed, especially if curb radii are set as tight as possible (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-curb.cfm>). Finally, bulb-outs also reduce travel speeds when used in mid-block crossings because of the reduced street width.

Bulb-outs should only be used where there is an existing on-street parking lane and should never encroach into travel lanes, bike lanes, or shoulders (Pedestrian and Bicycle Information Center).

BULB-OUT GUIDELINES:

- Bulb-outs should be used on crosswalks in heavy pedestrian areas where parking may limit the driver's view of the pedestrian.
- Where used, sidewalk bulb-outs should extend into the street for the width of a parking lane (a minimum five feet) in order to provide for a shorter crossing width, increased pedestrian visibility, more space for pedestrian queuing, and a place for sidewalk amenities and planting.
- Curb extensions should be used on mid-block crossing where feasible.
- Curb extensions may be inappropriate for use on corners where frequent right turns are made by trucks or buses.

PEDESTRIAN OVERPASS/UNDERPASS

Pedestrian overpasses and underpasses efficiently allow for pedestrian movement across busy thoroughfares. These types of facilities are problematic in many regards and should only be considered under suitable circumstances or where no other solution is possible. Perhaps the best argument for using them sparingly is that research proves pedestrians will avoid using such a facility if they perceive the ability to cross at grade as taking about the same amount of time (Pedestrian and Bicycle Information Center:<http://www.walkinginfo.org/engineering/crossings-overpasses.cfm>).

The other areas of contention arise with the high cost of construction. There are also ADA requirements for stairs, ramps, and elevators that in many cases once complied with result in an enormous structure that is visually disruptive and difficult to access.

Overpasses work best when existing topography allows for smooth transitions. Underpasses as well work best with favorable topography when they are open and accessible, and exhibit a sense of safety. Each should only be considered with rail lines, high volume traffic areas such as freeways, and other high volume arteries.

OVERPASS/UNDERPASS GUIDELINES:

- Over and underpasses should be considered only for crossing arterials with greater than 20,000 vehicle trips per day and speeds 35 - 40 mph and over.
- Minimum widths for over and underpasses should follow the guidelines for sidewalk width.
- Underpasses should have a daytime illuminance minimum of 10 fc achievable through artificial and/or natural light provided through an open gap to sky between the two sets of highway lanes, and a night time level of 4 foot-candle.
- In underpasses, where vertical clearance allows, the pedestrian walkway should be separated from the roadway by more than a standard curb height.
- Consider acoustics measures within underpasses to reduce noise impacts to pedestrians and bicyclists.



Example trail overpass (above) and underpass (below).



ROUNDBABOUTS

Pittsboro is home to one of the region’s most identifiable roundabouts, at the Chatham County Courthouse.

A roundabout is a circular intersection that maneuvers traffic around in a counterclockwise direction so that cars make a right-hand turn onto a desired street. Vehicles from approaching streets are generally not required to stop although approaching vehicles are required to yield to motorists in the roundabout. It is believed that this system eliminates certain types of crashes at traditional intersections.

Every effort must be made to prompt motorists to yield to pedestrians crossing the roundabout. A low design speed is required to improve pedestrian safety. Splitter islands and single lane approaches both lend to pedestrian safety as well as other urban design elements discussed in this chapter.

Problems also arise with the vision-impaired because there are not proper audible cues associated with when to cross. Studies are underway to develop and test solutions. Auditory accessible pedestrian signals placed on sidewalks and splitter islands are one solution, but again there is no research to prove their efficacy.

In areas where traffic is low, a roundabout presents little in the way of a barrier for bicyclists. However, in multi-lane roundabouts where speeds are higher, and the traffic is heavy, bicyclists are at a distinct and dangerous disadvantage. Adding a bike lane within such a roundabout has not proven to be effective. A possible solution involves creating a bike lane that completely skirts the roundabout allowing the cyclist to use or share the pedestrian route.

ROUNDBABOUT GUIDELINES:

- The recommended *maximum* entry design speed for roundabouts ranges from 15 mph for ‘mini-roundabouts’ in neighborhood settings, to 20 mph for single-lane roundabouts in urban settings, to 25 mph for single-lane roundabouts in rural settings.
- Refer to roundabout diagram for typical crosswalk placement.
- Please refer to FHWA’s report, Roundabouts, an Information Guide, available online through: www.fhrc.gov. The report provides information on general design principles, geometric elements, and provides detailed specifications for the various types of roundabouts.



*Typical roundabout
(Image from AASHTO)*



*Above: A pedestrian crosses part of
Downtown Pittsboro’s roundabout at
the Chatham County Courthouse.*

TRAFFIC SIGNALS

Traffic signals assign the right of way to motorists and pedestrians and produce openings in traffic flow, allowing pedestrians time to cross the street. When used in conjunction with pedestrian friendly design, proper signalization should allow for an adequate amount of time for an individual to cross the street. The suggested amount of pedestrian travel speed recommended in the Manual on Uniform Traffic Control Devices (MUTCD) is 4ft/sec however this does not address the walking speed of the elderly or children. Therefore it is suggested that a lower speed of 3.5ft/sec be used whenever there are adequate numbers of elderly and children using an area.

Engineering, as well as urban design judgment, must be used when determining the location of traffic signals and the accompanying timing intervals. Although warrants for pedestrian signal timing have been produced by the MUTCD, each site must be analyzed for factors including new facility and amenity construction (i.e. a popular new park or museum) to allow for potential future pedestrian traffic volume. In addition, creating better access to existing places may in fact generate a higher pedestrian volume.

Fixed timed sequencing is often used in high traffic volume commercial or downtown areas to allow for a greater efficiency of traffic flow. In such instances, the pedestrian speed must be carefully checked to ensure safety.

PEDESTRIAN SIGNALS

There are a host of possible traffic signal enhancement opportunities that can greatly improve the safety and flow of pedestrian traffic. Some include: international symbols for WALK and DON'T WALK, providing large traffic signals, the positioning of traffic signals so that those waiting at a red-light cannot see the opposing traffic signal and anticipate their own green-light, installing countdown signals to provide pedestrians information on how long they have remaining in the crossing interval, automatic pedestrian sensors, and selecting the proper signal timing intervals (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

According to the MUTCD, international pedestrian signal indication should be used at traffic signals whenever warranted. As opposed to early signalization that featured "WALK" and "DON'T WALK", international pedestrian symbols should be used on all new traffic signal installations as illustrated at right. Existing "WALK" and "DON'T WALK" signals should be replaced with international symbols when they reach the end of their useful life.

Symbols should be of adequate size, clearly visible, and, in some circumstances, accompanied by an audible pulse or other messages to make crossing safe for all pedestrians. Consideration should be paid to the noise impact on the surrounding neighborhoods when deciding to use audible signals.



International symbols used in a crosswalk to designate WALK and DON'T WALK (Image from <http://www.walkinginfo.org>).



Audible cues can be used along with a countdown signal for pedestrians.

Audible cues can also be used to pulse along with a countdown signal. Countdown signals are pedestrian signals that show how many seconds the pedestrian has remaining to cross the street. The countdown can begin at the beginning of the WALK phase, perhaps flashing white or yellow, or at the beginning of the clearance, or DON'T WALK phase, flashing yellow as it counts down.

The timing of these or other pedestrian signals needs to be adapted to a given situation. There are three types of signal timing generally used: concurrent, exclusive, and leading pedestrian interval (LPI). The strengths and weaknesses of each will be discussed with an emphasis on when they are best employed.

Concurrent signal timing refers to a situation where motorists running parallel to the crosswalk are allowed to turn into and through the crosswalk, left or right, after yielding to pedestrians. This condition is not considered as safe as some of the latter options, however this type of signal crossings generally allows for more pedestrian crossing opportunities and less wait time. In addition, traffic is allowed to flow a bit more freely. Concurrent signal timing is best used where lower volume turning movements exist (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

Where there are high-volume turning situations that conflict with pedestrian movements, the exclusive pedestrian interval is the preferred solution. The exclusive pedestrian intervals stop traffic in all directions. In order to keep traffic flowing regularly, there is often a greater pedestrian wait time associated with this system. Although it has been shown that pedestrian crashes have been reduced by 50% in some commercial or downtown areas by using these intervals, the long wait times can encourage some to attempt a cross when there is a perceived lull in traffic (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>). These types of crossings are dangerous and may negate the use of the system. A problem is also created for those with visual impairments when the audible cues of the passing parallel traffic is eliminated. Often an audible signal will have to accompany a WALK signal.

A proven enhancement that prevents many of the conflicts addressed under either of the former methods is LPI. An LPI works in conjunction with a concurrent signal timing system and simply gives the pedestrian a few seconds head start on the parallel traffic. An advance walk signal is received prior to a green light for motorists. This creates a situation where the pedestrian can better see traffic, and more importantly, the motorists can see and properly yield to pedestrians. Long-term research has shown that this system has worked well, even in high volume places like New York City (where it has been used for 20 years), at reducing motorist and pedestrian conflict (Pedestrian and Bicycle Information Center: <http://www.walkinginfo.org/engineering/crossings-signals.cfm>).

walkinginfo.org/engineering/crossings-signals.cfm). As with the exclusive pedestrian interval, an audible cue will need to accompany the WALK signal for the visually impaired.

The use of infrared or microwave pedestrian detectors has increased in many cities worldwide. These devices replace the traditional push-button system. Although still experimental, they appear to be improving pedestrian signal compliance as well as reducing the number of pedestrian and vehicle conflicts. Perhaps the best use of these devices is when they are employed to extend crossing time for slower moving pedestrians. Whether these devices are used or the traditional push-button system is employed, it is best to provide instant feedback to pedestrians regarding the length of their wait. This is thought to increase and improve pedestrian signal compliance.

PEDESTRIAN SIGNAL GUIDELINES:

- Pedestrian signals should be placed in locations that are clearly visible to all pedestrians.
- Larger pedestrian signals should be utilized on wider roadways, to ensure readability.
- Pedestrian signal pushbuttons should be well-signed and visible.
- Pedestrian signal pushbuttons should clearly indicate which crossing direction they control.
- Pedestrian signal pushbuttons should be reachable from a flat surface, at a maximum height of 3.5 feet and be located on a level landing to ensure ease of operation by pedestrians in wheelchairs.
- Walk intervals should be provided during every cycle, especially in high pedestrian traffic areas.

RIGHT TURN ON RED RESTRICTIONS

Introduced in the 1970's as a fuel saving technique, the Right Turn on Red (RTOR) law is thought to have had a detrimental effect on pedestrians. The issue is not the law itself but rather the relaxed enforcement of certain caveats within the law such as coming to a complete stop and yielding to pedestrians. Often motorists will either nudge into a crosswalk to check for oncoming traffic without looking for pedestrians or slow, but not stop, for the red-light while making the turn.

There is legitimate concern that eliminating an RTOR will only increase the number of right-turn-on-green conflicts where all of the drivers who would normally have turned on red, now are anxious to turn on green. As discussed in the prior section, LPI or exclusive pedestrian intervals may help



A low cost sign that restricts right-hand turns at a red light (Image from <http://www.walkinginfo.org>).



Landscaping used on the Sea Street in Seattle, Washington shows how stormwater treatment can be tied to aesthetically pleasing plantings. (Image from Seattle, WA, Public Utilities: Seattle.gov)



Street trees buffer and soften often urban environments in a number of psychological, physical, and ecological ways; their shade is particularly helpful to pedestrians in North Carolina during summer months (West 64 in Pittsboro shown above).

to alleviate this problem. Eliminating RTOR should be considered on a case-by-case basis and only where there are high pedestrian volumes. This can be done by simple sign postings as illustrated at right.

LANDSCAPING

The introduction of vegetation in an urban environment can provide a welcomed intervention of nature into a place that is otherwise hardened from buildings, concrete, and asphalt. It can be used to provide a separation buffer between pedestrians and motorists, reduce the width of a roadway, calm traffic by creating a visual narrowing of the roadway, enhance the street environment, and help to generate a desired aesthetic.

Street trees and other plantings provide comfort, a sense of place, and a more natural and inviting setting for pedestrians. Landscaping and the aforementioned street furniture make people feel welcome

There are also some instances where islands of vegetation are created to collect and filter stormwater from nearby streets and buildings. These islands are referred to as constructed wetlands, rain gardens, and/or bioswales. When these devices are employed, the benefits listed above are coupled with economic and ecologic benefits of treating stormwater at its source. There are many examples of this in Oregon and Washington, particularly Seattle’s Green Streets Program. Using thoughtful design to treat stormwater as an amenity rather than waste to be disposed of in an environmentally harmful manner is gaining popularity nationwide.

An issue with this or any landscaping treatment is that of ongoing maintenance. The responsibility often falls on local municipalities although there are instances where local community groups have provided funding and volunteers for maintenance. The best way to address the maintenance issue is to design using native plant material that is already adapted to the local soil and climate. Growth pattern and space for maturation, particularly with larger tree plantings, are important to avoid cracking sidewalks and other pedestrian obstructions.

LANDSCAPING GUIDELINES:

- Buffer zone plantings should be maintained at no higher than three feet to allow sight distance for motorists and pedestrians.
- Trees with large canopies planted between the sidewalk and street should generally be trimmed to keep branches at least seven feet above the sidewalk.
- Plantings should be chosen from those recommended by the Parks and Recreation Advisory Board whenever possible (see following pages)

PLANTINGS PREFERRED BY THE PITTSBORO PARKS AND RECREATION ADVISORY BOARD

The following plantings should be used to landscape sidewalks and greenway trails in Pittsboro. These are primarily native plants that are not normally used in landscaping but have color, uniqueness, and wildlife interest. Most of them occur in the Piedmont but are overlooked or crowded out by the ubiquitous crepe myrtle and invasives. Some can use help locally, and all will be great tools for educating the general public on the great variety of plantings available. *Astricks indicates higher preference by the Pittsboro Parks and Recreation Advisory Board.

- ****Ostrya virginiana, Hophornbeam/ironwood (<http://plants.usda.gov/java/profile?symbol=OSVI>)
- Quercus pagoda Raf., cherrybark oak (<http://plants.usda.gov/java/profile?symbol=QUPA5>)
- Carya spp., Hickory (ANY)
- Tilia americana, Basswood/Linden (<http://plants.usda.gov/java/profile?symbol=TIAMC>)
- ****Celtis occidentalis, Hackberry
- ***Corylus americana, American hazelnut
- Amelanchier arborea, Serviceberry
- Amelanchier canadensis, Canadian Serviceberry
- ***Physocarpus opulifolius, Ninebark
- ***Viburnum prunifolium, Blackhaw (<http://plants.usda.gov/java/profile?symbol=VIPR>)
- Viburnum nudum, Possumhaw (<http://plants.usda.gov/java/profile?symbol=VINU>)
- Crataegus spp., Hawthorn, especially
 - Crataegus marshallii, Parsley hawthorn (<http://plants.usda.gov/java/profile?symbol=CRMA5>)
 - Crataegus flabellata (Bosc ex Spach) K. Koch, Fanleaf hawthorn
 - Crataegus flava, Yellowleaf hawthorn
- Asimina triloba, Paw Paw
- ***Cephalanthus occidentalis, Buttonbush (<http://plants.usda.gov/java/profile?symbol=CEOC2>)
- ***Prunus serotina, Wild black cherry
- Prunus americana, American Plum
- Magnolia virginiana, Sweetbay Magnolia (<http://plants.usda.gov/java/profile?symbol=MAVI2>)
- Magnolia acuminata, Cucumber Tree (<http://plants.usda.gov/java/profile?symbol=MAAC>)
- Lindera benzoin, Spicebush
- ***Sambucus canadensis, Elderberry
- Rhus copallinum, Winged sumac
- Rhus glabra, Smooth sumac
- Rhus typhina, Staghorn sumac
- Illicium floridanum, Purple Anise
- Calycanthus floridus, Sweet shrub
- ***Sassafras albidium, Sassafras
- Ceanothus americanus, New Jersey tea
- ANY PYRACANTHA SPP. (lots of disease-resistant varieties available now)

COMMON PLANTINGS USED BY NCDOT

The following list are plantings approved for use in NCDOT-related projects (Source: http://www.ncdot.org/doh/Operations/dp_chief_eng/roadside/design/graphics/PlantingGuidelines.pdf). *Astricks indicates higher preference by the Pittsboro Parks and Recreation Advisory Board..

TREES

- Acer rubrum, Red Maple- D, LT, XFC
- Acer saccharum, Sugar Maple- D, LT, XFC
- ***Amelanchier arborea, Downy Serviceberry, D, ST, FL, FR, BK, XFC
- ***Betula nigra, River Birch- D, LT, BK
- Cercis canadensis, Eastern Red Bud- D, ST, FL
- ***Chionanthus virginicus, White Fringetree- D, ST, FL, FR
- ****Cladrastis lutea (kentukea)- American Yellowwood- LT, FL, XFC
- Cornus florida, Flowering Dogwood- D, ST, FL, FR, XFC
- ***Fagus grandiflora, American Beech- D, LT, FR, BK, XFC
- Fraxinus pennsylvanica, Green Ash- D, LT
- Juniperus virginiana- Eastern Red Cedar- E, LT, H/S
- Liriodendron tulipifera, Tulip Poplar- D, LT, FL, XFC
- Magnolia grandiflora, Southern Magnolia- E, LT, FL, FR, H/S
- Magnolia- a large selection of deciduous native and cultivated magnolia species are worthy of use- LT to ST, FL, FR, BK

***Malus, Flowering Crabapple- variety of sizes fit well into the landscape (research selection for disease and insect resistance) - D, ST, FL, FR
 Nyssa sylvatica, Black Gum- D, LT, FR, BK, XFC
 ****Oxydendrum arboreum, Sourwood- D, ST, FL, FR, BK, XFC
 Pinus strobus, White Pine- E, LT, H/S
 Pinus virginiana, Virginia Pine- E, LT, H/S
 ***Platanus occidentalis, American Plane Tree (or Sycamore)- D, LT, FR, BK
 Prunus cerasifera, Flowering Plum- D, ST, FL
 Prunus subhirtella, Higan Cherry- D, ST, FL, FR, BK
 Quercus alba, White Oak, D, LT,
 Quercus acutissima, Sawtooth Oak- D, LT, FR
 Quercus coccinea, Scarlet Oak- D, LT, FR, XFC
 Quercus falcata, Southern Red Oak- D, LT, FR
 Quercus virginiana, Live Oak- E, LT, FR
 Taxodium distichum, Bald Cypress- E, LT, BK, XFC
 Tsuga canadensis, Canadian (Eastern) Hemlock- E, LT, FR, H/S
 ***Tsuga caroliniana, Carolina Hemlock- E, LT, FR, H/S
 ***Vitex agnus-castus, Chastetree (or Vitex)- D, ST, FL

SHRUBS, ETC.

***Abelia x grandiflora- Glossy Abelia (many wonderful cultivars)- E, MS, FL, H/S
 ***Aesculus parviflora, Bottlebrush Buckeye- D, LS, FL, FR
 ***Aronia arbutifolia, Red Chokeberry- D, LS, FR, XFC
 Buddleia davidii, Butterfly-bush- D, MS, FL
 Callicarpa americana, American Beautyberry- D, MS, FL, FR
 Callicarpa dichotoma, Purple Beautyberry- D, SS, FL, FR
 Caryopteris x clandonensis, Bluebeard (or Blue-spirea)- D, SS, FL
 ***Chaenomeles speciosa, Common Flowering Quince- D, LS, FL, FR
 Clethra alnifolia, Summersweet- D, MS, FL, FR, XFC
 Cornus sericea, Redosier Dogwood ñ D, LS, BK, XFC
 Cotinus coggygria, Smokebush (or Smoke Tree)- D, LS (ST), FL, XFC
 Forsythia x intermedia, Border Forsythia- D, LS, FL
 ***Fothergilla gardenii, Dwarf Fothergilla- D, SS, FL, XFC
 ***Hamamelis virginiana, Witchhazel- D, LS (ST), FL, XFC
 ***Hamamelis x intermedia- group of hybrid Witchhazels- D, LS (ST), FL, XFC
 Hemerocallis- Daylily (thousands of varieties available)- D to E, G, FL
 Hydrangea quercifolia, Oakleaf Hydrangea- D, MS, FL, XFC
 Hypericum frondosum, Golden St. Johnswort- D, SS, FL
 Ilex x attenuata- group of hybrid hollies (Foster)- E, LS (ST), FR, H/S
 Ilex glabra, Inkberry- E, LS, FR, H/S
 Ilex opaca, American Holly (good selection of upright hollies)- E, LS (ST), FR, H/S
 Ilex verticillata, Winterberry- D, LS, FR
 Ilex vomitoria, Yaupon Holly- E, LS (ST), FR, H/S
 Itea virginica, Virginia Sweetspire- D, MS, FL, XFC
 Juniperus- multitude of junipers ideal for various landscape uses- E, LS to G
 Myrica cerifera, Southern Wax Myrtle- E, LS, FR, H/S
 Pyracantha coccinea, Scarlet Firethorn- E, LS, FL, FR, H/S
 Taxus x media, Spreading Yew- E, height varies, FR, H/S
 Viburnum- multiple species and cultivars worthy of use- E to D, LS to MS, FL, H/S
 Weigela florida, Weigela (various sizes, colors, etc.)- D, LS, FL

KEY:

E-evergreen	G-groundcover
D-deciduous	FL- conspicuous flower
LT- large tree	FR- conspicuous fruit
ST- small tree	BK- attractive bark or stem color
LS- large shrub	H/S-good hedge/screen
MS- medium shrub	XFC- exceptional fall color
SS- small shrub	

SIZE CATEGORIES (based on average size at maturity):

LT (Large Tree): 30í- taller
 ST (Small Tree): 15í- 30í
 LS (Large Shrub): 8í-taller
 MS (Medium Shrub): 4í- 8í
 SS (Small Shrub): less than 4í

ROADWAY LIGHTING IMPROVEMENTS

Proper lighting in terms of quality, placement, and sufficiency can greatly enhance a nighttime urban experience as well as create a safe environment for motorists and pedestrians. Two-thirds of all pedestrian fatalities occur during low-light conditions (AASHTO, 2004: Guide for the Planning, Design, and Operation of Pedestrian Facilities). Attention should be paid to crossings so that there is sufficient ambience for motorists to see pedestrians. To be most effective, lighting should be consistent, adequately spaced, and distinguished, providing adequate light.

In most cases, roadway street lighting can be designed to illuminate the sidewalk area as well. The visibility needs of both pedestrian and motorist should be considered. In commercial or downtown areas and other areas of high pedestrian volumes, the addition of lower level, pedestrian-scale lighting to streetlights with emphasis on crossings and intersections may be employed to generate a desired ambience. A variety of lighting choices include mercury vapor, incandescent, or less expensive high-pressure sodium lighting for pedestrian level lighting. Roadway streetlights can range from 20-40 feet in height while pedestrian-scale lighting is typically 10-15 feet.

It is important to note that every effort should be made to address and prevent light pollution. Also known as photo pollution, light pollution is 'excess or obtrusive light created by humans'. The Pittsboro Lighting Ordinance addresses these and should be referenced as the primary guide to lighting.

GUIDELINES:

- Ensure pedestrian walkways and crossways are sufficiently lit.
- Consider adding pedestrian-level lighting in areas of higher pedestrian volumes, downtown, and at key intersections.
- Install lighting on both sides of streets in commercial districts.
- Use uniform lighting levels
- Use full cut-off light fixtures to avoid excess light pollution



The street furniture shown here is placed in such a manner so as to create a safe, pleasurable, and accessible walking environment (West 64 in front of Pittsboro's General Store Cafe shown above).

STREET FURNITURE AND WALKING ENVIRONMENT

As part of a comprehensive sidewalk and walkway design, all street furniture should be placed in a manner that allows for a safe, pleasurable, and accessible walking environment. Good-quality street furniture will show that the community values its public spaces and is more cost-effective in the long run. Street furniture includes benches, trash bins, signposts, newspaper racks, water fountains, bike racks, restaurant seating, light posts, and other ornaments that are found within an urban street environment. Street furniture should mostly be considered in the downtown area and other important pedestrian-active areas such as US 64.

In addition to keeping areas free of obstruction from furniture, a walking environment should be clean and well maintained. Attention should be given to removing debris, trimming vegetation, allowing for proper stormwater drainage, providing proper lighting and sight angles, and repairing or replacing broken or damaged paving material can make an enormous difference in pedestrian perception of safety and aesthetics. Special attention should be paid to the needs of the visually impaired so that tripping hazards and low hanging obstructions are removed.

GUIDELINES:

- Ensure proper placement of furniture; do not block pedestrian walkway or curb ramps or create sightline problems.
- Wall mounted Objects = not to protrude more than 4" from a wall between 27" and 7' from the ground
- Single post mounted Objects = not to protrude more than 4" from each side of the post between 27" and 7' from the ground
- Multiple Post Mounted Objects = lowest edge should be no higher than 27" and no lower than 7'
- Place street furniture at the end of on-street parking spaces rather than in middle to avoid vehicle-exiting conflict.

This typical transit stop has all of the key features of shelter, ample seating, bicycle parking, landscaping, and trash bins (Image from <http://www.walkinginfo.org>).



TRANSIT STOP TREATMENTS

Currently Pittsboro is not served by public transportation, but the Town will soon partner with Chapel Hill Transit to provide a commuter bus with multiple stops along US 15-501 North, linking the two Towns. When such opportunities are made available, it is appropriate to consider some of the basic elements of a well designed, accessible, and functional transit stop.

Bus or other transit stops should be located in places that are most suitable for the passengers. For example, stops should be provided near higher density residential areas, commercial or business areas, and schools, and connected to these areas by sidewalk. Some of the most important elements to consider are the most basic: sidewalk connectivity to the stops, proper

lighting, legible and adequate transit stop signage, shelter, seating, trash bins, bicycle and even car parking. Transit stops create an area of activity and may generate additional business and pedestrian traffic. Therefore an opportunity is created to provide adequate sidewalks and other pedestrian oriented design elements. At a minimum, marked crosswalks (especially at mid-block stops), curb ramps, and proper sidewalk widths should be considered.

As with any human scale design element discussed, safety is an important factor to consider when locating bus stops. In the case of a bus stop, special attention should be paid to the number of lanes and direction of traffic when deciding to locate a stop on the near or far side of an intersection. Also special consideration must be paid to the wheelchair lifts in terms of how and where the mobility impaired will exit and enter the bus.

PEDESTRIAN SIGNS AND WAYFINDING

Signage provides important safety and wayfinding information to motorists and pedestrian residents and tourists. From a safety standpoint, motorists should be given advance warning of upcoming pedestrian crossings or of traffic calming areas. Signage of any type should be used and regulated judiciously. An inordinate amount of signs creates visual clutter. Under such a condition, important safety or wayfinding information may be ignored resulting in confusion and possible pedestrian vehicle conflict. Regulations should also address the orientation, height, size, and sometimes even style of signage to comply with a desired local aesthetic.

For a step-by-step guide to help non-professionals participate in the process of developing and designing a signage system, as well as information on the range of signage types, visit the Project for Public Places website: http://www.pps.org/info/amenities_bb/signage_guide

Regulatory signage is used to inform motorists or pedestrians of a legal requirement and should only be used when a legal requirement is not otherwise apparent (AASHTO, 2004: Guide for the Planning, Design, and Operation of Pedestrian Facilities).

Regulatory Signs



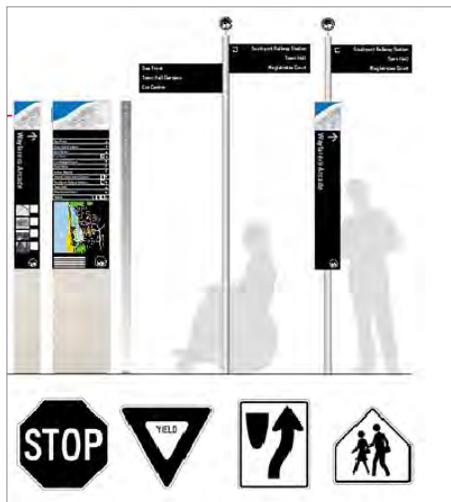
School, Warning, and Informational Signs



Sign	MUTCD Code	MUTCD Section	Conventional Road	
Yield here to Peds	R1-5	2B.11	450x450 (18x18)	Regulatory
Yield here to Peds	R1-5a	2B.11	450x600 (18x24)	
In-Street Ped Crossing	R1-6, R1-6a	2B.12	300x900 (12x36)	
Peds and Bikes Prohibited	R5-10b	2B.36	750x450 (30x18)	
Peds Prohibited	R5-10c	2B.36	600x300 (24x12)	
Walk on Left Facing Traffic	R9-1	2B.43	450x600 (18x24)	
Cross only at Crosswalks	R9-2	2B.44	300x450 (12x18)	
No Ped Crossing	R9-3a	2B.44	450x450 (18x18)	
No Hitch Hiking	R9-4	2B.43	450x600 (18x24)	
No Hitch Hiking (symbol)	R9-4a	2B.43	450x450 (18x18)	
Bikes Yield to Peds	R9-6	9B.10	300x450 (12x18)	
Ped Traffic Symbol	R10-4b	2B.45	225x300 (9x12)	
School Advance Warning	S1-1	7B.08	900x900 (36x36)	School, Warning, Informational
School Bus Stop Ahead	S3-1	7B.10	750x750 (30x30)	
Pedestrian Traffic	W11-2	2C.41	750x750 (30x30)	
Playground	W15-1	2C.42	750x750 (30x30)	
Hiking Trail	I-4	--	600x600 (24x24)	

1. Larger signs may be used when appropriate.
2. Dimensions are shown in millimeters followed by inches in parentheses and are shown as width x height.
3. First dimension in millimeters; dimensions in parentheses are in inches.
4. All information in table taken directly from MUTCD.

Above: Typical traffic signs found around pedestrian friendly places.
 Below: Wayfinding signs promote aesthetics as well as provide important information (image from Stefton, UK: <http://www.sefton.gov.uk>)



Warning signage is used to inform motorists and pedestrians of unexpected or unusual conditions. When used, they should be placed to provide adequate response times. These include school warning signs and pedestrian crossing signs.

Informational and wayfinding signage can provide information providing guidance to a location along a trail or other pedestrian facility. Wayfinding signage should orient and communicate in a clear, concise and functional manner. It should enhance pedestrian circulation and direct visitors and residents to important destinations. In doing so, the goal is to increase the comfort of visitors and residents while helping to convey a local identity.

Maintenance of signage is as important as walkway maintenance. Clean, graffiti free, and relevant signage enhances guidance, recognition, and safety for pedestrians.

BRIDGES

Provisions should always be made to include a walking facility as a part of vehicular bridges, underpasses, or tunnels, especially if the facility is part of the Pedestrian Network. All new or replacement bridges, other than those for controlled access roadways, should accommodate pedestrians with wide sidewalks on both sides of the bridge. Even though bridge replacements do not occur regularly, it is important to consider these in longer-term pedestrian planning.

It is NCDOT bridge policy that within Urban Area boundaries (which are ambiguously defined as the “outer limits of potential urban growth”), sidewalks shall be included on new bridges with curb and gutter approach roadways with no controlled access. Sidewalks should not be included on controlled access facilities. A determination on whether to provide sidewalks on one or both sides of new bridges will be made during the planning process according to the NCDOT Pedestrian Policy Guidelines. When a sidewalk is justified, it should be a minimum of five to six feet wide with a minimum handrail height of 42”.

It is also NCDOT bridge policy that bridges within the Federal-aid urban boundaries with rural-type roadway sections (shoulder approaches) may warrant special consideration. To allow for future placement of ADA acceptable sidewalks, sufficient bridge deck width should be considered on new bridges in order to accommodate the placement of sidewalks. The full Bridge Policy for NCDOT can be download as a Microsoft Word document at this address:

www.ncdot.org/doh/preconstruct/altern/value/manuals/bpe2000.doc

BRIDGE GUIDELINES:

- Sidewalks should be included on roadway bridges with no controlled access with curb and gutter approach in Urban Areas.
- Sufficient bridge deck width should be considered on new bridges with rural-type shoulder approaches for future placement of sidewalks.
- Sidewalk should be 5' to 6' wide.
- Minimum handrail height should be 42"



CHAPTER OUTLINE:

A.0 OVERVIEW

A.1 MAY 2008 PUBLIC WORKSHOP

A.2 JULY 2008 PUBLIC WORKSHOP

A.3 ADDITIONAL PUBLIC INPUT OPPORTUNITIES

A.4 ONLINE PUBLIC COMMENT FORM RESULTS

A.5 COPIES OF PROJECT NEWSLETTERS

A.0 OVERVIEW

Input from the public was critical to the development of this plan. Suggestions made by residents during workshops, through e-mail, through the online comment form, and other avenues helped to make this plan responsive to the specific needs of local residents. This appendix summarizes the various avenues of public outreach that were employed to gather input during the planning process.

A.1 MAY 2008 PUBLIC WORKSHOP

The first public workshop for the Pedestrian Plan was held at the Pittsboro Farmers Market on May 1, 2008 from 3:30 to 6:30 PM. The Town planning director, committee members, and project consultants staffed a booth with project maps and project information.

More than 60 people provided direct input on the plan by writing and drawing comments on the input map, filling out comment forms, and talking with project staff. 73 individual comments were transcribed from the input map, and categorized. Comments were distributed relatively evenly among the following categories: Greenways (25%), Pedestrian Facilities (25%), Programs and Policies (21%), Ancillary Facilities (15%), and Intersections (14%).

A.2 JULY 2008 PUBLIC WORKSHOP

The second public workshop for the Pedestrian Plan was held at Town Hall on July 30, 2008, from 6:00 to 8:00 PM. Town planning staff, project committee members, and project consultants were in attendance and available to answer any questions regarding the draft plan. 15 people attended and the project planners received comments, both written and verbal, regarding the draft pedestrian network.

A.3 ADDITIONAL PUBLIC INPUT OPPORTUNITIES

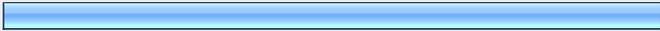
Project steering committee members took the initiative to distribute and receive information for the Pedestrian Plan. Project flyers, newsletters and comment forms were distributed at various public events throughout the planning process.

A.4 ONLINE PUBLIC COMMENT FORM RESULTS

The online comment form was designed to build upon public input gathered in previous studies, providing a better understanding of local needs and priorities related to pedestrian planning. Questions included items on:

- current walking trends
- barriers to walking in Pittsboro
- desired future walking opportunities
- priorities for future improvements
- general comments

Over 140 people submitted comments, through both the online form, and through printed hard copies. Committee members assisted in tasks for getting the word out by posting to local e-mail list-serves; translating the comment form into Spanish; and including a link to the comment form in the local water bill mailing. The following pages show the results:

1. A walkable community is one that makes pedestrian activity and access both possible and safe. Streetscapes with sidewalks and crosswalks to destinations make for a more walkable community. How important to you is the goal of creating a walkable community? (select one)			
		Response Percent	Response Count
very important		94.2%	131
somewhat important		5.0%	7
not important		0.7%	1
answered question			139
skipped question			1

2. How often do you walk now for transportation through Pittsboro? (select one)

		Response Percent	Response Count
few times per month		46.4%	64
few times per week		29.0%	40
5+ times per week		13.0%	18
never		11.6%	16
answered question			138
skipped question			2

3. How often do you walk now for recreation and/or exercise through Pittsboro? (select one)

		Response Percent	Response Count
few times per month		33.8%	46
never		28.7%	39
few times per week		27.2%	37
5+ times per week		10.3%	14
answered question			136
skipped question			4

4. For what purposes do you walk most now and/or would you want to walk for in the future? Select all that apply.

		Response Percent	Response Count
Transportation to some destination		80.9%	110
Fitness or recreation		75.0%	102
Social visits		41.2%	56
Walking the dog		30.9%	42
Walking the baby / pushing a stroller		16.9%	23
answered question			136
skipped question			4

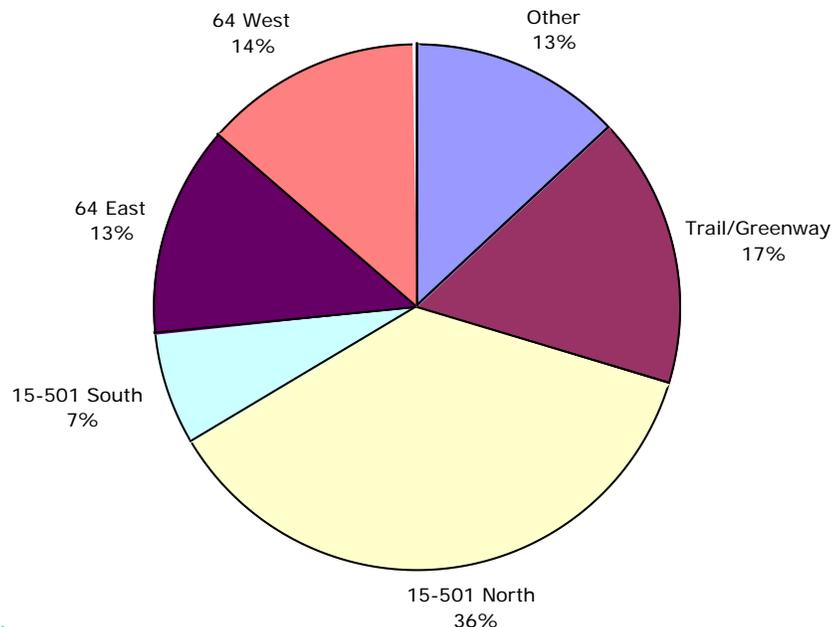
5. Which of the following factors play a role in whether or not you walk to a destination? (Check as many as apply)

Availability of a safe route		82.4%	112
Need for exercise		65.4%	89
Weather		64.0%	87
Travel time/length of trip		54.4%	74
Availability of a scenic route		51.5%	70
Costs of other travel modes		19.1%	26
Availability of other travel options		13.2%	18
Other (please specify)		13.2%	18

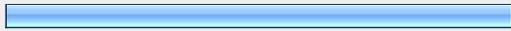
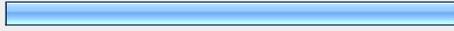
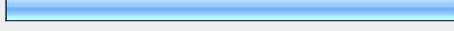
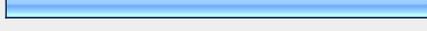
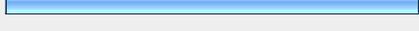
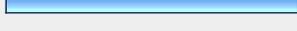
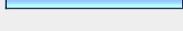
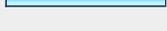
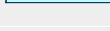
(Below are specified comments from question #5, shown exactly as they were received from the public)

- Safety of walking route
- Parking
- parking
- Lighting along sidewalks
- no gas money
- Safety, i.e. cement walks, are important in high motor traffic areas. However, COMFORT in walking is better done on dirt/grass paths through high-tree areas. Please consider this option through those areas that are not as high-motor-traffic. Cement is too hard on the body (ask any dancer!)
- off the sides of the road or footpaths thru the woods are typically a floor of grass or debris and unfortunately tick territory
- The air pollution in down town is pretty bad; so I only walk early or late in the day.
- wasteful to use car for short distance
- Equestrian Riding Routes
- So I don't have to park
- wheelchair use easier than car
- Bicycle parking lot
- pleasure!
- Because I can
- environment
- availability of a destination

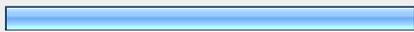
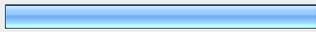
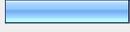
6. Are there places you would like to be able to walk that you cannot at this time?

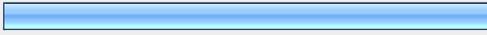
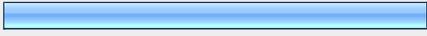
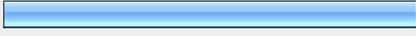
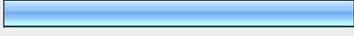
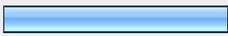
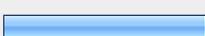
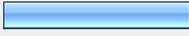
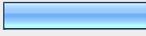


7. What walking destinations would you most like to get to? Select all that apply.

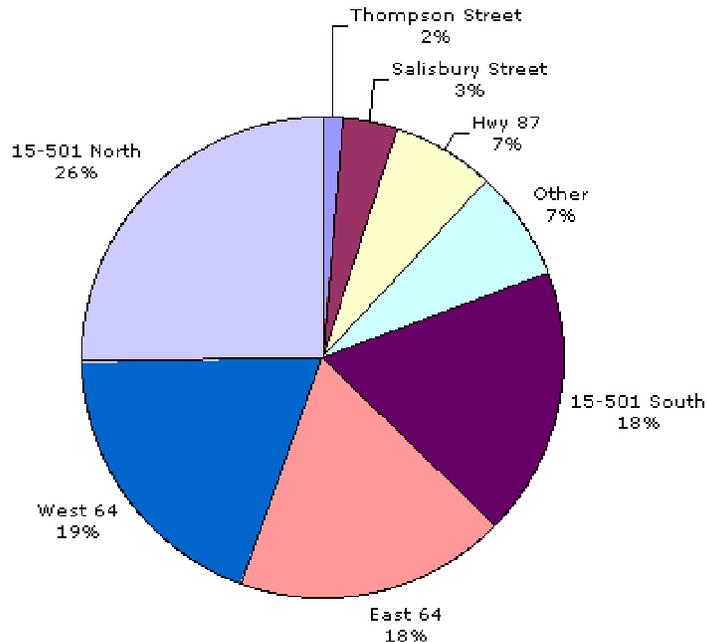
		Response Percent	Response Count
Restaurants		82.6%	109
Shopping		73.5%	97
Trails and greenways		73.5%	97
Parks		68.9%	91
Libraries or recreation centers		67.4%	89
Entertainment		47.7%	63
Public Transportation		28.8%	38
Place of work		25.8%	34
School		17.4%	23
Other specific locations (please specify)			14
answered question			132
skipped question			8

8. What factors keep you from walking in Pittsboro? Select all that apply.

		Response Percent	Response Count
Lack of sidewalks and trails		66.7%	80
Unsafe crossings		61.7%	74
Pedestrian unfriendly streets and land uses		50.8%	61
Deficient sidewalks		49.2%	59
Traffic		44.2%	53
Lack of nearby destinations		22.5%	27
Aggressive motorist behavior		20.0%	24
Lack of time		10.8%	13
Lack of interest		2.5%	3
answered question			120
skipped question			20

9. What changes are needed to increase walking in Pittsboro? Select all that apply.			Response Percent	Response Count
Crossing improvements			69.7%	92
Improved greenway trail systems			66.7%	88
New sidewalks			60.6%	80
Repairing old sidewalks			59.1%	78
More pedestrian friendly land-uses			58.3%	77
Replacing deficient sidewalks			50.0%	66
Planting street trees			31.8%	42
Education for pedestrians and drivers			28.8%	38
Improved public transportation			26.5%	35
Promotional efforts			20.5%	27
			answered question	132
			skipped question	8

10. What do you think are the top roadway corridors most needing sidewalk or trail improvements?



11. Do you have suggestions about specific programming or pedestrian related policies that you would like to see passed?

(Comments below are shown exactly as they were received from the public)

- I'd love to be able to use a bike trail greenway. Wouldn't that be fun circling the city? (Powell Place Town Park to Pittsboro Public Pool to CCCC's Public Library to Town Lake Park to Pittsboro Elementary to Pittsboro's downtown to the YMCA to behind Carolina Brewery and back to Powell Place Town Park--or something like that.)
- I would love to have a bicycle lane added to the streets in and around Pittsboro. Cycling is a great form of exercise, and many people use it as a form of transportation to shops, etc.
- Reduce ozone and air pollution. Walking isn't healthy sometimes. • Signage for motorists on the Courthouse roundabout
- I would like to see shoulders on all the major roadways that would allow for safe walking and biking in the Pittsboro area.
- Create multiuse trails along sewer easements to connect CCCC, downtown and residential neighborhoods
extended walking trails would be great
- Specific safe places to cross each of the busiest streets. Some ways to reroute trucks and all but local traffic away from Hillisborough St and the circle.
- Use of signals by motorists on the circle so you know which way the cars are going. Would help other drivers on the circle too.
- people need to drive very slow in back streets in town. No regulations I can think of just common sense.
- I would like to see this expanded to cycling • would like to see walking trails around the Haw river
- Concentrate on infill (such as developing the vacant and now blocked parking lot with old double wide on 64East in a similar manner as the new brick office/store complex now leasing on 64East), with emphasis on retail shops and restaurants that will draw pedestrian traffic. PLEASE steer away from big box stores, drive through franchise fast food, and large malls that require cars to get to and from.
- Need to lock-up land for Rails to Trails Future on old CSX line that runs South towards Moncure. Also need to use Sewer Lines for Passive parks. Including one that runs North Towards Lowes and one that runs from fair grounds out to bio diesel plant.
- Make sure all sidewalks and trails are handicapped friendly; put guardrails along sidewalks where traffic is unusually heavy
- See my comments about wilderness trails and non-cement walkways with lots of trees.
- wheelchair friendly (cut-outs, gentle slopes - 1/12 is legal but most of us can't do it strength wise)
- I would like to see police patrol more in the sidewalk/walking zones of the city. Not just speeders but those who may not be considerate to slow down or stop for a proper crossing area.
- Can we please finish our section of the American Tobacco Trail. This is really embarrassing as compared to Durham and Wake. Also, I am a bicyclist and hiker as well as an urban walker. We really need to get major greenways throughout the county before it's too late. And we need to add bicycle lanes to our rural 2-lane roads for safety to be a bicycling destination. Finally, I know this is outside your scope, but I would love to volunteer to blaze the trail and build foot bridges along the Haw from Bynum to Jordan Lake. I have walked/waded this many times.
- Connect Downtown to Chatham marketplace. Provide signs directing people to the trail at CCCC and from 15-501 to Pittsboro Park.

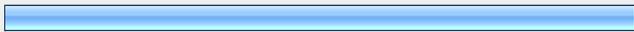
THE TOWN OF PITTSBORO, NORTH CAROLINA

- Greenways
- Bike Paths (greenways)
- Need public transportation to Pittsboro.
- Control speed of motor vehicles
- Bus line from Pittsboro to Chapel Hill is sorely needed.
- Room/accommodations for equestrians on trail routes. There are a lot of equestrians in Chatham County.
- Parks - Swimming/Recreation Facility
- Speed bumps at the Courthouse crossings
- Help children cross at the Courthouse after school.
- we really need walking and bicycle paths/routes
- I would like to see an aggressive Greenway Acquisition Program. I would like a bond referendum to finance parks and greenways. I would like to have a tree canopy over sidewalks, and for sidewalks to be a safe distance away from streets. Would like to see developers put sidewalks on both sides of the street, or dedicate a public greenway in new developments. I would like to see the abundance of Pittsboro's greenways a defining feature of the Town. Also, I'd love to see landscaping standards to make the sidewalks, not just nominal concrete afterthoughts, but seen as pleasant, viable transportation corridors. I'd be happy to spend more tax money to prioritize the creation of greenways and sidewalks; it's really a quality of life issue and well worth it to me.
- The Town needs to focus on repairing/upgrading existing sidewalks that are in disrepair and look for simple and quick fixes to existing situations that need attention. I am dismayed at times when local governments focus on construction of new facilities and forget to adequately budget for existing infrastructure. If we can't take care of the upkeep on existing sidewalks why should the town try to build new ones. I was recently discouraged to see a recent pavement patch to an existing concrete sidewalk after a sewer line upgrade. Let's focus on fundamentals with the same enthusiasm as bold planning efforts.
- Add a tax for a pedestrian fund and apply for transportation enhancement grants from NCDOT. Work with NCDOT to provide pedestrian/bike paths whenever improvements are made....
- Bicycle trails along the roads, especially along 64 Business from Pittsboro Christian Village to Central Carolina Community College.
- development of safety for pedestrian children and elderly.
- Would like to see bike racks at businesses
- greenways, "green belt" around town for walking/biking/jogging
- Safe crossings near grocery stores/thrift shop
- Utilize the greenways that exist on sewer rights of ways, connect them to sidewalks and trails, so we can have lots of places to walk for shopping and recreation. Fix and expand sidewalks connecting downtown to residential neighborhoods and edges of towns so folks will shop and recreate at the same time. Good for residents and merchants. Do something about Town Lake Park, either fix the dam and fill the lake, or return it to original stream; in either case, maintain the trails and connect them to town.
- More enforcement and greater penalties for drivers who fail to yield to pedestrians in cross walks.
- Pedestrians crossing in front of the General Store Cafe is a hazard that should be prohibited. Vehicles may U-turns to park; pedestrians stop traffic that backs into the busy circle; traffic coming out of the circle may have to stop suddenly. It's only a question of when someone gets hurt. I would suggest a cable barrier at waist height between lanes to stop both pedestrians and U-turns. The driveway into the parking lot is part of the problem also; it's all too close to a busy intersection.
- Bike trails would be great, too!
- Bike lanes on more roads in and around Pittsboro
- It would be nice to have sidewalks on both sides of Highway 64 and also 15-501. None of the side streets I have walked on have sidewalks.

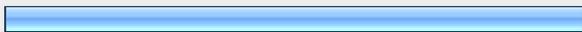
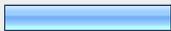
12. Please order this list according to the importance you place on each item. Rank the options below from 1 (highest importance) to 4 (lowest importance).

	#1	#2	#3	#4	Rating Average	Response Count
Improving the existing pedestrian facilities.	11.3% (13)	18.3% (21)	26.1% (30)	44.3% (51)	3.03	115
Perfecting a few major travel corridors for pedestrians.	19.5% (23)	23.7% (28)	24.6% (29)	32.2% (38)	2.69	118
Maximizing pedestrian opportunities in specific locations in Pittsboro.	28.4% (33)	33.6% (39)	24.1% (28)	13.8% (16)	2.23	116
Maximizing safety for pedestrians.	45.2% (52)	25.2% (29)	23.5% (27)	6.1% (7)	1.90	115
<i>answered question</i>						123
<i>skipped question</i>						17

13. Should public funds be used to improve pedestrian facilities (sidewalks, crosswalks, trails, etc.)?

	Response Percent	Response Count
Yes 	94.7%	124
No 	5.3%	7
<i>answered question</i>		131
<i>skipped question</i>		9

14. What types of funds should be used? (Choose all that apply)

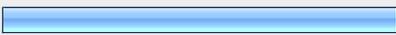
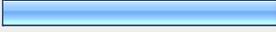
	Response Percent	Response Count
State and federal grants 	86.8%	112
Capital improvements bond or other financing strategy 	62.8%	81
Existing local taxes 	56.6%	73
New local taxes 	24.8%	32
Other (please specify) 	17.8%	23
<i>answered question</i>		129
<i>skipped question</i>		11

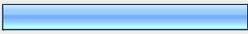
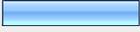
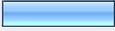
15. What is your zip code?

(The majority of responses were from 27312)

16. What is your gender?		Response Percent	Response Count
M		30.2%	38
F		69.8%	88
		answered question	126
		skipped question	14

17. What is your age?		Response Percent	Response Count
0-18		0.0%	0
19-25		1.5%	2
26-35		11.5%	15
36-45		24.6%	32
46-55		21.5%	28
56-65		26.9%	35
66-75		10.8%	14
76 and older		3.1%	4
		answered question	130
		skipped question	10

18. Where do you live?			
		Response Percent	Response Count
Pittsboro		59.1%	75
Chatham County		40.9%	52
		Other (please specify)	9
		answered question	127
		skipped question	13

19. What is your living and work status in Pittsboro?			
		Response Percent	Response Count
Live in Pittsboro only		36.7%	47
Live and work in Pittsboro		26.6%	34
Neither live nor work in Pittsboro		20.3%	26
Work in Pittsboro only		16.4%	21
		answered question	128
		skipped question	12

A.5 COPIES OF PROJECT NEWSLETTERS

[Copies available on the following pages]

Project Contact:
David L. Monroe
Town Planner
P.O. Box 759
Pittsboro, NC 27312
919 542-4621
919 542-7109 Fax

Planning is Underway to Improve Conditions for Walking in Pittsboro, NC

The Town of Pittsboro received funding from the North Carolina Department of Transportation (NCDOT)'s Bicycle and Pedestrian Planning Grant Initiative to develop a Pedestrian Transportation Plan.

Planning began with a Steering Committee Meeting in March 2008. Project consultants, *Greenways Incorporated*, will be conducting fieldwork, evaluating the current conditions and gathering public input for the plan during the months of April and May. The draft plan will be developed over the summer and will be ready for review in early September, 2008. Public input (through the online comment form, public workshops, and communication with the Steering Committee) is encouraged throughout the planning process.

The project Steering Committee is made up of the following individuals:

Ruben Blakely
NCDOT, Division 8

Megan Bolejack
Chatham Co. Health Dept./Active Chatham

Phil Bors
Town of Pittsboro Parks & Rec Board

Chris Bouton
Town of Pittsboro Parks & Rec Board

Justin Bullock
NCDOT, Division 8

Bill Bussey
Pittsboro Citizen/Trails Advocate

Kelly Evenson
UNC School of Public Health

Ether Farrell
Town of Pittsboro Planning Board

David Monroe
Town of Pittsboro Planning Director

Robert F. Mosher
NCDOT, Bike & Ped Division

Kim Royal
Pittsboro Citizen

Pat Strong
TJCOG/Triangle Area MPO



Top: Image from the March 2008 Steering Committee Meeting; participants identified areas in Town that are of particular concern for pedestrians.

Bottom: Some areas in Downtown Pittsboro are already ideal for pedestrians.



Page 2: Get Involved !

1. Fill out the Comment Form.
2. Attend a planning workshop.
3. Talk directly with project staff, committee, and consultants.

"Walking gets the feet moving, the blood moving, the mind moving. And movement is life."

~ Carrie Latet

Walking improves health and wellness, builds social capital, and is the world's cleanest form of transportation. However, the design of our streets, intersections, and land use patterns affects our ability to include walking as part of our daily routine.

According to Frank Hu, epidemiologist at the Harvard School of Public Health, *"The single thing that comes close to a magic bullet, in terms of its strong and universal benefits, is exercise."* (Harvard Magazine, 2004)

Even though the benefits are clear, exercising on a regular basis is difficult for many people. They can't find the time. They lose their motivation. They become discouraged.

What if exercise was simply part of daily life? After all, the Centers for Disease Control and Prevention recommends a minimum of 30 minutes of moderate-intensity physical activity per day (such as brisk walking) most days of the week. The key to good health is a walk in the park. It could mean walking to lunch instead of driving, or walking downtown for a small errand. It could also mean walking to work, or combining a bus trip with walking.

The choice of walking instead of driving can be much easier when the community you live and work in is designed to accommodate pedestrians. This is where the Pittsboro Pedestrian Transportation Plan comes into play. The Plan aims to make walking in Pittsboro a safe and accessible alternative to the automobile. By studying what is on the ground today and asking for public input, the Town will identify key opportunities for improving conditions for pedestrians. For example, improvements could include new sidewalks and crosswalks, more trails and greenways, and even new programs and policy changes that encourage pedestrian activity.



Public input will be especially helpful in identifying key locations in need of improvements. At left is a family safely crossing on Salisbury, just west of downtown (a good example of an existing pedestrian facility).



Here is an example opportunity for improvement, further west on Salisbury, where no sidewalks are available for pedestrians.

High levels of public participation will make this plan more effective for implementation and more relevant for the particular needs of local residents. Here is how you can get involved:

1. Fill out the online comment form (address below). The questions are designed to get a better understanding of how often residents currently walk; the barriers to walking in Pittsboro; and priorities for future improvements. Paper comment forms are available upon request.
2. Attend the next planning workshop at the end of July 2008. The draft plan will be reviewed and input will be gathered on project priorities. For details, check in at www.greenways.com/upcomingworkshops.html
3. Talk directly with project staff, committee, and consultants. Contact Town Planner, David Monroe (919-542-4621), or project consultant, Jason Reyes (919-484-8448; jason.reyes@greenways.com), to share your ideas and/or learn more about the plan.

Project info and online comment form:
www.greenways.com/pittsboro.html

Project Contact:
Paul H. Horne
Town Planner
P.O. Box 759
Pittsboro, NC 27312
919 542-4621 x62
919 542-7109 Fax

Pedestrian Planning On Schedule in Pittsboro, NC

With much of the draft plan complete, project planners are moving forward with development of the implementation plan. Below is a time line of the major project tasks:

March:	Kick-Off Meeting
April/May:	Review of Existing Conditions
June/July:	Draft Plan Development
Aug/Sept:	Draft Review
October:	Final Plan and Presentation
Winter 08-09:	Plan Adoption/Implementation

This plan represents the first comprehensive approach to addressing the needs of pedestrians and pedestrian facility development in the Town of Pittsboro. The overall outline of the plan itself starts with an assessment of current conditions, followed by recommendations, and concluding with a phased strategy for implementation. Specifically, the draft plan includes the following chapters:

Chapter 1:	Introduction
Chapter 2:	Existing Conditions
Chapter 3:	Pedestrian Network
Chapter 4:	Programs + Policies
Chapter 5:	Implementation
Chapter 6:	Design Guidelines
Appendix A:	Public Input
Appendix B:	Funding Sources
Appendix C:	Acquisition Strategies
Appendix D:	State and Federal Policies

The planning process has included multiple forms of public involvement. Over 130 people have participated in the online survey so far. The information gathered is helping project planners identify roadways and intersections most in need of pedestrian-related improvements, as well as popular destinations to which people would like to be able to walk.

The first public workshop for the Pedestrian Plan was held at the Pittsboro Farmers Market on May 1st, 2008. The workshop was successful in gathering meaningful input from the public and in distributing information regarding the plan. More than 60 people provided direct input on the plan by writing and drawing com-



Above: Images from the first Pedestrian Plan Public Workshop at the Pittsboro Farmer's Market; Participants identified areas in need of pedestrian improvements by writing and drawing their comments on public input maps.

ments on the input map, filling out comment forms, and talking with project staff. 73 individual comments were transcribed from the input map, and categorized. Comments were distributed relatively evenly among the following categories: Greenways (25%), Pedestrian Facilities (25%), Programs and Policies (21%), Destinations and Ancillary Facilities (15%), and Intersections (14%).

Finally, local stakeholders (who volunteer time on project committees) are providing valuable insight and guidance as the plan develops.



Page 2: Get Involved !

1. Fill out the Comment Form.
2. Review the Draft Plan.
3. Talk directly with project staff, committee, and consultants.

The photo rendering below demonstrates an array of possible improvements, including street trees, street furniture, landscaped medians, pedestrian-scale lighting, wider sidewalks, sidewalks on both sides of the road, closure of curbcuts (reduction of parking lot access points), crosswalks, etc.



Existing conditions on East 64 (left) and with pedestrian improvements (below).

This is shown only as an example of what could be done with pedestrian enhancements. Actual recommendations for East 64 will depend largely upon public input, Town resources and cooperation with NCDOT.



Although the two main public workshops have already taken place (in May and July), there are still ways to offer your input to the planning process. Here is how you can still get involved:

1. The online comment forms will close on August 8, 2008. Fill out the form at www.greenways.com/pittsboro.html. The questions are designed to get a better understanding of how often residents currently walk; the barriers to walking in Pittsboro; and priorities for future improvements. Paper comment forms are available upon request (contact Town Planner, Paul H. Horne (919-542-4621)).
2. Review the Draft Plan online during the months of August and September 2008. Visit www.greenways.com/pittsboro for more information. Contact Paul Horne to review a hard copy of the plan.
3. Talk directly with project staff, committee, and consultants. Contact Paul H. Horne, or project consultant, Jason Reyes (919-484-8448; jason.reyes@greenways.com), to share your ideas and/or learn more about the plan.

Project info, draft plan, and online comment form:
www.greenways.com/pittsboro



CHAPTER OUTLINE:

B.1 OVERVIEW

B.2 HIGH PRIORITY FUNDING OPTIONS

B.3 STATE FUNDING SOURCES

B.4 FEDERAL FUNDING SOURCES

B.5 LOCAL FUNDING SOURCES

B.6 PRIVATE FOUNDATIONS AND CORPORATIONS

B.1 OVERVIEW

The primary purpose of this appendix is to define and describe possible funding sources that could be used to support the planning, design and development of pedestrian and greenway improvements.

Implementing the recommendations of this plan will require a strong level of local support and commitment through a variety of local funding mechanisms. Perhaps most important is the addition of sidewalk and greenway recommendations from this Plan into the Town's Capital Improvement Program (CIP). Pedestrian improvements should become a high priority and be supported through the CIP and local bonds.

The Town should also seek a combination of funding sources that include local, state, federal, and private money. Fortunately, the benefits of protected greenways are many and varied. This allows programs in Pittsboro to access money earmarked for a variety of purposes including water quality, hazard mitigation, recreation, air quality, alternate transportation, wildlife protection, community health, and economic development. Competition is almost always stiff for state and federal funds, so it becomes imperative that local governments work together to create multi-jurisdictional partnerships and to develop their own local sources of funding. These sources can then be used to leverage outside assistance. The long term success of this plan will almost certainly depend on the dedication of a local revenue stream for greenways and sidewalks. An important key to obtaining funding is for Pittsboro to have adopted plans for greenway, bicycle, and pedestrian or trail systems in place prior to making an application for funding.

For the past two decades, a variety of funding has been used throughout North Carolina to support the planning, design and construction of urban and rural pedestrian and greenway projects. The largest single source of funding for these projects has come from the Surface Transportation Act, first the Intermodal Surface Transportation Efficiency Act (ISTEA) in the early to mid 1990s; then its successor, Transportation Equity Act for the Twenty-First Century (TEA-21) through the early part of 2002; and now the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The North Carolina Department of

Transportation manages and distributes the majority of federal funds that are derived from the Act to support the development of bicycle/pedestrian/trail development.

The majority of federal funding is distributed to states in the form of block grants and is then distributed throughout a given state for specific projects. State funding programs in North Carolina also support the creation of greenways. North Carolina has developed a broad array of funding sources that address land acquisition, green infrastructure development, and trail facility development.

Additionally, there are many things that the Town of Pittsboro can do to establish their own funding for sidewalk and greenway initiatives. For the most part, it takes money to get money. For Pittsboro, it will be necessary to create a local funding program through one of the methods that is defined within this report. Financing will be needed to administer the continued planning and implementation process, acquire parcels or easements, and manage and maintain facilities.

This appendix is organized by first addressing the state sources of funding, then addresses separate federal and local government funding sources. It is by no means an exhaustive list as there are hundreds of additional funding sources available that should be researched and pursued as well.

Greenways Incorporated advises the Town of Pittsboro to pursue a variety of funding options and establish pedestrian recommendations from this Plan as a priority in its Capital Improvement Program (CIP). This appendix identifies a list of some of the pedestrian and greenway funding opportunities that have typically been pursued by other communities. Creative planning and consistent monitoring of funding options will likely turn up new opportunities not listed here.

B.2 HIGH PRIORITY FUNDING OPTIONS

While there are a number of funding sources provided in the following pages, these sources should be the highest priority in order to achieve successful implementation. It is critical for local government to step up given the competitiveness and changing, finite availabilities of most funding sources. Details about the following sources are found later in this appendix.

- Local Capital Improvements Program (CIP)
- Local Bond
- Local Fees
- State Transportation Improvement Program (TIP)
- State Powell Bill Funds
- State Safe Routes to School Program
- State Parks and Recreation Trust Fund (PARTF)
- State Health and Wellness Trust Fund (HWTF)
- Private Sources

B.3 STATE FUNDING SOURCES

The most direct source of public-sector funding for the Town of Pittsboro will come from state agencies in North Carolina. Generally, these funds are made available to local governments based on grant-in-aid formulas. The single most important key to obtaining state grant funding is for local governments to have adopted plans for greenway, open space, bicycle, pedestrian or trail systems in place prior to making an application for funding. Unfortunately, there is no direct correlation between any of the programs listed and a constant stream of funding for greenway or trail projects and all projects are funded on the basis of grant applications. There is no specific set aside amount that is allocated for greenway and trail development within a given program. Funding is based solely on need and the need has to be expressed and submitted in the form of a grant application. Finally, all of these programs are geared to address needs across the entire state, so all of the programs are competitive and must allocate funding with the needs of the entire state in mind.

The Powell Bill Program is an annual state allocation to municipalities for use in street system maintenance and construction activities. There is considerable local control over Powell Bill Funds (It is not a grant application process). In the past, the State allocated a considerable portion of these revenues for construction purposes. However, budgetary constraints since 2001 have led to a shift of new Powell Bill funds to cover maintenance and operations activities.

Both the Powell Bill reserves and the 2000 Transportation Bond funds are limited funding sources that will eventually be depleted. Further, federal highway funds can be expected to provide only a portion of the future resource needs of the sidewalk construction program. For this reason, the development of future state transportation bond initiatives will be critical for continuing implementation of the sidewalk construction program in the future.

In North Carolina, the Department of Transportation, Division of Bicycle and Pedestrian Transportation (DBPT) has been the single largest source of funding for bicycle, pedestrian and greenway projects, including non-construction projects such as brochures, maps, and public safety information for more than a decade. DBPT offers several programs in support of bicycle and pedestrian facility development. The following information is from NCDOT's interactive web site (www.ncdot.org). Contact the NCDOT, Division of Bicycle and Pedestrian Transportation at (919) 807-2804 for more information.

North Carolina programs are listed below. A good starting website with links to many of the following programs is http://www.enr.state.nc.us/html/tax_credits.html.

North Carolina Department of Transportation

Bicycle and Pedestrian Independent Projects Funded Through the Transportation Improvement Program (TIP):

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

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

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

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

A total of \$5.3 million dollars of TIP funding is available for funding various bicycle and pedestrian independent projects, including the construction of multi-use trails, the striping of bicycle lanes, and 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.

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

Sidewalk Program – Each year, a total of \$1.4 million in STP-Enhancement funding is set aside for sidewalk construction, maintenance and repair. Each of the 14 highway divisions across the state receives \$100,000 annually for this purpose. Funding

decisions are made by the district engineer. Prospective applicants are encouraged to contact their district engineer for information on how to apply for funding.

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

Funding Available Through North Carolina Metropolitan Planning Organizations (MPOs)

MPOs in North Carolina which are located in air quality no attainment or maintenance areas have the authority to program Congestion Mitigation Air Quality (CMAQ) funds. CMAQ funding is intended for projects that reduce transportation related emissions. Some NC MPOs have chosen to use the CMAQ funding for bicycle and pedestrian projects. Local governments in air quality no attainment or maintenance area should contact their MPO for information on CMAQ funding opportunities for bicycle and pedestrian facilities.

Transportation Enhancement Call for Projects, EU, NCDOT

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

1. Bicycle and Pedestrian Facilities
2. Bicycle and Pedestrian Safety
3. Acquisition of Scenic Easements, Scenic or Historic Sites
4. Scenic or Historic Highway Programs
(including tourist or welcome centers)
5. Landscaping and other Scenic Beautification
6. Historic Preservation
7. Rehabilitation of Historic Transportation Facilities
8. Preservation of Abandoned Rail Corridors

9. Control of Outdoor Advertising
10. Archaeological Planning and Research
11. Environmental Mitigation
12. Transportation Museums

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

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

Bicycle and Pedestrian Planning Grant Initiative, managed by NCDOT, DBPT

To encourage the development of comprehensive local bicycle plans and pedestrian plans, the NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the Transportation Planning Branch (TPB) have created a matching grant program to fund plan development. This program was initiated through a special allocation of funding approved by the North Carolina General Assembly in 2003 along with federal funds earmarked specifically for bicycle and pedestrian planning by the TPB. The planning grant program was launched in January 2004, and it is currently administered through NCDOT-DBPT and the Institute for Transportation Research and Education (ITRE) at NC State University. Over the past three grant cycles, 48 municipal plans have been selected and funded from 123 applicants. A total of \$ 1,175,718 has been allocated. Funding is secured for 2007 at \$400,000. Additional annual allocations will be sought for subsequent years. For more information, visit www.itre.ncsu.edu/ptg/bikeped/ncdot/index.html

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.

The state of North Carolina has been allocated \$15 million in Safe Routes to School funding for fiscal years 2005 through 2009 for infrastructure or non-infrastructure projects. All proposed projects must relate to increasing

walking or biking to and from an elementary or middle school. An example of a non-infrastructure project is an education or encouragement program to improve rates of walking and biking to school. An example of an infrastructure project is construction of sidewalks around a school. Infrastructure improvements under this program must be made within 2 miles of an elementary or middle school. The state requires the completion of a competitive application to apply for funding. For more information, visit www.ncdot.org/programs/safeRoutes/ or contact Leza Mundt at DBPT/NCDOT, (919) 807-0774.

Recreational Trails Program (RTP)

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

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

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.

North Carolina's Clean Water Management Trust Fund (CWMTF)

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

and unpaved. For a history of awarded grants in North Carolina and more information about this fund and applications, visit www.cwmtf.net/.

North Carolina Parks and Recreation Trust Fund (PARTF)

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

The trust fund is allocated three ways:

- 65 percent to the state parks through the N.C. Division of Parks and Recreation.
- 30 percent as dollar-for dollar matching grants to local governments for park and recreation purposes.
- 5 percent for the Coastal and Estuarine Water Access Program.
For information on how to apply, visit: www.partf.net/learn.html

Land and Water Conservation Fund – North Carolina (LWCF)

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

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Environment and Natural Resources. Since 1965, the LWCF program has built a permanent park legacy for present and future generations. In North Carolina alone, the LWCF program has provided more than \$63 million in matching grants to protect land and support more than 800 state and

local park projects. More than 37,000 acres have been acquired with LWCF assistance to establish a park legacy in our state. For more information, visit: <http://ils.unc.edu/parkproject/lwcf/home1.html>

North Carolina Farmland Preservation Trust Fund

Established in 1986, the Farmland Preservation Trust Fund was funded by appropriations from the General Assembly. Managed by the N.C. Department of Agriculture and Consumer Services and contracted to the Conservation Trust for N.C (CTNC). The General Assembly has appropriated \$2.65 M since 1998. The 2002 General Assembly appropriated \$200K; 2003 General Assembly, \$0. NCDACS has awarded grants to help local land trusts and counties with farmland protection programs work with farm families to arrange permanent conservation easements on over 4270 acres and large parts of 30 farms. These grants have leveraged over \$20 M from other private and public funding sources and donations of development rights from farm owners. Contact CTNC at 919-828-4199. E-mail: info@ctnc.org or Web site: <http://www.ctnc.org>

Any county that has established by ordinance a farmland preservation program or a qualified, private, non-profit land conservation organization, is eligible to apply for a grant. Grants may be submitted for reimbursement of up to 70% of real costs for transactional expenses in acquiring agricultural conservation easements through donation or purchase, including--but not limited to--documented costs for environmental audits, legal fees, appraisals, surveys, purchase options, personnel expenses for project preparation, and long-term easement monitoring and enforcement costs. Grant requests cannot exceed a maximum of \$25,000 per project.

Contact: Conservation Trust for North Carolina, 1028 Washington St, Raleigh, NC 27605. 919-828-4199. Web site: www.ctnc.org. E-mail: info@ctnc.org.

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 Department of Environment and Natural Resources administers this program through local Soil and Water Conservation Districts (SWCD). For more information, visit www.enr.state.nc.us/DSWC/pages/agcostshareprogram.html or call 919-733-2302.

North Carolina Natural Heritage Trust Fund

This trust fund, managed by the NC Natural Heritage Program, has contributed millions of dollars to support the conservation of North Carolina's most significant natural areas and cultural heritage sites. The NHTF is used to acquire and protect land that has significant habitat value. Some large wetland areas may also qualify, depending on their biological

integrity and characteristics. Only certain state agencies are eligible to apply for this fund, including the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Department of Cultural Resources and the Department of Agriculture and Consumer Services. As such, municipalities must work with State level partners to access this fund. Additional information is available from the NC Natural Heritage Program. For more information and grant application information, visit www.ncnhtf.org/.

North Carolina Adopt-a-Trail Grants

Operated by the Trails Section of the NC Division of State Parks, annual grants are available to local governments for trail and facility construction. Grants are generally capped at about \$5,000 per project and do not require a match. The Adopt-A-Trail grant program awards \$135,000 annually to local governments, nonprofit organizations and private trail groups for trails projects. The funds can be used for trail building, trail signage and facilities, trail maintenance, trail brochures and maps, and other related uses. Applications for funding may be obtained by contacting a regional trails specialist or the State Trails Program at (919) 715-8699. Applications are due for the each year's funding cycle at the end of February.

Contact: Darrell McBane, State Trails Coordinator, 12700 Bayleaf Church Road, Raleigh, NC 27614 (919) 846-9991. Web site: <http://ils.unc.edu/parkproject/trails/grant.html>. E-mail: darrell.mcbane@ncmail.net.

North Carolina Division of Water Quality - 319 Program Grants

By amendment to the Clean Water Act Section in 1987, the Section 319 Grant program was established to provide funding for efforts to curb non-point source (NPS) pollution, including that which occurs through stormwater runoff. The U.S. Environmental Protection Agency provides funds to state and tribal agencies, which are then allocated via a competitive grant process to organizations to address current or potential NPS concerns. Funds may be used to demonstrate best management practices (BMPs), establish Total Maximum Daily Load (TMDL) for a watershed, or to restore impaired streams or other water resources. In North Carolina, the 319 Grant Program is administered by the Division of Water Quality of the Department of Environment and Natural Resources. Each fiscal year North Carolina is awarded nearly \$5 million dollars to address non-point source pollution through its 319 Grant program. Thirty percent of the funding supports ongoing state non-point source programs. The remaining seventy percent is made available through a competitive grants process. At the beginning of each year (normally by mid-February), the NC 319 Program issues a request for proposals with an open response period of three months. Approximately \$880,000 will be available statewide for distribution to grant recipients.

Grants are divided into two categories: Base and Incremental. Base Projects concern research-oriented, demonstrative, or educational purposes for identifying and preventing potential NPS areas in the state, where waters

may be at risk of becoming impaired. Incremental projects seek to restore streams or other portions of watersheds that are already impaired and not presently satisfying their intended uses. State and local governments, interstate and intrastate agencies, public and private nonprofit organizations, and educational institutions are eligible to apply for Section 319 monies. An interagency workgroup reviews the proposals and selects those of merit to be funded.

Contact: North Carolina DWQ, 512 N. Salisbury St. Raleigh, NC 27604. (919) 733-7015 Web site: www.h2o.enr.state.nc.us/nps/Section_319_Grant_Program.htm. E-mail: kimberly.nimmer@ncmail.net.

Small Cities Community Development Block Grants

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

North Carolina Ecosystem Enhancement Program

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

North Carolina Wetlands Restoration Program (NCWRP)

This is a non-regulatory program established by the NC General Assembly in 1996. The goals of the NCWRP are to:

- Protect and improve water quality by restoring wetland, stream and riparian area functions and values lost through historic, current and future impacts.
- Achieve a net increase in wetland acreage, functions and values in all of North Carolina's major river basins.
- Promote a comprehensive approach for the protection of natural resources.
- Provide a consistent approach to address compensatory mitigation requirements associated with wetland, stream, and buffer regulations, and to increase the ecological effectiveness of compensatory mitigation projects.

Additional information about the program and potential funding assistance with the restoration or creation of wetlands can be found at www.h2o.enr.state.nc.us/wrp

C

ontact: Tad Boggs, Ecosystem Enhancement Program Coordinator, NC Wetlands Restoration Program, 1619 Mail Service Center, Raleigh, NC 27699-1619. (919) 715-2227. E-mail: tad.boggs@ncmail.net.

Conservation Reserve Enhancement Program (CREP)

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

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

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

Urban and Community Forestry Assistance Program

The program operates as a cooperative partnership between the NC Division of Forest Resources and the USDA Forest Service, Southern Region. It 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. 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.

Greenways are a specific category within the program "Naturalization Projects or Greenway Development." These types of projects can be combined with tree planting, where native species are used and environmental benefits to the community are emphasized. Planning and development, assessments and studies, maps and drawings, promotional and educational materials may be eligible for funding when matched with a solid volunteer and in-kind staffing match. Forest buffers, connecting corridors between fragmented wooded areas, riparian buffers/protection, or reduction of mowing

maintenance in municipal parks through edge naturalization, are some naturalization projects that will be considered for grants. Approximately \$200,000 is available each year for grant recipients.

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.

Water Resources Development Grant Program

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

North Carolina Health and Wellness Trust Fund (HWTF)

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

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

All North Carolina municipalities and counties are eligible to apply for a Fit Community designation, which will be awarded to those that have excelled in supporting the following:

- physical activity in the community, schools, and workplaces
- healthy eating in the community, schools, and workplaces
- tobacco use prevention efforts in schools

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

- heightened statewide attention that can help bolster local community development and/or
- economic investment initiatives (highway signage and a plaque for the Mayor's or County Commission Chair's office will be provided)
- reinvigoration of a community's sense of civic pride (each Fit Community will serve as a model for other communities that are trying to achieve similar goals)
- use of the Fit Community designation logo for promotional and communication purposes.

The application for Fit Community designation is available on the Fit Together Web site: www.FitTogetherNC.org/FitCommunity.aspx.

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

The North Carolina Conservation Tax Credit (managed by NCDENR)

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

B.4 FEDERAL FUNDING SOURCES

Most federal programs provide block grants directly to states through funding formulas. For example, if a North Carolina community wants funding to support a transportation initiative, they would contact the North Carolina Department of Transportation and not the US Department of Transportation to obtain a grant. Despite the fact that it is rare for a local community to obtain a funding grant directly from a federal agency, it is relevant to list some additional federal programs below.

Community Block Development Grant Program (HUD-CBDG)

The U.S. Department of Housing and Urban Development (HUD) offers financial grants to communities for neighborhood revitalization, economic development, and improvements to community facilities and services,

especially in low and moderate-income areas. Several communities have used HUD funds to develop greenways, including the Boulding Branch Greenway in High Point, North Carolina. Grants from this program range from \$50,000 to \$200,000 and are either made to municipalities or non-profits. There is no formal application process. For more information, visit: www.hud.gov/offices/cpd/communitydevelopment/programs/.

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 on all SAFETEA-LU programs, visit <http://www.fhwa.dot.gov/safetealu/>.

The National Endowment of the Arts

Many organizations seek ways to incorporate more of their community into their pedestrian, and greenway planning. One way to do this is to celebrate the cultural and historic uniqueness of communities. There are some funding opportunities for these types of projects. The National Endowment of the Arts funds arts-related programs through the Design Arts Program Assistance, and provides many links to other federal departments and agencies that offer funding opportunities for arts and cultural programs.

USDA Rural Business Enterprise Grants

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

Rivers Trails and Conservation Assistance Program (RTCA)

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

Although the program does not provide funding for projects, it does provide valuable on-the-ground technical assistance, from strategic consultation and partnership development to serving as liaison with other government

agencies. Communities must apply for assistance. For more information, visit: www.nps.gov/ncrc/programs/rtca/ or call Chris Abbett, Program Leader, at 404-562-3175 ext. 522.

Public Lands Highways Discretionary Fund

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

B.5 LOCAL FUNDING SOURCES

The Town of Pittsboro will need to create independent, local funding sources to be used to match federal and state grants for pedestrian facility and greenway development. Local support and funding is the most integral component of successful pedestrian facility implementation. This section provides a list of funding options that each of the local governments should consider for future greenway development, sidewalk development, and open space protection.

Municipalities often plan for the funding of pedestrian facilities or improvements through development of Capital Improvement Programs (CIP). In Raleigh, for example, the greenways system has been developed over many years through a dedicated source of annual funding that has ranged from \$100,000 to \$500,000, administered through the Recreation and Parks Department. 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 are described below.

Capital Reserve Fund

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

Capital Project Ordinances

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

Municipal Service District

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

Bonds/Loans

Bonds have been a very popular way for communities across the country to finance their open space and greenway projects. A number of bond options are listed below. If local government decides to pursue a bond issue, consideration should be given to combining the needs of Roxboro into a single bond proposal. 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.

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 - Local governments 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 open space acquisition and make funds available for immediate purchases. 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).

Taxes

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

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

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

Excise Taxes - Excise taxes are taxes on specific goods and services. These taxes require special legislation and the use of the funds generated through the tax are limited to specific uses. Examples include lodging, food, and beverage taxes that generate funds for promo-

tion of tourism, and the gas tax that generates revenues for transportation related activities.

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

Fees and Service Charges

Several fee options that have been used by other local governments are listed here:

Impact Fees - 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”). Park and greenway impact fees are designed to reflect the costs incurred to provide sufficient capacity in the system to meet the additional open space 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.

Pursuing park and greenway impact fees will require enabling legislation to authorize the collection of the fees.

In-Lieu-Of Fees - As an alternative to requiring developers to dedicate on-site open space that would serve their development, some communities provide a choice of paying a front-end charge for off-site open space protection. Payment is generally a condition of development approval and recovers the cost of the off-site greenway or open space land acquisition or the development’s proportionate share of the cost of a regional parcel 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.

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.

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.

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

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.

Tax Increment Financing

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

Partnerships

Another, often overlooked, 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 which make those critical connections to place of business would be targeted for private partners’ monetary support, but only after a successful master planning effort. People rarely fund issues before they understand them and their immediate and direct impact. 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.

Other Local Options

Local Capital Improvements Program

As discussed at the beginning of this appendix, a strong local Capital Improvements Program (CIP) commitment dedicated to sidewalk and greenway development, is critical for long-term implementation. The amount dedicated ranges from community to community. As an example from other communities, Black Mountain, NC allocated \$15,000 for greenway development each year; In Raleigh, NC the greenways system has been developed over many years through a dedicated source of annual funding that has ranged from \$100,000 to \$500,000, administered through the Parks and Recreation Department; In Graham, NC, \$100,000 is allocated towards sidewalk development each year. As noted in the Implementation Chapter, even if the Town of Pittsboro only dedicates a small amount of funding, it is still important to have for matching grants and small projects, like painting crosswalks, and key signage projects.

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, Town staff will discuss the proposed apportionment and allocation methodology and will explore implementation strategies.

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

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 or a new park or canoe access point. 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 workdays. Volunteers can also be used for fund-raising, maintenance, and programming needs.

The Chatham County Arts Council

In 1977, the North Carolina General Assembly established the Grassroots Arts Program to ensure that every citizen had access to quality arts experiences. Each year the North Carolina General Assembly allocates a portion of the state budget for grassroots funds, and the N.C. Arts Council and local county governments designate partners to manage the Grassroots allotment. As the Chatham County Designated County Partner, the Chatham County Arts Council administers these Grassroots Sub-Grant funds which can be used to supplement artist fees for public art installations along the pedestrian trails and greenways. The annual application deadline is April 30.

The Pittsboro Merchants Association (PMA)

The PMA has been active for a few years working collaboratively with retail and non-retail businesses to make Pittsboro a destination for shopping, eating and goods and services of all kinds. A goal of PMA is to develop a plan to improve the appearance of downtown with particular attention to plantings, accent lighting in the trees, informational kiosks, improved signage and possibly decorative banners or signs, as they work with the Town, volunteers and grantors. The Town should also seek partnerships with the PMA on goals of this Pedestrian Plan.

B.6 PRIVATE FOUNDATIONS AND CORPORATIONS

Many communities have solicited greenway funding assistance from private foundations and other conservation-minded benefactors. Below are several examples of private funding opportunities available.

Land for Tomorrow Campaign

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

The Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation was established as a national philanthropy in 1972 and today it is the largest U.S. foundation devoted to improving the health and health care of all Americans. Grant making is concentrated in four areas:

- To assure that all Americans have access to basic health care at a reasonable cost
- To improve care and support for people with chronic health conditions
- To promote healthy communities and lifestyles
- To reduce the personal, social and economic harm caused by substance abuse: tobacco, alcohol, and illicit drugs

For more specific information about what types of projects are funded and how to apply, visit <http://www.rwjf.org/applications/>.

North Carolina Community Foundation

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

Z. Smith Reynolds Foundation

This Winston-Salem-based Foundation has been assisting the environmental projects of local governments and non-profits in North Carolina for many years. They have two grant cycles per year and generally do not fund land acquisition. However, they may be able to support Pittsboro in other areas of open space and greenways development. More information is available at www.zsr.org.

Bank of America Charitable Foundation, Inc.

The Bank of America Charitable Foundation is one of the largest in the nation. The primary grants program is called Neighborhood Excellence, which seeks to identify critical issues in local communities. Another program that applies to greenways is the Community Development Programs, and specifically the Program Related Investments. This program targets low and moderate income communities and serves to encourage entrepreneurial business development. Visit the web site for more information: www.bankofamerica.com/foundation.

Duke Energy Foundation

Funded by Duke Energy shareholders, this non-profit organization makes charitable grants to selected non-profits or governmental subdivisions. Each annual grant must have:

- An internal Duke Energy business “sponsor”
- A clear business reason for making the contribution

The grant program has three focus areas: Environment and Energy Efficiency, Economic Development, and Community Vitality. Related to this project, the Foundation would support programs that support conservation, training and research around environmental and energy efficiency initiatives. Web site: <http://www.duke-energy.com/community/foundation.asp>.

American Greenways Eastman Kodak Awards

The Conservation Fund’s American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants (\$250 to \$2,000) to stimulate the planning, design and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, and building trails. Grants cannot be used for academic research, institutional support, lobbying or political activities. For more information visit The Conservation Fund’s website at: www.conservationfund.org.

National Trails Fund

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

Projects the American Hiking Society will consider include:

- Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage.

- Constituency building surrounding specific trail projects - including volunteer recruitment and support.

Web site: www.americanhiking.org/alliance/fund.html.

The Conservation Alliance

The Conservation Alliance is a non-profit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. One hundred percent of its member companies' dues go directly to diverse, local community groups across the nation - groups like Southern Utah Wilderness Alliance, Alliance for the Wild Rockies, The Greater Yellowstone Coalition, the South Yuba River Citizens' League, RESTORE: The North Woods and the Sinkyone Wilderness Council (a Native American-owned/operated wilderness park). For these groups, who seek to protect the last great wild lands and waterways from resource extraction and commercial development, the Alliance's grants are substantial in size (about \$35,000 each), and have often made the difference between success and defeat. Since its inception in 1989, The Conservation Alliance has contributed \$4,775,059 to grassroots environmental groups across the nation, and its member companies are proud of the results: To date the groups funded have saved over 34 million acres of wild lands and 14 dams have been either prevented or removed-all through grassroots community efforts.

The Conservation Alliance is a unique funding source for grassroots environmental groups. It is the only environmental grant maker whose funds come from a potent yet largely untapped constituency for protection of ecosystems - the non-motorized outdoor recreation industry and its customers. This industry has great incentive to protect the places in which people use the clothing, hiking boots, tents and backpacks it sells. The industry is also uniquely positioned to educate outdoor enthusiasts about threats to wild places, and engage them to take action. Finally, when it comes to decision-makers - especially those in the Forest Service, National Park Service, and Bureau of Land Management, this industry has clout - an important tool that small advocacy groups can wield.

The Conservation Alliance Funding Criteria: The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation. We're not looking for mainstream education or scientific research projects, but rather for active campaigns. All projects should be quantifiable, with specific goals, objectives and action plans and should include a measure for evaluating success. The project should have a good chance for closure or significant measurable results over a fairly short term (one to two years). Funding emphasis may not be on general operating expenses or staff payroll.

Web site: www.conservationalliance.com/index.m.

E-mail: john@conservationalliance.com.

National Fish and Wildlife Foundation (NFWF)

The National Fish and Wildlife Foundation (NFWF) is a private, nonprofit, tax-exempt organization chartered by Congress in 1984. The National Fish and Wildlife Foundation sustains, restores, and enhances the Nation's fish, wildlife, plants and habitats. Through leadership conservation investments with public and private partners, the Foundation is dedicated to achieving maximum conservation impact by developing and applying best practices and innovative methods for measurable outcomes.

The Foundation awards matching grants under its Keystone Initiatives to achieve measurable outcomes in the conservation of fish, wildlife, plants and the habitats on which they depend. Awards are made on a competitive basis to eligible grant recipients, including federal, tribal, state, and local governments, educational institutions, and non-profit conservation organizations. Project proposals are received on a year-round, revolving basis with two decision cycles per year. Grants generally range from \$50,000-\$300,000 and typically require a minimum 2:1 non-federal match.

Funding priorities include bird, fish, marine/coastal, and wildlife and habitat conservation. Other projects that are considered include controlling invasive species, enhancing delivery of ecosystem services in agricultural systems, minimizing the impact on wildlife of emerging energy sources, and developing future conservation leaders and professionals. Website: <http://www.nfwf.org/AM/Template.cfm?Section=Grants> where additional grant programs are described.

The Trust for Public Land

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the Trust for Public Land is the only national nonprofit working exclusively to protect land for human enjoyment and well being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities. TPL's legal and real estate specialists work with landowners, government agencies, and community groups to:

- Create urban parks, gardens, greenways, and riverways
- Build livable communities by setting aside open space in the path of growth
- Conserve land for watershed protection, scenic beauty, and close-to home recreation safeguard the character of communities by preserving historic landmarks and landscapes.

The following are TPL's Conservation Services:

- Conservation Vision: TPL helps agencies and communities define conservation priorities, identify lands to be protected, and plan networks of conserved land that meet public need.
- Conservation Finance: TPL helps agencies and communities identify and raise funds for conservation from federal, state, local, and philanthropic sources.
- Conservation Transactions: TPL helps structure, negotiate, and complete land transactions that create parks, playgrounds, and protected natural areas.
- Research and Education: TPL acquires and shares knowledge of conservation issues and techniques to improve the practice of conservation and promote its public benefits.

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



ACQUISITION STRATEGIES

CHAPTER OUTLINE:

C.0 OVERVIEW

C.1 PARTNERSHIPS

C.2 GREENWAY ACQUISITION TOOLS

C.0 OVERVIEW

There are many different ways for the Town of Pittsboro to secure trail right-of-way for its greenway system. It will be necessary to work with some landowners to secure trail right-of-way when it does not exist. The following text provides a list of options that should be considered in securing right-of-way. Funding sources for acquiring right-of-way and trail development are described and provided in Appendix B of this Plan.

The following sections detail a list of specific strategies including the formation of partnerships and a toolbox of acquisition options.

C.1 PARTNERSHIPS

The Town of Pittsboro should pursue partnerships with land trusts and land managers to make more effective use of their land acquisition funds and strategies. The following offers recommendations on how these partnerships could be strengthened

LAND TRUSTS

Land trust organizations, such as the Triangle Land Conservancy, are valuable partners when it comes to acquiring land and rights-of-way for greenways. These groups can work directly with landowners and conduct their business in private so that sensitive land transactions are handled in an appropriate manner. Once the transaction has occurred, the land trust will usually convey the acquired land or easement to a public agency, such as a town or county for permanent stewardship and ownership.

PRIVATE LAND MANAGERS

Another possible partnership that could be strengthened would be with the utility companies that manage land throughout the region. Trails and greenways can be built on rights-of-ways that are either owned or leased by electric and natural gas companies. Electric utility companies have long recognized the value of partnering with local communities, non-profit trail

organizations, and private land owners to permit their rights-of-ways to be used for trail development. This has occurred all over the United States and throughout North Carolina.

The Town of Pittsboro should actively update and maintain relationships with private utility and land managers to ensure that community wide bicycle, pedestrian and greenway system can be accommodated within these rights-of-way. The respective municipalities will need to demonstrate to these companies that maintenance will be addressed, liability will be reduced and minimized and access to utility needs will be provided.

C.2 GREENWAY ACQUISITION TOOLS

The following menu of tools describe various methods of acquisition that can be used by landowners, land conservation organizations, the Town of Pittsboro, Chatham County, and other surrounding municipalities to acquire greenway lands.

GOVERNMENT REGULATION

Regulation is defined as the government's ability to control the use and development of land through legislative powers. Regulatory methods help shape the use of land without transferring or selling the land. The following types of development ordinances are regulatory tools that can meet the challenges of projected suburban growth and development as well as conserve and protect greenway resources.

Exactions: An exaction is a condition of development approval that requires development to provide or contribute to the financing of public facilities at their own expense. For example, a developer may be required to build a greenway on-site as a condition of developing a certain number of units because the development will create the need for new parks or will harm existing parks due to overuse. This mechanism can be used to protect or preserve greenway lands, which are then donated to the Town of Pittsboro. Consideration should be given to include greenway development in future exaction programs. Most commonly, exactions are in the form of mandatory dedications of lands for parks and infrastructure, fees in lieu of mandatory dedication, or impact fees.

MANDATORY DEDICATION

This is a type of exaction where subdivision regulations require a developer to dedicate or donate improved land to the public interest. A dedication may involve the fee simple title to the land, an easement, or some other property interest. Sometimes, the construction of an improvement itself is required such as a park or greenway.

FEE-IN-LIEU

An exaction can take the form of a fee-in-lieu of mandatory dedication. It can also complement negotiated dedications (described below). Based on the density of development, this program allows a developer the alternative of paying money for the development/protection of open space and greenways in lieu of dedicating greenway and parklands. Payments are made representing the value of the site or improvement that would have been dedicated or provided. This allows local governments to pool fees from various subdivisions to finance facilities like parks and greenways. This money can be used to implement greenway management programs or acquire additional open space.

IMPACT FEE

A final type of exaction, an impact fee, can fund a broader range of facilities that serve the public interest. They are commonly imposed on a per unit rather than a build out basis, making them more flexible and keeping developers from having to pay large up front costs. These do not have to be directly tied to any requirements for improvements or dedications of land. They can be more easily applied to off-site improvements.

Growth Management Measures (Concurrency): Concurrency-based development approaches to growth management simply limit development to areas with adequate public infrastructure. This helps regulate urban sprawl, provides for quality of life in new development, and can help protect open space. In the famous case with the Town of Ramapo (1972), the Town initiated a zoning ordinance making the issue of a development permit contingent on the presence of public facilities such as utilities and parks. This was upheld in Court and initiated a wave of slow-growth management programs nationwide. This type of growth management can take the form of an adequate public facilities ordinance.

Performance Zoning: Performance zoning is zoning based on standards that establish minimum requirements or maximum limits on the effects or characteristics of a use. This is often used for the mixing of different uses to minimize incompatibility and improve the quality of development. For example, how a commercial use is designed and functions determines whether it could be allowed next to a residential area or connected to a greenway.

Incentive Zoning (Dedication/Density Transfers): Also known as incentive zoning, this mechanism allows greenways to be dedicated for density transfers on development of a property. The potential for improving or subdividing part or all of a parcel can be expressed in dwelling unit equivalents or other measures of development density or intensity. Known as density transfers, these dwelling unit equivalents may be relocated to other portions of the

same parcel or to contiguous land that is part of a common development plan. Dedicated density transfers can also be conveyed to subsequent holders if properly noted as transfer deeds.

Conservation Zoning: This mechanism recognizes the problem of reconciling different, potentially incompatible land uses by preserving natural areas, open spaces, waterways, and/or greenways that function as buffers or transition zones. It can also be called buffer or transition zoning. This type of zoning, for example, can protect waterways by creating buffer zones where no development can take place. Care must be taken to ensure that the use of this mechanism is reasonable and will not destroy the value of a property.

Overlay Zoning: An overlay zone and its regulations are established in addition to the zoning classification and regulations already in place. These are commonly used to protect natural or cultural features such as historic areas, unique terrain features, scenic vistas, agricultural areas, wetlands, stream corridors, and wildlife areas.

Negotiated Dedications: This type of mechanism allows municipalities to negotiate with landowners for certain parcels of land that are deemed beneficial to the protection and preservation of specific stream corridors. This type of mechanism can also be exercised through dedication of greenway lands when a parcel is subdivided. Such dedications would be proportionate to the relationship between the impact of the subdivision on community services and the percentage of land required for dedication-as defined by the US Supreme Court in *Dolan v Tigard*.

Reservation of Land: This type of mechanism does not involve any transfer of property rights but simply constitutes an obligation to keep property free from development for a stated period of time. Reservations are normally subject to a specified period of time, such as 6 or 12 months. At the end of this period, if an agreement has not already been reached to transfer certain property rights, the reservation expires.

Planned Unit Development: A planned unit development allows a mixture of uses. It also allows for flexibility in density and dimensional requirements, making clustered housing and common open space along with addressing environmental conditions a possibility. It emphasizes more planning and can allow for open space and greenway development and connectivity.

Cluster Development: Cluster development refers to a type of development with generally smaller lots and homes close to one another. Clustering can allow for more units on smaller acreages of land, allowing for larger percentages of the property to be used for open space and greenways.

LAND MANAGEMENT

Management is a method of conserving the resources of a specific greenway parcel by an established set of policies called management plans for publicly owned greenway land or through easements with private property owners. Property owners who grant easements retain all rights to the property except those which have been described in the terms of the easement. The property owner is responsible for all taxes associated with the property, less the value of the easement granted. Easements are generally restricted to certain portions of the property, although in certain cases an easement can be applied to an entire parcel of land. Easements are transferable through title transactions, thus the easement remains in effect perpetually.

Management Plans: The purpose of a management plan is to establish legally binding contracts which define the specific use, treatment, and protection for publicly owned greenway lands. Management plans should identify valuable resources; determine compatible uses for the parcel; determine administrative needs of the parcel, such as maintenance, security, and funding requirements; and recommend short-term and long-term action plans for the treatment and protection of greenway lands.

Conservation Easement: This type of easement generally establishes permanent limits on the use and development of land to protect the natural resources of that land. When public access to the easement is desired, a clause defining the conditions of public access can be added to the terms of the easement. Dedicated conservation easements can qualify for both federal income tax deductions and state tax credits. Tax deductions are allowed by the Federal government for donations of certain conservation easements. The donation may reduce the donor's taxable income.

Preservation Easement: This type of easement is intended to protect the historical integrity of a structure or important elements in the landscape by sound management practices. When public access to the easement is desired, a clause defining the conditions of public access can be added to the terms of the easement. Preservation easements may qualify for the same federal income tax deductions and state tax credits as conservation easements.

Public Access Easements: This type of easement grants public access to a specific parcel of property when a conservation or preservation easement is not necessary. The conditions of use are defined in the terms of the public access easement.

ACQUISITION

Acquisition requires land to be donated or purchased by a government body, public agency, greenway manager, or qualified conservation organization.

Donation or Tax Incentives: In this type of acquisition, a government body, public agency, or qualified conservation organization agrees to receive the full title or a conservation easement to a parcel of land at no cost or at a “bargain sale” rate. The donor is then eligible to receive a federal tax deduction of up to 30 to 50 percent of their adjusted gross income. Additionally, North Carolina offers a tax credit of up to 25 percent of the property’s fair market value (up to \$5000). Any portion of the fair market value not used for tax credits may be deducted as a charitable contribution. Also, property owners may be able to avoid any inheritance taxes, capital gains taxes, and recurring property taxes.

Fee Simple Purchase: This is a common method of acquisition where a local government agency or private greenway manager purchases property outright. Fee simple ownership conveys full title to the land and the entire “bundle” of property rights including the right to possess land, to exclude others, to use land, and to alienate or sell land.

Easement Purchase: This type of acquisition is the fee simple purchase of an easement. Full title to the land is not purchased, only those rights granted in the easement agreement. Therefore the easement purchase price is less than the full title value.

Purchase / Lease Back: A local government agency or private greenway organization can purchase a piece of land and then lease it back to the seller for a specified period of time. This lease may contain restrictions regarding the development and use of the property.

Bargain Sale: A property owner can sell property at a price less than the appraised fair market value of the land. Sometimes the seller can derive the same benefits as if the property were donated. Bargain Sale is attractive to sellers when the seller wants cash for the property, the seller paid a low cash price and thus is not liable for high capital gains tax, and/or the seller has a fairly high current income and could benefit from the donation of the property as an income tax deduction.

Installment Sale: An installment sale is a sale of property at a gain where at least one payment is to be received after the tax year in which the sale occurs. These are valuable tools to help sellers defer capital gains tax. This provides a potentially attractive option when purchasing land for open space from a possible seller.

Option / First Right of Refusal: A local government agency or private organization establishes an agreement with a public agency or private property owner to provide the right of first refusal on a parcel of land that is scheduled to be sold. This form of agreement can be used in conjunction with other techniques, such as an easement to protect the land in the short-term. An option would provide the agency with sufficient time to obtain capital to purchase the property or successfully negotiate some other means of conserving the greenway resource.

Purchase of Development Rights: A voluntary purchase of development rights involves purchasing the development rights from a private property owner at a fair market value. The landowner retains all ownership rights under current use, but exchanges the rights to develop the property for cash payment.

Land Banking: Land banking involves land acquisition in advance of expanding urbanization. The price of an open space parcel prior to development pressures is more affordable to a jurisdiction seeking to preserve open space. A Town or County might use this technique to develop a greenbelt or preserve key open space or agricultural tracts. The jurisdiction should have a definite public purpose for a land banking project.

Condemnation: The practice of condemning private land for use as a greenway is viewed as a last resort policy. Using condemnation to acquire property or property rights can be avoided if private and public support for the greenway program is present. Condemnation is seldom used for the purpose of dealing with an unwilling property owner. In most cases, condemnation has been exercised when there has been an absentee property ownership, when the title of the property is not clear, or when it becomes apparent that obtaining the consent for purchase would be difficult because there are numerous heirs located in other parts of the United States or different countries.

Eminent Domain: The right of exercising eminent domain should be done so with caution by the community and only if the following conditions exist: 1) the property is valued by the community as an environmentally sensitive parcel of land, significant natural resource, or critical parcel of land, and as such has been defined by the community as irreplaceable property; 2) written scientific justification for the community's claim about the property's value has been prepared and offered to the property owner; 3) all efforts to negotiate with the property owner for the management, regulation, and acquisition of the property have been exhausted and that the property owner has been given reasonable and fair offers of compensation and has rejected all offers; and 4) due to the ownership of the property, the timeframe for negotiating the acquisition of the property will be unreasonable, and in the interest of pursuing a cost effective method for acquiring the property, the community has deemed it necessary to exercise eminent domain.



STATE + FEDERAL POLICIES

CHAPTER OUTLINE:

D.0 OVERVIEW

D.1 US DEPARTMENT OF TRANSPORTATION BICYCLE AND PEDESTRIAN POLICY

D.2 FHWA MEMORANDUM ON MAINSTREAMING BICYCLE AND PEDESTRIAN PROJECTS

D.3 NCDOT BOARD OF TRANSPORTATION RESOLUTION

D.4 NCDOT ADMINISTRATIVE ACTION TO INCLUDE LOCAL ADOPTED GREENWAYS PLANS IN THE NCDOT HIGHWAY PLANNING PROCESS

D.0 OVERVIEW

A number of federal and state pedestrian policies have been developed in recent years. This appendix covers a number of these policies that are intended to better integrate walking and bicycling into transportation infrastructure.

D.1 UNITED STATES DEPARTMENT OF TRANSPORTATION BICYCLE AND PEDESTRIAN POLICY

A United States Department of Transportation (US DOT) policy statement regarding the integration of bicycling and walking into transportation infrastructure recommends that, “bicycling and walking facilities will be incorporated into all transportation projects” unless exceptional circumstances exist. The Policy Statement was drafted by the U.S. Department of Transportation in response to Section 1202 (b) of the Transportation Equity Act for the 21st Century (TEA-21) with the input and assistance of public agencies, professional associations and advocacy groups. USDOT hopes that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream. The full statement reads as follows, with some minor adjustments for applicability in Pittsboro:

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- Bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.

- Where sparsity of population or other factors indicate an absence of need. For example, on low volume, low speed residential streets, or streets with severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate. Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.

3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.

4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- Planning projects for the long-term. Transportation facilities are long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case.
- Addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
- Getting exceptions approved at a senior level. Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- Designing facilities to the best currently available standards and

guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO Guide for the Development of Bicycle Facilities, AASHTO's A Policy on Geometric Design of Highways and Streets, and the ITE Recommended Practice "Design and Safety of Pedestrian Facilities. (Many of these guidelines are summarized in Chapter 4: Bicycle Facility Standards)

(Retrieved from <http://www.fhwa.dot.gov/environment/bikeped/design.htm> on 5/6/2008)

**D.2 FHWA MEMORANDUM ON MAINSTREAMING
BICYCLE AND PEDESTRIAN PROJECTS**

(See pages D-4 through D-6)


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Environment

[FHWA](#) > [HEP](#) > [Environment](#) > [Human](#) > [Bicycle & Pedestrian](#)


**U.S. Department of
Transportation
Federal Highway Administration**

Memorandum

Subject: ACTION: Transmittal of Guidance on Bicycle and Pedestrian Provisions of the Federal-aid Program

Date: February 24, 1999

From: Kenneth R. Wykle
Federal Highway Administrator

**In reply, HEPH-30
refer to:**

To:
Division Administrators
Federal Lands Highway Division Engineers

This memorandum transmits the Federal Highway Administration's (FHWA) Guidance on the Bicycle and Pedestrian Provisions of the Federal-aid Program and reaffirms our strong commitment to improving conditions for bicycling and walking. The nonmotorized modes are an integral part of the mission of FHWA and a critical element of the local, regional, and national transportation system. Bicycle and pedestrian projects and programs are eligible for but not guaranteed funding from almost all of the major Federal-aid funding programs. We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities.

The Transportation Equity Act for the 21st Century (TEA-21) continues the call for the mainstreaming of bicycle and pedestrian projects into the planning, design, and operation of our Nation's transportation system. Under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Federal spending on bicycle and pedestrian improvements increased from \$4 million annually to an average of \$160 million annually. Nevertheless, the level of commitment to addressing the needs of bicyclists and pedestrians varies greatly from State to State.

The attached guidance explains how bicycle and pedestrian improvements can be routinely included in federally funded transportation projects and programs. I would ask each division office to pass along this guidance to the State DOT and to meet with them to discuss ways of expediting the implementation of bicycle and pedestrian projects. With the guidance as a basis for action, States can then decide the most appropriate ways of mainstreaming the inclusion of bicycle and pedestrian projects and programs.

Bicycling and walking contribute to many of the goals for our transportation system we have at FHWA and at the State and local levels. Increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more liveable communities, and more efficient use of precious road space and resources. That is why funds in programs such as Congestion Mitigation and Air Quality Improvement, Transportation Enhancements, and the National Highway System, are eligible to be used for bicycling and

walking improvements that will encourage use of the two modes.

We also have a responsibility to improve the safety of bicycling and walking as the two modes represent more than 14 percent of the 41,000 traffic fatalities the nation endures each year. Pedestrian and bicycle safety is one of FHWA's top priorities and this is reflected in our 1999 Safety Action Plan. As the attached guidance details, TEA-21 has opened up the Hazard Elimination Program to a broader array of bicycle, pedestrian, and traffic calming projects that will improve dangerous locations. The legislation also continues funding for critical safety education and enforcement activities under the leadership of the National Highway Traffic Safety Administration. If we are successful in improving the real and perceived safety of bicyclists and pedestrians, we will also increase use.

You will see from the attached guidance that the Federal-aid Program, as amended by TEA-21, offers an extraordinary range of opportunities to improve conditions for bicycling and walking. Initiatives such as the Transportation and Community and System Preservation Pilot Program and the Access to Jobs program offer exciting new avenues to explore.

Bicycling and walking ought to be accommodated, as an element of good planning, design, and operation, in all new transportation projects unless there are substantial safety or cost reasons for not doing so. Later this year (1999), FHWA will issue design guidance language on approaches to accommodating bicycling and pedestrian travel that will, with the cooperation of AASHTO, ITE, and other interested parties, spell out ways to build bicycle and pedestrian facilities into the fabric of our transportation infrastructure from the outset. We can no longer afford to treat the two modes as an afterthought or luxury.

The TEA-21 makes a great deal possible. However, in the area of bicycling and walking in particular, we must work hard to ensure good intentions and fine policies translate quickly and directly into better conditions for bicycling and walking. While FHWA has limited ability to mandate specific outcomes, I am committed to ensuring that we provide national leadership in three critical areas.

- The FHWA will encourage the development and implementation of bicycle and pedestrian plans as part of the overall transportation planning process. Every statewide and metropolitan transportation plan should address bicycling and walking as an integral part of the overall system, either through the development of a separate bicycle and pedestrian element or by incorporating bicycling and walking provisions throughout the plan. Further, I am instructing each FHWA division office to closely monitor the progress of projects from the long-range transportation plans to the STIPs and TIPs. In the coming months, FHWA will disseminate exemplary projects, programs, and plans, and we will conduct evaluations in selected States and MPOs to determine the effectiveness of the planning process.
- The FHWA will promote the availability and use of the full range of streamlining mechanisms to increase project delivery. The tools are in place for States and local government agencies to speed up the delivery of bicycle and pedestrian projects - it makes no sense to treat installation of a bicycle rack or curb cut the same way we treat a new Interstate highway project - and our division offices must take a lead in promoting and administering these procedures.
- The FHWA will help coordinate the efforts of Federal, State, metropolitan, and other relevant agencies to improve conditions for bicycling and walking. Once again, our division offices must ensure that those involved in implementing bicycle and pedestrian projects at the State and local level are given maximum opportunity to get their job done, unimpeded by regulations and red tape from the Federal level. I am asking each of our division offices to facilitate a dialogue among each State's bicycle and pedestrian coordinator, Transportation Enhancements program manager, Recreational Trails Program administrator, and their local and FHWA counterparts to identify and remove obstacles to the implementation of bicycle and pedestrian projects and programs.

In less than a decade, bicycling and walking have gone from being described by my predecessor Tom Larson as "the forgotten modes" to becoming a serious part of our national transportation system. The growing acceptance of bicycling and walking as modes to be included as part of the transportation mainstream started with passage of ISTEA in 1991 and was given a considerable boost by the Congressionally-mandated National Bicycling and Walking Study. That study, released in 1994, challenges the U.S. Department of Transportation to double the percentage of trips made by foot and bicycle while simultaneously reducing fatalities and injuries suffered by these modes by 10 percent - and we remain committed to achieving these goals.

The impetus of ISTEA and the National Bicycling and Walking Study is clearly reinforced by the bicycle and pedestrian provisions of the TEA-21. The legislation confirms the vital role bicycling and walking must play in creating a balanced, accessible, and safe transportation system for all Americans.

[FHWA Guidance \(1999\)](#) - **Bicycle and Pedestrian Provisions of Federal Transportation Legislation**

To provide Feedback, Suggestions, or Comments for this page contact Gabe Rousseau at gabe.rousseau@dot.gov.



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United States Department of Transportation - **Federal Highway Administration**

**D.3 NCDOT BOARD OF TRANSPORTATION RESOLUTION:
BICYCLING AND WALKING IN NORTH CAROLINA:
A CRITICAL PART OF THE TRANSPORTATION SYSTEM**

(ADOPTED BY THE BOARD OF TRANSPORTATION ON SEPTEMBER 8, 2000)

The North Carolina Board of Transportation strongly reaffirms its commitment to improving conditions for bicycling and walking, and recognizes nonmotorized modes of transportation as critical elements of the local, regional, and national transportation system.

WHEREAS, increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more liveable communities, and more efficient use of road space and resources; and

WHEREAS, crashes involving bicyclists and pedestrians represent more than 14 percent of the nation's traffic fatalities; and

WHEREAS, the Federal Highway Administration (FHWA) in its policy statement "Guidance on the Bicycle and Pedestrian Provisions of the Federal-Aid Program" urges states to include bicycle and pedestrian accommodations in its programmed highway projects; and

WHEREAS, bicycle and pedestrian projects and programs are eligible for funding from almost all of the major Federal-aid funding programs; and

WHEREAS, the Transportation Equity Act for the 21st Century (TEA-21) calls for the mainstreaming of bicycle and pedestrian projects into the planning, design and operation of our Nation's transportation system;

NOW, THEREFORE, BE IT RESOLVED, the North Carolina Board of Transportation concurs that bicycling and walking accommodations shall be a routine part of the North Carolina Department of Transportation's planning, design, construction, and operations activities and supports the Department's study and consideration of methods of improving the inclusion of these modes into the everyday operations of North Carolina's transportation system; and

BE IT FURTHER RESOLVED, North Carolina cities and towns are encouraged to make bicycling and pedestrian improvements an integral part of their transportation planning and programming.

D.4 NCDOT ADMINISTRATIVE ACTION TO INCLUDE LOCAL ADOPTED GREENWAYS PLANS IN THE NCDOT HIGHWAY PLANNING PROCESS

(ADOPTED JANUARY 1994)

In 1994 the NCDOT adopted administrative guidelines to consider greenways and greenway crossings during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction. Following are the text for the Greenway Policy and Guidelines for implementing it.

In concurrence with the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Board of Transportation's Bicycle Policy of 1978 (updated in 1991) and Pedestrian Policy of 1993, the North Carolina Department of Transportation recognizes the importance of incorporating local greenways plans into its planning process for the development and improvement of highways throughout North Carolina.

NCDOT Responsibilities: The Department will incorporate locally adopted plans for greenways into the ongoing planning processes within the State-wide Planning (thoroughfare plans) and the Planning and Environmental (project plans) Branches of the Division of Highways. This incorporation of greenway plans will be consistent throughout the department. Consideration will be given to including the greenway access as a part of the highway improvement.

Where possible, within the policies of the Department, within the guidelines set forth in provisions for greenway crossings, or other greenway elements, will be made as a part of the highway project or undertaken as an allowable local expenditure.

Local Responsibilities: Localities must show the same commitment to building their adopted greenway plans as they are requesting when they ask the state to commit to providing for a certain segment of that plan. It is the responsibility of each locality to notify the Department of greenway planning activity and adopted greenway plans and to update the Department with all adopted additions and changes in existing plans.

It is also the responsibility of each locality to consider the adopted transportation plan in their greenways planning and include its adopted greenways planning activities within their local transportation planning process. Localities should place in priority their greenways construction activities and justify the transportation nature of each greenway segment. When there are several planned greenway crossings of a proposed highway improvement, the locality must provide justification of each and place the list of crossings in priority order. Where crossings are planned, transportation rights of way should be designated or acquired separately to avoid jeopardizing the future transportation improvements.

D.5 GUIDELINES FOR NCDOT TO COMPLY WITH ADMINISTRATIVE DECISION TO INCORPORATE LOCAL GREENWAYS INTO HIGHWAY PLANNING PROCESS

- Thoroughfare plans will address the existence of greenways planning activity, which has been submitted by local areas. Documentation of mutually agreed upon interface points between the thoroughfare plan and a greenway plan will be kept, and this information will become a part of project files.
- Project Planning Reports will address the existence of locally adopted greenways segment plans, which may affect the corridor being planned for a highway improvement. It is, however, the responsibility of the locality to notify the Department of the adopted greenways plans (or changes to its previous plans) through its current local transportation plan, as well as its implementation programs.
- Where local greenways plans have not been formally adopted or certain portions of the greenways plans have not been adopted, the Department may note this greenway planning activity but is not required to incorporate this information into its planning reports.
- Where the locality has included adopted greenways plans as a part of its local transportation plan and a segment (or segments) of these greenways fall within the corridor of new highway construction or a highway improvement project, the feasibility study and/or project planning report for this highway improvement will consider the effects of the proposed highway improvement upon the greenway in the same manner as it considers other planning characteristics of the project corridor, such as archeological features or land use.
- Where the locality has justified the transportation versus the leisure use importance of a greenway segment and there is no greenway alternative of equal importance nearby, the project planning report will suggest inclusion of the greenway crossing, or appropriate greenway element, as an incidental part of the highway expenditure.
- Where the locality has not justified the transportation importance of a greenway segment, the greenway crossing, or appropriate greenway element, may be included as a part of the highway improvement plan if the local government covers the cost.
- A locality may add any appropriate/acceptable greenway crossing or greenway element at their own expense to any highway improvement project as long as it meets the design standards of the NCDOT.
- The NCDOT will consider funding for greenway crossings, and other appropriate greenway elements only if the localities guarantee the construction of and/or connection with other greenway segments. This guarantee should be in the form of inclusion in the local capital improvements program or NCDOT/municipal agreement.

- If the state pays for the construction of a greenway incidental to a highway improvement and the locality either removes the connecting greenway segments from its adopted greenways plans or decides not to construct its agreed upon greenway segment, the locality will reimburse the state for the cost of the greenway incidental feature. These details will be handled through a municipal agreement.
- Locality must accept maintenance responsibilities for state-built greenways, or portions thereof. Details will be handled through a municipal agreement.

D.6 NCDOT PEDESTRIAN POLICY GUIDELINES

(See pages D-11 through G-12)

D.7 NCDOT ONLINE PEDESTRIAN PLANNING AND DESIGN RESOURCES LIST

(See pages D-13 through D-14)

DEPARTMENT OF TRANSPORTATION PEDESTRIAN POLICY GUIDELINES EFFECTIVE OCTOBER 1, 2000

These guidelines provide an updated procedure for implementing the Pedestrian Policy adopted by the Board of Transportation August 1993 and the Board of Transportation Resolution September 8, 2000. The resolution reaffirms the Department's commitment to improving conditions for bicycling and walking, and recognizes non-motorized modes of transportation as critical elements of the local, regional, and national transportation system. The resolution encourages North Carolina cities and towns to make bicycling and pedestrian improvements an integral part of their transportation planning and programming.

REQUIREMENTS FOR DOT FUNDING:

REPLACEMENT OF EXISTING SIDEWALKS:

The Department will pay 100% of the cost to replace an existing sidewalk that is removed to facilitate the widening of a road.

TIP INCIDENTAL PROJECTS:

DEFINED: Incidental pedestrian projects are defined as TIP projects where pedestrian facilities are included as part of the roadway project.

REQUIREMENTS:

1. The municipality and/or county notifies the Department in writing of its desire for the Department to incorporate pedestrian facilities into project planning and design. Notification states the party's commitment to participate in the cost of the facility as well as being responsible for all maintenance and liability. Responsibilities are defined by agreement. Execution is required prior to contract let.

The municipality is responsible for evaluating the need for the facility (ie: generators, safety, continuity, integration, existing or projected traffic) and public involvement.

2. Written notification must be received by the **Project Final Field Inspection (FFI) date**. Notification should be sent to the Deputy Highway Administrator - Preconstruction with a copy to the Project Engineer and the Agreements Section of the Program Development Branch. Requests received after the project FFI date will be incorporated into the TIP project, if feasible, and only if the requesting party commits by agreement to pay 100% of the cost of the facility.
3. The Department will review the feasibility of including the facility in our project and will try to accommodate all requests where the Department has acquired appropriate right of way on curb and gutter sections and the facility can be installed in the current project berm width. The standard project section is a 10-ft berm (3.0-meter) that accommodates a 5-ft sidewalk. In accordance with

AASHTO standards, the Department will construct 5-ft sidewalks with wheelchair ramps. Betterment cost (ie: decorative pavers) will be a Municipal responsibility.

4. If the facility is not contained within the project berm width, the Municipality is responsible for providing the right of way and/or construction easements as well as utility relocations, at no cost to the Department. This provision is applicable to all pedestrian facilities including multi-use trails and greenways.
5. A cost sharing approach is used to demonstrate the Department’s and the municipality’s/county’s commitment to pedestrian transportation (sidewalks, multi-use trails and greenways). The matching share is a sliding scale based on population as follows:

MUNICIPAL POPULATION	DOT PARTICIPATION	LOCAL PARTICIPATION
> 100,000	50%	50%
50,000 to 100,000	60%	40%
10,000 to 50,000	70%	30%
< 10,000	80%	20%

Note: The cost of bridges will not be included in the shared cost of the pedestrian installation if the Department is funding the installation under provision 6 - pedestrian facilities on bridges.

6. For bridges on streets with curb and gutter approaches, the Department will fund and construct sidewalks on both sides of the bridge facility if the bridge is less than 200 feet in length. If the bridge is greater than 200 feet in length, the Department will fund and construct a sidewalk on one side of the bridge structure. The bridge will also be studied to determine the costs and benefits of constructing sidewalks on both sides of the structure. If in the judgement of the Department sidewalks are justified, funding will be provided for installation. The above provision is also applicable to dual bridge structures. For dual bridges greater than 200 ft in length, a sidewalk will be constructed on the outside of one bridge structure. The bridges will also be studied to determine if sidewalks on the outside of both structures are justified.
7. FUNDING CAPS are no longer applicable.
8. This policy does not commit the Department to the installation of facilities in the Department’s TIP projects where the pedestrian facility causes an unpractical design modification, is not in accordance with AASHTO standards, creates an unsafe situation, or in the judgement of the Department is not practical to program.

INDEPENDENT PROJECTS

DEFINED: The DOT has a separate category of funds for all independent pedestrian facility projects in North Carolina where installation is unrelated to a TIP roadway project. An independent pedestrian facility project will be administered in accordance with Enhancement Program Guidelines.

Useful On-Line Pedestrian Planning and Design Resources

NCDOT Division of Bicycle & Pedestrian Transportation	http://www.ncdot.org/transit/bicycle/
Board of Transportation Resolution on Mainstreaming	http://www.ncdot.org/transit/bicycle/laws/laws_resolution.html
NCDOT Pedestrian Policy Guidelines	http://www.ncdot.org/transit/bicycle/laws/ped_guide.pdf
NCDOT Greenways - Administrative Process	http://www.ncdot.org/transit/bicycle/laws/laws_greenway_admin.html
Funding	http://www.ncdot.org/transit/bicycle/funding/funding_intro.html
Project Types	http://www.ncdot.org/transit/bicycle/projects/project_types/bpt_intro.html
Crash Data	http://www.ncdot.org/transit/bicycle/safety/safety_crashdata.html
DBPT Long Range Plan	http://www.ncdot.org/transit/bicycle/projects/intro/projects_long_range.html
Safe Routes to School Program	http://www.ncdot.org/transit/bicycle/saferoutes/SafeRoutes.html
<hr/>	
NCDOT Division of Highways	http://www.ncdot.org/doh/
Alternative Delivery Unit – Publications for Download	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/
Bridge Policy 2000	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/bpe2000.doc
Curb Cuts & Ramps for Disabled Persons	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/handi.pdf
Traditional Neighborhood Development Manual	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/tnd.pdf
ADA – Detectable Warnings	http://www.ncdot.org/doh/preconstruct/ps/std_draw/06english/08/default.html
Highway Design Branch – Design Manual	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/designmanual.html
Policy and Procedure Manual (See Section 28)	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/ppm/
Policy on Street & Driveway Access	http://www.ncdot.org/doh/preconstruct/altern/value/manuals/pos.pdf
Traffic Engineering and Safety Systems Branch	http://www.ncdot.org/doh/preconstruct/traffic/
NC Supplement to the Manual on Uniform Traffic Control Devices	http://www.ncdot.org/doh/preconstruct/traffic/MUTCD/
Crosswalks/Mid-Block Signing and Pavement Markings	http://www.ncdot.org/doh/preconstruct/traffic/teppi/Topics/C-36/C-36.html

UNC Highway Safety Research Center <http://www.hsrc.unc.edu>

Pedestrian & Bicycle Information Center <http://www.pedbikeinfo.org/index.htm>

Walking <http://www.walkinginfo.org/>

Engineer Pedestrian Facilities <http://www.walkinginfo.org/engineering>

Pedestrian Safety Guide & Countermeasure
Selection System (PEDSAFE) <http://www.walkinginfo.org/pedsafe/>

Develop Plans and Policies <http://www.walkinginfo.org/develop>

National Center for Safe Routes to School <http://www.saferoutesinfo.org>

Federal Highway Administration Bicycle & Pedestrian Program <http://www.fhwa.dot.gov/environment/bikeped/>

Bicycle and Pedestrian Provisions of Federal
Transportation Legislation <http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm>

Bicycle & Pedestrian Programs <http://www.fhwa.dot.gov/environment/bikeped/overview.htm>

Program & Design Guidance <http://www.fhwa.dot.gov/environment/bikeped/guidance.htm>

Links to Other Resources <http://www.fhwa.dot.gov/environment/bikeped/bipedlnk.htm>

Publications <http://www.fhwa.dot.gov/environment/bikeped/publications.htm>

Pedestrian Safety http://safety.fhwa.dot.gov/ped_bike/ped/index.htm

Pedestrian & Bicycle Safety Research Page <http://www.tfhrc.gov/safety/pedbike/index.htm>

**National Highway Traffic Safety Administration –
Traffic Safety: Pedestrians** <http://www.nhtsa.gov/portal/site/nhtsa/menuitem.dfedd570f698cabbf30811060008a0c/>

National Center for Bicycling & Walking <http://www.bikewalk.org/>



CHAPTER OUTLINE:

E.0 OVERVIEW

E.1 MAP - TOP 12 PRIORITY PROJECTS

E.2 PRIORITIZATION TABLE

E.0 OVERVIEW

The prioritization process began by making a list of all the roadways and proposed trails in the study area that make up the overall pedestrian network. The corridors were then broken down into segments at logical points, such as major intersections.

The total list of segments consists of recommend improvements for pedestrian facilities, specifically sidewalks, sidepaths and trails. All crossing improvement projects have high priority because of the direct interaction between motorists and pedestrians in these spaces.

The criteria used to rank each segment is custom designed for Pittsboro, based on public input, steering committee input, and data collected pertaining to Pittsboro's existing conditions. Furthermore, the criteria were weighted according to standards used throughout North Carolina, and modified to reflect input from Pittsboro's online public survey results. Specifically, the following criteria and weights were used:

Route serves a Town Core District (T6)*
(5 points)

Route is on 15-501 North
(Recommended by Public)**
(5 points)

Recommended Facility is a Trail***
(5 points)

Route serves a Downtown Neighborhood area (T5)*
(4 points)

Route is on 64 and 15-501 South
(Recommended by Public)**
(4 points)

Direct Access to/from an Existing Trail
(3 points)

Direct Access to/from a Park/Rec/Playground
(3 points)

Direct Access to/from a School
(3 points)

Direct Access to/from a Library
(3 points)

Direct Access to/from a Grocery Store
(3 points)

Route is on Thompson, Salisbury, or 87
(Recommended by Public)**
(3 points)

Route Contains a Key Intersection in Need of Improvement
(2 points)

School Proximity (1/4 mile radius)
(2 points)

Regional Connection and/or 64 Bypass Crossing
(2 points)

Direct Access a Specific Town Destination****
(2 points)

Direct Access to/from an Existing Sidewalk
(2 points)

*According to Planning Areas from the Town of Pittsboro Future Land Use Plan

** First, second, and third "Most in Need of Improvement" from question #10 in the Online Comment Form (15-501 North was #1, East 64, West 64, and 15-501 South were tied for 2nd, and Thompson, Salisbury and Hwy 87 were the only other corridors with significant mention)

*** Public input from both the Pittsboro Pedestrian Plan and the Chatham County Parks and Recreation Plan shows very strong public interest in walking and biking trails.

**** Destinations other than a park, school, library or grocery store, all which were scored separately. Town Destinations were identified through input from the Project Steering Committee, public workshops, and Town staff. They are shown on Map 2.8: Existing Pedestrian Conditions.

E.1 MAP - TOP 12 PRIORITY PROJECTS

The map on page E-4 contains the Top 12 priority segments, as designated in the Prioritization Table.

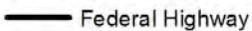
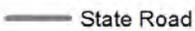
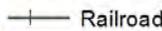
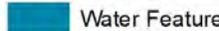
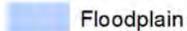
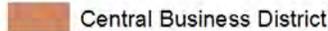
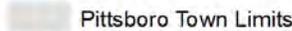
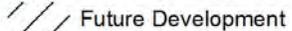
E.2 PRIORITIZATION TABLE

Pages E-5 and E-6 contain the prioritization tables for pedestrian corridors (sidewalks, greenways, and sidepaths). While these rankings represent where there is need, pedestrian facilities should still be built if the opportunity arises (through development, roadway reconstruction, etc.) regardless of their ranking here.

PEDESTRIAN TRANSPORTATION PLAN
PRIORITIZATION

MAP E.1: TOP 12 PRIORITY PROJECTS

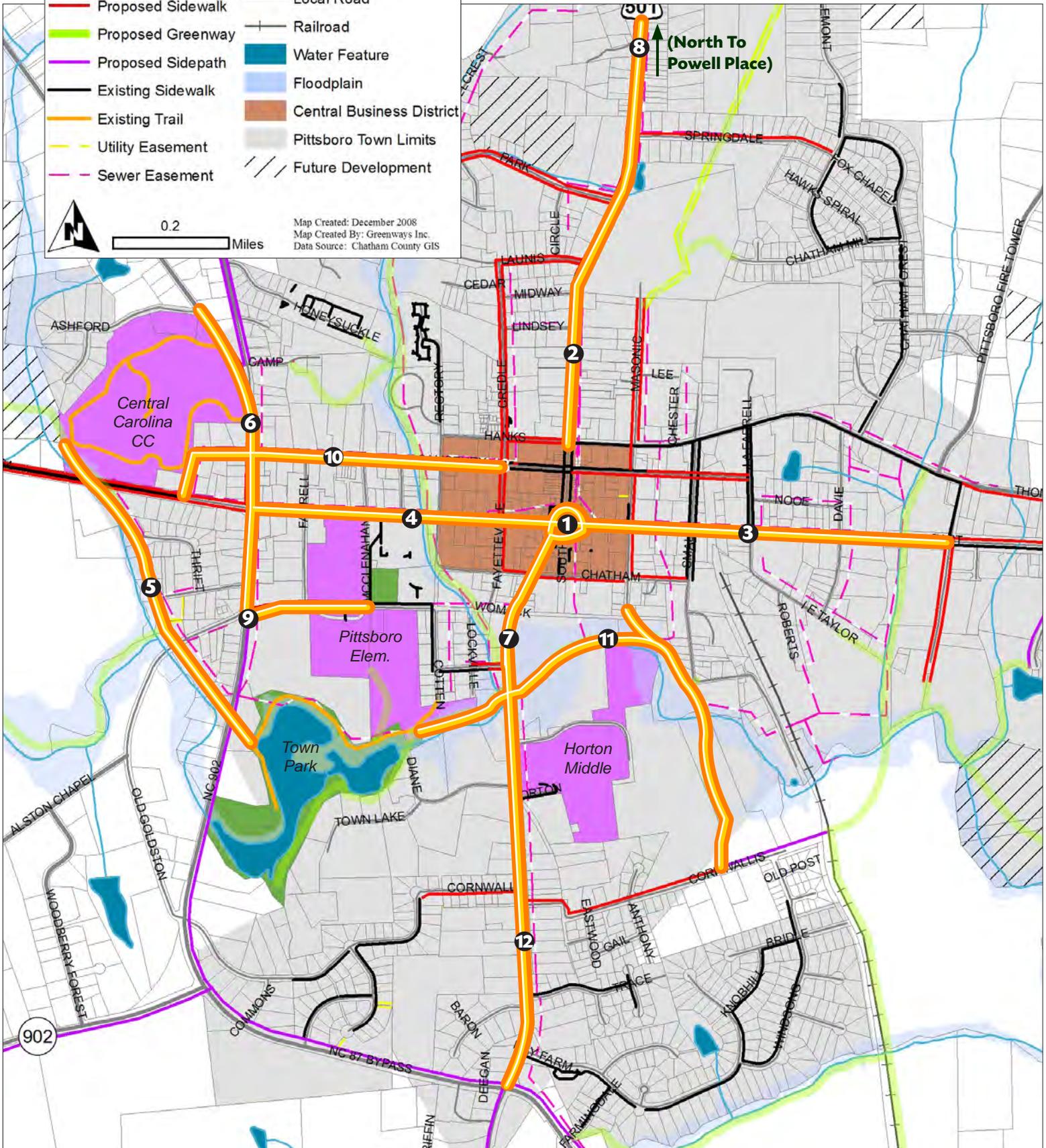
Legend

-  Top Priority Labels (match to table on p. E-5)
-  Top Priority Segments
-  Proposed Sidewalk
-  Proposed Greenway
-  Proposed Sidepath
-  Existing Sidewalk
-  Existing Trail
-  Utility Easement
-  Sewer Easement
-  Federal Highway
-  State Road
-  Local Road
-  Railroad
-  Water Feature
-  Floodplain
-  Central Business District
-  Pittsboro Town Limits
-  Future Development



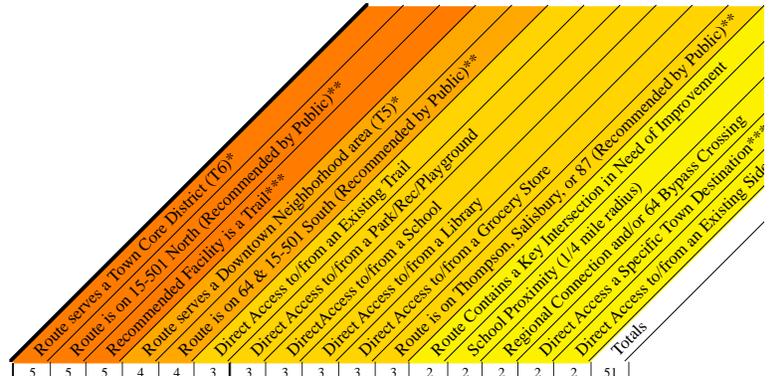
0.2 Miles

Map Created: December 2008
Map Created By: Greenways Inc.
Data Source: Chatham County GIS



Pedestrian Facility Prioritization

Recommended facilities (below) are prioritized according to weighted criteria (right)



Pedestrian Route	From	To	Facility Type	5	5	5	4	4	3	3	3	3	3	3	2	2	2	2	2	2	51
1 Courthouse Roundabout	East & West (US 64)	Hillsboro & Sanford (15-501)	Crosswalk & Refuge Island Improvements	5	5	0	0	4	0	0	0	0	0	0	8	4	0	6	8		40
2 Hillsboro (15-501)	East & West (US 64)	Launis	New Sidewalk & Crosswalk, Plus Improvements	5	5	0	0	0	0	0	0	0	3	0	8	4	0	2	10		37
3 East (US 64)	Hillsboro & Sanford (15-501)	Martin Luther King Jr	New Sidewalk & Crosswalks	5	0	0	0	4	0	0	0	0	6	0	4	4	0	6	6		35
4 West (US 64)	NC 87	Hillsboro & Sanford (15-501)	Crosswalk Improvements	5	0	0	0	4	0	0	0	3	0	0	4	6	0	6	4		32
5 Creek Corridor	Chatham County Community College	Town Lake Park	Multi-Use Trail/Greenway	0	0	5	4	0	6	6	3	0	0	0	0	6	0	2	0		32
6 Graham Rd (NC 87)	West (US 64)	Cooper Farm Rd	New Sidewalk & Crosswalks	0	0	0	4	0	3	3	3	3	0	3	6	4	0	0	2		31
7 Sanford (15-501)	East & West (US 64)	Horton	New Sidewalk & Crosswalks	5	0	0	0	4	0	0	3	0	0	0	4	4	0	6	4		30
8 Hillsboro (15-501)	Powell Place/Lowes	Launis	New Sidewalk & Crosswalks	5	5	0	0	0	0	0	0	0	3	0	4	0	0	8	4		29
9 Goldston (NC 87)/Pitts. Elem. School Rd	West (US 64)	McClenahan	New Sidewalk & Crosswalks	0	0	0	4	0	0	3	3	0	0	3	4	6	0	0	4		27
10 Salisbury	Credle	CCCC & West (US 64)	New Sidewalk & Crosswalks	0	0	0	4	0	3	3	3	3	0	3	2	4	0	0	2		27
11 Sewer Easement	Town Lake Park	Cornwallis	Multi-Use Trail/Greenway	0	0	5	4	0	3	0	6	0	0	0	4	0	2	2		26	
12 Sanford (15-501)	Horton	Moncure-Pittsboro & Goldston (NC 87)	New Sidewalk & Crosswalks	0	0	0	4	4	0	0	3	0	0	0	2	4	0	4	4		25
15-501 North	Haw River/ETJ Limits	Powell Place/Lowes	Sidewalk	5	5	0	0	0	0	0	3	0	0	0	2	2	2	4	2		25
East (US 64)	Martin Luther King Jr	Industrial Park East (US 64) & County	New Sidewalk & Crosswalks	5	0	0	0	4	0	3	0	0	0	0	2	0	0	4	6		24
Sewer Easement	Cornwallis	Fairgrounds	Multi-Use Trail/Greenway & Sidewalk	0	0	5	4	0	0	0	0	0	6	0	0	0	0	8	0		23
Old Plank Road	Chatham County Community College	New development west of CCCC	Multi-Use Trail/Greenway	5	0	5	0	0	3	3	3	0	0	0	2	0	2	0		23	
West (US 64)	Future Development (west of CCCC)	Goldston & Old Graham (NC 87)	New Sidewalk & Crosswalks	5	0	0	0	4	0	0	3	0	0	0	2	4	0	2	2		22
Credle/Hanks	West (US 64)	Hillsboro (15-501)	New Sidewalk & Crosswalks	5	0	0	0	0	0	3	0	0	0	0	2	4	0	2	6		22
Sewer Easement	West (US 64)	Pittsboro Elem. School Rd	Multi-Use Trail/Greenway	0	0	5	4	0	0	0	0	3	0	0	6	0	0	4		22	
Camp	Old Graham	Dead end/Future Greenway	Sidewalk	0	0	0	4	0	3	3	3	3	0	0	2	4	0	0	0		22
Goldston (NC 87)	Pittsboro Elem. School Rd	Old Goldston	Sidewalk	0	0	0	4	0	0	3	0	0	0	3	2	6	0	2	0		20

Top 12

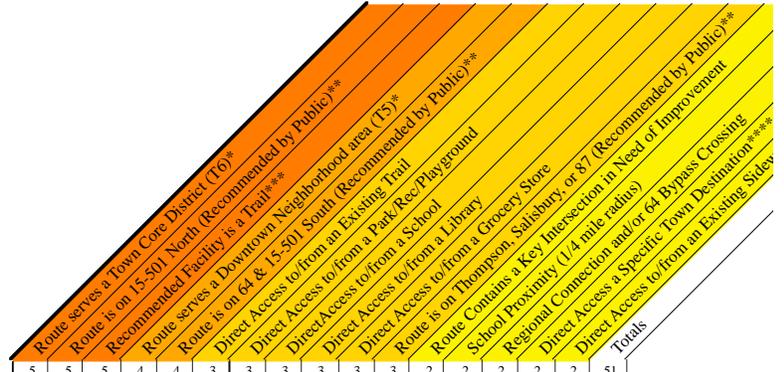
Top 13-20

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THE TOWN OF PITTSBORO, NORTH CAROLINA

Pedestrian Facility Prioritization

Recommended facilities (below) are prioritized according to weighted criteria (right)



Pedestrian Route	From	To	Facility Type	5	5	5	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	51
Goldston (NC 87)	Old Goldston	Farmingdale	Sidepath	0	0	0	4	0	0	0	0	0	0	0	3	2	2	0	4	4	4	19
Town Lake Park Trail (south side)	Existing west side of Town Lake Park Trail	Existing east side of Town Lake Park Trail	Multi-Use Trail/Greenway	0	0	5	4	0	3	3	0	0	0	0	0	4	0	0	0	0	0	19
Sewer Easement	East (US 64)	Thompson	Multi-Use Trail/Greenway	5	0	5	0	0	0	0	0	0	0	3	0	0	0	0	2	4	4	19
Salisbury	Hillsboro (15-501)	J A Farrell	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	0	3	2	2	0	0	6	6	18
Sewer Easement	Oakwood	West (US 64)	Multi-Use Trail/Greenway	0	0	5	4	0	0	0	0	3	0	0	0	4	0	0	2	4	4	18
Creek Corridor	Camp and Honey Suckle	Creekside Circle	Multi-Use Trail/Greenway	0	0	5	4	0	0	3	0	0	0	0	0	4	0	0	2	4	4	18
Fayetteville/Chatham	West (US 64)	Sanford (15-501)	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4	4	4	17
Unpaved Trail	Chatham Mill	Chatham Marketplace	Multi-Use Trail/Greenway	0	0	5	4	0	3	0	0	0	3	0	0	0	0	2	0	0	0	17
Sewer Easement	East (US 64) & County Fairgrounds	Chatham Business & Piedmont Biofuels	Multi-Use Trail/Greenway	5	0	5	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	16
Pitts. Elem. School Rd	Lockville	Sanford (15-501)	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	0	2	4	0	0	4	4	4	15
Chatham	Sanford (15-501)	Small	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	0	4	0	2	4	4	4	4	15
MLK	County Fairgrounds	East (US 64)	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	2	0	0	6	2	2	2	2	15
Utility Corridor	Masonic	Springdale	Multi-Use Trail/Greenway	0	0	5	4	0	3	0	0	0	3	0	0	0	0	0	0	0	0	15
Creek Corridor	Farmingdale	Piedmont Biofuels	Multi-Use Trail/Greenway	0	0	5	4	0	0	0	0	0	0	0	0	4	2	0	0	0	0	15
Creek Corridor	Old Goldstein	Area east of Mitchells Chapel	Multi-Use Trail/Greenway	0	0	5	4	0	0	0	0	0	0	0	4	2	0	0	0	0	0	15
Cornwallis	Proposed sidepath in Potterstone Village	Existing sidewalk in Willow Springs	New Sidewalk & Crosswalks	0	0	0	4	0	0	0	0	0	0	0	4	0	4	2	2	2	2	14
Masonic	Future Gwy at Chatham Marketplace	East (US 64)	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	3	0	0	0	0	6	6	6	6	14
Creek Corridor	Robeson Creek Corridor	Lowes	Multi-Use Trail/Greenway	5	0	5	0	0	0	0	0	0	0	0	0	4	0	0	4	4	4	14
Rail Corridor	Cornwallis	Charlie Brooks/ETJ Limits	Multi-Use Trail/Greenway	0	0	5	4	0	0	0	0	0	0	0	0	2	2	0	0	0	0	13
Robeson Creek Corridor	Piedmont Biofuels	Jordan Lake	Multi-Use Trail/Greenway	0	0	5	0	0	3	0	0	0	0	0	0	2	2	0	0	0	0	12
Thompson	Fairgrounds Road	East (US 64)	Sidewalk	5	0	0	0	0	0	0	0	0	0	3	0	0	0	4	4	4	4	12
Credle/Launis	Hanks	Hillsboro (15-501)	New Sidewalk & Crosswalks	0	0	0	4	0	0	0	0	0	3	0	0	2	0	0	2	2	2	11
Masonic	East (US 64)	Past Chatham, to dead end	New Sidewalk & Crosswalks	5	0	0	0	0	0	0	0	0	0	0	4	0	0	2	2	2	2	11
Old Graham (Old NC 87)	Camp	Oakwood	Sidepath	0	0	0	0	0	3	0	0	0	0	2	4	0	2	0	0	0	0	11
Utility Corridor	Springdale	Lowes	Multi-Use Trail/Greenway	0	0	5	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	11
15-501 South	Goldston (NC 87)	Park/ETJ Limits	Sidepath	0	0	0	0	4	0	3	0	0	0	2	0	2	0	0	0	0	0	11
Industrial Park Dr	East (US 64)	Future Greenway	Sidepath	5	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	10
Creek Corridor	Powell Place	Oakwood	Multi-Use Trail/Greenway	0	0	5	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	10
Haw River Corridor	Jordan Lake	Bynum Beach	Multi-Use Trail/Greenway	0	0	5	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	10
Moncure-Pittsboro	Farmingdale	Rail Corridor	Sidepath	0	0	0	4	0	0	0	0	0	0	0	2	0	2	2	2	2	2	10
Chatham Business Dr	East (US 64)	Future Greenway	Sidepath	5	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	9
Cornwallis	Rail-Trail	Future Greenway	Sidepath	0	0	0	4	0	0	0	0	0	0	2	0	2	0	0	0	0	0	8
East (US 64)	Industrial Park	Hanks Chapel	Sidepath	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Unpaved Trail	Mt. Zion	Lorax	Multi-Use Trail/Greenway	0	0	5	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7
NC 902	Goldston (NC 87)	Possum	Sidepath	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
Fox Chapel/Springdale	Hillsboro (15-501)	Bellmont	New Sidewalk & Crosswalks	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
Oakwood/Park	Old Graham	Hillsboro (15-501)	New Sidewalk & Crosswalks	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3

Additional Projects

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