



# PEMBROKE

## PEDESTRIAN TRANSPORTATION PLAN



*January 2010*



Division of  
Bicycle &  
Pedestrian  
Transportation

# ACKNOWLEDGEMENTS

## PUBLIC INVOLVEMENT

More than 200 Pembroke area residents and UNCP students provided input to this plan through comment forms, meetings, and public outreach events.

## KEY PARTNERS

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The North Carolina Department of Transportation (NCDOT),  
Division of Bicycle and Pedestrian Transportation (DBPT)

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# TABLE of CONTENTS

## CHAPTER 1: INTRODUCTION

Overview .....	1
Vision Statement and Goals .....	1
Planning Process .....	2
<b>Public Benefits of Pedestrian Transportation .....</b>	<b>2</b>

## CHAPTER 2: EXISTING CONDITIONS

Overview .....	7
<b>Land Use and Development .....</b>	<b>7</b>
<b>Demographics .....</b>	<b>8</b>
<b>Trip Attractors .....</b>	<b>12</b>
Pedestrian Conditions .....	12
Current Pedestrian Use And Needs .....	16
Summary Of Existing Documents .....	17

## CHAPTER 3: PEDESTRIAN NETWORK

Overview .....	19
<b>Methodology .....</b>	<b>19</b>
<b>The Pedestrian Network .....</b>	<b>20</b>
<b>Sidewalks .....</b>	<b>20</b>
Pedestrian-friendly Intersections .....	20
Greenways/Multi-use Trails .....	23
Recommended Project List .....	24

## CHAPTER 4: PROGRAMS + POLICIES

Overview .....	27
Program Recommendations and Resources .....	27
Education .....	27
Encouragement .....	33
Enforcement .....	37
<b>Policy Review .....</b>	<b>38</b>

## CHAPTER 5: IMPLEMENTATION

Overview .....	49
<b>Key Action Steps .....</b>	<b>49</b>
<b>Top Priority Projects .....</b>	<b>52</b>
<b>Staffing .....</b>	<b>53</b>
Performance Measures (Evaluation And Monitoring) .....	55
<b>Pedestrian Facility Development .....</b>	<b>55</b>
<b>Greenway Acquisition .....</b>	<b>58</b>

**CHAPTER 6: DESIGN GUIDELINES**

Overview .....61

**Sidewalks and Walkways** .....62

Greenway Trail .....64

**Marked Crosswalks** .....67

**Curb Ramps** .....68

Raised or Lowered Medians .....69

**Advance Stop Bars** .....70

Bulb-outs .....71

**Pedestrian Overpass/Underpass** .....72

Roundabouts .....73

**Traffic Signals** .....74

Pedestrian Signals .....75

**Landscaping** .....77

**Roadway Lighting Improvements** .....78

**Street Furniture and Walking Environment** .....79

**Transit Stop Treatments** .....80

**Pedestrian Signs and Wayfinding** .....81

Bridges .....83

**APPENDICES**

**Appendix A: Public Involvement** .....A-1

**Appendix B: Funding Sources**..... B-1

**Appendix C: Acquisition Strategies** .....C-1

**Appendix D: State and Federal Policies** .....D-1



## CHAPTER OUTLINE:

### OVERVIEW

### VISION and GOALS

### PLANNING PROCESS

### PUBLIC BENEFITS OF PEDESTRIAN TRANSPORTATION

## OVERVIEW

In 2008, the Town of Pembroke applied for and was awarded a grant from the North Carolina Department of Transportation (NCDOT) to develop this Pedestrian Transportation Plan. This Plan combines past planning efforts with new research and analysis, and includes a full public input process. The result is a complete, up-to-date framework for moving forward with tangible pedestrian transportation improvements.

The Town already features some pedestrian-friendly elements, however, current conditions within Pembroke's urban core are not adequate to serve the rapidly growing needs of a college environment. This plan will enhance conditions for pedestrians throughout town, particularly in areas identified by the public and the project steering committee. Beyond physical improvements, this plan also outlines policies and programs to help encourage people to walk more often, drive more safely, and to grow as a Town with the needs of pedestrians taken into full consideration.

## VISION and GOALS

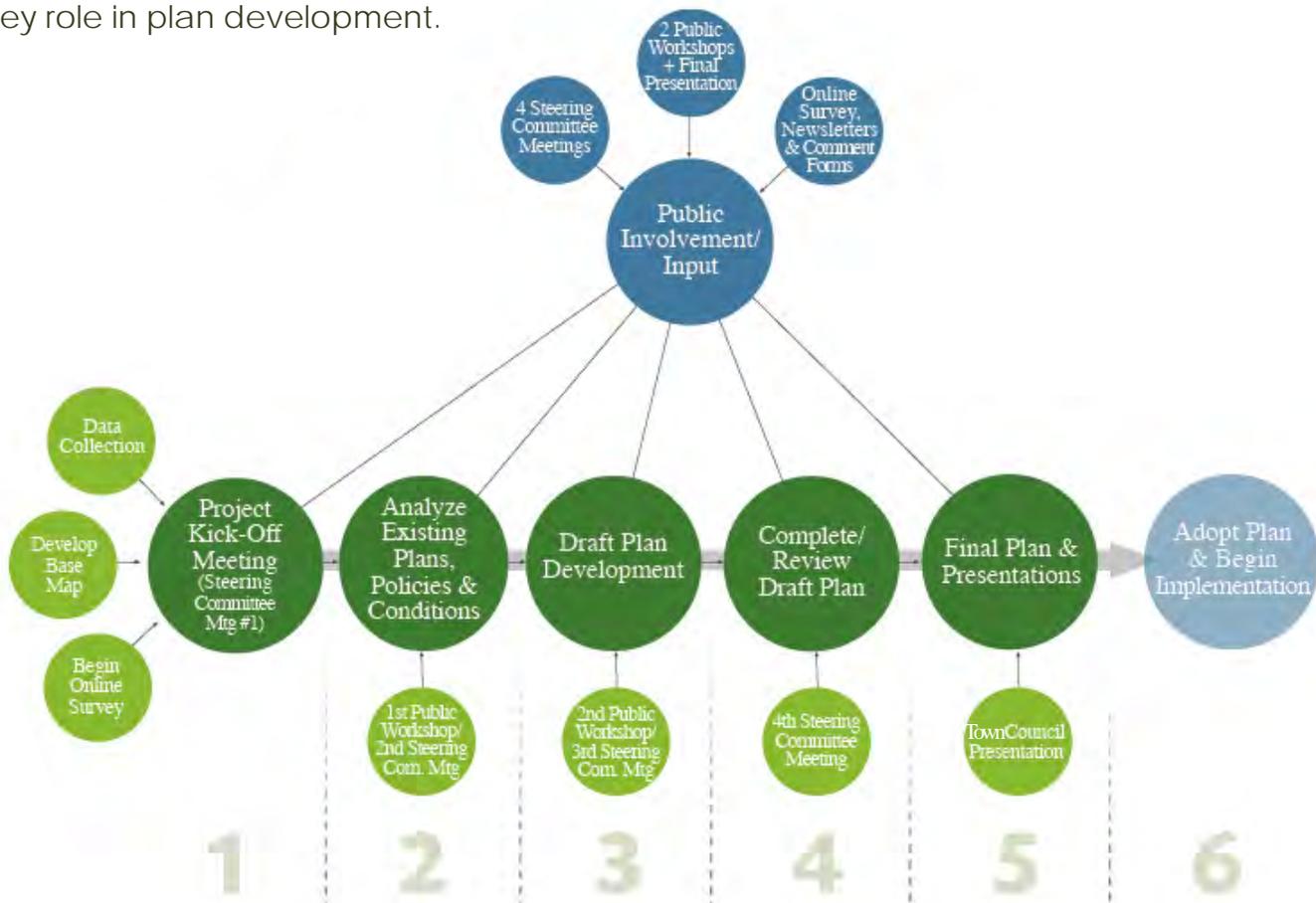
The following vision and goals were developed out of the Town's planning grant application and were reconfirmed early in the planning process, during committee meetings and public outreach efforts. The statement below applies to both the Plan itself, and the desired outcome of its implementation:

### *Pembroke's Pedestrian Plan Vision Statement:*

"The plan will strive to create a safe and walkable community for residents, visitors and students attending the University of North Carolina at Pembroke (UNCP). The plan will provide long term benefits for both the Town and University and serve as an economic development tool for the central business district. Installation of a continuous sidewalk network throughout Pembroke's central business district (CBD) will provide a safe means for UNCP students to visit downtown businesses, as well as travel to and from off campus student housing complexes."

## PLANNING PROCESS

This planning process began with a 'kick-off' meeting in early 2009, followed by public workshops and development of a draft plan (see flow chart below). The plan communicates the current conditions for walking in Pembroke, recommends improvements, and outlines strategies to carry out those recommendations. The plan development process concluded in winter 2009-2010. Public participation (through workshops, steering committee meetings, and comment forms) played a key role in plan development.



## 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 measure the immense value of pedestrian transportation. Walking helps 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.

***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.***

### 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. 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 Pembroke 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. The unstable cost of fuel reinforces the idea that local communities should be

built to accommodate people-powered transportation, such as walking and biking. Pembroke’s growing UNCP campus, 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.



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

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 agricultural and road runoff.

### 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.



*By walking for our trips that are less than 2 miles, we could eliminate 40% of local car trips. (Above: students walking between UNCP and nearby apartments)*

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. Senior citizens deserve access to independent mobility, and providing safe place for them to walk is an essential factor in meeting this important need.

Children under the age of 16 also 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 and greenways, 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.



Third Street, Downtown Pembroke

**CHAPTER OUTLINE:****OVERVIEW****LAND USE AND DEVELOPMENT****DEMOGRAPHICS****TRIP ATTRACTORS****PEDESTRIAN CONDITIONS****CURRENT PEDESTRIAN USE AND NEEDS****SUMMARY OF EXISTING DOCUMENTS****OVERVIEW**

The Town of Pembroke is a unique and charming town located in the coastal plains of southeastern North Carolina. Incorporated in 1895, Pembroke developed around businesses that served the Lumbee Indians. Even after 300 years, Pembroke still remains the social, economic and political center for the tribe. The town's name was derived from Pembroke Jones, a principle shareholder in the Atlantic Coastline Railroad. The railroad played such an important role in the town's development that its corporate limits were based on the intersection of the two railway lines.

Pembroke is also home to the University of North Carolina at Pembroke (UNCP). This four year state university is currently the fastest-growing school in the state's collegiate system. The town is not yet recognized as a college town; however, with a diverse total enrollment of 5,987 students it may soon bear this distinction. One of this plan's objectives will be to further this distinction by creating connectivity between the university and other key elements of town including the central business district and other locations on 3rd Street (NC 711).

This chapter assesses Pembroke's existing conditions for pedestrians, both good and bad, and also examines what the town is currently doing to improve pedestrian conditions.

**LAND USE AND DEVELOPMENT**

In addition to the town's permanent population, Pembroke serves many outlying rural communities. Robeson County's rural population base relies heavily on goods and services available within Pembroke. Many of these facilities and retail outlets are situated within the heart of downtown resulting in substantial traffic backups and off street parking problems. The current land use pattern within the town limits of Pembroke has agricultural and residential surrounding a small central business district area of industrial, commercial, multi-family residential,

and institutional (including UNCP) uses. (See the Existing Land Use Map and the Future Land Use Map for more information, pages 9-10).

The town of Pembroke is currently at a crossroads with respect to growth and development. Over the last ten years the town has seen a drastic increase in commercial growth, while UNCP has continued to expand in an effort to accommodate a growing student population. Historically, Pembroke has existed as a small rural community that is home to small state university. It is now becoming evident that Pembroke is poised to become a regional economic center. In light of this the increased development; the Town of Pembroke is currently working on updating its Unified Development Ordinance (UDO), which will include provisions for requiring 5' sidewalks in all new developments within the town boundaries. (For more policy-related information, see Chapter Four: Programs and Policies).



*UNCP (above) contributes to Pembroke's growth and development due to needs for services and in some cases off campus housing.*

## DEMOGRAPHICS

The Town of Pembroke has a population of 2,681 people which marks an increase of 20% since the 1990 census. Additionally, as mentioned earlier, UNCP has a diverse student population of 5,987 students. In 2000, the average household size was 2.46 and the average family size was 3.12. In the town the population was spread out with 34.8% under the age of 18, 11.5% from 18 to 24, 25.8% from 25 to 44, 17.6% from 45 to 64, and 10.3% who were 65 years of age or older. For every 100 females there were 75.2 males. For every 100 females age 18 and over, there were 64.9 males.

The population density was about 1023 people per square mile, with relatively even distribution within a mile of downtown, and much less density outside of that area. Pembroke has a unique population base in that roughly 89% of residents are Native American Indian. The median income for a household in the town was \$18,355, and the median income for a family was \$21,218. The per capita income for the town was \$10,202. About 39.9% of families and 40.7% of the population were below the poverty line, including 54.3% of those under age 18 and 34.1% of those aged 65 or over. As noted earlier, the town still serves as the economic center and home to the Lumbee Tribe of North Carolina. (See the Population Density and Median Age Map for more information, page 11).

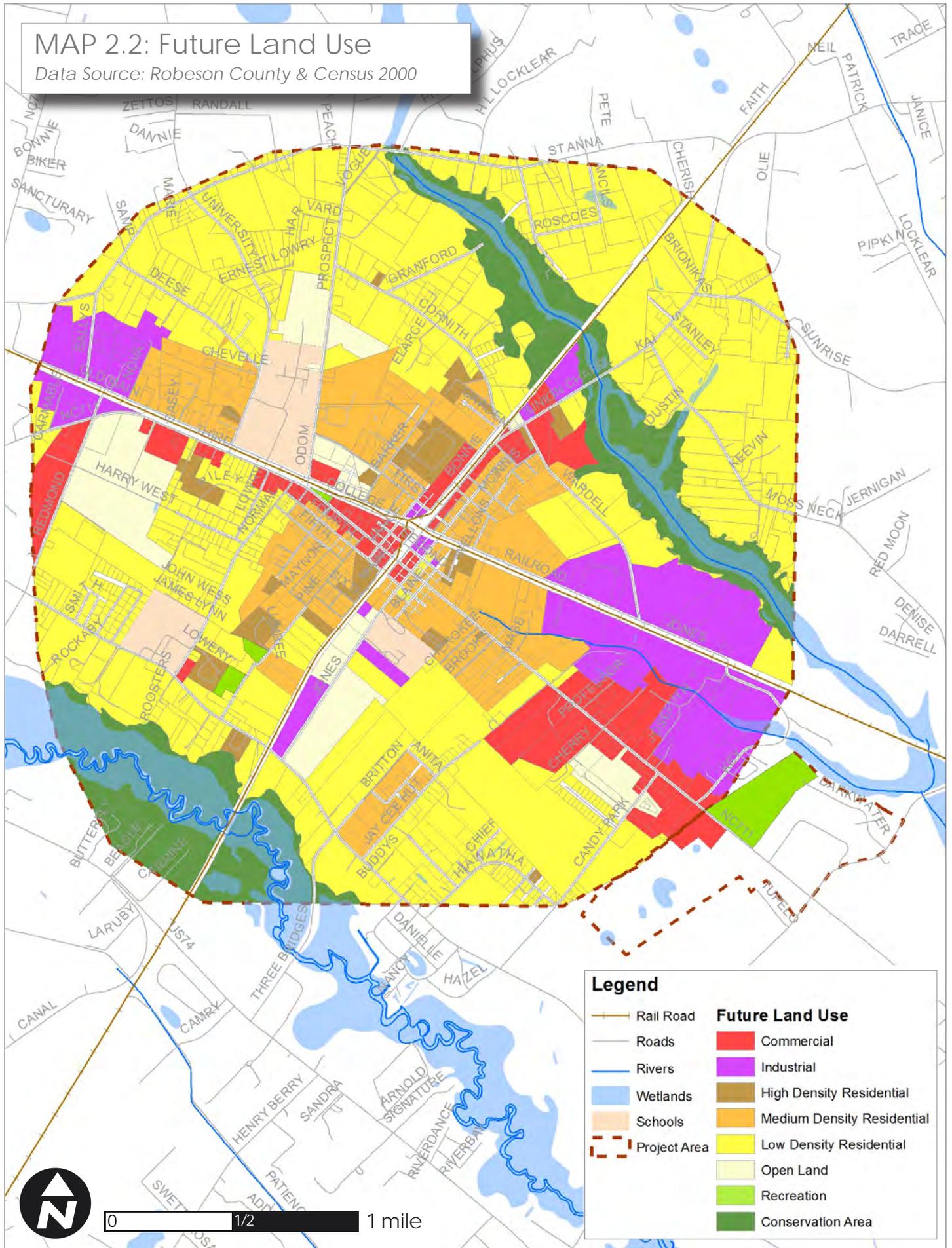


*Pembroke is home to the Lumbee Tribe of North Carolina.*



# MAP 2.2: Future Land Use

Data Source: Robeson County & Census 2000

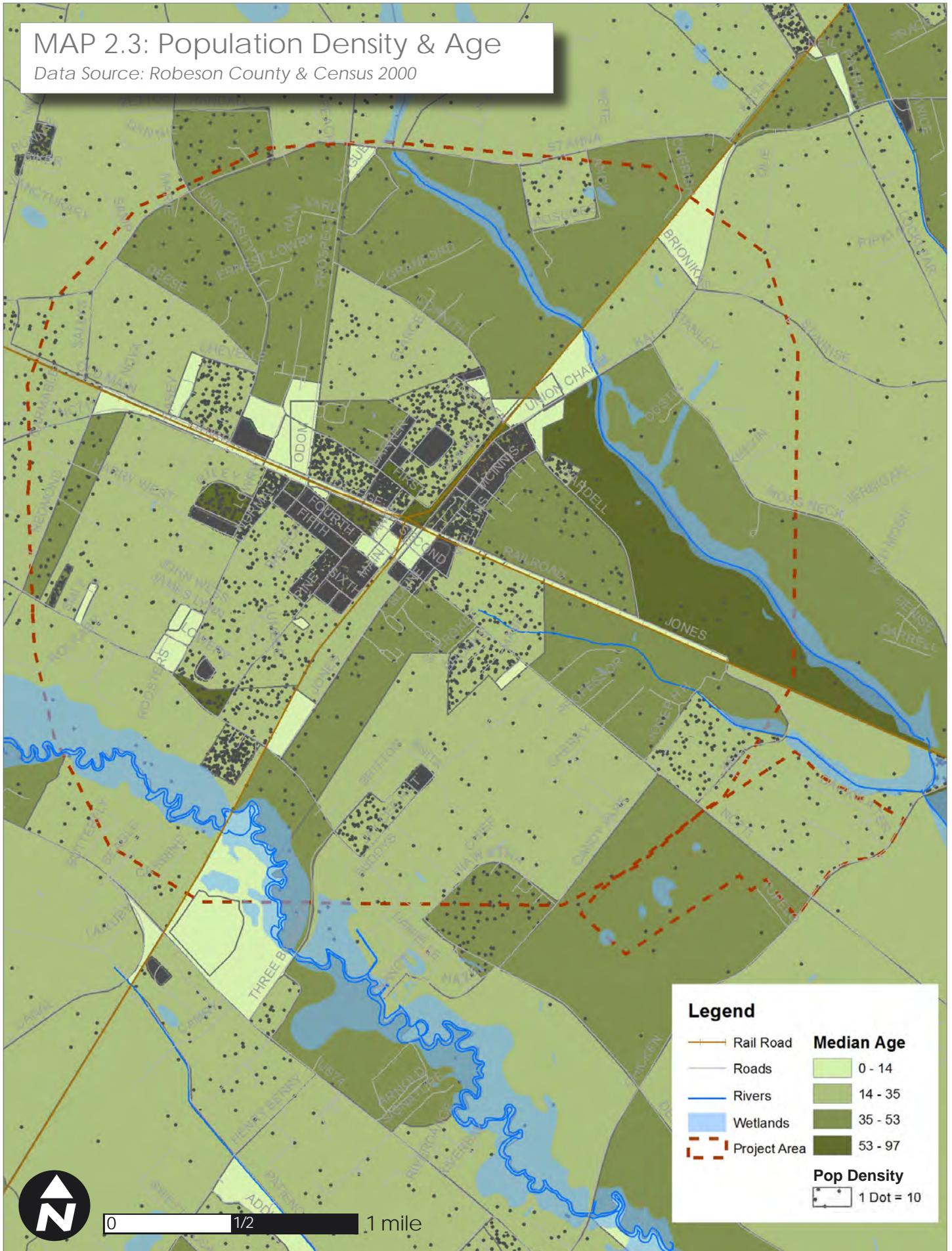


**Legend**

Rail Road	<b>Future Land Use</b>
Roads	Commercial
Rivers	Industrial
Wetlands	High Density Residential
Schools	Medium Density Residential
Project Area	Low Density Residential
	Open Land
	Recreation
	Conservation Area

# MAP 2.3: Population Density & Age

Data Source: Robeson County & Census 2000



## TRIP ATTRACTORS

The term “trip attractors” refers to places which people commonly walk to or from, or places they would like to walk to or from with improved pedestrian facilities. For example, UNCP is one of the main trip attractors within the Town of Pembroke since students walk to and from campus regularly. A few of the other trip attractors within Pembroke include; Town Hall, Downtown, the Pembroke Recreation Center, Post Office, Community Center, various fast food restaurants, Wal Mart and surrounding stores, Food Lion and surrounding stores, and the various apartment complexes surrounding the UNCP campus housing many of the students. A majority of these trip attractors are on 3rd Street (NC 711) and many are close to the UNCP campus.

Additional trip attractors for Pembroke should also include both the elementary school and middle school since children and parents should be able to walk to and from school with ease. (See the Trip Attractors Map for more information, page 13).

## PEDESTRIAN CONDITIONS

Pembroke’s central business district, as well as portions of town surrounding UNCP does have some existing sidewalk infrastructure. Unfortunately the existing sidewalks contain intermediate gaps, and are in need of repair. In addition to the need for expansion and repair, this existing system does not adequately address the needs of town’s key user populations and key destinations such as those mentioned previously. Furthermore, additional pedestrian facilities such as crosswalks, count-down signals, and curb ramps are lacking. The town relies on this partial network to facilitate the flow of students and residents between residential areas and the town’s commercial core including access to the university.

In an NCDOT Enhancement Grant Application for Sidewalk Improvements, areas of sidewalk along NC 711 were identified for improvements. The purpose of the project was to establish a continuous sidewalk right-of-way to run through the entire CBD; however the project was not funded.

Pembroke is home to the only east/west-north/south culmination of rail lines within the state of North Carolina. Due to the presence of these tracks, rail traffic runs through the center of the town’s CBD on a daily basis. This traffic continues to create problems related to traffic flow, and the ability of citizens to safely and efficiently travel into and out of town both in car and on foot.



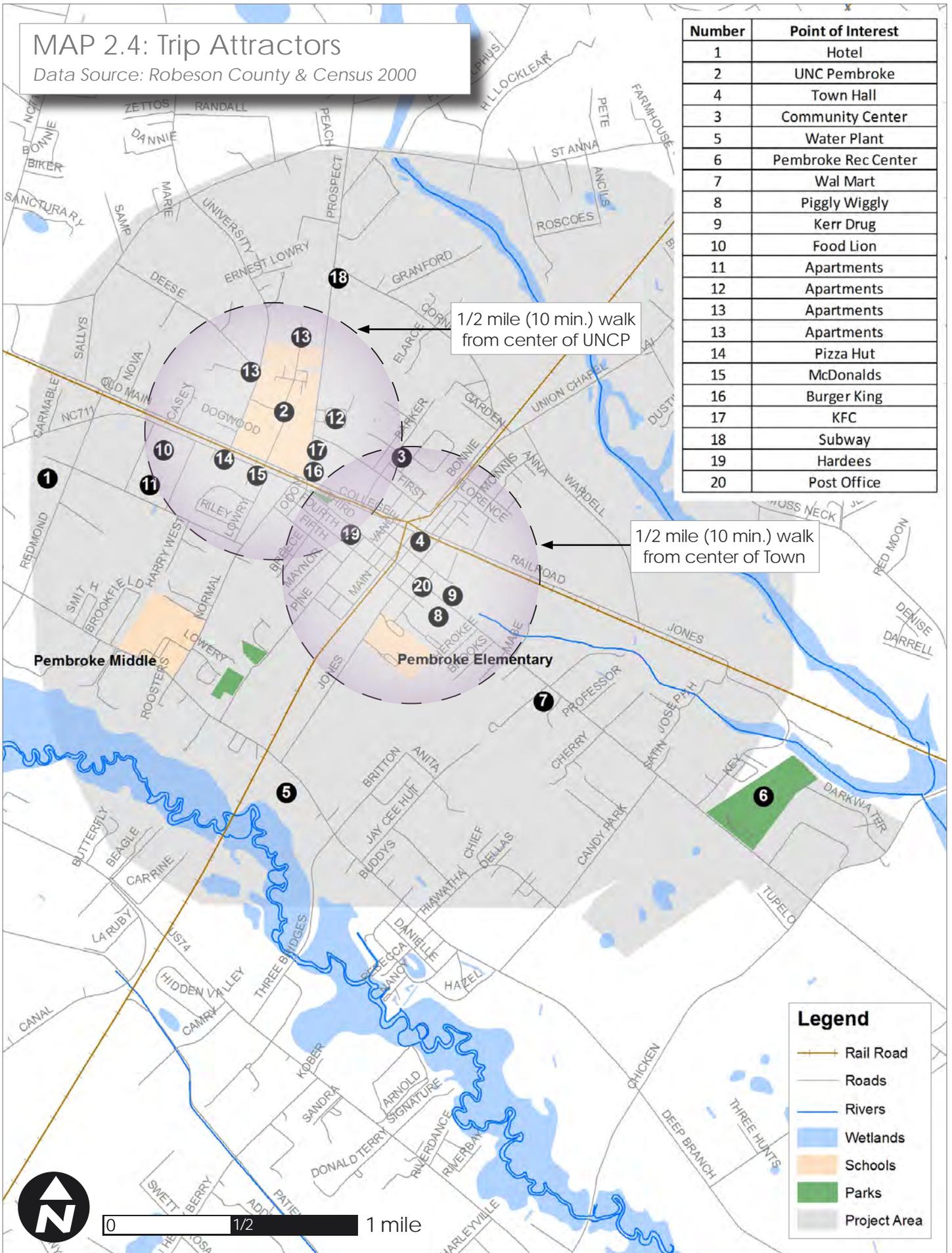
*The Wal Mart shopping center (above) was mentioned as a trip attractor at the Kick-Off Meeting and during the UNCP public outreach session (below).*



# MAP 2.4: Trip Attractors

Data Source: Robeson County & Census 2000

Number	Point of Interest
1	Hotel
2	UNC Pembroke
4	Town Hall
3	Community Center
5	Water Plant
6	Pembroke Rec Center
7	Wal Mart
8	Piggly Wiggly
9	Kerr Drug
10	Food Lion
11	Apartments
12	Apartments
13	Apartments
13	Apartments
14	Pizza Hut
15	McDonalds
16	Burger King
17	KFC
18	Subway
19	Hardees
20	Post Office



1/2 mile (10 min.) walk from center of UNCP

1/2 mile (10 min.) walk from center of Town

Pembroke Middle

Pembroke Elementary

### Legend

- Rail Road
- Roads
- Rivers
- Wetlands
- Schools
- Parks
- Project Area

In order to address existing traffic related concerns, Pembroke is working with NCDOT on the development of a thoroughfare plan that will address the long term transportation needs of the town. The bypass will aim to route traffic around the town's central business district, which experiences an average daily traffic count of 12,000 cars. On any given business day, traffic flow within downtown is paralyzed as trains travel the north/south route. Not only are automobiles stopped, but pedestrians as well.

Pembroke has also requested NCDOT to conduct a feasibility study to determine the potential for expanding NC 711 to a five-lane right-of-way. Expanding this section of highway to five lanes will provide for more efficient traffic flow as development occurs in the area. This request, however, does not include any suggestions for regulating pedestrian traffic along newly developed areas.

Currently, there are no ongoing education or enforcement programs within the Town of Pembroke for pedestrians. Creating a more "walkable" community in Pembroke will in itself help to encourage residents to travel the area by foot rather than by vehicle, when feasible. This will not only provide town residents with a viable transportation option, but will promote a healthier lifestyle.

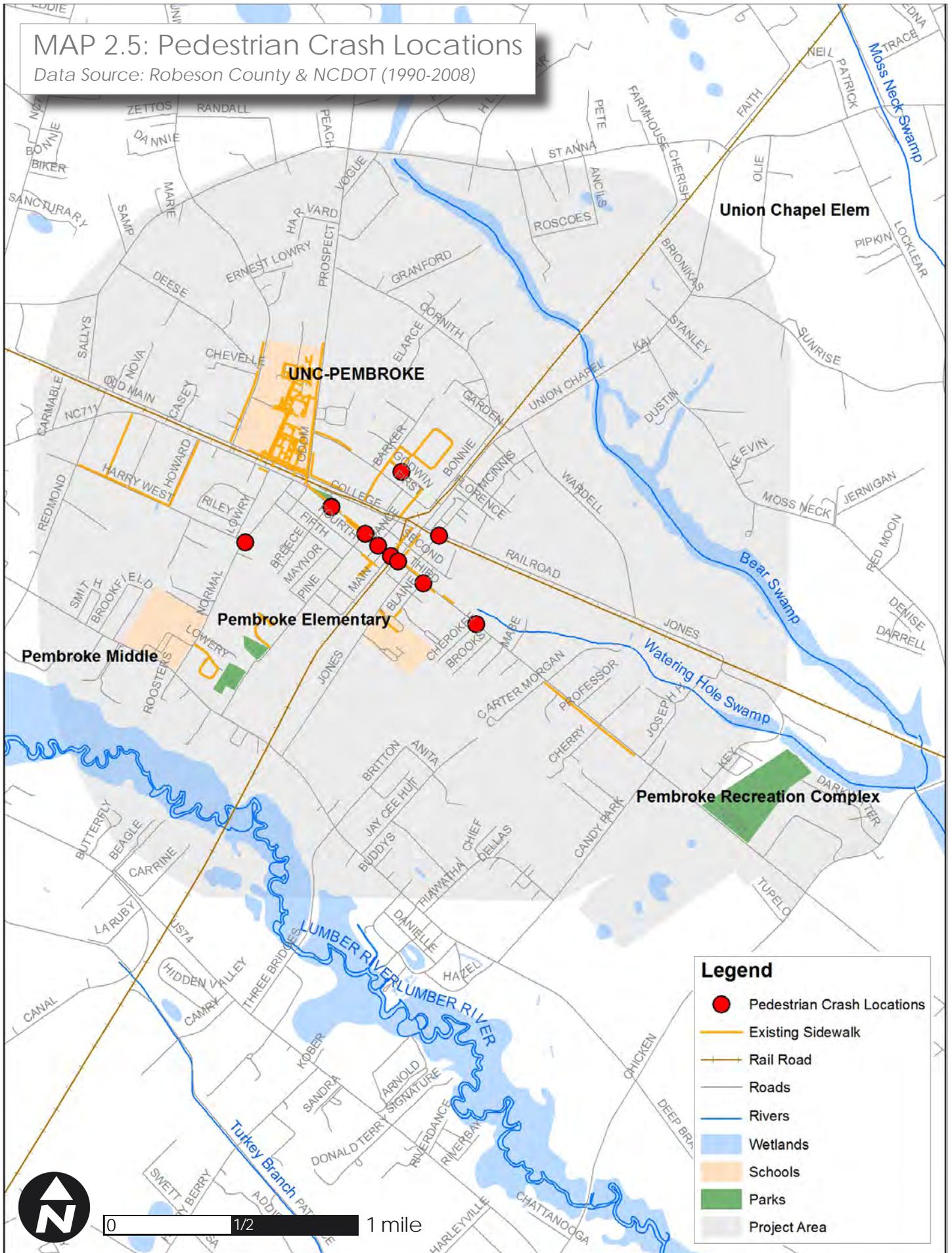
Since 1990 there have been 13 pedestrian accidents in Pembroke with 10 of them being on 3rd St (NC 711). The following statistics are for the Town of Pembroke, North Carolina, during the reporting period of January 1, 1990 to October 31, 2008.

## REPORTED PEDESTRIAN CRASHES in PEMBROKE, 1990-2008

<i>On Road</i>	<i>Dir</i>	<i>From Road</i>	<i>Toward Road</i>	<i>Crash Severity</i>	<i>Date of the Crash</i>	<i>Time of the Crash</i>
3RD ST	W	BLAINE ST	JONES ST	A-Injury (Disabling)	2/13/91	7:44 AM
3RD ST	W	BREECE ST	ODOM ST	C-Injury (Possible)	5/8/92	8:08 PM
3RD ST	E	PINE ST	BREECE ST	C-Injury (Possible)	3/11/94	10:38 AM
JONE ST		JONES	EAST 4TH ST	Property Damage Only	3/15/02	7:58 PM
JONES ST		E RAILROAD ST		C-Injury (Possible)	4/25/02	5:06 PM
THIRD ST		THIRD ST		A-Injury (Disabling)	6/10/02	9:30 PM
UNION CHAPEL RD		EAST THIRD ST		C-Injury (Possible)	11/7/04	6:05 PM
THIRD ST		PINE ST		B-Injury (Evident)	12/31/05	8:51 PM
WEST THIRD ST		MAIN STREET		C-Injury (Possible)	4/19/06	5:13 PM
W THIRD ST		VANCE ST		Property Damage Only	5/12/06	3:15 PM
400 NORMAL ST	S	HERRY WEST LN	JAMES LYNN DR	B-Injury (Evident)	3/25/07	7:50 PM
ROBERTS AVE		GODWIN AVE		C-Injury (Possible)	6/18/07	6:15 PM
VANCE ST		THIRD ST	MAIN ST	B-Injury (Evident)	8/12/07	9:49 PM
THIRD STREET		CHEROKEE STREET	BLAINE STREET	C-Injury (Possible)	2/13/08	9:40 PM
WEST THIRD STREET		BREECE STREET		C-Injury (Possible)	3/19/08	8:49 PM

# MAP 2.5: Pedestrian Crash Locations

Data Source: Robeson County & NCDOT (1990-2008)



## CURRENT PEDESTRIAN USE AND NEEDS

Throughout the course of the planning process more than 200 people provided input. Results for questions that most relate to the issue of current use and needs are displayed below. For full results, please see Appendix A: Public Involvement.

2. How do you rate present pedestrian conditions in the Pembroke area? (select one)			
		Response Percent	Response Count
Excellent		1.9%	4
Fair		35.6%	77
Poor		62.5%	135

4. How often do you walk around Town now? (select one)			
		Response Percent	Response Count
never		36.0%	77
few times per month		33.6%	72
few times per week		19.6%	42
5+ times per week		10.7%	23

5. Would you walk more often if more sidewalks, trails, and safe roadway crossings were provided for pedestrians?			
		Response Percent	Response Count
Yes		94.4%	202
No		5.6%	12

10. What factors discourage you from walking in Pembroke? Select all that apply.			
		Response Percent	Response Count
Lack of sidewalks and trails		80.8%	168
Lack of crosswalks at traffic signals		74.5%	155
Lack of pedestrian signals at intersections		59.6%	124
Automobile traffic and speed		63.9%	133
Lack of interest		4.3%	9
Lack of time		8.7%	18
Aggressive motorist behavior		52.9%	110
Sidewalks in need of repair		34.1%	71
Lack of nearby destinations		29.3%	61
Criminal activity		48.1%	100
Level of street lighting		43.8%	91
Lack of landscaping and/or buffer between sidewalks and road		36.5%	76

## SUMMARY OF EXISTING DOCUMENTS

Below is a brief summary of pedestrian-related planning efforts in Pembroke, followed by a summary of Pembroke's UDO as it relates to pedestrian facilities.

In order to address existing traffic related concerns, Pembroke is working with NCDOT on the development of a thoroughfare plan that will address the long term transportation needs of the town. The bypass will aim to route traffic around the town's central business district, which experiences an average daily traffic count of 12,000 cars. On any given business day, traffic flow within downtown is paralyzed as trains travel the north/south route. Not only are automobiles stopped, but pedestrians as well.



*Traffic, railroad crossing, and sidewalk along Third Street in downtown Pembroke.*

Pembroke has also requested NCDOT to conduct a feasibility study to determine the potential for expanding NC 711 to a five-lane right-of-way. Expanding this section of highway to five lanes will provide for more efficient traffic flow as development occurs in the area. This request, however, does not include any suggestions for regulating pedestrian traffic along newly developed areas.

### **PEMBROKE UNIFIED DEVELOPMENT ORDINANCE (UDO) (2009)**

The Town of Pembroke UDO stresses the importance of walkable, sustainable, and visually appealing communities. Below are some excerpts from the land development code that show how highly important pedestrian facilities are to the Town of Pembroke:

"Sidewalks must be constructed for any new or substantially improved property located in the C-1, C-2, C-3, or O&I zoning districts and contiguous to NC 711."

(A) Any new or substantially improved commercial, institutional, or multi-family projects shall construct a sidewalk along the entire width of the property parallel to the State street within the right-of-way. Substantially improved properties shall mean those properties that construct an addition to an existing building that costs over 50% of the assessed value of the existing building."

(B) All sidewalk improvements shall be a minimum of eight feet in width and constructed with the approval of the North Carolina Department of Transportation in accordance with their design specifications." (Page 98)

“A dense network of narrow streets with reduced curb radii may be fundamental to sound PUD design. This network serves to both slow and disperse vehicular traffic and provide a pedestrian friendly atmosphere. Such alternate guidelines are encouraged when the overall design ensures that non-vehicular travel is to be afforded every practical accommodation that does not adversely affect safety considerations. The overall function, comfort, and safety of a multi-purpose or “shared” street are more important than its vehicular efficiency alone.” (Section 14-5)

“PUDs should have a high proportion of interconnected streets, sidewalks, and paths. Streets and rights-of ways are shared between vehicles (moving and parked), bicycles, and pedestrians. A dense network of PUD streets should function in an interdependent manner, providing continuous routes that enhance non-vehicular travel. Most PUD streets should be designed to minimize through traffic by the design of the street and the location of land uses. Streets are designed to only be as wide as needed to accommodate the usual vehicular mix for that street while providing adequate access for moving vans, garbage trucks, fire engines, and school buses.” (Section 14-5)

“Parking lots shall be designed to allow pedestrians to safely move from their vehicles to the building. On small lots, this may be achieved by providing a sidewalk at the perimeter of the lot. On larger lots, corridors within the parking area should channel pedestrians from the car to the perimeter of the lot or to the building. These corridors may be delineated by a paving material which differs from that of vehicular areas and planted to provide shade. Small posts or bollards may be included.” (Section 15-5)

“An interconnected street system is necessary in order to protect the public health, safety, and welfare in order to ensure that streets will function in an interdependent manner, to provide adequate access for emergency and service vehicles, to enhance non-vehicular travel such as pedestrians and bicycles, and to provide continuous and comprehensible traffic routes. All proposed new streets shall be platted according to the current Town Thoroughfare Plan.” (Section 24-26)



Wide Sidewalk at UNCP

**CHAPTER OUTLINE:**

- OVERVIEW
- METHODOLOGY
- THE PEDESTRIAN NETWORK
  - SIDEWALKS
  - PEDESTRIAN-FRIENDLY INTERSECTIONS
  - GREENWAYS/ MULTI-USE TRAILS
- RECOMMENDED PROJECT LIST

**OVERVIEW**

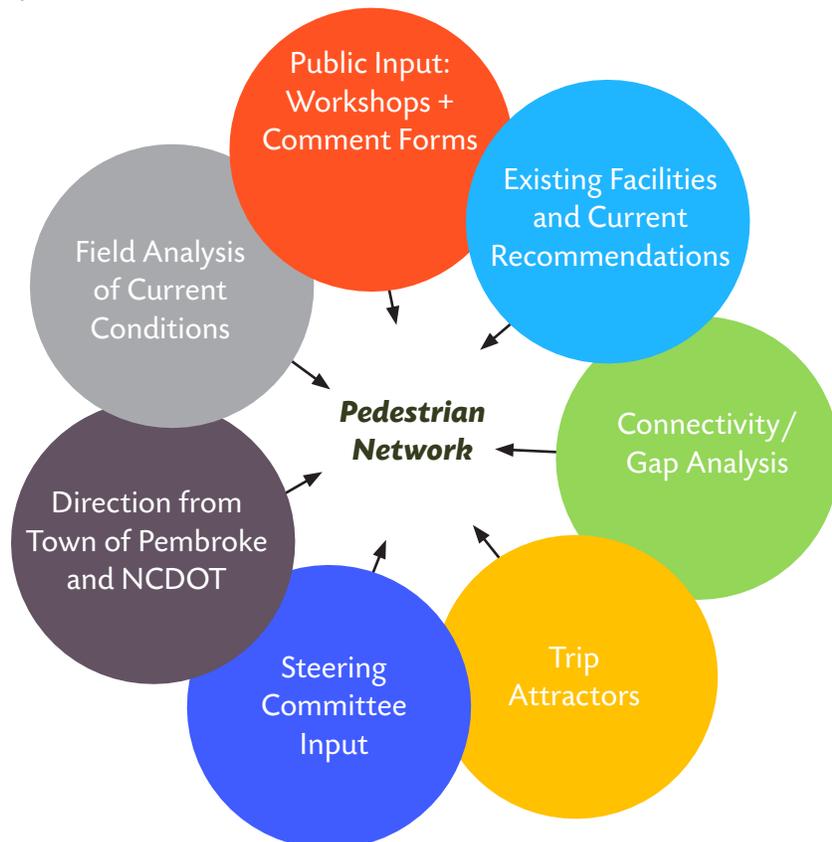
This chapter contains a series of recommended changes to the Town of Pembroke’s physical environment that will create a more connected, comprehensive pedestrian network.

**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, conditions along primary corridors, and a consideration of sidewalk gap connectivity and trail opportunities. Map discussion and analysis was conducted at steering committee meetings and public input sessions to pinpoint specific areas in need of pedestrian improvements.

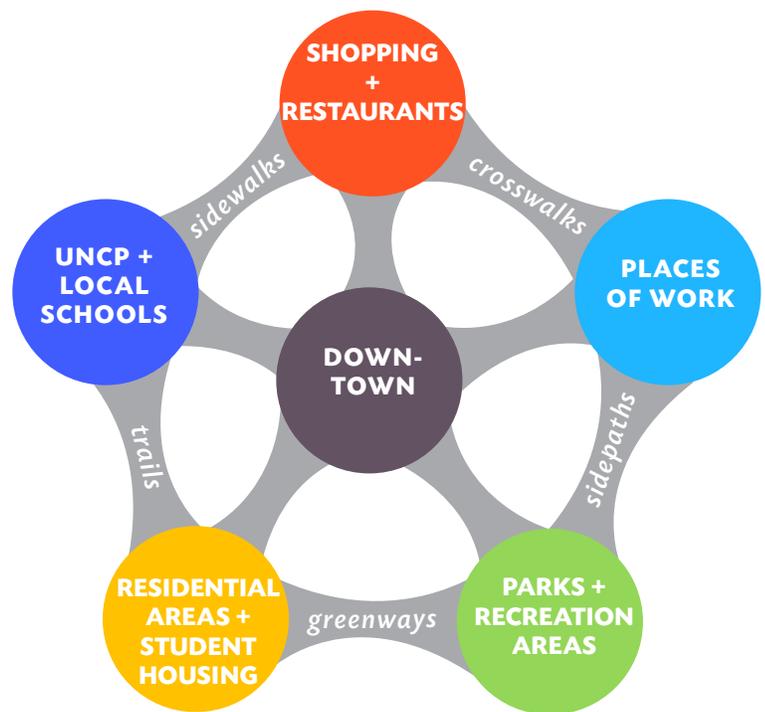
**INPUTS FOR PEDESTRIAN NETWORK DEVELOPMENT**

*This diagram illustrates the inputs used to design the Pedestrian Network.*



## THE PEDESTRIAN NETWORK

Three main types of pedestrian projects have been identified for the Town of Pembroke and are outlined on the following pages. They include sidewalks, crossing improvements, and multi-use trails (a.k.a, greenway trails and sidepaths). Conceptually, these pedestrian recommendations can be seen as a network of ‘hubs and spokes’, with Downtown Pembroke being the central point of connection (see right). Parks, schools, shopping centers, and other places where people might walk to and from are the ‘hubs’, whereas sidewalks, crosswalks, trails, and other pedestrian facilities are the ‘spokes’ that connect them.



The complete recommended network of sidewalks, crossing improvements, and trails can be found on Map 3.1, page 21.

The network should be completed in phases (as prioritized at the end of this chapter). However, individual projects within the network could be developed as opportunities arise, regardless of the order. Also, new ordinances should make pedestrian accommodations a mandatory part of any commercial or residential development, especially as recommended in this plan (as discussed in Chapter 4: Policies and Programs).

*The ‘hubs and spokes’ model conceptually illustrates how destinations in Pembroke are linked through various types of pedestrian facilities.*

## SIDEWALKS

The recommended sidewalks in Pembroke aim to expand upon the existing network of downtown sidewalks (Map 3.1, page 21). These are mainly along Third Street/HWY 711, Norman, Pine, First St, Union Chapel, and small sections that fill key gaps. Guidance for the design of sidewalk projects is provided in Chapter 6.

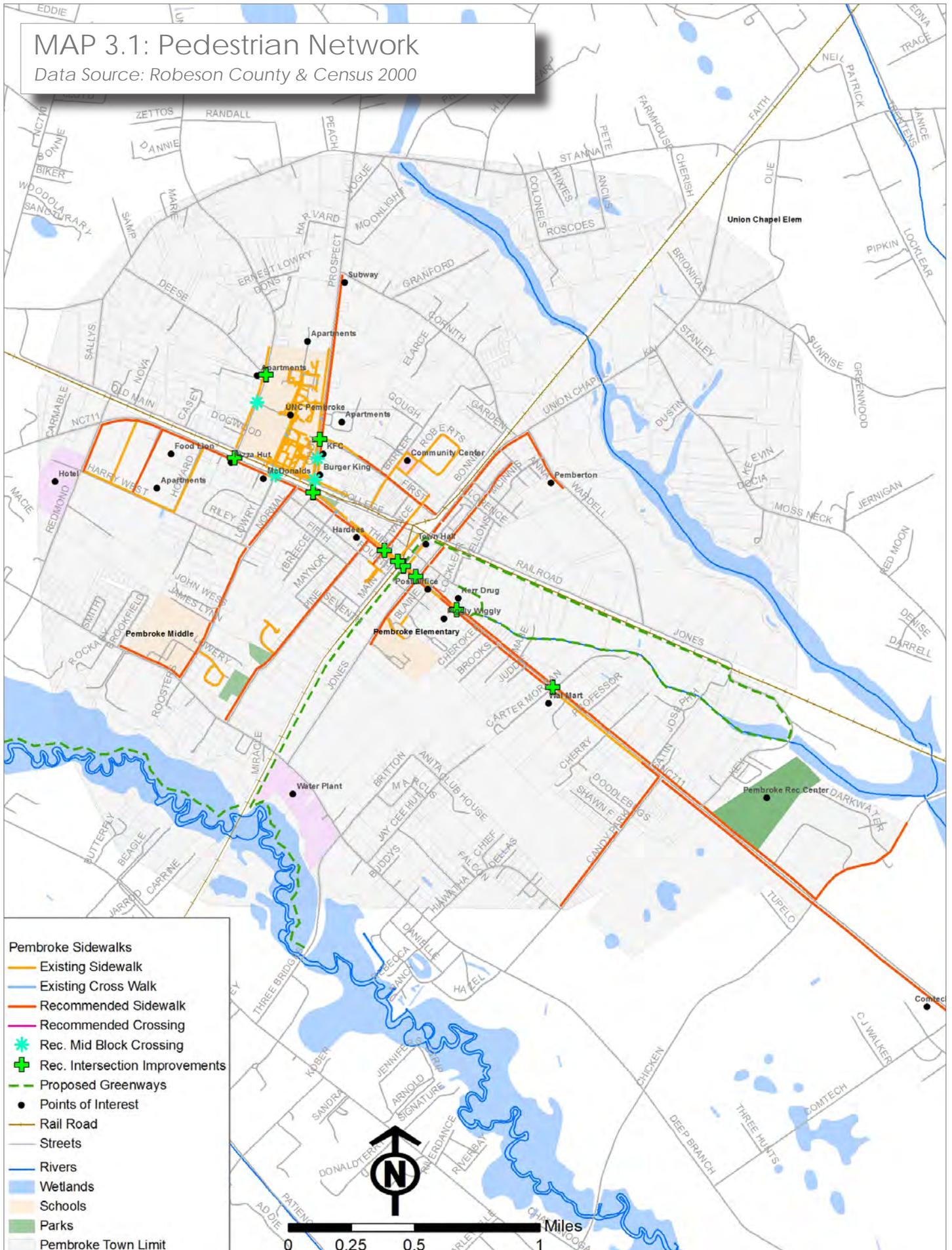
## PEDESTRIAN-FRIENDLY INTERSECTIONS

Many of the recommended pedestrian improvements are located at intersections. Consultant fieldwork and public input helped to identify numerous intersections that are in need of minor to significant pedestrian facility improvements (Map 3.1, page 21, and Table 3.1, page 22).

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.

# MAP 3.1: Pedestrian Network

Data Source: Robeson County & Census 2000



- Pembroke Sidewalks**
- Existing Sidewalk
- Existing Cross Walk
- Recommended Sidewalk
- Recommended Crossing
- ✱ Rec. Mid Block Crossing
- ✚ Rec. Intersection Improvements
- Proposed Greenways
- Points of Interest
- Rail Road
- Streets
- Rivers
- Wetlands
- Schools
- Parks
- Pembroke Town Limit

TABLE 3.1 INTERSECTION RECOMMENDATIONS

Road 1	Road 2	Needs Sidewalk (Y/N)	Stripe New Crosswalk Markings (Y/N)	Restripe Existing Crosswalk Markings (Y/N)	Advanced Stop Lines (Y/N)	Reconstruct Existing Curb Ramps (Y/N)	Construct New Curb Ramps (Y/N)	Median Refuge Islands (Y/N)	Curb Extensions (Y/N)	Reduce Turning Radius (Y/N)	Pedestrian Countdown Signal Heads (Y/N)	Restrict Right turn on Red	High - Visibility Pedestrian Warning Signs	In-Roadway Pedestrian Crossing Signs	Remove Sight-Distance Obstruction	Pedestrian Underpass/Overpass	Details and Extra Notes
3rd St	Vance St	N	Y	N	Y	Y	Y	N	N	N	Y	N	Y	Y	N	N	Needs new and improved curb ramps
3rd St	Jones St	Y	Y	N	Y	Y	Y	N	N	N	Y	N	Y	N	N	N	Deep gutter NW side
3rd St	Kerr Drug	Y	Y	N	Y	Y	Y	N	N	N	Y	N	Y	Y	N	N	Needs sidewalk on South and NW, add stop bar, NW electric sensors in pavement need to be moved
3rd St	Union Chapel	N	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	No stop light by RR, busy intersection
3rd St	N Main St	N	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	No stop light by RR, busy intersection
3rd St	Walmart	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	N	N	N	Has bar xwalk one side
3rd St	Odum	Y	Y	N	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	Important intersection for school
1st St	Odum	Y	Y	N	Y	Y	Y	Y	N	N	N	N	Y	Y	N	N	Recommend mid block crossing like other on Odum
3rd St	University	Y	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	N	Important intersection for school
University	Deese Rd	Y	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	Needs cross walks and signage
University	Curt Locklear Dr	N	Y	N	Y	N	N	Y	N	N	N	N	Y	Y	N	N	Needs high visibility cross walk and signage
3rd St	Faculty Row	Y	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	Need crossing from school

At a minimum, intersections with sidewalks approaching intersections should possess curb cuts with ramps and marked crosswalks (which helps to satisfy the standards set forth by the American Disability Act of 1991). Major intersections could have a variety of improvements, such as pedestrian-activated crossing and countdown signals, curb extensions, medians, and pedestrian refuge islands. 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 from that study.

### **PEDESTRIAN CRASH REDUCTION FACTORS**

<b>Countermeasure</b>	<b>Crash Reduction Factor</b>
<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%

### **GREENWAYS/MULTI-USE TRAILS**

A greenway is defined as a linear corridor of land that can be either natural, such as rivers and streams, or man-made, such as utility corridors or abandoned railroad beds. 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 (hence, the term 'multi-use trail').

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 Pembroke should be integrated with and serve as an off-road extension of the on-road pedestrian network. Proposed greenway trail corridors for Pembroke are illustrated on Map 3.1, page 21.

This is a planning level of analysis for trail corridors. Each 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, fencing, and other treatments that help ensure the privacy (if so desired) of adjacent properties. The benefits of greenways (economic, environmental, etc), which are outlined in Chapter 1 of this Plan, should also be emphasized during the planning process for specific greenway corridors.

## RECOMMENDED PROJECT LIST

The projects as listed below are logically grouped together for purposes of prioritization, funding and implementation. Factors that influence project priority are the same that influenced the development of the overall recommendations, such as public input, steering Committee Input, field analysis, etc. (see “Inputs for Pedestrian Network Development” on page 19). The table below shows priorities for pedestrian improvements along roadway and greenway corridors; intersection improvements are prioritized according to the roadways they serve. The target dates for completing these projects will depend primarily on level of funding and coordination put forth for implementation, all of which is the subject of Chapter 5.

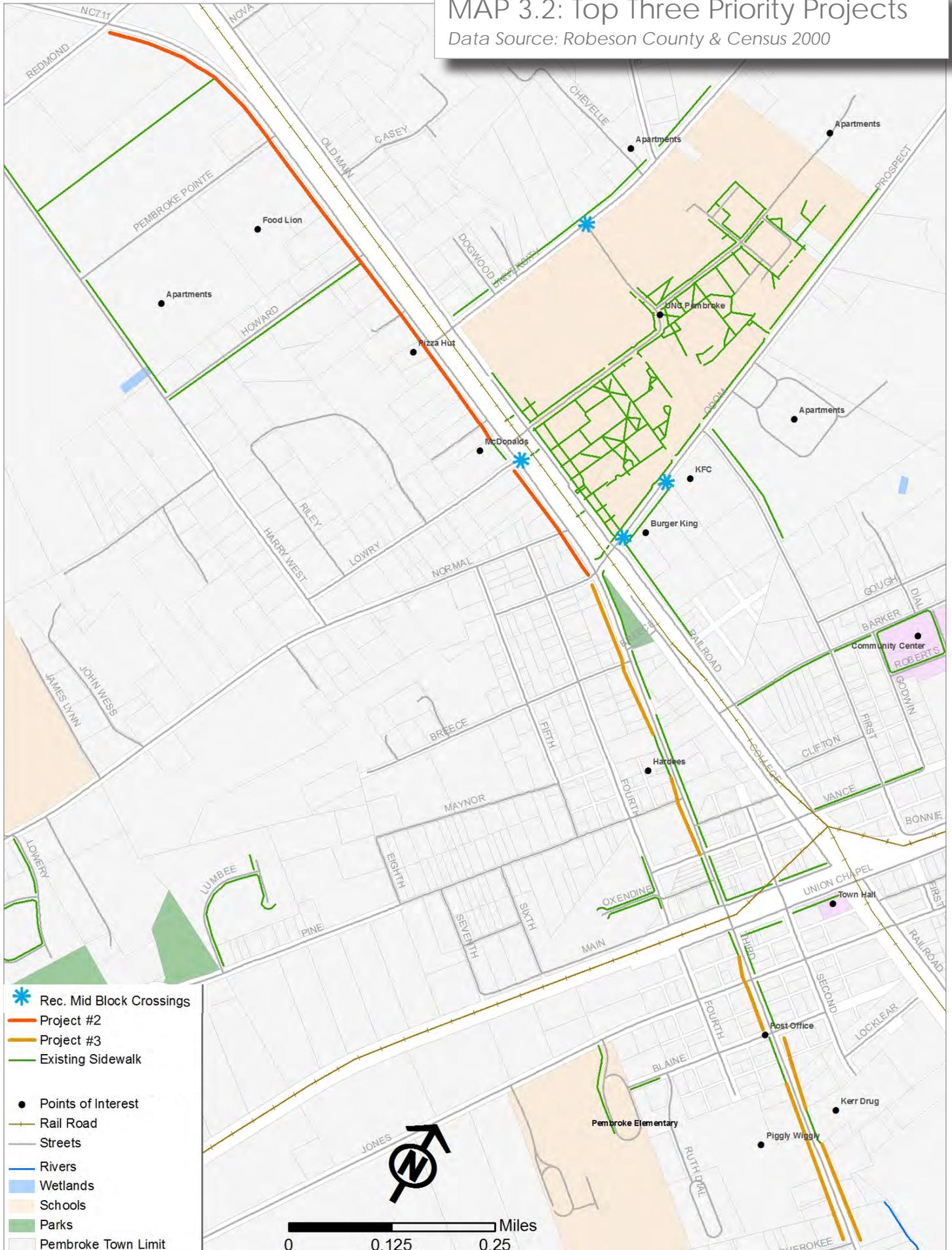
TABLE 3.2 RECOMMENDED PROJECT LIST

Priority Rank	Project Priority	From	To	Facility Type
1	Mid Block Crossings w/Ped Activated Signals (Odum, 3rd, and University)			Crosswalks, signals, and median island or curb extensions
2	3rd St/711 (Part 1)	Redmond Rd	Odum St	Sidewalk and Crosswalks + Pedestrian Lighting
3	3rd St/711 (Part 2)	Odum St	Cherokee St	Sidewalk and Crosswalks
4	3rd St/711 (Part 3)	Cherokee St	Candy Park Rd	Sidewalk and Crosswalks
5	3rd St/711 (Part 4)	Candy Park Rd	Chicken Rd	Sidewalk and Crosswalks
6	Union Chapel Rd	E Rail Road	E Wardell Dr	Sidewalk and Crosswalks
7	1st St	Existing Sidewalk	Bonnie	Sidewalk and Crosswalks
8	S Jones St	3rd St/711	Elementary School	Sidewalk and Crosswalks
9	Pembroke Greenway 1 (Downtown to Lumber River)	3rd St/711	Lumber River	Greenway/Trail
10	Pembroke Greenway 2 (Kerr Drug to Rec Center)	Kerr Drug	Chicken Rd	Greenway/Trail
11	Pembroke Greenway 3 (RR/Jones St Greenway)	3rd St/711	Pembroke Greenway 2	Greenway/Trail
12	Various Sidewalks (Odum, Pembroke Point, Jones, Normal St, Pine St, Redmond Rd, Vance St, 711)			Sidewalk and Crosswalks

See Map 3.2 on page 25 for the locations of these top three priority projects.

# MAP 3.2: Top Three Priority Projects

Data Source: Robeson County & Census 2000





Left: This photo visualization provides a conceptual example for pedestrian improvements on 3rd St / NC 711, between McDonald's and the UNCP campus. Note the median island in the center of the crossing.



Below: This photo visualization shows pedestrian improvements on 3rd St / NC 711, near Food Lion, a popular destination for UNCP Students, especially with the nearby student housing.

Below: A photo visualization of proposed crosswalks on 3rd Street in Downtown Pembroke.





#### CHAPTER OUTLINE:

OVERVIEW

PROGRAM  
RECOMMENDATIONS  
AND RESOURCES

EDUCATION

ENCOURAGEMENT

ENFORCEMENT

POLICY REVIEW

## OVERVIEW

Meeting the goals of this Plan will not only require new facilities; it also requires implementation of pedestrian-related programs and policies. This chapter outlines recommended programs, policies, and in some cases, policy changes for the Town of Pembroke to meet the needs of pedestrians that cannot be met through facility construction alone.

## 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 Pembroke. The Town should work with local volunteers, the UNCP, and local 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.

## EDUCATION

### *BICYCLE AND PEDESTRIAN ADVOCACY GROUP*

The Town of Pembroke should support the creation of a local bicycle and pedestrian advocacy group. Even though this is a pedestrian plan, the needs and objectives of bicycle and pedestrian advocates are closely related, and stand to benefit mutually from their combined efforts. Local advocacy groups are beneficial resources for promoting safety, providing feedback on opportunities and obstacles within the bicycle and 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.

## **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](http://www.walkinginfo.org).



*Safety information is available for download from the Pedestrian and Bicycle Information Center website,*

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. Key Town staff, members of the local planning board, RPO, NCDOT Division 6 staff, and Robeson County staff should all 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 attendance at 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.

## ENVIRONMENTAL AND HISTORIC EDUCATION/ INTERPRETATION

Educational programs and interpretative signage could be developed along future trails and pedestrian routes. Greenway trails 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](http://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 culture that make the Town of Pembroke unique, such as the strong ties the Lumbee Tribe of North Carolina. 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 Pembroke should support the creation of local bicycle and pedestrian advocacy group.
- The Town of Pembroke should consider sponsoring a training session for pedestrian design/review
- Create a self-guided walking tour of downtown historical/cultural sites
- Establish outdoor classrooms utilizing interpretative signage in open space, parks, and on future trails.
- Download a variety of safety materials for distribution to various age groups and at multiple events and 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](http://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/>



## ENCOURAGEMENT

### SCHOOL PROGRAMS

Many programs focus on developing safer pedestrian facilities around schools. Programs can be adopted by parents and schools to provide initiatives for walking.

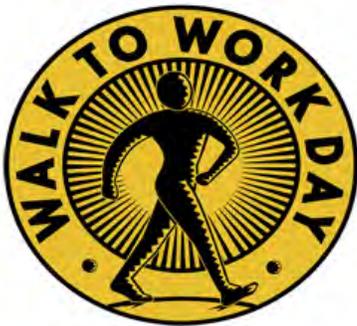
Community leaders, parents and schools across the U.S. are using Safe Routes to School programs to encourage and enable more children to safely walk and bike to school. The National Center for Safe Routes to School aims to assist these communities in developing successful Safe Routes programs and strategies. 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 can be used to increase use of pedestrian facilities:

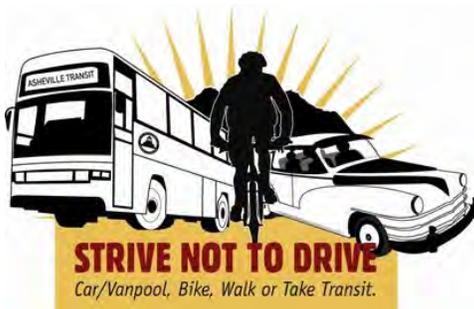
#### WALK TO WORK DAY/INTERNATIONAL CAR FREE DAY (SEPTEMBER 22)

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 Pembroke, 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 trails in Pembroke.

### ***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.

### ***USE FACILITIES TO PROMOTE OTHER CAUSES***

Pedestrian 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 Pembroke has numerous organizations that could help to promote pedestrian activities (e.g. UNCP, the Lumbee Tribe of North Carolina, the local Chamber of Commerce, local schools/PTAs, 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 future 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. 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.



### **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 (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 four 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 EVENTS**

The Town of Pembroke should consider holding events that can help fund future facilities. Program and event ideas that could be used to generate revenue in Pembroke include:

- Races/triathlons (fees and/or donations)
- Educational walks/Nature walks/Historic walks (fees and/or donations)
- Fund-raisers including dinners/galas
- Concerts (fees and/or donations)
- Events coincident with other local events such as fairs, festivals, historic/folk events, etc.

### **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 future 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 funding 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 Pembroke, go to the main webpage, and follow the International Walk to School links: [www.walktoschool-usa.org](http://www.walktoschool-usa.org)



Walk a Child to School in North Carolina. 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](http://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/>



## ENFORCEMENT

### *MOTORIST ENFORCEMENT*

Based on crash data analysis and observed patterns of behavior, local police 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.

The NCDOT 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 help to identify conflicts or issues that require attention. To maintain proper use of trail facilities, volunteers could patrol trails, particularly on the most popular trails and on days of heavy use. The volunteer patrol can report suspicious or unlawful activity, as well as answer any questions a trail user may have. The volunteer patrol could be a responsibility of a pedestrian advocacy group or a neighborhood crime watch group.

### *ENFORCEMENT ACTIONS*

- Local police should use targeted enforcement to focus on key issues such as motorists speeding, not yielding to pedestrians in crosswalks, parking on sidewalks, etc.
- Require all crossing guards to complete an NCDOT Crossing Guard Training Program
- Establish a crossing guard program for peak school hours

## PEMBROKE, NORTH CAROLINA

- 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](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](http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/resourceguide/index.html)

### **POLICY REVIEW**

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. The recommended policy statements would help the Town of Pembroke 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.

PEDESTRIAN-RELATED POLICIES IN THE TOWN OF PEMBROKE + SUGGESTED AMENDMENTS AND ADDITIONS

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (27)	Buffer Strip. A planted strip which shall be a minimum of five (5) feet in width, shall be composed of evergreen shrubs, and/or trees such that at least two (2) rows of coverage are provided from the ground to a height of six (6) feet within six (6) years and foliage overlaps. The five (5) feet required for the buffer strip shall be in addition to all normal yard requirements of this Ordinance.	[Add J]. The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (33)	Building Frontage. The distance expressed in linear feet of the horizontal dimension of a building wall that is parallel and adjacent to one (1) or more of the qualifying areas as follows: (a) a public or private street; (b) a common parking area in the case of a planned center; (c) a public parking area; or (d) a public access walkway.	[Add] 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.	
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (119)	Greenway. A linear park network left in its natural state, except for the introduction of trails to be used by pedestrians and bicyclists.	NA	
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (199)	Parking Lot. An open area, outside of the public right-of-way, for the storage of a vehicle or vehicles. The term "parking area" shall be included in this definition. Each parking lot shall have an approved means of ingress and egress.	[Add] 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.	
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (200)	Parking Space, Off Street. For the purpose of this Ordinance, an off-street parking space shall consist of a space adequate for parking an automobile with room for opening doors on both sides, together with property related access to a public street or alley and maneuvering room. No required off-street parking shall be located on any public right-of-way.	[Add]: Parking 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.	
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms (268)	Street. A public thoroughfare which affords access to abutting property...	[Add new sentence after 1st sentence of 'Street' definition]: Regardless of classification, the design and construction of streets and intersections in the Town of Pembroke 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 Pembroke.

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 2. BASIC DEFINITIONS AND INTERPRETATIONS Section 2-2 Definitions of Basic Terms	NA	[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 Pembroke 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.
UDO	ARTICLE 10. TABLE OF PERMITTED USES Section 10-1 Notes to the Table of Permitted Uses (B)	Parking, access, and circulation lanes between the principal building and the street(s) shall be surfaced with blacktop, concrete or brick and shall be separated from required yards or open areas by continuous curbing or some other acceptable method (decorative fencing, hedge, planter, etc.) which will define and separate vehicular areas from required yards and pedestrian traffic.	[Add] 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.	
UDO	ARTICLE 10. TABLE OF PERMITTED USES Section 10-1: Notes to the Table of Permitted Uses: Note 22. Sidewalks.	Sidewalks must be constructed for any new or substantially improved property located in the C-1, C-2, C-3, or O&I zoning districts and contiguous to NC 711. (A) Any new or substantially improved commercial, institutional, or multi-family projects shall construct a sidewalk along the entire width of the property parallel to the State street within the right-of-way. Substantially improved properties shall mean those properties that construct an addition to an existing building that costs over 50% of the assessed value of the existing building. (B) All sidewalk improvements shall be a minimum of eight feet in width and constructed with the approval of the North Carolina Department of Transportation in accordance with their design specifications. (C) The Planning Board reserves the right to waive or modify the requirements within this section if extenuating site circumstances or conditions are present.	[Revise B]: 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). Curb ramps should be fully contained within the markings. The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 13. PLANNED BUILDING GROUP REGULATIONS Section 13-1: Planned Building Group Regulations for Apartments, Townhouses, and Condominiums (H) Design Standards. (I)	Entrances and parking lots should be configured to be functional and inviting with walkways conveniently tied to logical destinations.	[Add] 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.	

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 13. PLANNED BUILDING GROUP REGULATIONS Section 13-1 Planned Building Group Regulations for Apartments, Townhouses, and Condominiums (F) Planned Building Group Site Development Plan (9)	The location and dimensions of all rights-of-way, utility or other easements, riding trails, natural buffers, pedestrian or bicycle paths and areas to be dedicated to public or property owner's use with a statement of the purpose of each;	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 13. PLANNED BUILDING GROUP REGULATIONS Section 13-3 Business Planned Group Regulations (A)	Circulation: Proposed points of access and egress and proposed pattern of internal automobile and pedestrian circulation. Curb cuts at a maximum combined width of 25 feet shall be allowed for each 80 feet of lot frontage or portion thereof. The locations of all points of ingress and egress shall be approved by the Town of Pembroke Planning Board.	[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.	
UDO	ARTICLE 13. PLANNED BUILDING GROUP REGULATIONS Section 13-3 Business Planned Group Regulations (B)	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.
UDO	ARTICLE 14. PLANNED UNIT DEVELOPMENT Section 14-5 Streets	A dense network of narrow streets with reduced curb radii may be fundamental to sound PUD design. This network serves to both slow and disperse vehicular traffic and provide a pedestrian friendly atmosphere. Such alternate guidelines are encouraged when the overall design ensures that non-vehicular travel is to be afforded every practical accommodation that does not adversely affect safety considerations. The overall function, comfort, and safety of a multi-purpose or "shared" street are more important than its vehicular efficiency alone. PUDs should have a high proportion of interconnected streets, sidewalks, and paths. Streets and rights-of ways are shared between vehicles (moving and parked), bicycles, and pedestrians. A dense network of PUD streets should function in an interdependent manner, providing continuous routes that enhance nonvehicular travel. Most PUD streets should be designed to minimize through traffic by the design of the street and the location of land uses. Streets are designed to only be as wide as needed to accommodate the usual vehicular mix for that street while providing adequate access for moving vans, fire engines, and school buses.	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 14. PLANNED UNIT DEVELOPMENT, Section 14-7: Commercial Development	The proposed development should have a mixture of residential and non-residential land uses, with up to 10% of the net buildable area consisting of non-residential uses. Most non-residential uses should be located within a community core area and not on the periphery of the PUD. Within the core area, a minimum of 15% of total enclosed gross floor area must be devoted to commercial uses oriented towards PUD residents. Public structures, such as schools, churches and civic buildings, and public open spaces, such as squares, parks, playgrounds, and greenways should be integrated into the neighborhood pattern.	[Add]: Pedestrian Easements: In such cases and at such locations as the Planning Board deems advisable, easements alongside or near lot lines not exceeding twenty (30) 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. These uses should be connected together through 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.	Addition allows for the justification of the easement to include destinations other than public places (for example, grocery stores, non-profit organizations, etc.)
UDO	ARTICLE 15. BUFFER STRIPS AND LANDSCAPING Section 15-5 Design Standards (C)	Parking lots shall be designed to allow pedestrians to safely move from their vehicles to the building. On small lots, this may be achieved by providing a sidewalk at the perimeter of the lot. On larger lots, corridors within the parking area should channel pedestrians from the car to the perimeter of the lot or to the building. These corridors may be delineated by a paving material which differs from that of vehicular areas and planted to provide shade. Small posts or bollards may be included.	[Add] 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.	
UDO	ARTICLE 15. BUFFER STRIPS AND LANDSCAPING Section 15-5 Design Standards (D)	To maintain pedestrian comfort and calm the speed of entering traffic, driveways to parking areas should be no wider than 24 feet. Driveways connecting to state roads shall meet the requirements of the NC Department of Transportation.	[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.	
UDO	ARTICLE 15. BUFFER STRIPS AND LANDSCAPING Section 15-5. Design Standards (I)	Five (5) feet of sidewalk shall be provided along all property lines which are adjacent to a public right-of-way (see Figure 1).	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 17. OFF-STREET PARKING AND OFF-STREET LOADING REQUIREMENTS Section 17-2: General (A)	Off-Street Parking Requirements. There shall be provided at the time of the erection of any building, at the time an existing structure is demolished in order to permit new construction, or at the time any principal building is enlarged or increased in capacity by adding dwelling units, guest rooms, seats, or floor area, or before conversion from one type of use or occupancy to another, permanent off-street parking space in the amount specified by this Ordinance. Such parking space may be provided in a parking garage or properly graded open space. All parking areas shall be designed so that ingress to and egress from such area shall be established and maintained, and that all vehicular traffic shall enter and leave the lot by forward motion of the vehicle. No off-street parking or loading shall be permitted in a required yard or open space, except in the case of a single or two-	[Add] All parking should provide 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.	

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 17. OFF-STREET PARKING AND OFF-STREET LOADING REQUIREMENTS Section 17-2: General	NA	[Add part] Design: Where ever possible commercial parking lots should be located behind or to the side of structures.	This brings the buildings closer to the street and makes them more accessible to pedestrians.
UDO	ARTICLE 17. OFF-STREET PARKING AND OFF-STREET LOADING REQUIREMENTS Section 17-2: General (G)	Separation from Walkways, Sidewalks, and Streets. All parking, loading, and service areas shall be separated from walkways, sidewalks, and streets by curbing or other suitable protective device to prevent vehicles from intruding into these areas.	NA	
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-7: Design Standards for Easements	NA	[Add]: (D) 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.)
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-12: Major Subdivision Sketch Design Plan Submission and Review	Sketch Plan Contents....	[Add to the list]: Pedestrian facilities including sidewalks, trails, greenways, and crosswalks.	This or similar language should be used to require developers to adhere to the design standards for pedestrian facilities in the Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-21: Suitability Requirements	Unity. The dedicated land shall form a single parcel of land, except where the Planning Board determines that two (2) parcels or more would be in the public interest. The Planning Board may also determine that a connecting corridor of open space is in the public interest, in which case the path shall not be less than thirty (30) feet wide for the purpose of accommodating a path or trail.	[Revise to]: Unity. The dedicated land shall form a single parcel of land, except where the Planning Board determines that two (2) parcels or more would be in the public interest. The Planning Board may also determine that a connecting corridor of open space is in the public interest, in which case the path, trail, or greenway shall not be less than thirty (30) feet wide for the purpose of accommodating a path or trail.	
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-26: Street Connectivity Requirements (A)	An interconnected street system is necessary in order to protect the public health, safety, and welfare in order to ensure that streets will function in an interdependent manner, to provide adequate access for emergency and service vehicles, to enhance nonvehicular travel such as pedestrians and bicycles, and to provide continuous and comprehensible traffic routes. All proposed new streets shall be platted according to the current Town Thoroughfare Plan.	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-26: Street Connectivity Requirements (E)	Residential streets shall be designed so as to minimize the length of local streets, to provide safe access to residences with minimal need for steep driveways and to maintain connectivity between and through residential neighborhoods for autos and pedestrians.	[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.	

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-26: Street Connectivity Requirements (G)	<p>Exemption. New subdivisions that intend to provide one new cul-de-sac street shall be exempt from the connectivity ratio standard as set forth in this section, provide the Administrator determines that there is:</p> <p>(1) No options for providing stub streets due to topographic conditions, adjacent developed sites, or other limiting factors; and</p> <p>(2) Interconnectivity (use of a looped road) within the development cannot be achieved or is unreasonable based on the constraints of the property to be developed.</p> <p>The design of all streets and roads within the jurisdiction of this Ordinance shall be in accordance with the accepted policies of the North Carolina Department of Transportation, Division of Highways, as taken or modified from the American Association of State Highway Officials (AASHO) manuals. The NC Department of Transportation, Division of Highways' Subdivision Roads, Minimum Construction Standards, January 1, 2000, or the current NC Department of Transportation standards, shall apply for any items not included in this Ordinance, or where stricter than this Ordinance.</p>	<p>[Add]: Cul-de-sac, if permitted, are preferred to not exceed 250 ft in length from the nearest intersection with a street providing through access (not a cul-de-sac); 250 ft may be exceeded if specifically approved. A close is preferred over a cul-de-sac.</p>	<p>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. Available online: <a href="http://www.ci.davidson.nc.us">www.ci.davidson.nc.us</a></p>
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-33: Design Standards	<p>NA</p>	<p>[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 to the respective current standards of the North Carolina Department of Transportation Division of Highways, the Town of Pembroke Subdivision Regulations, and the Town of Pembroke Pedestrian Transportation Plan.</p>	<p>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.</p>
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-33: Design Standards	<p>NA</p>	<p>[Add new paragraph J: 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. Wherever possible, streets should be designed to fit the contours of the land and should minimize removal of significant trees. Streets shall be designed as the main public space of the Town and shall be scaled to the pedestrian.</p>	
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-39: Street Intersections (B)	<p>Intersections with a major street shall be at least one thousand (1,000) feet apart, measured from centerline to centerline.</p>	<p>[Add]: The use of traffic calming devices such as raised intersections, lateral shifts, and roundabouts are encouraged as alternatives to conventional traffic control measures with approval of the Planning Board. a pedestrian crosswalk at least ten feet in width may be required to provide convenient public access to a public area such as a park, greenway, or school, or to a water area such as a stream, river, or lake. Sidewalks and crosswalks must be ADA compliant and shall be installed in accordance to the Town of Pembroke Pedestrian Transportation Plan.</p>	
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-39: Street Intersections	<p>NA</p>	<p>[Add]: Curb radii at street intersections shall be rounded with a minimum radius of 15 feet. At an angle of intersection of less than 90 degrees, a greater radius may be required. Curb radii shall be designed to reduce pedestrian crossing times along all streets. In general, curb radii should not exceed 25 ft.</p>	
UDO	ARTICLE 24, SUBDIVISION REGULATIONS Section 24-44: Cul-de-Sacs	<p>Section 24-44: Cul-de-Sacs Cul-de-sacs shall not exceed 750 feet in length.</p>	<p>[Replace 'Cul-de-sac' paragraph with]: Cul-de-sacs 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, are preferred not exceed 250 ft in length from the nearest intersection with a street providing through access (not a cul-de-sac); 250 ft may be exceeded if specifically approved. A close is preferred over a cul-de-sac.</p>	<p>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. Available online: <a href="http://www.ci.davidson.nc.us">www.ci.davidson.nc.us</a></p>

Source Document	Reference	Existing Text	Recommended Change	Notes
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-45: PUD/PRD Streets (A)	A dense network of narrow streets with reduced curb radii may be fundamental to sound design. This network serves to both slow and disperse vehicular traffic and provide a pedestrian friendly atmosphere. Such alternate guidelines are encouraged in PUDs/PRDs when the overall design ensures that non-vehicular travel is to be afforded every practical accommodation that does not adversely affect safety considerations. The overall function, comfort, and safety of a multipurpose or "shared" street are more important than its vehicular efficiency alone.	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-45: PUD/PRD Streets (B)	PUDs/PRDs should have a high proportion of interconnected streets, sidewalks, and paths. Streets and rights-of-ways are shared between vehicles (moving and parked), bicycles, and pedestrians. A dense network of PUD/PRD streets will function in an interdependent manner, providing continuous routes that enhance non-vehicular travel. Most PUD/PRD streets should be designed to minimize through traffic by the design of the street and the location of land uses. Streets should be designed to only be as wide as needed to accommodate the usual vehicular mix for that street while providing adequate access for moving vans, garbage trucks, fire engines, and school buses (see Appendix I).	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-48: Construction and Inspection (C) Curb and Gutter, Driveways, and Sidewalks.	NA	[Add paragraph]: Curb ramps installed to ADA standards with detectable warnings shall be installed at each intersection and in accordance with the Town of Pembroke Pedestrian Transportation Plan.	
UDO	ARTICLE 24. SUBDIVISION REGULATIONS Section 24-53: Utilities to be Consistent with Internal and External Development (B)	All utility facilities shall be constructed in such a manner as to minimize interference with pedestrian or vehicular traffic and to facilitate maintenance without undue damage to improvements or facilities located within the development.	[Add ]: The design standards for all pedestrian facilities in the Town of Pembroke 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 Pembroke Pedestrian Transportation Plan.

## ADDITIONAL POLICY RECOMMENDATIONS

Additional recommended policy statements are provided below for consideration:

- 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.
- 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.
- 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.
- 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.
- 'Greenways' should be defined as part of the Town of Pembroke'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 purchased and easements negotiated for the purpose of providing utilities (such as water and sewer) can serve a greater community benefit if established to also accommodate a public access for trails.





Mid-block crossing on Odom

# IMPLEMENTATION

## CHAPTER OUTLINE:

### OVERVIEW

#### KEY ACTION STEPS

- 1) *Adopt this Plan*
- 2) *Begin Top Priority Projects*
- 3) *Improve and Enforce Town Regulations*
- 4) *Provide a Request Form for Sidewalks + Sidewalk Repair*
- 5) *Create a Bicycle and Pedestrian Advisory Committee (BPAC)*
- 6) *Take Advantage of All Opportunities*
- 7) *Seek Multiple Funding Sources and Facility Development Options*
- 8) *Develop Pedestrian Programming*
- 9) *Ensure Planning Efforts Are Integrated Regionally*

#### PRIORITY PROJECTS

#### STAFFING

#### PERFORMANCE MEASURES (EVALUATION AND MONITORING)

#### PEDESTRIAN FACILITY DEVELOPMENT

#### GREENWAY ACQUISITION

## OVERVIEW

The primary barrier to pedestrian facilities in Pembroke—such as sidewalks, safe intersections, and greenways—is funding. Pembroke is a small town with a small tax base and has a high student resident population due to the UNC-P being within the town limits. 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, the creation of a Bicycle and Pedestrian Advisory Committee, and the support of 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.

## 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 Pembroke has undergone a successful, supported planning process. The Town can then use this document to receive funding through NCDOT and other resources. The Town Council 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 Pembroke planning documents.

**BEGIN TOP PRIORITY PROJECTS.**

Steering Committee input, public input, and criteria such as sidewalk gap closure and proximity to schools and other trip attractors were used to develop the list of priority projects (see page 53). Immediate attention to the high priorities will instantly have a large impact on pedestrian conditions in Pembroke. These high priority projects should be supported by a combination of grants, local funding, and 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 Town 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 facilities when on an 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.

**PROVIDE A REQUEST FORM FOR SIDEWALKS + SIDEWALK REPAIR**

Several communities across the state have created an on-line sidewalk request form that citizens can use to ask for sidewalks to be built on streets that they use regularly. Utilizing local citizens to help find gaps in the current sidewalk network is highly important because they are familiar with their specific neighborhoods and needs. After these forms are completed the requested sidewalk can be evaluated by a Town staff person and if deemed important for connectivity purposes they should be added to the sidewalk priority project list.

**CREATE A BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE (BPAC)**

Many communities across the State have commissions for this purpose. The Town of Pembroke should create a BPAC to embrace an 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 BPAC should help coordinate

the implementation of this Plan, develop programs, listen to community needs, promote the pedestrian network, and keep positive momentum going. Consider appointing a liaison or providing formal reports to Town Council on development review issues related to pedestrian, bicycle, and greenway planning.

The BPAC 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 6 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 an appendix to this plan. 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.**

Combining resources and efforts for pedestrian planning and trail planning with surrounding municipalities, regional entities, and stakeholders is mutually beneficial to all parties involved. Regional, long-distance trails often spark the most excitement, use, and tourism. The Town should remain coordinated with Robeson 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 BPAC 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 6.

**PRIORITY PROJECTS**

The top pedestrian projects in Pembroke 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 Pembroke 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 listed in Chapter 3, and should be prioritized according to the sidewalk corridor which they serve. Sidewalks are prioritized in Table 5.1, page 53. Greenway development will most likely occur on an opportunity basis, as land is developed and as easements are acquired. Finally, in addition to these three main types of improvements, mid-block crossings are at the top of the list as a result of both public input and determination that these projects will have the most impact for pedestrian safety and connectivity compared to overall cost.

The following table lists the top project packages, as described in Chapter 3, and estimated costs. Cost per linear foot for sidewalks and crosswalks were provided by the North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation. These figures are for planning purposes only.



*Above: Example of an existing mid-block crossing in Pembroke, on Odum St.*

TABLE 5.1 PRIORITY PROJECT LIST W/ COSTS

Priority Rank	Project Priority	From	To	Facility Type	Unit Curb Extension/Median Island Cost (Varies but ranges from \$5,000 to \$25,000 each)	Ped Countdown Signal Heads Unit Cost (\$750 per signal)	Unit Curb Ramp Cost with Truncated Dome (\$1,500 each) - Does not include demolition of old ramps	New Sidewalk or Trail, Total LF	Sidewalk Cost: \$50 LF (\$75 LF w/ curb & gutter)	Trail Cost: \$133/ LF	# of New Crosswalks	New Crosswalks Total LF	\$5.00/LF	Totals
1	Mid Block Crossings w/Ped Activated Signals (Odum, 3rd, and University)	-	-	Crosswalks, signals, and median island or curb extensions	\$150,000	\$6,000	\$12,000	0	\$0	\$0	4	96	\$480	\$168,480
2	3rd St/711 (Part 1)	Redmond Rd	Odum St	Sidewalk and Crosswalks	\$0	\$12,000	\$12,000	2,250 w/o curb + 1,650 w/curb	\$236,250	\$0	4	96	\$480	\$260,730
3	3rd St/711 (Part 2)	Odum St	Cherokee St	Sidewalk and Crosswalks	\$0	\$21,000	\$42,000	4,000 w/o curb	\$200,000	\$0	7	168	\$840	\$263,840
4	3rd St/711 (Part 3)	Cherokee St	Candy Park Rd	Sidewalk and Crosswalks	\$0	\$6,000	\$12,000	4,800	\$336,000	\$0	2	48	\$240	\$354,240
5	3rd St/711 (Part 4)	Candy Park Rd	Chicken Rd	Sidewalk and Crosswalks	\$0	\$6,000	\$12,000	4,200	\$294,000	\$0	2	48	\$240	\$312,240
6	Union Chapel Rd	E Rail Road	E Wardell Dr	Sidewalk and Crosswalks	\$0	\$15,000	\$30,000	3,100	\$217,000	\$0	5	120	\$600	\$262,600
7	1st St	Existing Sidewalk	Bonnie	Sidewalk and Crosswalks	\$0	\$6,000	\$12,000	2,100	\$147,000	\$0	2	48	\$240	\$165,240
8	S Jones St	3rd St/711	Elementary School	Sidewalk and Crosswalks	\$0	\$6,000	\$12,000	1,700	\$119,000	\$0	2	48	\$240	\$137,240
9	Pembroke Greenway 1 (Downtown to Lumber River)	3rd St/711	Lumber River	Greenway/Trail	\$0	\$6,000	\$12,000	6,100	\$0	\$811,300	1	24	\$120	\$829,420
10	Pembroke Greenway 2 (Kerr Drug to Rec Center)	Kerr Drug	Chicken Rd	Greenway/Trail	\$0	\$13,500	\$27,000	10,500	\$0	\$1,396,500	3	72	\$360	\$1,437,360
11	Pembroke Greenway 3 (RR/Jones St Greenway)	3rd St/711	Pembroke Greenway 2	Greenway/Trail	\$0	\$13,500	\$27,000	9,900	\$0	\$1,316,700	3	72	\$360	\$1,357,560
12	Various Sidewalks (Odum, Pembroke Point, Jones, Normal St, Pine St, Redmond Rd, Vance St, 711)	-	-	Sidewalk and Crosswalks	\$0	\$96,000	\$192,000	24,000	\$1,680,000	\$0	16	384	\$1,920	\$1,969,920
<b>Grand Total:</b>														<b>\$7,518,870</b>
<small>Total for top three priority projects</small>														<b>\$693,050</b>

\* See page 78 of the design guidelines for more on pedestrian lighting. Cost of lighting ranges dramatically depending on style and quality of fixtures selected. NCDOT determined an average cost of about \$2,200 each.

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: \$5.00 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)

## STAFFING

### TOWN OF PEMBROKE

The Town of Pembroke’s Planning Board and Board of Commissioners are responsible for the coordination of pedestrian planning. The Town of Pembroke is and the UNCP should work closely to address pedestrian accessibility issues with students and citizens. The Town of Pembroke is committed to implementing the policy recommendations of this plan in relatively short order.

The Planning Board, Board of Commissioners, and Public Works Department are all committed to increasing both the quantity and quality of pedestrian infrastructure. The Town 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, staff 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 Public Works Director should 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 Town planning staff in updating cost estimates for future facilities, and providing practical input on this Plan’s design guidelines.

### ***NORTH CAROLINA DEPARTMENT OF TRANSPORTATION***

NCDOT Division 6 maintains the state-owned roads in Pembroke, affecting the pedestrian facilities (or sometimes lack thereof) on much of Pembroke’s roadway environment. Recommendations for pedestrian facilities on NCDOT roads will have to be carried out through a coordinated effort between the Town of Pembroke and NCDOT Division 6. Some technical 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 City 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 Pembroke 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 City of Cary and/or NCDOT Division 5.

### ***POLICE DEPARTMENT***

The Pembroke 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 and staff 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.

## **PERFORMANCE MEASURES (EVALUATION AND MONITORING)**

The Town of Pembroke should establish performance measures to benchmark progress towards achieving the vision of this Plan. These performance measures should be stated in an official report within two years after the Plan is adopted. Performance measures could address the following aspects of pedestrian transportation and recreation in Pembroke:

- Safety. Measures of pedestrian crashes and injuries.
- Facilities. Measures of how many pedestrian facilities have been funded and constructed since the Plan's adoption.
- Education, Encouragement and Enforcement. Measures of the number of people who have participated in part of a pedestrian program since the Plan's adoption.

## **PEDESTRIAN FACILITY DEVELOPMENT**

This section describes different construction methods for the proposed pedestrian facilities outlined in Chapter 3 of this Plan, and listed on page 53 of this chapter. 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, an assigned planning staff person 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.

### ***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 Pembroke, guided by the priority projects within this plan, should strongly consider important pedestrian projects along State roads to present to the Lumber River Rural Transportation Planning Organization (RPO) and State. Local requests for small pedestrian projects, such as crosswalks and smaller segments of sidewalk, can be directed to the RPO or the local NCDOT Division 6 office. Further information, including the criteria evaluated can be found at: [http://www.ncdot.org/transit/bicycle/funding/funding\\_TIP.html](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 Pembroke 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 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, re-grading 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: [www.pps.org/info/amenities\\_bb/signage\\_guide](http://www.pps.org/info/amenities_bb/signage_guide)

### **EXISTING TOWN EASEMENTS**

The Town has several existing easements throughout Pembroke, 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. Refer to the appendix for an example sewer-greenway trail easement.

### **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 this Plan's appendix.

### **PARTNERSHIPS**

Partnerships with land trusts, local developers, and private land managers can assist the Town of Pembroke 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.

- 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
- 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





UNCP Public Input Table

CHAPTER OUTLINE:

OVERVIEW

PUBLIC INPUT SESSIONS

PUBLIC OUTREACH

PUBLIC COMMENT  
FORM RESULTS

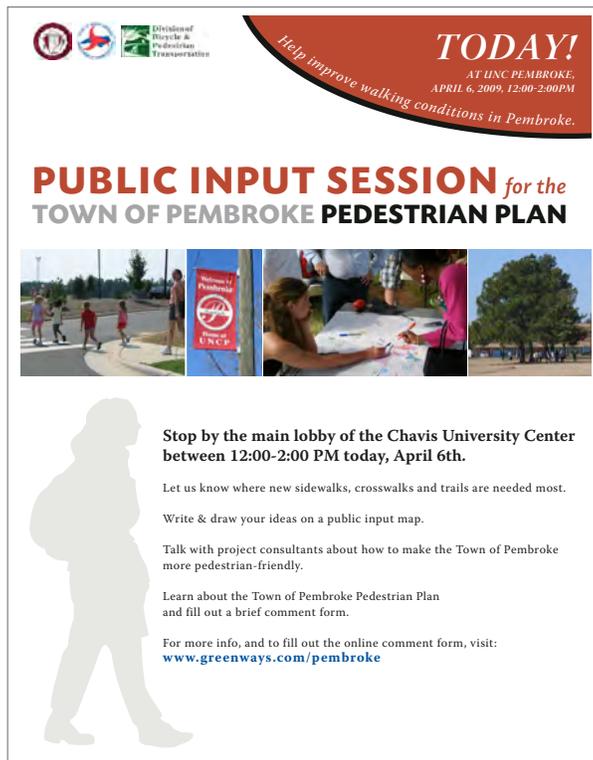
OVERVIEW

Suggestions made by residents during public input sessions, committee meetings, and through the online comment form, 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, which yielded responses from more than 200 local residents and UNCP students.

PUBLIC INPUT SESSIONS

The first public input session for the Pedestrian Plan was held at UNCP’s Chavis University Center, on April 6, 2009 from 12:00 to 2:00 PM. The project consultants were in attendance and available to discuss and answer questions regarding the plan and the planning process. Twenty-four people actively participated through map comments and comment forms, and many more people took away information about the project in the form of newsletters. Project planners received comments primarily concerning the existing conditions and the proposed improvements.

Below: A Public Input flyer from April 2009



A final public input opportunity for the Pedestrian Plan took place in September 2009, during ‘Pembroke Day’, where approximately 50 people stopped by an information table to provide input and learn about the plan.

PUBLIC OUTREACH

Steering committee members, project planners, and Town staff took the initiative to distribute and receive information (mostly via e-mail) for the Pedestrian Plan. Project newsletters and comment forms were also made available and distributed at the Town Hall front desk, throughout the duration of the project.

Project Contact:

Landin Holland,  
AICP, MPA  
Planner

Town of Pembroke  
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## Planning is Underway to Improve Conditions for Walking in Pembroke, NC

The Town of Pembroke 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 2009. Project consultants, *Greenways Incorporated*, have been conducting fieldwork and evaluating the current conditions for walking in Pembroke during February and March. They are currently gathering public input for the plan (see below). The draft plan will be developed over the summer and will be ready for review in late summer 2009.

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 Pembroke; and priorities for future improvements. Paper comment forms are available upon request.
2. Attend the next planning workshop in Summer 2009. The draft plan will be reviewed and input will be gathered on project priorities. For details, visit this website: [www.greenways.com/pembroke](http://www.greenways.com/pembroke)
3. Talk directly with project staff, committee, and consultants. Contact Town of Pembroke Planner, Landin Holland (910-392-0060), or project consultant, Jason Reyes (919-484-8448 [jason.reyes@greenways.com](mailto:jason.reyes@greenways.com)), to share your ideas and/or learn more about the plan.



Above: Images from Downtown Pembroke.

*“Walking gets the feet moving, the blood moving, the mind moving. And movement is life.”*

*~ Carrie Latet*

Project info and online comment form:  
[www.greenways.com/pembroke](http://www.greenways.com/pembroke)



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 Pembroke Pedestrian Transportation Plan comes into play. The Plan aims to make walking in Pembroke 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.



Creating safe pedestrian connections between downtown and key destinations, such as the Pembroke Recreation Center (above) and the UNC Pembroke campus (below), was identified as a key goal of the Plan during the project Kick-Off meeting.



Project info and online comment form:  
[www.greenways.com/pembroke](http://www.greenways.com/pembroke)

Project Contact:

Landin Holland,  
AICP, MPA  
Planner

Town of Pembroke  
100 Union Chapel Road  
P.O. Box 866  
Pembroke, NC 28372

(P) 910-392-0060

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hccplanning.com

## Improving Walkability in Pembroke

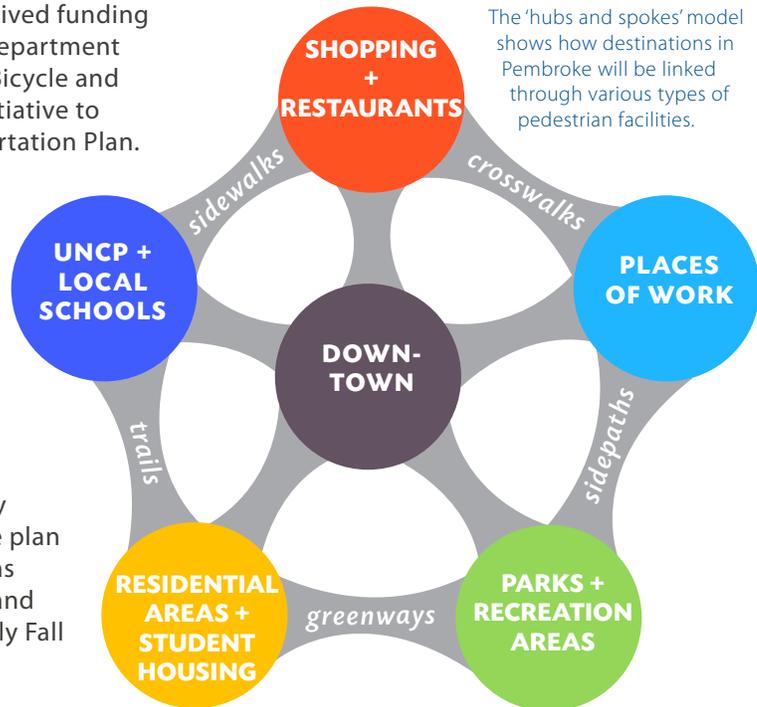
The Town of Pembroke received funding from the North Carolina Department of Transportation (NCDOT)'s Bicycle and Pedestrian Planning Grant Initiative to develop a Pedestrian Transportation Plan.

Planning began with a Steering Committee Meeting in March 2009. Project consultant, *Greenways Incorporated*, has been conducting fieldwork and evaluating the current conditions for walking in Pembroke during February and March. They are currently gathering public input for the plan (see below). The draft plan was developed over the summer and will be ready for review in early Fall 2009.

Previous public input events and Steering Committee meetings have revealed recommendations for sidewalk improvements and additions including, but not limited to, sections of 3rd St/NC 711, Union Chapel Rd, 1st St, S Jones St, Normal St, Pine St, and Vance St. Recommendations for intersection improvements include several intersections along 3rd St/NC 711, 1st St, and University. These recommendations will provide important pedestrian linkages between destinations such as schools, restaurants, banks, housing, and stores. (See reverse side for the draft map of pedestrian improvements).

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



The 'hubs and spokes' model shows how destinations in Pembroke will be linked through various types of pedestrian facilities.

residents currently walk; the barriers to walking in Pembroke; and priorities for future improvements. Paper comment forms are available at Town Hall.

2. Attend the next planning workshop at Pembroke Day (Sept. 9th) at the UNC-P Campus. The draft plan will be on display and input will be gathered on project priorities. For details, visit this website: [www.greenways.com/pembroke](http://www.greenways.com/pembroke)
3. Talk directly with project staff, committee, and consultants. Contact Town of Pembroke Planner, Landin Holland (910-392-0060), or project consultant, Jason Reyes (919-484-8448 [jason.reyes@greenways.com](mailto:jason.reyes@greenways.com)), to share your ideas and/or learn more about the plan.



Project info and online comment form:  
[www.greenways.com/pembroke](http://www.greenways.com/pembroke)



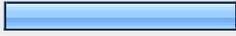
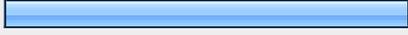
## PUBLIC COMMENT FORM RESULTS

The public comment form was designed to gain a better understanding of local needs and priorities related to pedestrian planning. Questions included items on:

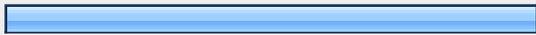
- current walking trends
- barriers to walking in Pembroke
- desired future walking opportunities
- priorities for future improvements

Nearly **200** people submitted comments (as of August 31, 2009), through both the online form, and through printed hard copies. The following pages show the results:

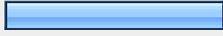
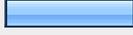
1. How important to you is improving walking conditions in the Pembroke area? (select one)				
			Response Percent	Response Count
Very important		85.6%	185	
Somewhat important		13.0%	28	
Not important		1.4%	3	
			<i>answered question</i>	<b>216</b>
			<i>skipped question</i>	<b>0</b>

2. How do you rate present pedestrian conditions in the Pembroke area? (select one)				
			Response Percent	Response Count
Excellent		1.9%	4	
Fair		35.6%	77	
Poor		62.5%	135	
			<i>answered question</i>	<b>216</b>
			<i>skipped question</i>	<b>0</b>

**3. Do you feel that the Town should consider non-automobile transportation (i.e. pedestrian and bicycle) as a priority? (select one)**

		Response Percent	Response Count
Yes		82.4%	178
No		8.3%	18
Doesn't matter		9.3%	20
		<b>answered question</b>	<b>216</b>
		<b>skipped question</b>	<b>0</b>

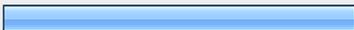
**4. How often do you walk around Town now? (select one)**

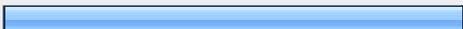
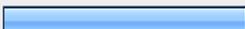
		Response Percent	Response Count
never		36.0%	77
few times per month		33.6%	72
few times per week		19.6%	42
5+ times per week		10.7%	23
		<b>answered question</b>	<b>214</b>
		<b>skipped question</b>	<b>2</b>

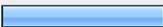
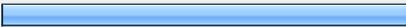
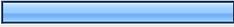
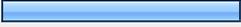
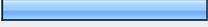
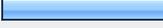
**5. Would you walk more often if more sidewalks, trails, and safe roadway crossings were provided for pedestrians?**

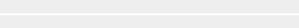
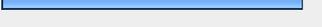
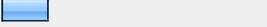
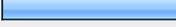
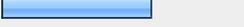
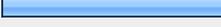
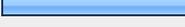
		Response Percent	Response Count
Yes		94.4%	202
No		5.6%	12
		<b>answered question</b>	<b>214</b>
		<b>skipped question</b>	<b>2</b>

6. Should public funds be used to improve pedestrian options and facilities?			
		Response Percent	Response Count
Yes		96.2%	202
No		3.8%	8
<i>answered question</i>			210
<i>skipped question</i>			6

7. What types of funds should be used? (Choose all that apply)			
		Response Percent	Response Count
Capital improvements bond or other financing strategy		57.8%	122
Existing local taxes		55.9%	118
New local taxes		19.0%	40
<b>State and federal grants</b>		<b>77.7%</b>	<b>164</b>
Other (please specify)		14.2%	30
<i>answered question</i>			211
<i>skipped question</i>			5

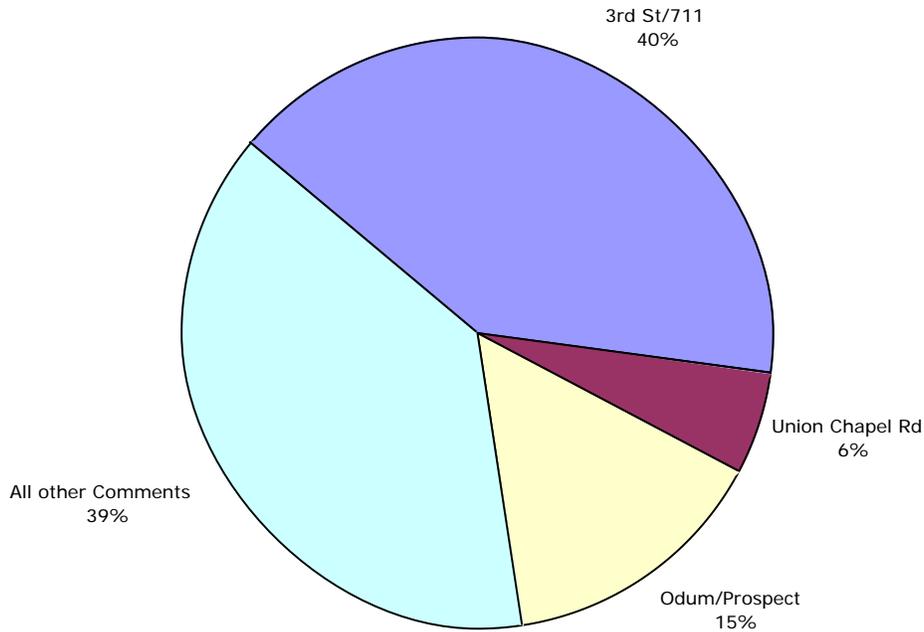
8. For what purposes do you walk most now and/or would you want to walk for in the future? Select all that apply.			
		Response Percent	Response Count
Fitness or recreation		73.8%	152
<b>Transportation to some destination</b>		<b>75.7%</b>	<b>156</b>
Social visits		39.8%	82
Walking the dog		13.6%	28
Walking with a stroller		6.8%	14
<i>answered question</i>			206
<i>skipped question</i>			10

9. What walking destinations would you most like to get to? Select all that apply.			
		Response Percent	Response Count
Place of work		31.7%	66
School		18.3%	38
<b>UNC-Pembroke</b>		<b>80.8%</b>	<b>168</b>
Restaurants		78.4%	163
Downtown		48.1%	100
Shopping centers		45.7%	95
Parks		47.1%	98
Pembroke Recreation Complex		40.4%	84
Library		32.2%	67
		<b>answered question</b>	<b>208</b>
		<b>skipped question</b>	<b>8</b>

10. What factors discourage you from walking in Pembroke? Select all that apply.			
		Response Percent	Response Count
<b>Lack of sidewalks and trails</b>		<b>80.8%</b>	<b>168</b>
Lack of crosswalks at traffic signals		74.5%	155
Lack of pedestrian signals at intersections		59.6%	124
Automobile traffic and speed		63.9%	133
Lack of interest		4.3%	9
Lack of time		8.7%	18
Aggressive motorist behavior		52.9%	110
Sidewalks in need of repair		34.1%	71
Lack of nearby destinations		29.3%	61
Criminal activity		48.1%	100
Level of street lighting		43.8%	91
Lack of landscaping and/or buffer between sidewalks and road		36.5%	76
		<b>answered question</b>	<b>208</b>
		<b>skipped question</b>	<b>8</b>

**11. What do you think are the top roadway corridors most needing sidewalk or pedestrian crossing improvements?**

The open ended responses to this question are sorted and listed below, verbatim. The pie chart below represents a summary of the responses.



711
711
711
711
711
711
711
711
711
3rd St
3rd St
3rd St
3rd St (NC-711) adjacent to UNCP campus
3rd St (NC-711) between UNCP and downtown
3rd st and union school
3rd St downtown area
3rd Street
3rd street
3rd Street
3rd Street leading to the university
3rd Street main road into Pembroke from HWY74 & I95
3rd street needs sidewalk extending from UNCP to Walmart
711 from UNCP to McDonalds

711 in front of McDonald's restaurant
711 to Rec Center
Across from McDonalds/Huddle House
all
all
all
All around UNCP
All Crossways in/out of UNCP
all of downtown needs expanded/upgraded sidewalks
apartments to UNCP
Area in Front of UNCP/McDonald's
Areas around student apts.
Areas around UNC-P leading to area businesses
Areas on both sides from the stop light until Walmart
Around grocery stores
Around restaurants
Around UNCP campus
at college sun d0
at every other unc campus cars must yield to pedestrians
at kfc
At McDonalds
at mcdonald's
At Pembroke Pointe
At the main stoplight by Burger King
At the stoplight at Pizza Hut to Food Lion
At UNC-Pembroke
better lighting
Between the highway and McDonalds
Between UNCP and Carter hall
Between UNCP and mcdonald's
bicycle and running paths for recreation and fitness
bike lanes are needed everywhere
both sides of roadway going to courtyard and pointe
Brighter lighting and an emergency phone pole on the sidewalk on the way to Courtyard
Burger King area across to UNCP
Burger King crossing
Burger King to Oxendine Building at Odum Road.
by the post office
by the recreation center
Corner At UNCP Burger King
Corner of 1st street at Odum Home across to UNCP
corner of Odum and Main
corner of prospect and highway 711
cross walk from Burger King to UNCP

cross walk to UNCP from apartments
Cross walks across Odum Road
Cross walks or even a walking bridge on the East side of UNCP, leading to the apartments.
Cross walks to McDonalds
crossing 711/Third St. from UNCP (south side) to retail strip (McDonald's, coffee house, Pizza Hut, etc.)
Crossing from Courtyard over to Campus near the Fieldhouse
Crossing Odum Road to campus from Pembroke Place to Burger King!
crossing Prospect from UNCP (east side) to housing & retail strip
Crossing Prospect Road from UNCP
Crossing the street from the Science building to KFC Burger King etc.
Crossing the street to McDonalds
Crossing to KFC & Burger King
Crossing to McDonalds
Crosswalks to Burger King/KFC
Deep Branch Rd
downtown
downtown
Downtown area
downtown area all the way up to walmart and down to food lion
Downtown to Walmart
Downtown/Main Street
downtown-restaurants
E Third St
Entire main street from Food Lion to Walmart.
Entrance to UNC Pembroke
EVERYWHERE!
Food Lion/Pembroke Pointe to UNCP
foodlion to UNCP
from apartments to UNCP
From campus to Food Lion
from Comtech to UNCP
From downtown to Walmart area
From Pembroke Pointe apartments to UNCP
From Pembroke pointe to uncp
from piggly wiggly out to walmart
from state employees bank down past the mcdonalds
From UNCP to downtown
from UNCP to drug store
From UNCP to Food Lion
From UNCP to Food Lion
From UNCP to McDonalds
from UNCP to shopping centers and restaurants
From UNCP to walmart
from Wal Mart to UNCP

FromUNC Pembroke to mcdonalds
Get rid of the fire-ants
Highway 711
Highway 711 for pedestrians crossing from UNCP
Hwy 711
Hwy 711 (Wal-Mart to Food Lion)
HWY 711 / 3rd Street
HWY 711 leaving from UNCP going to Wal-Mart
HWY 711 past UNCP campus (3rd Street)
i feel like we need a train station more than walkways pembroke hasnt grown enough just yet
i find it odd that cars do not have to yield to people walking
In downtown pembroke
In front of Burger King
In front of McDonalds
Increased traffic patrol on Odom Rd
Intersection of Prospect Rd. and Hwy 711
Jones Street
Light at Burger King
Main Campus to Carter Hall
Main Campus to Food Lion plaza
Main Campus to Restaurants/Fast Food establishments
Main road
main road between GPAC and BK/KFC
Main St
Main St
Main St
Main St
Main Street
Main Street (711)
Main Street (all areas)
Main Street entirely!!
Main street fares around University area
Main Street- W. Third
McDonalds
McDonalds crossing
McDonalds to UNCP area
Michaels
More crosswalks
more crosswalks bwt UNCP and restaruants/downtown
More shade along sidewalks

Mostly around UNCP for student safty, esp in front of MCD's because students walk there alot.
Near jersey mike's
Near UNCP
Near Walmart
need a bridge for students to cross over to KFC and burger king
Need a Light at McDonalds to help pedestrians and people turning in and turning out of McDonalds it's scary for all involed and many accidents happen here.
need a pedestrain crossing near Pizza Hut
need a stoplight and pedestrain crossing near KFC / BK Oxendine Science
Need sidewalks all the way out to Food Lion or State Employees and out to Walmart or the new recreation park
Need Sidewalks to and from the UNCP apartments behind Food Lion
New sidewalks
Odom Rd. from UNCP to Apartments, Dolt, & resturants
Odom Road at Berea Church for pedestrians crossing to UNCP
Odom Road near UNCP Campus and Berea Church
Odum / Prospect Road
Odum Rd- W Third St
Odum Rd.
Odum Road
Odum/Prospect at UNCP (Dangerous!)
On Prospect Rd. near BK and KFC.
parking lot at church to uncp Locklear Hall
pedestrian crossing at Mcdonalds
pedestrian crossing between campus & mcdonalds
pedestrian crossing over prospect road near the apartments and the fast food restaurants
Pedestrian crosswalk across from Burger King
Pembroke Pointe Lane (really need street lights and sidewalks)
Philadelphus Rd adjacent to UNCP campus
Philadelphus Road
Pine St
Pine Street
Pizza Hut
Pizza Hut to Food Lion (Back to Pembroke Pointe)
Prospect
Prospect Rd
Prospect Rd
Prospect Rd
Prospect Rd
Prospect Rd.
Prospect Rd. and the UNCP
prospect road
Prospect Road
prospect road

Prospect Road
Prospect Road (all areas)
Rail Road St
Railroad crossings
Recreation Park
Recreational Complex
remove existing wires(light poles) in down town area
road next to camus
Road that runs in front of Movie Gallery, not sure of the name of the road
Route between UNCP & downtown Pembroke
Route between UNCP & Food Lion/Credit Union/etc.
Rt. 711 at UNCP (Present situation is unacceptable in a university town)
shopping
sidewalk
Sidewalk down Odum Road
sidewalk to Pembroke Point (at least the road enetering)
sidewalks
sidewalks
sidewalks along main street from jersey mikes to food lion
Sidewalks and lighting on sidewalks from UNCP to the large apartments like Pembroke Pointe and the Commons at Pembroke
sidewalks for pembroke pointe area
sidewalks for safety
Sidewalks to Food Lion, Dollar General, Credit Union
Sidewalks to Walmart and resturants
Streets adjoining UNCP
Stretch of road from UNC Pembroke to Walmart
Texaco Intersection
The area between UNCP and Food Lion
The area between Walmart and UNCP
The Commons at Pembroke to UNCP
The downtown area
the four lane road that goes inbetween uncp and burger king
The intersections that lead to the university from the side where the church and burger king and mcdonalds are located
the main street (3rd or 711) need to be widened by the SoJo station (3rd and Jones)Its a traffic bottle-neck
The new park area on Hwy 711 all the way to the UNCP
The road between McDonalds and UNC Pembroke
The roads that border UNCP campus.
There NEEDS to be a crosswalk between UNCP and McDonalds. Someone will get killed there sooner rather than later.
There should be overhead crosswalks for students to use

Third St
Third St.
Third Street
Third Street
Third Street
to campus
to Food Lion
to new Pembroke Rec Center
to student apartments
town park
Traffic light @ Burger King
Trailways for bicycling on North End of Town
UNC Pembroke to the restaurants/Food Lion across the street
UNCP
UNCP
unc-p
UNCP main entrance in front of McDonalds
UNCP to downtown areas
Uncp to food lion
uncp to hardees
Uncp to Pembroke pointe
uncp to subway
UNCP to Walmart
Uncp to walmart
Union Chapel
Union Chapel Rd
Union Chapel Rd
Union Chapel Rd
Union Chapel Rd.
Union Chapel Rd., it would improve cruising nights
Union Chapel Road
Union Chapel Road (all areas)
union chapel road and highway 711
union chapel road to the last quick stop in town
University
University Courtyard to UNCP
University Dr. from UNCP to anywhere on the other side
university drive and highway 711
University lane (street in front of McDonalds)
University Road

University Road and Union Chapel Road
Vance and 3rd St
W 3rd St-Vance St
W3rd Street
walking access to Food Lion
walking access to wal-Mart
walkway from Pembroke Pointe to University
Wal-mart area, it is growing and I feel there will be apartments near Wal-mart one day
way across railroad road to cafe house
We badly need sidewalks to Wal-Mart and Com Tech from downtown
We need a sidewalk with streetlights from Food Lion to Comtech.
We need sidewalks and lighting from UNCP to restaurants
We need sidewalks and street lights between UNCP and Pembroke Pointe apartments. I try to walk from Pembroke Pointe apartments to the Food Lion and I have to walk in the street because there are no sidewalks
West 3rd St from campus to downtown
West 3rd St from campus to Food Lion
West 3rd St in front of campus

**12. What is your zip code?**

The majority of responses were from 28372





NC 711

# FUNDING SOURCES

B

## CHAPTER OUTLINE:

OVERVIEW

HIGH PRIORITY  
FUNDING OPTIONS

STATE FUNDING  
SOURCES

FEDERAL FUNDING  
SOURCES

LOCAL FUNDING  
SOURCES

PRIVATE FOUNDATIONS AND  
CORPORATIONS

## 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 Pembroke 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 Pembroke 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 Pembroke can do to establish their own funding for sidewalk and greenway initiatives. For the most part, it takes money to get money. For Pembroke, 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 Pembroke 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.

## 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

## STATE FUNDING SOURCES

The most direct source of public-sector funding for the Town of Pembroke 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](http://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](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](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/](http://www.ncdot.org/programs/ghsp/).

## FUNDING AVAILABLE THROUGH NORTH CAROLINA METROPOLITAN PLANNING ORGANIZATIONS (MPOS)

MPOs in North Carolina which are located in air quality non 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 non 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/](http://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](http://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/](http://www.ncdot.org/programs/safeRoutes/) or contact Leza Mundt at DBPT/NC DOT, (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](http://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/](http://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](http://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](mailto: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](http://www.ctnc.org). E-mail: [info@ctncc.org](mailto:info@ctncc.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](http://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/](http://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](mailto: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](http://www.h2o.enr.state.nc.us/nps/Section_319_Grant_Program.htm). E-mail: [kimberly.nimmer@ncmail.net](mailto: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/](http://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](http://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](http://www.h2o.enr.state.nc.us/wrp)

Contact: 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](mailto: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](http://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](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](http://www.ncwater.org/Financial_Assistance) or call 919-733-4064.

## NORTH CAROLINA HEALTH & 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](http://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/](http://www.enr.state.nc.us/conservationtaxcredit/).

### 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/](http://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/](http://www.nps.gov/ncrc/programs/rtca/) or call Chris Abbett, Program Leader, at 404-562-3175 ext. 522.

### PUBLIC LANDS HIGHWAYS DISCRETIONARY FUND

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

### LOCAL FUNDING SOURCES

The Town of Pembroke 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 townwide 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 promotion of tourism, and the gas tax that generates revenues for transportation related activities.

**Occupancy Tax** - The NC General Assembly may grant municipalities 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.

## 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 Pembroke 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.

### 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.

### **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 offer support in other areas of open space and greenways development. More information is available at [www.zsr.org](http://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](http://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](http://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](http://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](http://www.conservationalliance.com/index.m).

E-mail: [john@conservationalliance.com](mailto: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:

OVERVIEW

PARTNERSHIPS

GREENWAY  
ACQUISITION TOOLS

EXAMPLE SEWER/GREENWAY  
EASEMENT

## OVERVIEW

There are many different ways to secure trail right-of-way for greenway systems. 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. Funding sources for acquiring right-of-way and trail development are described and provided in Appendix B.

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

## PARTNERSHIPS

The Town of Pembroke 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 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 Pembroke 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.

## **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 Pembroke, Robeson 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.

## **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 Tigar*d.

**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 municipality 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.



## EXAMPLE SEWER/GREENWAY EASEMENT (CONTINUED)

TO HAVE AND TO HOLD the aforesaid easement interest and all privileges and rights thereunto belonging to the City of Raleigh, its successors and assigns forever.

THE FURTHER TERMS AND CONDITIONS of the easement interest herein conveyed are as follows:

1. The City is authorized hereunder to remove and keep removed from the easement all trees, shrubs, underbrush, and part thereof, or other obstructions as necessary to maintain, repair or protect said greenway and sanitary sewer lines and appurtenances or as necessary for the prevention or treatment of disease and for other good husbandry practices. Except as hereinabove allowed there shall be no other removal, destruction or cutting of trees, shrubs or other vegetation from the easement interest herein described and conveyed by any person or entity.

2. Nothing herein shall be construed to grant to the City of Raleigh or the general public any right of access through or over any property of the Grantors except that lying within the easement interest herein described and conveyed.

3. Following the installation of a sanitary sewer main and appurtenant facilities within the permanent easement hereinabove referenced and described, any and all temporary construction easement interest conveyed herein to the City shall terminate; and further, the City shall regrade, mulch, and reseed all damaged lands lying with the permanent and temporary easements, to the end that the same shall be restored to a condition as good as or better than that before construction.

4. Except as herein authorized, no building, fence, sign, or other structure nor any vehicular surface area shall be erected within the easement interest herein described and conveyed.

5. There shall be no dumping of ashes, garbage, waste, or other unsightly or offensive material on the easement interest herein described and conveyed.

6. There shall be no excavation, dredging, removal of loam, rock, sand, gravel or other material, nor any building of roads or other change in the natural topography of the easement interest herein described and conveyed, excepting for the construction and maintenance of the greenway and the sanitary sewer system undertaken by the City of Raleigh or its agents.

7. The City of Raleigh shall have the right and duty to maintain this Greenway Easement in a clean, natural, and undisturbed state, consistent with the City's master Greenway Plan.

EXAMPLE SEWER/GREENWAY EASEMENT (CONTINUED)

8. The City agrees to hold Grantors harmless from liability for personal injury or property damage arising out of the use of the easement for greenway purposes; provided Grantors shall not be held harmless from liability caused by the active conduct or instrumentalities of the Grantors, their agents, invitees, or contractors; or by acts of Grantors, their agents, invitees or contractors which violate the terms and conditions of this Deed of Easement.

The City does not waive or forfeit the right to take action to insure compliance with the terms, conditions and purposes of this easement by a prior failure to act.

The City reserves the right to enter the subject property at reasonable times in order to monitor compliance with the terms, conditions, restrictions, and purposes of this easement.

The Grantors expressly reserve the right to continue the use of the property for all purposes not inconsistent with this easement.

The Grantors agree that the terms, conditions and restrictions of this easement will be inserted by them in any subsequent deed or other legal instrument by which they divest themselves of either the fee simple title to, or of their possessory interest in, the subject property.

TO HAVE AND TO HOLD the said right, privilege and easement herein granted to the City of Raleigh, its successors and assigns forever. The covenants agreed to and the terms, conditions and restrictions imposed herein shall be binding upon the said Grantors and their agents, personal representatives, heirs and assigns, and all other successors to them in interest and shall continue as a servitude running in perpetuity with the above described land.

AND the said Grantors covenant that they are vested of the premises in fee and have the right to convey the same in fee simple; that the same are free from encumbrances except as hereinafter stated; and that they will warrant and defend title to the same against the claims of all persons whomsoever, subject only to the following exceptions:

IN WITNESS WHEREOF, the said Grantors have hereunto set their hand and seals the day and year first above written.

WITNESS:

_____	_____ (SEAL)
	_____ (SEAL)
Approved as to Form:	_____ (SEAL)
_____ (Deputy) City Attorney	_____ (SEAL)

EXAMPLE SEWER/GREENWAY EASEMENT (CONTINUED)

STATE OF NORTH CAROLINA

INDIVIDUAL

COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public do hereby certify that \_\_\_\_\_, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

This the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission Expires:

STATE OF NORTH CAROLINA

PARTNERSHIP  
(INDIVIDUAL)

COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public do hereby certify that \_\_\_\_\_, general partner of \_\_\_\_\_, personally appeared before me this day and acknowledged the execution, with proper authorization, of the foregoing instrument, all in accordance with partnership instruments recorded in Book \_\_\_\_\_ Page \_\_\_\_\_ in the \_\_\_\_\_ County Registry and that the instrument is the act and deed of the partnership.

This the \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission Expires:

NORTH CAROLINA

CORPORATE

COUNTY OF \_\_\_\_\_

This is to certify that on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally came \_\_\_\_\_, with whom I am personally acquainted, who, being by me duly sworn, says that (s)he is the (assistant) secretary, and \_\_\_\_\_ is the (vice) president of \_\_\_\_\_, the corporation described in and which executed the foregoing instrument; that (s)he knows the common seal of said corporation; that the seal affixed to the foregoing instrument is said common seal, and the name of the corporation was subscribed thereto by the said (assistant) secretary, and that the said (assistant) secretary and (vice) president subscribed their names thereto, and said common seal was affixed, all by order of the Board of Directors of said corporation, and that the said instrument is the act and deed of said corporation.

WITNESS my hand and official seal this the \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission Expires:





# STATE + FEDERAL POLICIES

University + Old Main

## CHAPTER OUTLINE:

### OVERVIEW

US DEPARTMENT OF  
TRANSPORTATION  
BICYCLE AND PEDESTRIAN  
POLICY

NORTH CAROLINA  
DEPARTMENT OF  
TRANSPORTATION  
COMPETE STREETS POLICY

FHWA MEMORANDUM ON  
MAINSTREAMING  
BICYCLE AND PEDESTRIAN  
PROJECTS

NCDOT BOARD OF  
TRANSPORTATION RESOLUTION

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

## 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.

## 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 Pembroke:

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)

## **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION COMPETE STREETS POLICY**

In 2009, NCDOT unveiled its efforts to routinely provide for all users of the roads - pedestrians, bicyclists, public transportation users, and motorists of all ages and abilities. The new document:

- Explains the scope and applicability of the policy ("all transportation facilities within a growth area of a town or city funded by or through NCDOT, and planned, designed, or constructed on state maintained facilities, must adhere to this policy");
- Asserts the Department's role as a partner to local communities in transportation projects;
- Addresses the need for context-sensitivity;
- Sets exceptions (where specific travelers are prohibited and where there is a lack of current or future need) and a clear process for granting them (approval by the Chief Deputy Secretary); and
- Establishes a stakeholders group, including transportation professionals and interest groups, tasked to create comprehensive planning and design guidelines in support of the policy.

Visit [www.ncdot.gov](http://www.ncdot.gov) for the full document.


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Environment

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**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 21<sup>st</sup> 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](mailto:gabe.rousseau@dot.gov).



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

## FHWA MEMORANDUM ON MAINSTREAMING BICYCLE AND PEDESTRIAN PROJECTS

(See pages D-4 through D-6)

### **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.

## 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 Statewide 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.

## 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.

## **NCDOT PEDESTRIAN POLICY GUIDELINES**

(See pages D-11 through D-12)

## **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

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

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

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**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>

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**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](http://safety.fhwa.dot.gov/ped_bike/ped/index.htm)

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

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

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