City of Eden Comprehensive Pedestrian Transportation Plan



A Vision for 2030 January 2010





Division of Bicycle & Pedestrian Transportation



City of Eden Comprehensive Pedestrian Transportation Plan



Adopted by the Eden City Council ____

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CHAPTER 1: INTRODUCTION

1.1 SCOPE AND PURPOSE

This comprehensive pedestrian transportation plan builds upon recent planning efforts. It establishes a pedestrian transportation vision and specific set of goals and strategies to improve the City of Eden's sidewalk, multi-use path and road system for pedestrians. Proposed projects are prioritized strategically to ensure the most critical projects are addressed first, while phasing in lower-priority projects based on cost, feasibility and community need. In addition to sidewalks and multi-use paths, projects such as crossing treatments including crosswalks, pedestrian countdown signals, curb extensions and regulatory, warning and wayfinding signage. The plan also provides a set of recommended policies and programs to encourage, educate and promote increased use of a more accessible and walkable environment.

1.2 BACKGROUND

The way people move around in their communities has dramatically changed in recent years. Our lives have become increasingly dominated by the automobile and marked by a distinct pattern of physical inactivity. Though Eden does not yet suffer from ongoing traffic congestion and severe air quality problems, citizens will benefit from a more walkable and pedestrian-friendly environment. Good planning can help the City to preempt these negative conditions. Providing safe and accessible places to walk and bicycle can help communities reduce automobile trips and traffic congestion, and in turn, reduce air pollutants and increase the overall health of the community. In addition, providing a wider mix of land uses in close proximity to each other can reduce travel distances, encourage more foot traffic and reduce car trips. Well-designed neighborhoods with ample opportunities for walking and biking can improve our quality of life and foster a greater sense of community.

The three key elements of a well-designed "walkable community" include:

- <u>Safety</u> (e.g. issues of traffic, crime, buffering, lighting)
- <u>Access</u> (e.g. curb ramps, crossing treatments, connected streets)
- <u>Comfort</u> (e.g. lighting, sidewalk width, compatible land uses, shade)

Design characteristics that serve as some of the basic building blocks of walkable communities include:

- <u>Connectivity</u> (close sidewalk gaps, build cul-de-sac paths and connections between different land use e.g. residential and commercial);
- <u>Separation from traffic</u> (bike-lanes, planting strips, landscaping, bulb-outs);
- <u>Pedestrian supportive land-use patterns</u> (mixed use, higher density, design for the pedestrian);
- <u>Designated space</u> (5ft+ sidewalks in residential areas and 8-12ft sidewalks in downtown and around schools where feasible);
- <u>Accessibility</u> (ADA ramps, crosswalks, ped-head signals);

- <u>Street furniture</u> (places to sit, drinking fountains, trash receptacles); and
- <u>Security and visibility</u> (lighting, landscaping and site distance).

Some Eden citizens use walking as a form of transportation and recreation (11.6% of Eden households have no access to a vehicle). There are three historic villages: Spray, Draper and Leaksville with walkable centers and mixed land uses. However, walking is not as prevalent as it once was in our country. In 1969, an average of 42% of school children walked or bicycled to school nationwide. By 2001 only 16% of school children walked or bicycled to school (CDC, 2005). This is partly due to a change in where families choose to live, but also is influenced by the built environment that tends to under serve multi-modal transportation needs. Historic village centers, requirements within the City's development ordinances and subdivision regulations have helped to build a moderately good network of sidewalks in certain parts of Eden. However, there are important connections needed to enhance the City's existing pedestrian network.

Safe and inviting places to walk are important for neighborhoods, schools, senior centers, downtowns, shopping areas, hospitals and everywhere people go. At some point in our journey to work, school or shopping, everyone is a pedestrian. Whether walking is our mode of travel for the entire journey or only for the portion of our trip from the car to the front door, a walking environment that provides a safe, accessible and comfortable journey is important.

1.2 HISTORY

Eden has its roots in textile and other industrial manufacturing. The Dan and Smith Rivers provided ample power supply to support early mills and manufacturing plants. The addition of railroads and river transportation developed in the 19th century to support a growing textile and industrial manufacturing focus of what is today Eden. The villages of Spray, Leaksville and Draper joined with the Central Area Sanitary district in 1967 to form what is now known as Eden.



Spray Mercantile Building Eden, NC

The early economy, mostly of tobacco farming and grist mills was tied to markets north and into Virginia via the Dan River. The Dan River was not navigable to the ocean until 1826, when the first major navigation improvements were completed. River bateaus carried goods to markets down river from Leaksville before the railroad arrived later in the 19th century. In 1852, the first steamboat "Lily of the Dan" was operating between Leaksville and Madison and the Dan River Steam Company chartered a commercial towboat operation in 1855 (Butler, 1982).

In 1796 Leaksville was established on the Dan River by John Leak. Seventeen years later in 1813, Spray was established by James Barnett on the nearby Smith River. Leaksville developed as a commercial and warehousing center and Spray became the manufacturing center. The village of Draper would not be established until 1906, when a large textile manufacturing facility was constructed, catalyzing the settlement of Draper. By 1890, Eden's population was at 2,695. The population doubled to 5,422 by 1900 and reached 13,811 by 1920. This high growth was led by an expanding manufacturing and industrial economy.

This document is the first comprehensive pedestrian transportation plan for the City of Eden. The City has completed several planning efforts in recent years that have included references and action items addressing walkability, pedestrian friendliness, bikeablity, connectivity, greenway and multi-use path development and quality of life. These recent planning efforts include the Land Development Plan (2007) and Greenway Plan (2007) and Transportation Plan (2008). In addition there was a grassroots effort to complete an Eden Strategic Plan (2004). Although the strategic plan was never adopted by the City Council, the process began the discussion of a number of important issues related to walkability and quality of life. Each of the referenced plans recommend actions towards a more pedestrian-friendly built environment in Eden. More detail on each is provided in Chapter 2.6.

1.3 VISION AND GOALS

The Eden Pedestrian Plan Steering Committee established a vision statement and set of time oriented goals for the City's pedestrian transportation system, to serve as the foundation for developing the Plan. The vision statement and goals were refined using feedback from public meetings and a community survey. Chapter 3 includes recommendations that provide specific strategies for achieving the goals and vision.

Vision Statement

In the year 2030, the City of Eden has a pedestrian system that <u>connects diverse</u> areas of the community and preserves <u>small town character</u>. Connected greenways, sidewalks and bicycle paths and lanes have improved <u>quality of life</u>, supported <u>pedestrian-scale</u> <u>business development</u> and have been made possible through planned growth, development and investment in support of <u>active transportation</u>. The City of Eden's historical and cultural sites are preserved and highlighted through local pedestrian ways that also connect with <u>larger regional and statewide greenway systems</u>. Access to active transportation is provided in all neighborhoods and facilities are designed to support <u>accessibility</u>, while maintained and landscaped with large <u>planting strips and street trees</u>. Other communities in the Piedmont look to the City of Eden as a <u>walkable community</u> <u>model</u>, emulating investment in active transportation facilities in an effort to preserve quality of life and encourage <u>physical activity</u>.

Goals

<u>1 Year</u>

• Enact policy requiring sidewalks with new development and other policies included in the pedestrian plan

<u>2-5 Year</u>

- Complete repair of existing sidewalks in poor condition
- Provide safe street crossings in areas of high pedestrian traffic
- Complete 2 more sections of the greenway system
- Improve connectivity within existing neighborhoods
- Begin constructing sidewalks in subdivisions without sidewalks
- Build 2 miles of "well-designed*" sidewalk
- Seek grant monies to build more sidewalks
- Complete implementation of streetscape plan
- Implement pedestrian plan pilot projects
- Implement pedestrian plan programs (i.e. SRTS, Adopt a Trail, Walking Encouragement programs)
- Conduct NC 14 Corridor Plan
- Build 2-3 more river access points
- Establish major corridor design guidelines to be pedestrian friendly (i.e. begin

*buffered from traffic, ample width

implementation NC 14 Corridor Plan Improvements)

<u>6-10 Year</u>

- Provide accessibility from all built and planned greenways to shopping, schools and neighborhoods
- Complete 3 additional sections of the Greenway
- Complete 3 more miles of sidewalk
- Provide sidewalks adjacent to major thoroughfares
- Establish clear pathway connections connecting major sections of Eden
- Create sidewalk connections between existing village centers and river access points

<u>11-20 Year</u>

- Eden is a model walkable community and a destination of choice for visitors, tourists, businesses & current residents
- Greenway Plan is completely implemented
- Citizens are able to walk or bicycle around the City of Eden without being on the street
- All neighborhoods connect to a pedestrian facility

CHAPTER 2: EXISTING CONDITIONS

2.1 OVERVIEW

Important to the Eden pedestrian transportation planning process is the assessment of existing conditions, which lays the foundation for what future planning is required. The existing conditions include an assessment of many different facts, issues and input such as community outreach, surveys, demographics, evaluation of crash data, the location and function of the pedestrian network and how people use facilities, a maintenance inventory of existing sidewalks, ordinances, statutes and existing plans and programs.



NC Highway 14 Near the Intersection with Kings Highway

Creating a balance between *community concerns* and the analysis of *data* provides a framework of Eden's existing conditions. This framework is the foundation from which the Pedestrian Transportation Plan recommendations are developed. Extensive analysis of community concerns and review of existing data and plans can be found in this chapter.

2.2 DEMOGRAPHICS AND CRASH DATA

The population of Eden is approximately what it was in 1967 when it was incorporated. The following demographics for the City of Eden are pulled primarily from the North Carolina Population Center or the US Census. Crash data is pulled from the NC Crash Data Query Website and the NC Department of Transportation Bicycle and Pedestrian Program.

Population Growth, Density and Ethnicity

From the time Eden was incorporated through 1990, the City gradually lost population. The 1970 census showed a population in Eden of 15,871. By 1990, the City's population count was 15,238, a decline of 4.0%. During the 1990's Eden's population decline began to reverse and by 2000 the City's population count had increased to 15,908 – an increase of 4.4%. Eden's recent 2005 population estimates of 15,679 indicate slight declines over the last five years. However, the City currently has virtually the same population as it did in 1967 when it was first incorporated.

Figure 2.2.1 - Population Growth and Density			
			Land
Population		Population	Area
	2006	15,726	15.14
	2000	15,908	15.01
	1990	15,238	13.59
	1980	15,672	11.58
Growth		Eden	NC
	2000-2006	-1.7%	9.7%
	1990-2000	4.4%	21.3%
	1980-1990	-2.8%	12.8%
Persons per square	mile		
	2006	1,038.57	181.2
	2000	1,060.04	165.2
	1990	1,121.18	136.1
Source: NC Office of Buccensus.	udget & Management, 2006 figures released in July of 2007 an	d the US Census Bure	au, decennial

Figure 2.2.1 - Population Growth and Density



Eden's population is predominantly white and non-Hispanic. However, the proportion of minorities within the City is increasing substantially faster than the white, non-Hispanic population. In 1990, 19.5% of residents were minorities. By 2000, the proportion had grown to 25.7%. Between 1990 and 2000 the City had a decrease in the number of whites, while the Black or African American population grew by 24.4%. The Hispanic population, while still relatively small overall, had the largest percentage gain. The Hispanic population more than quadrupled between 1990 and 2000 – almost half of the total growth that occurred in Eden.

Figure 2.2.2 - Race and Ethnic Orig	in
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	Eden	NC
Non-Hispanic	97.7%	95.3%
White	74.3%	70.2%
Black or African American	22.1%	21.4%
American Indian / Alaska Native	0.2%	1.2%
Asian	0.3%	1.4%
Native Hawaiian / Pacific Islander	0.0%	0.0%
Some other race	0.1%	0.1%
Multi-racial	0.7%	1.0%
Hispanic or Latino	2.3%	4.7%

Income, Poverty and Educational Attainment

The poverty rate in Eden is almost 50% higher than the state average. The poverty rate for Eden citizens age 25-44 is 70% higher than the state average.

Figure 2.2.3 - Povert	y Rate	
	Eden	NC
All Ages	17.2%	12.3%
Children under 18	22.9%	16.1%
Age 18 – 24	22.9%	21.0%
Age 25 – 44	16.3%	9.5%
Age 45 – 64	10.3%	8.2%
Age 65+	16.6%	13.2%



Source: 2000 Census, data mapped at a block group level.

Eden's median household income for all ages is roughly 30% lower than the state average.

Figure	2.2.4 - Income	

	Eden	NC
Median Household Income	\$27,670	\$39,184



Source: 2000 Census, data mapped at a block group level.

The educational attainment in Eden also trails the state average.

Figure 2.2.5 -	Educational Attainment	
		_

	Eden	NC
High School Diploma or higher	67.9%	78.1%
At least some college courses	35.9%	49.7%
Bachelor's Degree or higher	11.1%	22.5%
Graduate Level Degree or higher	3.5%	7.2%

Access to a Vehicle and Disability

There are over 1 in 10 people in Eden that do not have access to a vehicle. When considering individuals over the age of 65, there are nearly 1 in 5 individuals that do not have access to a vehicle and must rely on foot transportation or public transportation. Public transportation is only provided for seniors through aging services. Over 1 in 4 individuals has some type of disability in Eden and may need to rely on others for transportation and need accessible sidewalks to be mobile in their neighborhoods.

Figure 2.2.6 - Households without Access to a Vehicle

	Eden	NC
All ages	11.6%	7.5%
Under age 25	13.1%	10.0%
Age 25-64	8.1%	5.4%
Age 65+	18.5%	15.4%



Source: 2000 Census, data mapped at a block group level.



Figure 2.2.7 - Disabled Persons



Transportation to Work and Travel Time

About 1.4% of Eden residents bicycle or walk to work. The majority of individuals (83%) drive alone to work, while 14% carpool. About 1% work at home while about 0.5% use public transportation. Over half of residents work outside Eden (53%) and nearly one in 3 work outside Rockingham County.

Figure 2.2.8 - Means of transportation to work (all workers 16+)		
	Eden	NC
Drive alone	83.2%	79.4%
Carpool	14.0%	14.0%
Bicycle or Walk	1.4%	2.1%
Public Transportation / Other	0.4%	2.6%
Worked at home	0.9%	2.7%

Figure 2.2.9 - Percentage (%) of residents working in Eden		
	Eden	NC
	46.7%	n/a
% of residents working elsewhere in Rockingham Co.	30.5%	n/a
% of residents working outside of Rockingham Co.	22.8%	n/a

Figure 2.2.10 - Travel Time to Work			
	Eden	NC	
Less than 10 minutes	21.7%	13.5%	
10-19 minutes	31.9%	34.1%	
20-29 minutes	16.8%	21.9%	
30 minutes or more	29.6%	30.5%	
Average (in minutes)	24.1	24.0	
Source: 2000 Census of Populat	tion & Housing.		

Chapter 2 – Existing Conditions

Crash Data

The City of Eden Police Department compiles crash reports and enters this information into a local database and on a universal DMV form. The information is then sent to the Department of Motor Vehicles for input into the State database. Only incidents that cause injury or greater than \$1,000 in property damage are reported to the State. In addition only crashes that occur on public roadways are reported to the State.

For this planning study, the Eden Police Department (EPD) provided local data on crashes both on the public roadways and private right of ways (ROW) such as parking lots or driveways. The geographic data from the Eden Police Department is supplemented by data on crashes compiled by the NCDOT Bicycle and Pedestrian Program.

Figure 2.2.11 shows the total number of pedestrian crashes by year in the City of Eden. After rising from 2002-2005, pedestrian crashes declined to 7 in 2006 and 2007. In 2001 there were 5 pedestrian to car crashes, 2 in 2002, 4 in 2003, 5 in 2004, 8 in 2005, 7 in 2006 and 7 in 2007.



Figure 2.2.11 – Pedestrian Crashes Annually 2001-2007

Total Crashes = 38

In Figure 2.2.12, derived from the NCDOT Division of Bicycle and Pedestrian Data, the crash severity for pedestrian crashes is reported. There were 17% without injury, 28% with evident injury, 41% with possible injury, 6% with disabling injury and 8% were fatal.



Figure 2.2.12 – Pedestrian Crashes by Injury Severity 2001-2007

Total Crashes = 38

In Figure 2.2.13, pedestrian and bicycle crashes are reported, where ten percent of crashes involved no injury, 36% involved possible injury, 44% involved evident injury, 5% involved a disabling injury and 5% were fatal.



Figure 2.2.13 - Pedestrian and Bicycle Crashes by Injury Severity 2001-2007

Total Crashes = 59

The crash data from 2001-2007 contains information on the specific location where crashes occurred. This detail allowed mapping of crash location, a key factor in determining corridors and intersections for improvement. Map 2.2.1 illustrates the location of both bicycle and pedestrian crashes, bicycle crashes are shown with an asterisk and pedestrian crashes with a triangle. The location of pedestrian and bicycle crashes are important indicators as to where improvements to intersections and corridors should be made. The crash location information is factored into the prioritization score for projects. Also shown are the existing sidewalks, shown in red (poor), yellow (fair) or green (good) condition, as well curb ramp locations in green or red depending on whether they are ADA accessible or non-ADA accessible respectively.



Map 2.2.1 – Sidewalk System and Bicycle and Pedestrian Crash Data

Origins and Destinations

The recognition of Eden's parks, schools and commercial areas as community trip generators or places where people will walk is important for pedestrian planning. These community facilities are the origins or destination of many shorter trips by Eden citizens. Twenty-five percent all trips – social, recreational, work - under a mile nationwide are taken on foot, while the automobile is used for 75 percent of one mile trips or less. Approximately forty percent of trips to visit friends and relatives and for other *social* and *recreational* purposes (e.g., to go to the gym, attend a movie, visit a park, or visit a library) totaling a mile or less are accomplished by walking¹. It is important to provide opportunities to safely walk to parks, schools, restaurants and shops. This plan provides a strategy to identify, implement and create safe opportunities to walk to destinations.

The following maps - Map 2.2.2 and 2.2.3 illustrate the location of high employment centers (more than 25 employees) and the location of parks and schools in Eden. Origin and destination points are important to understanding where pedestrians will travel. Schools and parks are the origin and destination of many trips and can often be replaced with walking and bicycling. Employment also centers are the destination and origin of a



Smith River Greenway - Winter 2008

number of trips and in some cases can be made by walking and bicycling for employees, visitors or customers. The buffers drawn around each of the parks and schools indicate a ½ mile or 10 minute walk radius from the park or school, which is typically the longest distance most individuals feel comfortable walking when there is a safe and secure pedestrian environment. Obstacles to walking, which can shorten the maximum walking distance include unsafe intersections, dead-end streets without pedestrian connections, heavy vehicular traffic or lack of walking facilities. The proximity of proposed projects to schools and parks factor into the prioritization of projects found in Chapter 3. The following maps give a sense of where trip generators and origin and destination points exist throughout the City of Eden.

¹ U.S. Department of Transportation, Bureau of Transportation Statistics, Federal Highway Administration, 2001 National Household Travel Survey, January 2004 dataset, https://www.bts.gov/pdc/index.xml

Map 2.2.2 - Sidewalk System, High Employment Centers and Schools with ½ Mile Walk Zones



Map 2.2.3 – Sidewalk System, High Employment Centers and Parks with ½ Mile Walk Zones



2.3 COMMUNITY ISSUES

In addition to five meetings with the Comprehensive Pedestrian Plan Steering Committee, there was significant outreach to the Eden community as a whole. To assess community concerns about the walking environment in Eden, a number of outreach efforts were conducted, including meetings with community boards, a survey and two public meetings.

Pedestrian User Survey

The Eden Pedestrian Planning Process involved a survey of pedestrian issues for City residents. The survey was conducted April – July, 2008 and received 46 responses to 9 questions. The survey questions were focused on barriers and obstacles to walking, how often people currently walk, what improvements should be made to increase walking, where those improvements should happen and how to pay for the improvements. Full results of the survey can be found in the appendix. A brief summary is included here:

- 93% of respondents think a walking friendly community is 'very important' or 'important';
- 37% of respondents ranked #1 'lack of sidewalks and trails' and 16% ranked #1 'deficient sidewalks' as the biggest factor discouraging walking ;
- 50% of respondents ranked #1 'trails and greenways' as destinations they would most like to get to;
- 54% of respondents ranked #1 'new sidewalks' as the action most need to increase walking in the community;
- 27% of respondents reported 'pedestrian safety', 26% 'schools' and 15% 'sidewalk gaps' as the #1 important consideration in determining locations for new sidewalks;
- Aside from grants (47%), respondents reported public private partnerships (13%) and impact fees on new development (12%) as the #1 way to fund future pedestrian transportation improvements.

Public Meetings

Meeting #1 - June 5, 2008

A public meeting was held June 5, 2008 and attended by 14 residents, who provided feedback on where improvements should be made, and discussed sidewalk policies all over the City and traffic issues in the Central area. In late June, the PTCOG staff also worked with the Community Appearance Commission and the Planning Board to provide suggestions on top priority projects, policies and programs to support a walking-friendly Eden.

Meeting #2 – July 21, 2009

A second public meeting was held July 21, 2009 to review the Comprehensive Pedestrian Transportation Plan recommendations map and draft document. The meeting was attended by 5 residents, 3 staff and one reporter. The comments were supportive of the plan recommendations. The draft plan shown at the public meeting was available for review on the City's website.

2.4 INVENTORY AND ASSESSMENT OF EXISTING FACILITIES

Pedestrian Friendliness of Local Transportation System

The City of Eden village centers are very walkable and pedestrian friendly. The older downtowns have a system of sidewalks, with curb ramps, benches and buffered sidewalks. In some areas of Eden, walking can be difficult with a lack of sidewalks or ADA accessible (Americans with Disabilities Act) curb ramps. In addition, a few high volume roadways do not allow safe or accessible crossings without crossing treatments for the pedestrian.



Pedestrians Using the Pierce Street Sidewalk between the Library and City Hall

In the Central area, sidewalks have been constructed in key locations, next to the Morehead High School and Holmes Middle school, but residential development in this area, which has primarily occurred over the last 30 – 50 years is mostly without sidewalks and not conducive to walking. Separated land uses result in longer distances to work, school or shopping, which discourage walking as a form of transportation. There are currently no sidewalks required for new residential or commercial subdivisions. New community interest in Greenways, streetscape development and land use issues has produced new ideas, catalyzing the implementation of greenway projects. The newest multi-use path in Eden along the Smith River has been open since the fall of 2007 and has been used widely by the community since opening.

Piedmont Triad RPO Sidewalk Inventory

The Piedmont Triad Rural Planning Organization conducted a sidewalk inventory for the City of Eden in 2006. The project included collecting information on the existence of sidewalks and their 1) width, 2) condition (poor, fair and good) and 3) curb ramps (ADA accessible or non-accessible). The study reports that there are nearly 130,000 feet of sidewalk, equating to almost 24 miles. The City also has 140 curb ramps, with 28 of them non-compliant with ADA accessibility guidelines. Sidewalk width ranges from 2 to 8 feet, with an average width of 4 feet.



Map - 2.4.1 - Existing Sidewalk System Map

2.5 PEDESTRIAN STATUTES AND LOCAL ORDINANCES

The Zoning and Subdivision Ordinance are the two primary documents regulating

development in Eden. A number of the Eden Ordinance sections do not pertain to the pedestrian transportation environment directly, however City of Eden zoning requirements for parking, landscaping, road frontage, setbacks and buffers have sometimes unrecognized, but significant influence on the walkability of adjacent streets. Additionally in the broader context, separated land uses defined in conventional zoning requirements adopted by the City of Eden creates separation, which may unintentionally lead to sprawl.



Morehead Hospital from NC 14

Figure 2.5.1 below summarizes pedestrian issues, existing ordinances that relate to the

pedestrian environment along streets and roadways and where the Ordinance can be found if available. These issues will be revisited, with recommendations for improvement in Chapter 3.

Type of Issue	Existing Ordinance(s)/Process
1. Pedestrian transportation along existing development	To install sidewalk on existing development, the landowner can petition the City, but there is no annual budget for new sidewalks. Maintenance of existing sidewalk is paid for by the City. (Contact Planning Department)
2. Sidewalk requirements for new single or multi-family residential, commercial and light industrial development	Sidewalk construction is not required for new development. (Chapter 14 – Subdivision Regulations)
3. Site design for residential, commercial and light industrial development (R-S, R20,	Minimum setback and buffer requirements; requirements vary by zoning district. (Chapter 18 – Zoning, Section 11.24)
R-12, R-12S, R-6, R-6S, R-4, 0&I, BC, B-N, BH-1, BH-2, B-SC, I-1, IP-1, I2 and PUD-R)	Road frontage, density and floor area ratio; Requirements vary by zoning district (Chapter 18 – Zoning, Section 11.24)
	Parking requirements (Chapter 18 – Zoning, Section 11.25)
4. Public access easements	Not currently sought during utility easement acquisition.
5. Mixed land uses	Some mixed land uses allowed in existing old village centers. (Chapter 18 – Zoning, Section 11.24)
6. Sidewalk requirements for change of use – all zoning districts	No requirements (Chapter 18 – Zoning)
7. Cul-de-sac connections	No requirements to create pathway connections from cul- de-sac neighborhoods to nearby streets (Chapter 14 – Subdivision Regulations)
8. Pedestrian access on bridges	No existing language supporting pedestrian access
9.Street Subdivision Guidelines for Street Width and Sidewalks	No requirement for sidewalks, wide street geometrics may
10. Sidewalk design for new construction	No design guidelines for the City of Eden, currently use the
	standard NCDOT cross-section

Figure 2.5.1 - Summary of Ordinance and Statutes Relating to Pedestrian Transportation

2.6 REVIEW RELEVANT LOCAL, REGIONAL AND STATE PLANS AND GUIDELINES

The concept of walkability and pedestrian infrastructure and facilities has been incorporated into a number of recent planning efforts within Eden. In addition, various regional and statewide planning initiatives have incorporated pedestrian and bicycling as a priority for investment.

Land Development Plan

The Land Development Plan (LDP), completed in the fall 2007. reviewed number of а of community, environmental, economic and other related issues and their effect on land development. A series of strategic action steps and pilot projects and programs were recommended as a result of the planning process. The Land Development Plan coincided with the development of a Long-Range Transportation plan a joint workshop and survey was convened to develop and discuss issues where transportation and land use converge. The following action recommendations from the 2007 LDP relate to pedestrian transportation:



Policies

- Create & enforce <u>community appearance ordinances</u> especially along major thoroughfares (e.g. NC14) to improve and maintain appearance, function and safety along major roads.
- Establish open space, greenway & riparian buffer dedication requirements for all new land development, to help preserve open space, park land and greenways as the City grows.

Programs

- Create an active, well-funded <u>sidewalk improvement and expansion program</u> especially to improve pedestrian connectivity within residential and low-income areas, within downtown areas and to better connect residential, commercial, employment and recreational uses.
- Establish an active, well-funded downtown / main street revitalization program.
- Establish an active, well-funded multi-use path-building program.

Projects

- Develop an NC14 Corridor Master Plan to address safety, function and appearance issues and undertake a few pilot project improvements to build community interest and support.
- Beautify downtown areas (sidewalks, street trees, decorative lighting, etc.)
- Develop river access sites.
- Develop a Pedestrian Master Plan to identify and set priorities for pedestrian improvements and implement several top-priority pedestrian pilot projects.

- Develop small pocket parks in strategic locations (e.g. downtown areas).
- Develop pedestrian-friendly commerce centers.

Eden Comprehensive Transportation Plan

The NCDOT Comprehensive Transportation Plan (CTP) recommendation maps for Eden were adopted in November of 2008. The CTP attempts to serve present and anticipated travel demand in and around Eden. The Transportation Planning process uses community input, traffic modeling and other factors to develop recommendations for future transportation projects in and around the City of Eden. The Eden Comprehensive Pedestrian Transportation Plan will serve as a supplement to the CTP. The CTP includes 5 map sheets, including the Adoption Sheet (showing the planning area), Highway Map (see Figure 2.2.1), Public Transportation and Rail Map, Bicycle Map (see Figure 2.2.2) and Pedestrian Map. Together, the maps form an all-inclusive look at the transportation systems. The Pedestrian Map for the CTP will be Map 3.1.1 - Proposed Pedestrian Facilities.

Greenway Plan

The City of Eden completed a Greenway Master Plan in early 2007. The Smith River Greenway has already been implemented with support from the City of Eden and the Parks and Recreation Trust Fund. There are over 43 miles of proposed multi-use paths in Eden from the Greenway Master plan. The Greenway Master Plan recommendations map is shown in Figure 2.17

NCDOT Long Range Statewide Multi-Modal Transportation Plan



Completed in 2004, this plan calls for an increase in bicycle and pedestrian funding from an annual average of \$6 million/year to \$12 million/year over the next 25 years. The plan also emphasizes the need for training and mainstreaming bicycle and pedestrian planning and design so that these facilities are included earlier on in the process of roadway design. The plan recognizes that the construction of sidewalks places an undue burden on local government for the cost of

including sidewalks in road projects. The recognition of this problem and a call for increasing funding is a positive step forward for pedestrian needs as it relates to NCDOT funding and NCDOT priorities.

Bicycling and Walking in North Carolina: A Long-Range Transportation Plan

This long range plan was completed in 1996 and has laid the groundwork for a number of bicycle and walking initiatives across the state. The plan provides 5 goals and 21 focus areas with the overarching vision to provide "All citizens of North Carolina and visitors to the State [the ability to] walk and bicycle safely and conveniently to their desired destinations with reasonable access to all roadways."



Figure 2.6.1 – Eden CTP Highway Map



Figure 2.6.2 – Eden CTP Bicycle Map



Greenways serve an important transportation and recreation need and can act as a unifying element to link neighborhoods, schools, parks and other land uses together. Greenways can be especially valuable, because they are usually created as independent transportation elements that provide an alternative to the automobile and can help reduce traffic congestion and air pollution. When following streams, greenways provide environmental buffers and help reduce pollution caused by surface runoff.

Streetscape Plan

The City of Eden has implemented two streetscape projects. The first project was completed in 2008 for historic Old Leaksville along Washington Street (see below). The second project, constructed in 2008-09, is located in the village of Draper. The City of Eden has invested nearly \$500,000 to help implement both streetscape plans. Improvements include crosswalk treatments, curb extensions, planting strips, tree wells, as well as other amenities to improve the aesthetics of the streetscape and calm traffic.



Washington Street Streetscape Project

2.7 OTHER PROGRAMS AND INITIATIVES

Enforcement Programs

The Leaksville-Spray Elementary school has dozens of children that walk to school. A part-time employee works as a crossing guard to improve safety for children that do walk to school in both the morning and afternoon. Draper Elementary school had a crossing guard, a retired Eden Police officer, who worked in the afternoon on Stadium Drive, tragically he was hit and killed by a car in 2009 while performing crossing guard duties. There are no crossing guards at the Central Elementary School and there are no regular walkers to this school, but an officer helps direct automobile traffic during dismissal, which includes traffic from the middle and high school adjacent to Central Elementary School. Douglas Elementary has a traffic control officer working on vehicular traffic control.

Encouragement and Promotions

There are existing walking programs run by Morehead Hospital, the YMCA, and several local churches. Morehead Hospital, a major employer located in the Central Area on NC-14 runs a number of health and wellness programs for its employees and the community. There is a walking track on the YMCA property and the hospital provides awareness programs for the community, which are marketed through the health education program and wellness educator. The benefit of planning for and expanding the sidewalk and multi-use path infrastructure in the City of Eden will only increase the options and popularity of these walking programs and will improve the health of more and more residents of Eden.

The Rockingham County schools teach pedestrian safety to students K-2. The education program is taught with general bus safety. Using funding from the Governor's Traffic Safety Committee, "Buster the Bus", a miniature robot bus teaches children how to safely enter and exit the bus, wait for the bus and cross the street. Chapter 3 includes a number of additional programs that could help encourage more Eden residents to walk.

Traffic Calming

The City of Eden established a traffic calming program in 2006. The program establishes a reporting process for speeding or other traffic issues. The traffic calming forms and petitions for City staff to investigate traffic issues can be found on the City's website. Seventy-five percent or 3/4 of neighborhood residents need to sign a petition to be accepted for traffic calming. Depending on the results of the analysis, which includes automobile, pedestrian and bicycle traffic volume studies and proximity to parks and schools, the traffic calming may or may not receive physical improvements (e.g. bulbouts, speed tables, traffic circles, landscaping, etc.); however in all cases, education and enforcement about speeding will be implemented. The full traffic calming policy can be found in Appendix D.

Maintenance Programs

The street superintendent performs periodic review of sidewalk deficiencies for cracks, deterioration and uneven sections of sidewalk. Removal of grass and dirt is also

performed to prevent moisture build-up that may cause the sidewalks to become brittle and deteriorate. The street superintendent determines whether sidewalks need replacement and schedules construction or repair based on a visual survey of the condition. At the beginning of each year, a publicly available sidewalk replacement list is posted on the City's website. The existing sidewalk system for Eden is substantial for its population and tax base when compared to other cities of similar size in the region. The 2008 sidewalk replacement list is included in Appendix E and includes a 3-tier priority rating to prioritize funding. This program is in need of additional funding.

CHAPTER 3: PEDESTRIAN SYSTEM PLAN

3.1 PEDESTRIAN TRANSPORTATION SYSTEM PROJECT RECOMMENDATIONS

The Eden Comprehensive Transportation Plan includes a series of projects, programs and policy recommendations. This section pertains to *project* recommendations, which requires the most resources to complete. Projects are grouped by a) corridors, b) intersections and c) multi-use paths. The intersection and corridor projects are prioritized based upon a number of factors, which are explained in the methodology on the following page. *Focus Areas (Section 3.3)* provides more detail about the project recommendations found in this section.

Corridor and intersection improvements are considered on-road improvements, which offer safe pedestrian transportation options in existing street corridors. Multi-use path improvements are considered off-road improvements and will provide important long-term non-motorized connections near streams, sewer lines or other corridors. Improvements have been identified from the following sources:

a) public comments (survey, public meeting maps or questionnaire);

b) higher traffic volume streets and intersections with observed high levels of walking behavior;

c) safety concerns resulting from crash data and demographic analysis;

d) proximity to trip generators (parks, schools, shopping, Downtown);

e) steering committee recommendations

f) previous plan recommendations (e.g. Land Development Plan, Greenway Plan); and

g) project staff field analysis.

Different geographical, land use and safety factors were used for project prioritization (e.g. crashes, proximity to schools and parks, land use, etc.) and no projects received the maximum possible score. The scoring system used to rate each project will serve as a guide to programming resources for projects and are based on factors used in the Graham, NC Pedestrian Transportation Plan (2006), the Durham, NC Pedestrian Transportation Plan (2006), the Durham, NC Pedestrian Transportation Plan (2006), the Durham, Intersport, unplanned opportunities for improvement to certain corridors may arise (i.e. unplanned road projects, repaving projects, utility installation or specific funding opportunities), that should be capitalized upon. See Map 3.1.1 for detail of proposed sidewalk, path and intersection improvements.

The design of sidewalk/sidepath improvements should follow suggested design standards consistent with recommended design guidelines found in the Appendix, which calls for 5ft minimum sidewalk width and a six foot vegetated buffer. However in cases of higher pedestrian traffic areas, near schools or in downtown areas, sidewalks should be 8-10 ft in width, not including vegetated buffers. See the Appendix for detail on sidewalk design and guidelines.

There are 28 top priority sidewalk projects that are more than 1,000 ft in length shown in Figure 3.1.1. Included in the figure are suggested sidewalk widths and the estimated distance of each project. The projects are sorted by priority score total and include a project ID for referencing the recommendations map (Map 3.1.1). The higher the score, the higher the sidewalk project rank. Cost estimates for each sidewalk is provided, however engineering and grading is not included in the cost estimates, which total over \$7.2 million for the next 20 years. The length of sidewalk projects total over 16 miles, including "small gap" projects or sidewalks less than 1,000 ft in length. These smaller projects are not prioritized with the larger corridor projects and may be incorporated into the existing sidewalk improvement program.
Map ID	Road Name	From	70	Side	Width	Distance (ft)	Public Com.	Poximity to school zones (within	Proximity to Parks and	Crashes (2 or more	Road type 2006) 2001-	Compatible land use (multi-fe-	Curb and curb	Census block with.	Connectivity.	Direct access to/from	Score Total	Cost Estimate	
							2	4	3	4	3	3	2	3	2	1	27		
24	N. Hamilton Ave	Irving Ave	Manley St	East	5	1,632	2	3	3	4	3	3	2	3	2	1	26	\$123,000	
17	Kings Hwy	NC 14	Library	Both	5	2,218	2	3	3	4	3	3	2	0	2	1	23	\$167,000	
1	Stadium Dr	Edgewood Rd	Hale Rd	North	10	6,243	2	3	3	0	3	3	2	3	2	1	22	\$831,000	
23	Kings Hwy	Highland Drive	Smith River	North	5	1,798	2	3	4	2	3	3	2	0	2	1	22	\$135,000	
4	Meadow Rd	Pierce St	Summit Rd	South	10	5,037	2	3	3	2	3	3	2	0	2	1	21	\$378,000	
13	Patterson St	Washington St	Center Church Rd	East	5	2,510	2	3	3	2	0	3	2	3	2	1	21	\$189,000	
14	Washington St	City Limits	Forbes St	North	5	2,327	2	3	3	2	3	3	2	0	2	1	21	\$175,000	
22	Morgan Rd	Existing Sidewalk	Jones St	East	5	1,812	0	0	3	4	3	3	2	3	2	1	21	\$136,000	
3	Pierce St/Stadium Dr	Existing Sidewalk	Edgewoord Ave	North	10	5,450	2	4	3	0	3	3	2	0	2	1	20	\$725,000	
21	Kings Hwy/Highland Dr	Existing Sidewalk	Leaksville School	North/West	10	1,876	2	4	3	0	3	3	2	0	2	1	20	\$250,000	
6	Meadow Rd	NC 14	River	South	5	4,070	2	3	3	0	3	3	2	0	2	1	19	\$306,000	
9	Cox/Pierce St	NC 14	Existing Sidewalk	North/East	5	3,279	2	3	3	0	3	3	2	0	2	1	19	\$246,000	
11	NC 14	Kings Hwy	Stadium Dr	East	5	2,934	2	3	3	2	3	3	2	0	0	1	19	\$221,000	
12	NC 14	Abandoned RR	Meadow Rd	East	5	2,894	2	3	3	2	3	3	2	0	0	1	19	\$218,000	
16	NC 14	Meadow Rd	Stadium Dr	East	5	2,256	2	3	3	2	3	3	2	0	0	1	19	\$170,000	
18	Stadium Dr	NC 14	Pierce St	North	5	2,016	2	3	3	0	3	3	2	0	2	1	19	\$152,000	
19	Kings Hwy	Kennedy Ave	Smith River	North	5	2,011	2	0	3	2	3	3	2	0	2	1	18	\$151,000	
2	NC 14	Kings Hwy	Mebane Bridge Rd	East	5	5,870	2	0	3	2	3	3	2	0	0	1	16	\$441,000	
7	Oakland Ave	Manley St	City Limits	East	5	3,744	0	0	3	0	3	3	2	3	2	0	16	\$281,000	
8	Stadium Dr	Meadow Rd	NC14	North	5	3,425	2	3	0	2	3	3	2	0	0	1	16	\$257,000	
15	Highland Drive	Kings Hwy	Bridge St/River	West	5	2,307	2	3	3	0	0	3	2	0	2	1	16	\$174,000	
20	Galloway St	Patterson St	Hamilton St	South	5	1,908	2	0	3	0	0	3	2	3	2	1	16	\$144,000	
5	Fieldcrest Rd	Freedom Park	Existing Sidewalk	South	10	4,826	0	0	3	0	3	0	2	3	2	1	14	\$642,000	
10	Arbor Lane	NC 14	Older Adult Housing	North	5	3,266	2	0	3	4	0	3	2	0	0	0	14	\$245,000	
27	Rickman St	South Ave	Stadium Dr	East	10	1,217	0	3	3	0	0	3	2	0	2	1	14	\$162,000	
25	Linden Dr	Arbor Ln	Pierce St	West	5	1,435	2	0	3	0	0	3	2	0	2	1	13	\$108,000	
26	Kennedy Ave	Existing Sidewalk	Stadium Dr	East	5	1,251	2	0	3	0	0	3	2	0	2	1	13	\$94,000	
28	Reynolds/Harris St	Washington St	Existing Sidewalk	East	5	1,174	0	0	0	0	0	3	2	0	2	1	8	\$89,000	

Figure 3.1.1 - Recommended Sidewalk Projects, Priority Score and Cost Estimate

Top priority intersection improvements are found in Figure 3.1.2 below. These 15 intersections have been prioritized, to aid in programming resources for safety improvements. The higher the score, the higher the rank in priority. All of the intersections, except Irving Avenue and Moir Street and the Leaksville Elementary improvements are on state maintained roadways. More details on specific intersection improvements to enhance pedestrian safety and accessibility can be found in the Focus Area Section 3.3. Details on the scoring system methodology can be found in Appendix A.2.

Qi de _M	Intersection	Crashes (Crashes 2001-2006 with in 100 Varia	Intersection) ADA non-compart	Presence of sidewair J	Condition of side	Road type (major mand	Proximity to school (within high mile of an element (within t	Proximity to parks and recreation (within, parks and	Compatible land use (multi- and contral use (multi- and contral, com-	Score Total
		4	3	4	3	3	4	3	3	27
	WASHINGTON ST &									
7	PATTERSON ST	4	3	3	3	3	0	0	3	19
	MORGAN RD &									
22	AIKEN RD	4	3	2	0	3	0	3	3	18
	CHURCH ST &		0	_	•	•	•			10
21		4	3	2	0	3	0	3	3	18
0	WASHINGTON ST&	0	0		0	•		0	0	47
3		0	0	4	0	3	4	3	3	17
10	UAMILTON ST	4	2	1	0	2	0	2	2	17
19	KINGS HWY & VAN	4	3	- 1	0	3	0	3	3	17
5		4	3	0	0	3	0	3	3	16
	VAN BUREN RD	-	0	0	0	0	0	0	0	10
6	AND ARBOR LN	4	3	0	0	3	0	3	3	16
	LEAKSVILLE	-		-	-	-	-	-	-	
14	ELEMENTARY	0	3	3	0	0	4	3	3	16
12		0	3	2	0	з	Л	з	0	15
13		0	5		0	5	+	5	0	10
10	CT	Λ	2	2	0	0	0	2	2	15
10		4	3	2	0	0	0	3	3	15
40		4	0		0	2	0	2	2	1.4
16		4	U	1	U	3	U	3	3	14
15		0	0	0	0	З	Л	2	2	12
15	STADIUM DR &	0	U	0	0	5	4	5	5	15
17	PIFRCF ST	0	0	0	0	3	4	3	3	13
	FIELDCREST RD &	Ŭ	Ŭ	Ŭ					Ť	10
10	MAY ST	0	0	2	0	0	4	3	0	9
	STADIUM DR &	-	-		-	-				
9	EDGEWOOD RD	0	3	0	0	3	0	3	0	9

Figure 3.1.2 – Recommended Intersection Improvement Projects with Priority Score

Recommended multi-use path improvements are included in Figure 3.1.3 below. These projects have not been prioritized during the Comprehensive Pedestrian Plan process, given that priorities were recently adopted in 2007. Some greenway projects from the 2007 adopted Greenway Plan have been reclassified as sidewalks or sidepaths for areas where adopted multi-use path alignments follow road corridors. The multi-use path improvements can be found in Map 3.1.1 below and total over 30 miles. The improvements are in order of total length from longest to shortest. Cost estimates are not provided here, because the width, pavement surface, slope, hydrology and engineering obstacles for each multi-use path will vary significantly, requiring a detailed analysis.

Multi-Use Path	Est. Length (ft)
Lower Saura Town Equestrian Trail	38,260
Dan River Greenway	38,250
Spray Historic Loop	22,480
Calcium Carbide Greenway	12,750
River Multi-use Path - Unpaved	10,350
Smith River Greenway (Northern Section)	7,230
Smith River Alternate Greenway	7,040
Draper Spur Multi-Use Path	6,650
Leaksville Historic Spur	5,270
Knollwood Central Area Spur	5,030
Smith River Greenway (Southern Section)	4,080
Freedom Park Multi-use Path	2,390

Figure 3.1.3 - Recommended Multi-Use Path Improvements



Map 3.1.1 – Proposed Pedestrian Facilities

3.2 COST ESTIMATES FOR TYPICAL SIDEWALK AND MULTI-USE PATH IMPROVEMENTS

Sidewalk Cost Estimates

Depending on whether sidewalk improvements occur on streets with or without curb and gutter can have a significant influence on the cost of sidewalk installation. It is recommended in most cases to build curb and gutter with any sidewalk installation. This design improves safety for pedestrians and automobiles.

The average cost per linear foot of new sidewalk can vary significantly due to variation in soils, slope, other public works infrastructure needs (e.g. stormwater, sewer) along the project corridor. The base cost without including design and other engineering needs is shown in Figure 3.2.1. More detail on other sidewalk features and cost can be found in Appendix A.

Description	Unit	Unit Cost	Notes & Assumptions			
Sidewalk Only	LF	\$50 (cost varies widely throughout state)	\$75 when curb and gutter is included \$50 when curb and gutter is not included			
Concrete Curb and Gutter Only	LF	\$25 (cost varies widely throughout state)				
1 All items	listed include in	stallation costs.				
 All items insted include installation costs. All items reflect 2008 pricing. Cost for sidewalks and paths includes clearing, grubbing and grading. Geotextile cost or other major costs, including utility relocation, are not included in multi-use path or sidepath estimates. Multi-use paths and sidepaths are asphalt, with 2" or path of 4" or gradenate base course. 						

Figure 3.2.1 - Sidewalk Cost Estimates

Multi-Use Path Cost Estimates

The following cost estimates for multi-use path elements are based on figures compiled by the NCDOT Bicycle and Pedestrian Program. The estimates do not include professional services such as design and administration or the acquisition of easements, land and legal fees.

Description	Unit	Unit Cost					
Construct 10-foot shared-use path	Linear foot Linear mile	\$133 \$700,000					
Construct 10-foot crushed stone walkway	Linear foot Linear mile	\$15-\$25 \$80,000-\$106,000					
Construct 6- to 8-foot wooden or	Linear foot	\$200-\$250					
recycled synthetic material boardwalk	Linear mile	\$1,000,000-\$1,300,000					
Trail markers - Flat fiberglass pole 4" wide x 1/8 inch thick. Decal 4" in width or a sign applied to the pole. Name of facility, mile marker, feature of interest							
shown.	ΕA	\$50					
snown. EA \$50 1 All items listed include installation costs. 2 2 All items reflect 2008 pricing. 3 3 Cost for sidewalks and paths includes clearing, grubbing and grading. Geotextile cost or other major costs, including utility relocation, are not included in multi-use path or sidepath estimates.							
iviuiti-use paths and sig	uepains are aspha	iii, with 2 asphall and 6 aggregate base course.					

gure 3.2.2 – Multi-Use Path Cost Elem	nents
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The cost of some multi-use paths may vary due to differing requirements for surface type, grading, erosion control, culvert installations, stream crossings and other environmental factors.

3.3 FOCUS AREAS

Focus areas were developed for the more densely populated areas in Eden. The four areas include: the villages of Leaksville, Spray and Draper as well as the Central Area. These focus areas highlight sidewalk, multi-use path and intersection safety improvement priorities in different parts of the City and should be a focus for future investment in pedestrian infrastructure. The focus area section gives an opportunity for residents and the City staff to coherently manage, prioritize, plan and implement project improvements benefitting pedestrians in different areas throughout the City.



Location of Eden's Focus Areas - Leaksville, Spray, Draper & Central Area

In some cases 2005 Average Annual Daily Traffic (AADT) is shown in the intersection analysis. Each focus area includes proposed *corridor* and *intersection* improvements shown in the Focus Area Maps. Intersection analysis includes specific recommendations for improvement, some which are short term solutions, others are long term solutions. Local resources for implementation of *intersection* and *corridor* improvements should be established upon plan adoption to effectively fund and implement improvements. Further analysis of specific intersection improvements should be made by a licensed traffic engineer.

Spray Focus Area

The Spray area is very hilly with meandering streets connecting the former riverside mills to the village. The small village center has some mixed land use including residential. business and institutional. areas The directly adjacent to the Smith River are either vacant textile buildings or vacant land. There are a few existing sidewalks in Spray shown in the focus area Map 3.3.1. There are two proposed intersection improvements for Spray, one sidewalk corridor project and three small gap sidewalk projects. Three multi-use



Former Textile Mill Race, Morehead Park off Church Street

path projects are proposed that will connect with Spray.

Figure	3.3.1 -	Proposed	Sidewalk	Projects -	Sprav
1.94.0	0.011	1.000000	ondomain		opiay

Map ID	Road Name	From	То	Side	Width	Distance (ft)
22	Morgan Rd	Existing Sidewalk	Jones St	East	5	1,812

Figure 3.3.2 – Proposed Multi-Use Path Projects - Spray

Multi-Use Path	Est. Length (ft)
Calcium Carbide Greenway	12,750
Leaksville Historic Spur	5,270
Spray Historic Loop	22,480

Figure 3.3.3 - Pro	posed Intersection	Improvements – Spray
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Map ID (I-#)	Intersection
22	Morgan Road & Aiken Road
21	Morgan Road and Church Street





Intersection Improvements

The two proposed intersection improvements for Spray are for planning purposes only. Further engineering analysis is required.

Morgan Road and Aiken Road (Map ID: I-22)

This 3 way intersection is non-signalized with an AADT of 4,900 and lies at the northern end of the Spray Historic District. Morgan Road and Aiken Road have a speed limit of 35 mph. The immediate intersection area has mixed land use consisting of residential, commercial and institutional uses. There is a church, fire station, drug store and some other shops adjacent to the intersection. A lack of crosswalks across the intersection, no sidewalks on the west side of the intersection and wide streets make it difficult to cross or walk along the street. Sidewalk exists on the north, east and southwest side of the intersection and a few pedestrians were observed at this intersection.



- Landscape Morgan Road ramp median
 - o Benefits: Improved aesthetics, stormwater reduction and traffic calming
- Connect sidewalk gaps
 - o Benefits: Improved pedestrian access, gap closure
- Crosswalk, raised median and pedestrian refuge island on the northeast side of the intersection (Aiken Rd)
 - o Benefits: Improved pedestrian safety and access
 - Create roundabout for through and turning traffic
 - Benefits: Traffic calming, stormwater reduction (via planting strip), less pavement maintenance and potential for a buffered sidewalk around the intersection



Morgan Road and Church Street (Map ID: I-21)

This intersection is adjacent to the old Spray Cotton Mill (see building in the right of the picture) and next to Morehead Park (see bottom of the picture) and has an AADT of 10,500. Morgan Road (Speed Limit: 35 mph) serves as a southern gateway to Spray, Church Street (speed limit 35 mph) leads to the Spray traffic circle east of the intersection. Redevelopment of the Spray Cotton Mill is ongoing with some of the remaining mill buildings along Church Street occupied by small businesses and non-profits. The re-development presents an opportunity for increasing pedestrian access to Morehead Park and creating safer ways for pedestrians to access the Smith River, less than ¼ mile east of the intersection. The NCDOT completed replacement of the Church Street bridge over the Smith River in 2009. A pedestrian would need to walk less than ½ mile from this intersection to reach the Smith River Greenway trailhead on the east side of the river.



- Crosswalk on Morgan Road at traffic light
 - o Benefits: Pedestrian access across the intersection
- Provide sidewalk access and crosswalk to Morehead Park on Church Street at the intersection with Morgan Road
 - Benefits: Safe pedestrian access to a developing park and historical treasure
- Provide sidewalk along Church Street to corner of Park Street
 - Benefits: Safe pedestrian access to and from residential areas to the west of the intersection



Draper Focus Area

The village of Draper is a few miles east of the older villages and Leaksville. Sprav of Draper village is densely settled with good pedestrian infrastructure throughout the center. The Draper area is relatively flat, with a variety of land uses. North and northwest of the village center are a number of large industrial employers. Draper Elementary school is immediately to the east of the village center. The village center has a variety of retail businesses and institutional uses. While residential areas



Construction Workers Improving the Streetscape on Fieldcrest Road

surround the central business district to the west, south and east. The main street, Fieldcrest Road recently underwent a streetscape project to improve the aesthetics of the village center. There are three corridor projects proposed in the Draper area, two small gap projects and one cluster of intersection improvement projects. There is one multi-use path proposed that will connect the village of Draper with the Dan River.

Map ID	Road Name	From	То	Side	Width	Distance (ft)
27	Rickman St	South Ave	Stadium Dr	East	10	1,217
1	Stadium Dr	Edgewood Rd	Hale St	North	10	6,243
			Existing			
5	Fieldcrest Rd	Edgewood Rd	Sidewalk	South	10	4,826

Figure 3.3.4 – Proposed Sidewalk Projects - Draper

Figure 3.3.5 – Proposed Multi-Use Path Projects - Draper

Mult	-Use Path	Est. Length (ft)	
Draper Sp	r Multi-use Path	6,650	

Figure 3.3.6 - Pro	posed Intersection	Improvements – Dra	per
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Map ID (I-#)	Intersection
10	Fieldcrest Road and May, Byrd & Hundley Drive





Intersection Improvements

This proposed intersection improvement for Draper is for planning purposes only. Further engineering analysis is required.

Fieldcrest Road and May, Byrd and Hundley Drive (Map ID: I-10)

These three intersection improvements are along Fieldcrest Road (Speed Limit: 20 mph), an east/west corridor between Draper and the Central Area, with a significant amount of truck traffic. The traffic on Fieldcrest Road at these intersections average 2,400 AADT. This area is just west of the Draper village center, with residential land uses adjacent to Fieldcrest. There are existing sidewalks in the corridor and pedestrian traffic was observed during fieldwork.



- Install crosswalks at the intersections of Fieldcrest Road and May Street, Byrd Street and Hundley Drive
 - Benefits: Inexpensive improvement that will help direct pedestrians to cross at intersections, safer than crossing mid-block



Central Area – Focus Area

The Central Area is the least densely populated of the four detailed focus areas. However many of Eden's institutional, commercial and civic land uses are found in the Central Area, generating a high number of vehicle trips. Central Elementary, Holmes, Middle and Morehead High school, Morehead Hospital, City Hall, Eden Library and a number of shopping and business destinations are found in the Central Area. The high traffic and multi-lane roadways in Central Area are Van Buren Road (NC 14), Kings Highway and Stadium Drive. Without intersection treatments for the pedestrian, these roadways are formidable challenges for the pedestrian to cross. With few sidewalks, it is also difficult to walk along many of the roadways in the Central Area. There are 5 intersections analyzed here for pedestrian safety, access and comfort improvements. There are also several sidewalks and multi-use paths proposed for the Central Area.

Map ID						Distance
(S-#)	Road Name	From	То	Side	Width	(ft)
17	Kings Hwy	NC 14	Library	Both	5	2,218
4	Meadow Rd	Pierce St	Summit Rd	South	10*	5,037
3	Pierce St/Stadium Dr	Existing Sidewalk	Edgewoord Ave	North	10*	5,450
6	Meadow Rd	NC 14	River	South	5	4,070
9	Cox/Pierce St	NC 14	Existing Sidewalk	North/East	5	3,279
11	NC 14	Kings Hwy	Stadium Dr	East	5	2,934
12	NC 14	Abandoned RR	Meadow Rd	East	5	2,894
16	NC 14	Meadow Rd	Stadium Dr	East	5	2,256
18	Stadium Dr	NC 14	Pierce St	North	5	2,016
19	Kings Hwy	Kennedy Ave	Smith River	North	5	2,011
2	NC 14	Kings Hwy	Mebane Bridge Rd	East	5	5,870
8	Stadium Dr	Meadow Rd	NC14	North	5	3,425
10	Arbor Lane	NC 14	Older Adult Housing	North	5	3,266
25	Linden Dr	Arbor Ln	Pierce St	West	5	1,435
26	Kennedy Ave	Existing Sidewalk	Stadium Dr	East	5	1,251

Figure 3.3.7 – Proposed Sidewalk Projects - Central Area

Figure 3.3.8 - Proposed Multi-Use Path Projects – Central Area

Multi-Use Path	Est. Length (ft)
Calcium Carbide Greenway	12,750
Smith River Greenway (Northern Section)	7,230
Smith River Alternate Greenway	7,040
Knollwood Central Area Spur	5,030
Smith River Greenway (Southern Section)	4,080
Freedom Park Multi-use path	2,390

Figure 3.3.9 - Proposed Intersection Improvements – Central Area

Map ID (I-#)	Intersection		
16	Kings Highway and Kennedy Street		
5	Van Buren Road/NC 14 and Kings Highway/Pierce Street		
6	Van Buren Road/NC 14 and Arbor Lane		
17	Stadium Drive and Pierce Street		
9	Stadium Drive and Edgewood Road		

*These improvement projects should be multi-use pathways that allow bicyclists as well as pedestrians. There is little development in this area and side paths may be conducive for recreation as well as transportation purposes. Close proximity to the schools and Freedom Park will leverage the increased investment in a wider path.



Map 3.3.3 – Proposed Pedestrian Facilities Map – Central Area

Intersection Improvements

These proposed 5 intersection improvements for the Central Area are for planning purposes only. Further engineering analysis is required.

Kings Highway and Kennedy Avenue (Map ID: I-16)

Kings Highway is 6 lanes wide (AADT 17,000, Speed Limit: 45mph) and Kennedy Avenue (AADT Unknown, Speed Limit: 25mph) is two lanes wide at this signalized intersection, the AADT of this intersection cannot be calculated, however it is not less than 17,000 AADT. Kennedy Avenue provides access to the YMCA heading north from the intersection and Kings Highway is a major east/west route between Leaksville and the Central Area. An older shopping center lies to the south of the intersection and is accessed from Kings Highway. There is sidewalk on Kennedy Avenue that connects with the YMCA and which also connects with the Smith River Greenway. There are no crosswalk markings at this intersection, with only 15 seconds to cross Kings Highway.



- Install crosswalks and sidewalks at intersection
 - o Benefits: Access across and along the street
- Increase signal length for Kennedy Avenue green light
 - Benefits: Would give extra time for pedestrians to cross Kings Highway, Kennedy Avenue gets a green light (and subsequent Kings Highway red light) only when a car is present on Kennedy Avenue
- Install pedestrian push button and signal at this intersection
 - Benefits: Provide ample time for pedestrians to cross, reducing need for extra signal length for automobiles on Kennedy Avenue in the absence of pedestrians



Van Buren Road (NC 14) and Kings Highway (Map ID: I-5)

This is the largest intersection in Eden and has an AADT of over 40,000, with a speed limit of 45 mph on all legs. Crossing any legs of the intersection as a pedestrian, the distance approaches 100 feet with no refuge areas. Three legs of the intersection have seven lanes of traffic and one leg has six lanes of traffic. Without pedestrian refuge islands and any pedestrian signalization, walking across the road is extremely difficult and rarely done. The Morehead Hospital lies to the northeast of the intersection and the Eden Library is ¼ mile east of the intersection. Retail and restaurant destinations are to the north and south of the intersection, but large distances between destinations make it difficult to be a pedestrian, even if facilities were in place to make walking safe. Some pedestrian traffic was observed around the hospital trying cross Kings Highway.



- Install pedestrian signals at corner island, raise corner island, install yield to pedestrian signs and crosswalks at this intersection
 - o Benefits: Creates better access across these very busy roadways
- Incorporate this intersection into a Van Buren Road corridor plan from the Dan River to the Aiken Road Bridge over the Smith River
 - Benefits: Detailed analysis recommendations of traffic, land use, aesthetic and other issues in the corridor
- Install sidewalks on the east side of Van Buren Road and the north side of Kings Highway
 - o Benefits: Improves access along the road



Van Buren Road (NC 14) and Arbor Lane (Map ID: I-6)

Van Buren Road is six lanes wide at this intersection (AADT 31,000, Speed Limit: 45mph) and Arbor Lane is three lanes wide (AADT Unknown, Speed Limit: 35mph). Arbor Lane east of the intersection provides access to large big box stores and other shopping destinations, apartments and a planned older adult community. Arbor Lane will also connect with a new planned roundabout at the Eden Public Library and Pierce Street. There are no existing sidewalks along Arbor Lane or Van Buren Road.



- Install pedestrian signals at this intersection to aid in crossing the street. Combine pedestrian signalization with pedestrian refuge islands and crosswalks on Van Buren Road and Arbor Lane
 - o Benefits: Create pedestrian access across Van Buren Road & Arbor Lane
- Incorporate this intersection into a Van Buren Road corridor plan from the Dan River to the Aiken Road Bridge over the Smith River
 - Benefits: Detailed analysis recommendations of traffic, land use, aesthetic and other issues in the corridor



Chapter 3 – Pedestrian System Plan

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Stadium Drive and Pierce Street (Map ID: I-17)

This intersection is located adjacent to Morehead High School and City Hall and has an AADT of 15,800. Stadium Drive and Pierce Street are 4 lanes wide at the intersection, except on the southern leg where Pierce Street is 3 lanes wide. Further east on Stadium Drive is Central Elementary School, Holmes Middle School is located on Pierce Street across from Morehead High School on Pierce Street (see Stadium Drive and Edgewood Road analysis below for broader aerial view). Outside school times, the speed limit on all legs of the intersection is 35mph. There is existing sidewalk on Pierce Street south of the intersection and on Pierce St (visible in gray below) north of the entrance to the high school and adjacent to the Holmes Middle school. There is a small level of walking activity at this intersection; the schools do not keep a formal count of walking to school trips, however the location of the three schools adjacent to each other presents significant opportunities for walking trips.



- Install crosswalks on all legs of the intersection
 - o Benefits: Access across the street
- Install pedestrian push button and signal at this intersection
 - o Benefits: Allows pedestrians to stop traffic to cross the street
- Construct 10ft wide sidewalk on the north side of Stadium Drive east of the intersection to Country Club Road, continuing at 5-8ft width to Edgewood Road and 8ft wide sidewalk on the east side of Pierce Street north of the intersection to the existing sidewalk
 - o Benefits: Provides safe pedestrian access to and from school
- Create better pedestrian access to this intersection from City Hall
 - o Benefits: Provides safe pedestrian access to and from City Hall



AADI N/A B,500AADT B,500AADT D 10 20 30 40 50 Feet

This intersection does not have significant amount а of pedestrian traffic currently. The speed limit on all legs of this intersection is 35mph, however Stadium Drive traffic was observed exceedina that speed measurably. Freedom Park lies to the northwest of the intersection and generates a number vehicle trips. The Eden Central Elementary and High School are less than a mile west of the intersection. Greenways and sidewalk connections are proposed to extend towards the schools from Freedom Park.



Schools Area and Freedom Park

Recommendations

- Construct multi-use pathway west to connect with the schools on the north side of Stadium Drive
 - Benefits: Active transportation connection between Freedom Park and the schools, leveraging community investments

Stadium Drive and Edgewood Road (Map ID: I-9)



Leaksville Focus Area

Washington Street in the Heart of Old Leaksville

The village of Leaksville is the most densely settled area of Eden, increasing opportunities for walking to destinations. There is a substantial existing sidewalk system. Leaksville has a vibrant central business district with a variety of shops and businesses along Washington Street. Multi-family and single family residential housing is in close proximity to the center of the village. There are nine sidewalk corridor projects proposed, seven intersection improvement projects, several small gap sidewalk projects and two proposed multi-use paths that will connect with Leaksville.

Figure 3.3.10 – Proposed Sidewalk Projects - Leaksville

Мар						Distance
ID	Road Name	From	То	Side	Width	(ft)
24	N. Hamilton Ave	Irving Ave	Manley St	East	5	1,632
23	Kings Hwy	Highland Drive	Smith River	North	5	1,798
13	Patterson St	Washington St	Center Church Rd	East	5	2,510
14	Washington St	City Limits	Forbes St	North	5	2,327
21	Kings Hwy/Highland Dr	Existing Sidewalk	Leaksville School	North/West	10	1,876
7	Oakland Ave	Manley St	City Limits	East	5	3,744
15	Highland Drive	Kings Hwy	Bridge St/River	West	5	2,307
20	Galloway St	Patterson St	Hamilton St	South	5	1,908
28	Reynolds/Harris St	Washington St	Existing Sidewalk	East	5	1,174

Figure 3.3.11 – Proposed Multi-Use Path Projects - Leaksville

Multi-Use Path	Est. Length (ft)
Dan River Greenway	38,250
Leaksville Historic Spur	5,270

Figure 3.3.12 - Proposed Intersection Improvements – Leaksville

Map ID (I-#)	Intersection	
15	Kings Highway and Highland Park Drive	
14	Highland Drive and Leaksville Elementary School	
3	Washington Street/Boone Road and Bridge Street	
7	Washington Street and Patterson Street	
13	Hamilton Street and Center Church Road	
18	Moir St and Irving Avenue	
19	Bridge Street and N. Hamilton Street	



Map 3.3.4 – Proposed Pedestrian Facilities Map - Leaksville

Intersection Improvements

The 7 proposed intersection improvements for Leaksville are for planning purposes only. Further engineering analysis is required.

Kings Highway and Highland Park Drive (Map ID: I-15)

Kings Highway (speed limit 45 mph, 17,000 AADT east of the intersection and 14,000 AADT west of the intersection) is 5 lanes wide at this intersection, while Highland Park is 3 lanes wide. North of the intersection on Highland Park Drive is an apartment complex. South of the intersection, Highland Park Drive connects with a residential neighborhood and some businesses. Kings Highway runs east/west and goes under Highland Drive, which is used to access the Leaksville Elementary School (northeast of the intersection shown below). Sidewalks are proposed on the north side of Kings Highway. There were a few pedestrians observed here while conducting fieldwork. One pedestrian was observed waiting several minutes to cross Kings Highway at the intersection with Highland Park Drive, due to high volume and high speed automobile traffic.



- Install crosswalks at intersections
 - o Benefits: Provides recognized access across the street
- Provide pedestrian push button crossing signal
 - Benefits: Provides a method for pedestrians to cross the street when there is a significant amount of traffic.





eden

BRIDGE STREET REC CENTER THE BOULEVARD

Kings Highway looking east across Highland Park Dr.



Pedestrian waits to cross Kings Highway, traffic speeds are very high in this area, this pedestrian waited several minutes to cross



Kings Highway looking west, pedestrians are walking along the road without sidewalks

Highland Drive at Leaksville Elementary School (Map ID: I-14)

This is not a traditional 4-way intersection at the Leaksville Elementary School. Highland Drive is a relatively low volume residential collector street (no AADT available). There are sidewalks immediately adjacent to the school. Sidewalk on the south side of the school along Highland Drive ends abruptly at C Street and on the north side the Highland Drive sidewalk discontinues at Glovenia Street.



- Apply for Safe Routes to School funding
 - Benefits: Provides resources to make pedestrian and bicycling infrastructure improvements in school zones or to create educational and encouragement programs that increase children's safety of walking and bicycling to school
- Widen sidewalks around the school from 5ft to 10ft
 - o Benefits: Accommodates more pedestrian traffic
- Extend sidewalk south of school to Highland Drive overpass of Kings Highway
 - Benefits: Creates a pedestrian connection to the neighborhood south of Kings Highway
- Create a ramp from sidewalk down to crosswalk in front of school
 - o Benefits: Creates better access, especially for people with disabilities
- Raise existing crosswalk in front of Leaksville Elementary and provide high visibility warning devices at the crosswalk (e.g. high visibility paint, reflectors, plastic bollard with yield to pedestrian sign) to notify drivers that pedestrians have the right of way
 - Benefits: Slow traffic through the school zone and encourage yielding to pedestrians.



Entrance to Leaksville Elementary, sidewalk should be continued to the crosswalk

Crosswalk to school at main entrance, installation of curb ramps and a raised crosswalk will improve pedestrian access

Washington Street/Boone Road and Bridge Street (Map ID: I-3)

This intersection has an AADT of 21,300 and is an eastern gateway to Old Leaksville, which is centered on Washington Street. Washington Street has a speed limit of 20 mph and Boone Road and Bridge Street have a speed limit of 35 mph. The intersection legs are three lanes wide except the southern leg of Bridge Street is 4 lanes. The intersection pavement and curb ramps have recently been replaced as part of a larger Washington Street streetscape project. The land uses around this intersection are mostly business and commercial, including offices, small retail destinations and other shops. Industrial and residential land uses exist within a ¼ mile. The location of the left turning stop bars on Washington Street and the southern leg of Bridge Street provided for turning vehicles make it difficult for drivers to see pedestrians who may be crossing the street. In addition, street front buildings contribute to site distance problems.



- Install crosswalks on the west and south side of the intersection, crosswalks already exist on the north and east side (not shown in aerial photograph above)
 - o Benefits: Increased access for the pedestrian
- Install pedestrian pushbutton signals with full pedestrian phasing and a sign to yield to pedestrians
 - Benefits: Ensures ample time to cross Bridge St and Washington Street/Boone Road by giving a red light phase for all vehicles allowing pedestrians to cross the street, avoiding a scramble or "squeeze" between turning vehicles and the pedestrian


Washington and Patterson Street (Map ID: I-7)

This three way signalized intersection lies on western Washington Street (Speed Limit: 35mph; AADT: 12,000). A popular drive-in restaurant is to the south of the intersection and generates a significant amount of lunch and dinner traffic. Other land uses around the intersection include a coin laundry, a couple of retail businesses, a dairy distributor and residential homes. There are sidewalks on Washington Street; however there are none on Patterson Street. The sidewalk on Washington Street at this location is in poor condition, with significant cracks and heaving in locations. It is difficult to see east down Washington Street from where the stop bar is located on Patterson Street for automobiles, but this is likely to help avoid conflict with traffic turning left from Washington Street onto Patterson Street.



Recommendations

- Install crosswalks on all three legs of the intersection
 Benefits: Increased access for the pedestrian
- Improve sidewalk condition and curb ramps at this intersection
 - o Benefits: Improves access for pedestrians with disabilities



Center Church Road and Hamilton Street (Map ID: I-13)

This 3-way intersection has an AADT of 9,100 and is nestled in a residential area on the western edge of Old Leaksville. Narrow sidewalks connect with this intersection, but crossing the intersection can be difficult due to speeding traffic on Hamilton Street and a wide turning radius for vehicles turning right from Center Church Road to Hamilton Street.



Recommendations

- Install planting in median
 - o Benefit: Reduced stormwater flow, aesthetics and traffic calming
- Install crosswalks and curb ramps on all three legs of this intersection
 - o Benefit: Improved pedestrian access and safety
- Improve sidewalk on the southwest corner of the intersection, widen Center Church Road sidewalk
 - Benefit: Creates better access and continuity in the sidewalk network at a relatively low cost and provides enough width for two pedestrians or pedestrian with disabilities to navigate the sidewalk
- Curb extension to narrow crossing distance
 - Benefits: Traffic calming, stormwater reduction (via plantings), less pavement maintenance and potential for a buffered sidewalk around the intersection



Hamilton Street sidewalk looking north on the east side of Ro

Looking across Hamilton Street towards Center Church Road, good location for a crosswalk

Bridge Street and Hamilton Street (Map ID: I-19)

This three way intersection is a northern gateway to Old Leaksville and has an AADT of 13,200. The land uses around the intersection are a mix of primarily automobile service related businesses and some residential uses. There are sidewalks along the west side of Bridge Street that end at the intersection.



Recommendations

- Install crosswalks and curb ramps across Bridge Street and Hamilton Street at Oak Street and Willow Street
 - o Benefits: Improves access across the busy streets
- Install plantings in the median on the Hamilton Street ramp

 Benefits: Traffic calming and reduced stormwater
- Improve sidewalk condition and close sidewalk gaps near this intersection
 - o Benefits: Improves pedestrian access and safety
- Create roundabout and use right of way on Hamilton Street ramp to build a buffered sidewalk at the intersection
 - o Benefits: Traffic calming, stormwater reduction (via plantings), less pavement maintenance and improves gateway to Old Leaksville



Irving Avenue and Moir Street

This is a residential intersection with stop signs on Moir Street, no AADT is available. There is existing sidewalk on the south side of Irving Avenue. This intersection is located on the north side of Old Leaksville.



Recommendations

- Install curb ramps and crosswalk on the south side of Irving Avenue
 - o Benefits: Improved access and safety for pedestrians with disabilities



3.4 CURRENT PROJECT OPPORTUNITIES

There are plans to build a roundabout and new road connection on Kings Highway and Pierce Street at Morehead Hospital and the City Library. The new road, South Pierce Street will connect to Arbor Lane.



Eden Library entrance and approximate location of planned roundabout on Pierce Street/Kings Highway

The roundabout is intended to improve traffic flow through the Pierce Street corridor and reduce turning conflicts into and out of the hospital and library. Initial plans for the roundabout will not have a pedestrian element, however traffic will likely be slowed approaching and leaving the roundabout, serving as a traffic calming device. Pedestrian crossing treatments and sidewalks should be included in the final design of this roundabout.

3.5 POLICY AND PROGRAM RECOMMENDATIONS

This section will offer development regulation ordinances, internal policies and programs that will enhance the pedestrian transportation system. The ideas offered here are meant to complement existing policies and programs and are intended as a "menu" of options to pursue in the near term ensuring growth and development incorporates policies and programs that encourage pedestrian safety, access and comfort.

Recommended Ordinance Changes

The following ordinance changes build upon policies developed in the City's Land Development Plan completed in 2007. New policies have been suggested by steering committee members, staff, planning board members and public comments. Some policies will need to be incorporated into a new ordinance, while others may be implemented through departmental policy changes.

Issue 1: Pedestrian transportation along existing development

Current Policy: No annual budget line for new sidewalks. Traditionally supported through grants, streetscape projects or road construction.

Recommended Policy: Explore property assessments, impact fees and other funding sources to construct sidewalk along existing development, focusing on closing small sidewalk gaps of less than 1500'.

Issue 2: Sidewalk requirements for new single or multi-family residential, commercial and light industrial development

Current Policy: Sidewalk construction is not required for new development. *(Chapter 14 – Subdivision Regulations)*

Recommended Policy: Include sidewalk construction requirements for new construction in subdivision regulations *and change of use* for all zoning districts where curb and gutter exists in the City Limits.

Issue 3: Site design for residential, commercial and light industrial development (R-S, R20, R-12, R-12S, R-6, R-6S, R-4, 0&I, BC, B-N, BH-1, BH-2, B-SC, I-1, IP-1, I2 and PUD-R)

A. Current Policy: Minimum *setback* and *buffer* requirements (*Chapter 18 – Zoning, Section 11.24*).

Recommended Policy: Update each zoning district to provide flexible side and front setback requirements with the installation of sidewalks. Include buffer and landscape requirements for sidewalks in relation to the street. In business, commercial and smaller lot residential areas, encourage buildings to be placed closer to the street where possible, but keep building placement in line with other buildings on the same block. In the cases of zoning changes, encourage setbacks of different zoning to match existing development.

B. Current Policy: Inflexible road frontage, density and floor-area ratio requirements (*Chapter 18 - Zoning, Section 11.24*).

Recommended Policy: Update Section 11.24 to provide greater density allowances with the installation of sidewalks. Limit the density bonuses so that the character of the development fits in with the neighborhood.

Figure 3.5.1- Pedestrian Connection through Parking Lot (Louis Berger, Inc.)



C. Current Policy: List of varying *parking requirements* for different land uses and *landscaping* regulations *(Chapter 18- Zoning, Section 11.25 Off Street Parking and Loading).*

RecommendedPolicy:Encourage the (1) Placementof parking behind or besidebuildingsandrequirements for parking if onstreetparking is available.Explore shared parking areas

between adjoining parcels. (2) Review recommended landscaping and tree requirements for placement of landscaping along streets and at intersections. Ensure visibility for pedestrians at intersections. (3) Require the screening of parking lots with landscaping requirements for new development and change of use. (4) Require pedestrian connections through parking lots with 20 or more spaces.

Issue 4: Public access easements

Current Policy: It is not the policy to acquire multi-use path or other public access easements with sewer and water easements as lines are extended. (*Planning & Zoning, Engineering and Public Utilities Department Current Practice*)

Recommended Policy: As new sewer lines are extended along existing proposed greenway corridors, acquire public access easements for both sewer line use and future multi-use path use. Include a requirement in the subdivision ordinance that requires public access easements along proposed multi-use paths when land is subdivided within the City Limits and ETJ.

Issue 5: Mixed use districts

Current Policy: Update ordinance to allow a mix of business and residential uses in more zoning districts.

Recommended Policy: Explore the possibility of developing mixed use districts. The village centers have mixed uses that were grandfathered in before the current zoning ordinance. Creating mixed use districts will allow new development in these districts to have a range of uses, thereby allowing shorter trips that can be made by foot or bicycle.

Issue 6: Sidewalk requirements for change of use - all zoning districts

Current Policy: No requirements for sidewalk construction with change of use.

Recommended Policy: Require sidewalk installation with a change of use that will require the building to be reconstructed or rebuilt with 50% or more of the building updated or changed. See Issue 2 recommendation above.

Issue 7: Cul-de-sac connections

Current Policy: No requirements for pathway connections in cul-de-sac subdivision developments.

Recommended Policy: Provide requirements cul-de-sac for а development to accommodate pedestrians by providing a 20 foot of right of way between 2 lots at the end of cul-de-sacs with the nearest neighboring street or parks. In Figure 3.5.2 the cul-de-sacs are connected by pathway to an adjacent multi-use





path. The photo shows an example of the cul-de-sac connection. In cases where there are no pathways or streets to connect to behind the cul-de-sac, the 20 foot right-of-way should be set aside to connect with future cul-de-sacs, streets or pathways during the subdivision process.

Issue 8: Pedestrian access on new bridges

Current Policy: No requirements for pedestrian access on bridges.

Recommended Policy: Require all bridges within City limits and ETJ to be equipped with sidewalks.

Issue 9: Street subdivision guidelines for street width and sidewalks



Current Policy: No requirements for sidewalk in the regulations for new streets. Street width geometrics encourage speeding on new streets.

Cul-de-sac Connector - Canby, Oregon

Recommended Policy: Update street design regulations to include provisions for narrow streets, sidewalks and planting strips (e.g. Complete Streets). Street widths should allow narrow travel lanes on residential streets around 10ft wide, with a bicycle lane or parking beside the travel lane. Require at least 10' of width on both sides of the street from the back of the curb to allow 5' sidewalks and a 5' planting strip. Consider at least 16' of right of way from the back of curb for pedestrian heavy uses such as schools, libraries or commercial uses with substantial walk-up traffic (e.g. close to established business neighborhood centers). Sidewalks in these areas should be at least 8'-10'.

Issue 10: Sidewalk design for new construction

Current Policy: No design guidelines for the City of Eden, currently use the standard NCDOT cross-section.

Recommended Policy: Provide sidewalk cross-section standards in development regulations with different sidewalk designs for residential and school or commercial areas. This policy will ensure that sidewalk design is consistent throughout the City, but also accommodating for higher use areas.

Program Recommendations

Existing programs supporting walking and pedestrian safety in Eden will be complemented by the suggested programs below. In many cases, volunteers will be the main resource to establish and sustain programs. Program recommendations can often be implemented with little or no funding.

Establish Walking Encouragement Programs for City and Community Agencies

A pedestrian transportation working group composed of School Administration employees, Morehead Hospital, Churches, Chamber of Commerce, Eden Police, Parks and Recreation and parents should work to incorporate the benefits of walking and physical activity into regular programming, curriculum and services. Additional workshops and activities can be offered outside of regular events, classroom or church service times. In the first year, a pilot program that approaches a few churches and one school is appropriate. The program should then be evaluated for effectiveness, improved and adjusted and then expanded to all schools and churches across Eden. Each school or church will be encouraged to begin their own walking club involving parents and children to improve physical activity levels.

Crosswalk Spot Improvement Program

Regularly check existing crosswalks for wear and tear and work to repaint or tape existing crosswalks to improve visibility. Work to identify crossing locations that may need additional treatments such as in-pavement crosswalk signs, stamped pavement or other features to slow traffic and increase pedestrian safety.

Walking Events

Work with existing walking events and promotions to educate the community about the benefits of walking. In addition, incorporate new facilities (e.g. the Smith River Greenway and the Washington Street Streetscape) into walking events to showcase the investments the City is already making in the pedestrian transportation system infrastructure.

Take a Walk in the Garden

Showcase different private residences or parks in Eden that are conducive to walking, but

incorporate educational messages about

recreation, nature and health into the theme of each event. Work with the Community Appearance Commission and the Parks and Recreation Department on marketing and promotion details.

Pedestrian Laws Training Program

This program is designed for children, adults or police. The program should cover the following topics: Right-of-way at crosswalks, right turn on red, yielding to vehicles, walking on roadways without sidewalks, railroad crossings and more. More information about North Carolina pedestrian laws can be found here: <u>http://www.ncdot.org/transit/bicycle/laws/resources/lawsguidebook.html</u>.

Adopt a Road / Adopt a Sidewalk Programs

Adopt a Road programs are seen in many communities across North Carolina. The program provides resources to the community to sponsor and help to clean up road litter. The City of Eden can begin a similar program for its sidewalks and (future) multiuse paths. This program could also be used as a means for the community to alert the city when there is a maintenance issue with a sidewalk, or as a means for a sidewalk to get special attention, funding, and improvements because of the dedication of its community sponsor. If effective, the quality of the sidewalk system will increase significantly.



Safe Routes to School Programs (SRTS)

The Safe Routes to School program is a national and international movement to enable and encourage children, including those with disabilities, to walk and bicycle to school. Safe Routes to School programs are comprehensive efforts that look at ways to make walking and bicycling to school a safer and more

appealing transportation alternative, thus encouraging a healthy and active lifestyle from an early age. The North Carolina SRTS program <u>www.ncdot.org/programs/safeRoutes/</u> is administered by the North Carolina Department of Transportation. There is funding available for a broad spectrum of



Photo: Dan Burden

initiatives including, but not limited to:

- Walking school bus programs (i.e. groups of students and parents/teachers walking to school) <u>www.walkingschoolbus.org</u>;
- Crossing guard training;
- One-time walking and bicycling safety events (i.e. bicycle rodeos, safety and health awareness fairs, walk to school day <u>www.walktoschool.org</u>);
- Safety curriculum (i.e. printing safety curriculum and training for teachers);
- Bicycling and walking improvements (i.e. sidewalks, paths, bike parking, bike lanes, crossing treatments); and
- Weekly walking or bicycling programs (i.e. walking Wednesdays, Walk across America).

Many of the SRTS programs take few resources to get started (aside from bicycling and walking facility improvements), however a "local champion" will be needed to start and implement Safe Routes to School programs. The "local champion" will likely be a parent or teacher who can lead the effort on Safe Routes to School. This is a significant opportunity to fund programs educating and encouraging both students and parents about the benefits of walking or bicycling to school.

Business Sidewalk Enhancement Program

Offer creative use of public sidewalk for private business (i.e. ability to set up chairs, apply for art enhancements on the sidewalk, etc.). The first priority should be with downtown businesses.

Benches and Plantings

Provide more plantings and benches where feasible in key locations such as downtown areas and multi-use paths.

Tree Programs

Review tree planting and preservation programs for the City of Eden through the City of Eden Tree Board. Research ordinance improvements that would preserve and build a quality tree cover in the developed and developing residential areas. Basic requirements of the ordinance should include:

- Trees 10 inches or larger in diameter would need approval for cutting within the villages of Leaksville, Spray and Draper or on parcels adjacent to the Dan River, Smith River or a City park or greenway;
- If trees larger than 10 inches in diameter are cut down, replacement trees should be of equal or greater size than the diameter of the trees cut, multiple trees can be planted where the sum of the diameters are equal to the diameter of the trees cut down;
- Provide more detailed guidance on the types of trees and landscaping for commercial and retail areas;
- Establish funding for a part-time certified International Society of Arboriculture (ISA) arborist to educate citizens about the ordinance; and
- Provide training opportunities in tree preservation for existing staff and Tree Board members.

Some cities have worked with the utility company to provide free saplings and trees to customers. In addition education for citizens, businesses and developers about affordable and quality trees can be beneficial to improve the tree canopy, property aesthetics and the pedestrian experience.

CHAPTER 4: IMPLEMENTATION

Effective implementation of recommended projects, programs and policies outlined in this plan will require the sustained, focused and coordinated efforts by City leaders and the public. The combined strategic, land use, greenway and pedestrian planning efforts have reinforced the interest of citizens in creating a more walking-friendly environment. Continued effort in implementing action items will create the momentum needed to carry out projects, program and policies outlined for the next 20 years. The schedule of action items on the following page outlines how the highest priority action items can be implemented and the entities with primary responsibility for carrying out each action item.

The City of Eden should capitalize on unplanned road projects or other unforeseen opportunities that may take precedence over scheduled action items. The list of action items should be reviewed and evaluated by Town staff and reprioritized every 2 to 5 years. In addition to maintaining a list of completed projects, the Town should conduct an annual audit of pedestrian infrastructure and needs to identify changing issues and focus resources efficiently.

4.1 ACTION PLAN

A step-by-step implementation process is detailed for the next 2 years. The action items are grouped by year and in most cases are not in sequential order. The suggested party or parties who need to complete each action step is also included. Opportunities to implement certain action items may arise before others and these opportunities should be pursued.

One of the *most important* action items is the formation of a pedestrian transportation working group, which would be a sub-committee of the Planning Board. The working group will advocate for implementation of the plan and assist in public outreach and grant writing, City staff communication and other duties. There may be existing non-profit groups able to fulfill this role, or members of the plan steering committee who would be willing to lead the working group effort. The working group would be involved in many of the action items, but should look to new volunteers on an annual or biannual basis to avoid volunteer burn-out.

If there are budgetary implications for action items, the budget amount is indicated. Funding opportunities from state and federal agencies as well as non-profits are listed in the Appendix to reference in project development. Each new project or program and policy change should be evaluated for effectiveness as needed. In five years or 2014, a broader assessment and evaluation of efforts should be performed to both look at proposed changes and their progress, but also to look at new ideas and new challenges. The 2014 reassessment would serve as a Comprehensive Pedestrian Transportation Plan Update and may modify a number of sections of this current Pedestrian Transportation Plan.

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Implementation Action Plan

2011.2	11.2 Assess walking and encouragement programs and decide which programs to catalyze, continue or discontinue;			Pedestrian Transportation Working Group and Non-Profit Partners				
2011.3 r	Continu pedestriar	e to seek funding sources needed to build n projects;	City Pedes	of trian	Eden Transpor	Planning tation Wor	Depart king Grou	ment, p
20	011.3.1	Establish 2010 grant writing schedule and seek grants for specific projects to achieve 2010.1 goals						
20	11.3.2	Provide matching money for grant applications;	City Pedes	of trian	Eden Transpo	Planning ortation V	Depart /orking (ment, Group
20	11.3.3	Safe Routes to School Implementation;	and N	on-Pr	ofit Partr	ners	•	-
20	11.3.4	Renew Capital Program funding for						
00	1105	sidewalks;						
20	111.3.5	Seek other funding sources;	L					

APPENDIX A: PROJECT DEVELOPMENT

A.1 PEDESTRIAN AND SHARED-USE FACILITY GUIDELINES

The placement and design of new pedestrian facilities should vary somewhat depending on the make-up of the adjoining land uses. This is referred to as context sensitive-design, building facilities based on the existing environment. The following overall guidelines for facility development are highlighted here²:

- Give transportation priority to the completion of pedestrian routes to schools, neighborhood shopping areas and parks.
- Incorporate the natural and historical linear aspects of the City into pedestrian projects.
- Ensure that the safety and convenience of pedestrians are not compromised by transportation improvements aimed at motor vehicle traffic.
- Ensure that the pedestrian circulation system is safe and accessible to children, seniors and the disabled.
- Require storefront commercial development to be oriented to pedestrians.
- Street furniture, vendors, water fountains, bicycle racks, lighting, and other pedestrian necessities should be welcomed, but also be placed out of the immediate pedestrian travel area.
- Establish links between sidewalks, multi-use paths, parks, and the rest of the community.
- Retain public pedestrian access when considering private right-of-way requests.
- Support changes to existing policies that would enhance pedestrian travel.
- The pedestrian system should connect to residential, commercial, industrial, educational, and recreational areas.
- Off-site street improvements or enhanced multi-use path facilities may be required as a condition of approval for land divisions or other development permits.
- Aesthetics and landscaping shall be a part of the transportation system.
- Coordinate transportation planning and efforts with neighboring municipalities.

The basic principles of walkable communities should guide the development of new facilities. These new facilities may be built by the City of Eden or built as new development occurs by private contractors and individual property owners. The three principals of a walkable community are: 1) Safety, 2) Comfort and 3) Access. The following characteristics, if built into the design of the streets will create a walkable Eden:

- Connectivity (close sidewalk gaps, build cul-de-sac paths and connections between different land use; e.g. residential and commercial);
- Separation from traffic (bike-lanes, planting strips, landscaping, bulb-outs);
- Pedestrian supportive land-use patterns (mixed use, higher density, design for the pedestrian);
- Designated space (5ft+ sidewalks in residential areas and 8-12ft sidewalks in downtown and around schools);

² Source: Mooresville, NC Comprehensive Pedestrian Plan 2005

- Accessibility (ADA ramps, crosswalks, ped-head signals);
- Street furniture (places to sit, drinking fountains, trash receptacles); and
- Security and visibility (lighting, landscaping and site distance).



There are a number of ways to build the facilities called for in this plan. Many of the facility improvement recommendations will need further investigation and engineering before improvements and design are finalized. The designs and improvements to federally funded streets must follow Federal Highway Administration guidelines outlined in the Manual of Uniform Traffic Control Devices (MUTCD) or be in jeopardy of losing funding or additional liability. More flexibility is allowed for municipal owned streets where local or state funding is used.

Additional guidance for multi-use paths and sidewalks can be found in the following manuals:



AmericanAssociationofStateHighwayandTransportationOfficials(AASHTO)GuidetoDevelopmentofBicycleFacilities (1999)

Note: Update planned for release in 2009

NCDOT Pedestrian Facility Design Guidelines (1995)

Intersections

Pedestrian-vehicular conflict occurs primarily at intersections. As shown by the intersection project recommendations found in the Focus Area Section 3.3, features that help pedestrians include: crosswalks, curb ramps, refuge islands, signals, signs and other treatments. Some of the most important treatments for improving pedestrian intersection crossings are included below, but there are many other treatments to consider. The *PEDSAFE: Pedestrian Safety Guide and Countermeasures Selection System* should also be consulted in addition to a number of the other resources found in the References section of this Plan in deciding improvements to intersections.



AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004)

Crosswalks

Crosswalks direct pedestrians to the best places to cross the street. Curb ramps should be aligned with crosswalks. Crosswalks do not always provide the needed safety to cross a street safely, for example on higher speed arterial streets, additional treatments are needed to make it safe for pedestrians to cross, including medians, crossing islands and other treatments.





The crosswalk designs shown in Figure A.1.1 are approved by the MUTCD. The horizontal line crosswalk is common in Eden. The ladder and diagonal style are

the most visible design. When installed correctly, the ladder style requires less maintenance as the hash marks can be aligned so that motor vehicle wheels will not track over them, reducing wear and tear.

Figure A.1.2 - In-Pavement Yield to Pedestrian Sign



In Pavement Yield to Pedestrian Sign - Greensboro, NC

STATE LAW

YIELD

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WITHIN CROSSWALK It is important to study the best crosswalk locations before installation. The vehicles need to be able to see the pedestrians and the pedestrians need to be able to see the vehicles. In addition, there must be ample room for wheelchair landings where the curb ramp meets the sidewalk. Figure A.1.2 shows the sign design from the MUTCD which can be placed on plastic bollards in advance of the crosswalk as shown in the photo. These improvements are recommended in a number of intersections for Eden.

Refuge Islands

The design and installation of a refuge island (or crossing island) at an intersection is shown in Figure A.1.3 on the left. The installation of a crossing island increases the safety of pedestrians allowing refuge when a complete crossing is interrupted by speeding or turning vehicles. The refuge or crossing island is especially helpful to pedestrians on major thoroughfares with 3 or more lanes. The figure on the right shows how a median can help pedestrians across the street where there is no intersection.



This installation would be appropriate on long blocks where pedestrians are observed crossing mid-block and it is a far distance to nearest intersection. There are no specific recommendations for a mid-block crossing with a median in this Plan, but there may be an opportunity to install this treatment in the future on some of the major thoroughfares or in the Central City Planning area.

Pedestrian Signalization

The push button and sign is associated with the pedestrian signal or "ped-head" to indicate the different phases of the pedestrian signal shown in Figure A.1.4. The signal shows the amount of time the pedestrian has to cross the street and counts down to show how much time is left. These signals can be equipped with audible signals to help people with visual impairment know when to cross safely. There is additional information on accessible pedestrian signals regarding types and placement guidelines at the Pedestrian and Bicycling Information Center website: www.walkinginfo.org/aps.

The pedestrian in roadway light and sign shown in Figure A.1.5 provides automobile traffic a warning signal that pedestrians are in the roadway. The light can be activated either by a sensor or by push-button activation for pedestrians using a designated crosswalk across the street. This application is particularly useful for mid-block crossings or crosswalks with poor sight distance. The sign used with the flashing light is from the MUTCD Chapter 2C and is coded W11-2.

Figure A.1.4 - Pedestrian Signal



Figure A.1.5 - Pedestrian in Roadway Light



Bulb-outs or Curb Radii

The curb radii of an intersection influences not only crossing distance, but also the speed of vehicles traveling through the intersection. Decreasing the crossing distance by reducing the curb radius can help pedestrian safety and comfort and shorten street crossing times. Large trucks can maneuver through the intersections by traveling slower or encroaching slightly into the other travel lanes as necessary to complete turns.



Figure A.1.6 - Reduction in Curb Radii

Curb Ramps

There are many locations along existing sidewalks where the installation of curb ramps will enhance the walking environment. The design shown here follows the guidelines of the ADA. Each four-way intersection should have eight (8) ramps or two (2) to a corner. The width of the ramp should be at least 4' and a detectable warning (truncated domes) should extend 24" from the bottom of the ramp, covering the entire width of the ramp.



Figure A.1.7 - Curb Ramp and Sidewalk Landing Specifications

Source: Kimley-Horn Associates

Sidewalks

The most important feature of the pedestrian transportation system is the sidewalk. Without a sidewalk, many people will not or cannot walk safely along streets and roads. Many of the recommendations for improvement have suggested closing sidewalk gaps, improving handicap accessibility, and making neighborhood connections to shopping areas, schools and nearby parks.

The following recommendations for sidewalk construction and design are from the Institute for Transportation Engineers:

- Central Business District: Wide enough to accommodate users. Minimum 8 feet (not including the planting strip or street furniture).
- Commercial area outside the central business district: 7 feet wide if no planting strip is possible, or 5 feet wide with a 2-8 foot planting strip (Wider planting strips accommodate greater buffers from traffic and the opportunity to plant large shade trees).
- 4 to 8 foot wide planting strips are recommended along all sidewalks to provide separation from vehicles. This space is useful for landscaping, lighting, trash receptacles, water fountains, benches, temporary storage of weather debris and the room to accommodate driveway ramping while maintaining a level or near level (<2%) sidewalk cross slope.
- Crosswalks should have direct alignment with curb ramps at intersections.
- Sidewalks should be clear of obstructions such as utility poles, sign posts, fire hydrants, etc.
- Vertical clearance should be at least 7 feet from ground level to the bottoms of signs or the lowest tree branches.
- Increasing sidewalk widths by 2-3 feet would accommodate shoulder-high intrusions like building walls, bridge railings, and fences.
- Maximum cross-slope of 1:50 (2%). Limit running slope to 5% (1:20), or no greater than 8.33% (1:12) where topography requires it. Building access ramps with landings and handrails would help users.

There are no existing sidewalk standards for City of Eden. A minimum planting strip of 6ft and a maximum planting strip of 8ft in residential areas is suggested for residential areas, with 5ft minimum sidewalks. In commercial areas, school zones and the central business district 8-12 ft sidewalks should be required where significant pedestrian traffic has been observed. More flexibility in the use of the sidewalk space (e.g. street furniture, brick patterns, etc) near the curb should be allowed.

It is important to design sidewalks to be level across driveways, including both the cross and running slope. The 'Level Landing" picture shows an example of how a continuous sidewalk grade can be maintained. This design helps people in wheelchairs negotiate driveways and driveway aprons with ease.



The street cross sections that follow are part of "Street Designs that Support Walkable, Livable Communities" by Paul Zykofsky and Dan Burden. The street cross section shown in Figure A.1.8 is appropriate for residential neighborhoods in the City of Eden. A minimum 5' sidewalk ordinance exists, but a minimum 6' of planting/utility strip should be added.





In commercial areas, the planting strips should not encroach on the travel way of the sidewalk, which should be at least 8' in width between the building and the planting wells or street furniture in the central business district and at least 7' in width in other commercial areas. The street cross section shown in Figure A.1.9 is appropriate for commercial and downtown areas.



Pedestrian Related Signage

There are a number of warning signs to aid drivers in observing traffic laws and to avoid problems with pedestrians. Figure A.1.10 shows examples of pedestrian signage from the MUTCD. The majority of pedestrian signs can be found in Chapter 2B and 2C. School safety signage is found in Part 7 of the MUTCD and examples are shown in Figure A.1.11. The number below each sign indicates the code for the design of the traffic control device.

Figure A.1.10 - MUTCD Pedestrian Related Signage



Source: MUTCD 2003 Chapter 2B and 2C

Figure A.1.11 - MUTCD School Zone Pedestrian Related Signage





Source: MUTCD 2003 Part 7

Innovative Sidewalk Materials and Installation

This section provides information on additional materials to consider when building new or repairing existing sidewalk infrastructure.

Rubber Sidewalk



Rubber Sidewalk (Source: Rubber Sidewalks, Inc.)

The rubber sidewalk shown here reduces maintenance costs when compared to concrete sidewalks. According to Rubber Sidewalks, Inc. the average cost per square foot, including break out and installation is \$15.00. The cost for a linear foot of rubber sidewalk (5' width) is approximately \$75. When including the cost of grading for new installations, the cost is competitive with concrete installation. The rubber sections of sidewalk are large tiles that can be removed for tree root maintenance as well. In most cases, concrete sidewalk must be replaced after tree root maintenance.

Root Barriers

There are a number of different vendors that supply root barriers for street tree plantings. The root barriers should be installed when a street tree is first planted, but can also be installed around mature trees. The root barrier should surround the tree root ball in a circle for newly planted trees. Mature trees will need to have the roots trimmed and a barrier installed between the tree and sidewalk or path. If installed correctly, the root barrier forces tree roots downward away from the sidewalk, path, building or utilities.

Root barriers can be made with any impermeable durable material that can withstand burial in soil for an extended period of time. Root barriers are recommended to be installed to a depth of 30 inches minimum and they must extend above the surface of the soil enough to prevent roots from growing over the



Root Barrier (Source: Vespro, Inc).

top. There are root barrier materials that are permeable to moisture but will not allow roots to grow through, but may be more expensive.

Multi-use Paths

Multi-use paths benefit, pedestrians, bicyclists, in-line skaters and other non-motorized vehicle users. These facilities are extremely popular when designed and built correctly.



Multi-use paths can serve as transportation or recreation and provide a motor-vehicle free walking or bicycling experience. These pathways may run along streams, abandoned railroads or major corridors. The establishment of multi-use paths serve a transportation purpose, but are also linear park systems. The construction of shared-use paths creates an opportunity to preserve environmentally sensitive lands and wildlife, while serving recreation or transportation

needs.

There are a number of proposed multi-use paths included in this Plan. The AASHTO design guidelines provided in the American Association of State Highway and Transportation Officials' Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO, 2004) and the AASHTO Guide for the Development of Bicycle Facilities (AASHTO. 1999) recommends width of shared-use paths 10ft minimum and 2ft shoulders for two-directional traffic. A yellow line should separate the pathway into two lanes and at least 8ft of vertical clearance is required. The right-of-way including the multi-use path, shoulders, drainage and signage placement will need to be at least 20' in width depending on design. Figure A.1.12 below shows an elevation view of a shared-use path cross section.



Figure A.1.12 - Multi-use Path Cross-section and Overhead View

Source: Guide for the Development of Bicycle Facilities, Copyright 1999 by AASHTO. Used by permission. Additional guidance and standards on multi-use paths can be found at the North Carolina Dept. of Transportation Division of Bicycle and Pedestrian Transportation: <u>http://www.ncdot.org/transit/bicycle/projects/project_types/Multi_Use_Pathways2.pdf</u>.

A.2 PROJECT PRIORITIZATION METHODOLOGY

Corridor Prioritization Methodology

The following prioritization factors have been weighted and are used to determine the prioritization of **corridor** projects. The total maximum score possible from the following factors is 27. Most corridor project factors receives the full score or none at all, except for the 'crashes' factor, which receives a partial score.

Public comments (number of comments for each project)

• The project receives a score of 2 points if there were comments from the June 5th public meeting or from the community survey.

Proximity to schools (within 1/2 mile of an elementary, middle or high school)

• The improvement receives a score of 3 points if a portion of the project lies within ½ mile of a school and 4 points if it provides direct connection to school property.

Proximity to parks and recreation (within ½ mile of a park)

 The improvement receives a score of 3 points if a portion of the project lies within ½ mile of a park or recreation facility. These facilities include all City parks, YMCAs, river parks, golf courses and passive parks.

Crashes (2 crashes or >=3 crashes between 2001-2006)

 The improvement receives a score of 4 points if 3 or more pedestrian/vehicle or bicycle/vehicle crashes occurred along the corridor and a score of 2 if there were 2 pedestrian/vehicle or bicycle/vehicle crashes. The crashes are based on the Eden Police Department records for 2001-2006.

Road type (arterial or collector)

Those projects that are along roadways that carry more than 2,500 average daily traffic (ADT) will receive a score of 3 points – primarily arterial and collector streets. There are some streets that may be considered local, but carry more than 2,500 AADT and will also receive a score of 3 points.

Compatible land use (residential, commercial, downtown)

 Projects that are along roadways abutting zoning that is either central business, commercial, multi-family residential or office/multi-family receive a score of 3 points.

Curb and gutter existing

 Projects along roadways that already have curb and gutter existing receive a score of 2 points. Streets with curb and gutter are less expensive to retrofit with sidewalk. If there are road projects that include curb and gutter, the option of installing a sidewalk while construction occurs should be explored for future cost savings.

Census block with >15% of households without vehicles

 Projects that connect with census tract block groups that have > 15% of households without vehicles will receive a score of 3 points. There are currently 3 block groups that have such vehicle ownership rates.

Connectivity to existing sidewalk

 If the project connects to an existing sidewalk, that project will receive 2 points. The project does not need to connect to a sidewalk on both ends, just one.

Direct access to/from a proposed greenway

o If the project intersects with a proposed multi-use path in the 2007 Greenways plan the project receives a score of 1 point.

Intersection Project Prioritization

The following suggested prioritization factors have been weighted and will influence the prioritization of **intersection** projects. The combined factors below can total a maximum of 27 points. Some factors have partial scoring, which is indicated in the descriptions.

Crashes (A pedestrian or bicycle crash between 2001-2006 within 100 yards of the intersection)

If the intersection has had bicycle or pedestrian crashes between 2001-2006 within 200 yards of the intersection, the project will receive a score of 4 points. The data is based on Eden Police Department records for 2001-2006.

ADA non-compliance

 If the intersection does not have any curb ramps or the existing curb ramps are not ADA compliant, the project receives a score of 3 points. If there is only one ramp that is non-ADA compliant, the project still receives a score of 3 points. If there are no existing sidewalks, there are no points.

Presence of sidewalk (1 point for each corner of intersection)

 If the intersection has a sidewalk approaching from all four directions on both sides of the street, the project will receive a score of 4 points. In the case where a sidewalk approaches the intersection on one side of street B and on one side of street A and the sidewalks meet at the intersection, the project receives 2 points. If the sidewalk approaches the intersection on both sides of street B and both sides of street A and ends at the intersection, the project still receives only 2 points. If both sides of street B or street A have sidewalks through the intersection, then the project receives 4 points.

Condition of sidewalk

 If the intersection has a sidewalk and any of the sidewalks leading into the intersection are in poor condition, the project will receive a score of 3 points.

Road type (major road with high vehicle of pedestrian traffic)

 Those projects that are at the intersection(s) of a roadway(s) that carries more than 2,500 average daily traffic (ADT), it will receive a score of 3 points – primarily arterial and collector streets. There are some streets that may be considered local, but carry more than 2,500 vehicles a day and will also receive a score of 3 points.

Proximity to school (within ½ mile of an elementary, middle or high school)

o The improvement receives a score of 3 points if the project lies within $\frac{1}{2}$ mile of a school.

Proximity to parks and recreation (within ½ mile of a park)

• The improvement receives a score of 3 points if a portion of the project lies within ½ mile of a park or recreation facility. These facilities include all City parks, the YMCA and skate parks.

Compatible land use (multi-family residential, commercial and central business)

 Projects that are along roadways abutting zoning that is either central business, commercial, multi-family residential or office/multi-family receive a score of 3 points.

A.3 COST ESTIMATES FOR PEDESTRIAN IMPROVEMENTS

Item	Description	Unit	Unit Cost	Notes & Assumptions
Pedestrian Infrastructure				
Crossings				
1.0	Audible Pedestrian Crossing Cues at Intersection	Per Intersection	\$2,400	Per intersection. Assumes one at each corner of intersection (8 per intersection) Cost is roughly \$300 per signal.
1.01	Crosswalk Countdowns	Per Intersection	\$4,000 - \$6,400	Per intersection (assumes 8 signals). Cost is \$500 - \$800 for one countdown signal
1.02	Crosswalk: Raised above	FA	Stationary: \$10,000-\$15,000	Stationary and Portable: Rubber crosswalk 6' in width and 30' long.
	Crosswalk: Striping (Standard and High		Standard: Thermo = \$2.40 Paint = \$1.60 High Visibility: Thermo = \$4.80	24' (2 lane) Standard Thermo: \$56.40 Standard Paint: \$38.40 48' (4 lane) High Visiblity Thermo:
1.03	Visibility) Signage (Standard vs. High	LF	Paint = \$1.60 Standard: \$150	High Visibility Paint: Assumes new post is needed in
1.04	Visibility)	EA Per	High-Visibility: <u>\$200</u>	sidewalk and installation Per intersection. Estimate depends on size of street, type of signal and
1.06	Wheelchair Ramps (w/ warning surface half domes or truncated domes)	EA	\$40,000 Wheelchair ramp: \$1,200 Truncated dome panel: \$300	Does not include demolition costs.
1.07	Yield Lines (Advanced Limit Lines or Back Lines)	LF	Thermo = \$6.50 Paint = \$2.75	12-inch lines
Enforcement				
1.08	Radar Speed Display Sign (Electronic)	EA	\$2,500	
1.09 Sidewalks and	Red-Light Traffic Cameras	Per Intersection	Can be acquired on a lease basis	Infrared cameras that photograph autos running redlights. Per intersection.
1.10	Sidewalk Only	LF	\$50 (cost varies widely throughout state)	\$75 when curb and gutter is included \$50 when curb and gutter is not included
1.11	Concrete Curb and Gutter Only	LF	\$20 (cost varies widely throughout state)	
1.12	Pedestrian-Level Street Lights	EA	\$2,200	10 - 15 feet in height

Figure A.3.1- Pedestrian Cost Estimating Template - For Planning Purposes Only 1,2,3

1.13	Standard Street Light (Cobra Head)	EA	\$3,500	Standard roadway light.
Traffic Calming				
1.14	Speedbumps	EA	Portable: \$26 \$44 \$77 Non-portable: \$300	Portable: 10" x 24" 18" x 24" 36" x 24" Non-portable: Cost will vary with size
1.15	Speedhump	EA	\$1,000	
1.16	Stop Signs	EA	\$280	Standard 30" sign. Including new post and cost of installation
1.17	Curb Extension	EA	\$5,000-\$25,000	

				-
Pedestrian				
Amenities				
				Brick base with seat made from
1.18	Bench (6' Wide)	EA	\$800-\$1,000	recycled plastic/wood material
1.19	Bike Racks	EA	\$600-\$1,200	
1.20	Bollards	EA	\$600	
1.21	Bus Shelter	EA	\$4,000-\$8,000	
1.22	Information Kiosks	EA	\$1,200	
1.23	Trash Cans	EA	\$800 -\$ 1,500	Standard-sized trashcan
	Tree Grates includes frame			
1.24	(4'x4')	EA	\$1,200	
	Tree Guards (Powder			
1.25	Coated)	EA	\$325-\$640	
				Includes saw cut of 5' x 5' hole, 2.5
				cy amended soil, and concrete
1.26	Tree Well	EA	\$500-\$1,000	demo and hauling
				Assumes water source is already
1.27	Water Fountain	EA	\$2,000	available at site.

Shared-Use Pedes	trian and Bicycle Facilities			
1.28	Construct 10-foot shared- use path	Linear foot Linear mile	\$133 \$700,000	
1.29	Construct 10-foot crushed stone walkway	Linear foot Linear mile	\$15-\$25 \$80,000-\$106,000	
1.30	Construct 6- to 8-foot wooden or recycled synthetic material boardwalk	Linear foot Linear mile	\$200-\$250 \$1,000,000- \$1,300,000	
	Trail markers - Flat fiberglass pole 4" wide x 1/8 inch thick. Decal 4" in width or a sign applied to the pole. Name of facility, mile marker, feature of interest			
1.31	shown.	EA	\$50	

1 All items listed include installation costs.

² All items reflect 2008 pricing.

3

Cost for sidewalks and paths includes clearing, grubbing and grading. Geotextile cost or other major costs, including utility relocation, are not included in multi-use path or sidepath estimates. Multi-use paths and sidepaths are asphalt, with 2" asphalt and 6" aggregate base course.

A.4: FUNDING OPPORTUNITIES

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

Funding Allocated by State Agencies

Funding Opportunities Through NCDOT:

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

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

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

The division has an annual budget of \$6 million. Eighty percent of these funds are from STP-Enhancement funds³, 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 paths, the striping of bicycle lanes, and the construction of paved shoulders, among other

³ After various administrative adjustments for programs within the Surface Transportation Program, or "STP", there is a 10% set-aside for Transportation Enhancements. The 10% set-aside is allocated within NCDOT to internal programs such as the Bicycle/Pedestrian Division, the Rail Division, the Roadside Environmental Unit, and others. The Enhancement Unit administers a portion of the set-aside through the Call for Projects process.
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: <u>http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html</u>. Another \$500,000 of the division's funding is available for miscellaneous projects.

Incidental Projects – Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bicycle-safe 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 allocates \$100,000 annually from each division's budget 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 applying GHSP required. For information on for funding, visit: www.ncdot.org/programs/ghsp/.

Funding Available Through North Carolina Metropolitan Planning Organizations (MPOs)

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

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 2009. For more information, visit: www.ncdot.org/financial/fiscal/Enhancement/

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

To encourage the development of comprehensive local bicycle plans and pedestrian plans, the NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the Transportation Planning Branch (TPB) have created a matching grant program to fund plan development. This program was initiated through a special allocation of funding approved by the North Carolina General Assembly in 2003 along with federal funds earmarked specifically for bicycle and pedestrian planning by the TPB. The planning grant program was launched in January 2004, and it is currently administered through NCDOT-DBPT and the Institute for Transportation Research and Education (ITRE) at NC State University. Over the past three grant cycles, 48 municipal plans have been selected and funded from 123 applicants. A total of \$ 1,175,718 has been allocated. Funding is secured for 2008 at \$400,000. Additional annual allocations will be sought for subsequent years. For more information. visit www.itre.ncsu.edu/ptg/bikeped/ncdot/index.html

Safe Routes to School Program, managed by NCDOT, DBPT

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

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

Small Urban Funds managed by NCDOT Highway Division Offices

Small Urban Funds are available for small improvement projects in urban areas. Each NCDOT Highway Division has \$2 million of small urban funds available annually. Although not commonly used for bicycle facilities, local requests for small bicycle projects can be directed to the NCDOT Highway Division office for funding through this source. A written request should be submitted to the Division Engineer providing technical information such as location, improvements being requested, timing, etc. for thorough review.

Hazard Elimination Program by NCDOT Highway Division Offices

This program focuses on projects intended for locations that should have a documented history of previous crashes. Bicycle and pedestrian projects are eligible for this program, although the funds are not usually used for this purpose. This program is administered through the NCDOT Division of Highways. Similar to the Small Urban Funds, it is a significantly limited funding source.

The North Carolina Conservation Tax Credit (managed by NCDENR)

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

Land and Water Conservation Fund (LWCF)

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

each year. However, Congress generally appropriates only a small fraction of this amount. The allotted money for the year 2007 is \$632,846.

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

NC Adopt-A-Trail Grant Program

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

Recreational Trails Program

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

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

North Carolina Parks and Recreation Trust Fund (PARTF)

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

The trust fund is allocated three ways:

- 65 percent to the state parks through the N.C. Division of Parks and Recreation.

- 30 percent as dollar-for dollar matching grants to local governments for park and recreation purposes.

- 5 percent for the Coastal and Estuarine Water Access Program.

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

Powell Bill Program

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

www.ncdot.org/financial/fiscal/ExtAuditBranch/Powell_Bill/powellbill.html.

Clean Water Management Trust Fund

This fund was established in 1996 and has become one of the largest sources of money in North Carolina for land and water protection. At the end of each fiscal year, 6.5 percent of the unreserved credit balance in North Carolina's General Fund, or a minimum of \$30 million, is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies and

conservation non-profits to help finance projects that specifically address water pollution problems. CWMTF funds may be used to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits. The fund has provided funding for land acquisition of numerous greenway projects featuring trails, both paved and unpaved. For a history of awarded grants in North Carolina and more information about this fund and applications, visit www.cwmtf.net/.

Natural Heritage Trust Fund

This trust fund, managed by the NC Natural Heritage Program, has contributed millions of dollars to support the conservation of North Carolina's most significant natural areas and cultural heritage sites. The NHTF is used to acquire and protect land that has significant habitat value. Some large wetland areas may also qualify, depending on their biological integrity and characteristics. Only certain state agencies are eligible to apply for this fund, including the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Department of Cultural Resources and the Department of Agriculture and Consumer Services. As such, municipalities must work with State level partners to access this fund. Additional information is available from the NC Natural Heritage Program. For more information and grant application information, visit www.ncnhtf.org/.

North Carolina Conservation Tax Credit Program

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

Urban and Community Forestry Assistance Program

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

Ecosystem Enhancement Program

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

Conservation Reserve Enhancement Program (CREP)

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

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

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

Agriculture Cost Share Program

Established in 1984, this program assists farmers with the cost of installing best management practices (BMPs) that benefit water quality. The program covers as much as 75 percent of the costs to implement BMPs. The NC Division of Soil and Water Conservation within the NC Department of Environment and Natural

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

Water Resources Development Grant Program

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

Small Cities Community Development Block Grants

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

North Carolina Health and Wellness Trust Fund

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

Fit Together, a partnership of the NC Health and Wellness Trust Fund (HWTF) and Blue Cross and Blue Shield of North Carolina (BCBSNC) announces the establishment of Fit Community, a designation and grant program that recognizes and rewards North Carolina communities' efforts to support physical

activity and healthy eating initiatives, as well as tobacco-free school environments. Fit Community is one component of the jointly sponsored Fit Together initiative, a statewide prevention campaign designed to raise awareness about obesity and to equip individuals, families and communities with the tools they need to address this important issue.

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

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

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

• heightened statewide attention that can help bolster local community development and/or economic investment initiatives (highway signage and a plaque for the Mayor's or County Commission Chair's office will be provided)

• reinvigoration of a community's sense of civic pride (each Fit Community will serve as

a model for other communities that are trying to achieve similar goals)

• use of the Fit Community designation logo for promotional and communication purposes. The application for Fit Community designation is available on the

Fit Together Web site: www.FitTogetherNC.org/FitCommunity.aspx.

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

addressing physical activity and/or healthy eating. For more information, visit: <u>www.healthwellnc.com/</u>

The North Carolina Division of Forest Resources

Urban and Community Forestry Grant can provide funding for a variety of projects that will help toward planning and establishing street trees as well as trees for urban open space. See: <u>http://www.dfr.state.nc.us/urban/urban_ideas.htm</u>

Funding Allocated by Federal Agencies

Wetlands Reserve Program

This federal funding source is a voluntary program offering technical and financial assistance to landowners who want to restore and protect wetland areas for water quality and wildlife habitat. The US Department of Agriculture's Natural Resource Conservation Service (USDA-NRCS) administers the program

and provides direct payments to private landowners who agree to place sensitive wetlands under permanent easements. This program can be used to fund the protection of open space and greenways within riparian corridors. For more information, visit <u>http://www.nrcs.usda.gov/PROGRAMS/wrp/</u>.

The Community Development Block Grant (HUD-CDBG)

The U.S. Department of Housing and Urban Development (HUD) offers financial grants to communities for neighborhood revitalization, economic development, and improvements to community facilities and services, especially in low and moderate income areas. Several communities have used HUD funds to

develop greenways, including the Boulding Branch Greenway in High Point, North Carolina. Grants from this program range from \$50,000 to \$200,000 and are either made to municipalities or non-profits. There is no formal application process. For more information, visit: <u>www.hud.gov/offices/cpd/communitydevelopment/programs/</u>.

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: <u>http://www.rurdev.usda.gov/rbs/busp/rbeg.htm</u>

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: <u>www.nps.gov/ncrc/programs/rtca/</u> 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: <u>http://www.fhwa.dot.gov/discretionary/</u>

Local Funding Sources

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

Capital Reserve Fund

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

Capital Project Ordinances

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

Municipal Service District

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

Tax Increment Financing

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

Installment Purchase Financing

As an alternative to debt financing of capital improvements, communities can execute installment/ lease purchase contracts for improvements. This type of financing is typically used for relatively small projects that the seller or a financial institution is willing to finance or when up-front funds are unavailable. In a lease purchase contract the community leases the property or improvement from the seller or financial institution. The lease is paid in installments that include principal, interest, and associated costs. Upon completion of the lease period, the community owns the property or improvement. While lease purchase contracts are similar to a bond, this arrangement allows the community to acquire the property or improvement without issuing debt. These instruments, however, are more costly than issuing debt.

Taxes

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

Sales Tax

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

Property Tax

Property taxes generally support a significant portion of a municipality's activities. However, the revenues from property taxes can also be used to pay debt service on general obligation bonds issued to finance greenway system acquisitions. Because of limits imposed on tax rates, use of property taxes to fund greenways could limit the municipality's ability to raise funds for other activities. Property taxes can provide a steady stream of financing while broadly distributing the tax burden. In other parts of the country, this mechanism has been popular

with voters as long as the increase is restricted to parks and open space. Note, other public agencies compete vigorously for these funds, and taxpayers are generally concerned about high property tax rates.

Excise Taxes

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

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

Fees

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

Stormwater Utility Fees

Greenway sections may be purchased with stormwater fees, if the property in question is used to mitigate floodwater or filter pollutants.

Stormwater charges are typically based on an estimate of the amount of impervious surface on a user's property. Impervious surfaces (such as rooftops and paved areas) increase both the amount and rate of stormwater runoff compared to natural conditions. Such surfaces cause runoff that directly or indirectly discharge into public storm drainage facilities and creates a need for stormwater management services. Thus, users with more impervious surface. The rates, fees, and charges collected for stormwater management services may not exceed the costs incurred to provide these services. The costs that may be recovered through the stormwater rates, fees, and charges collects of stormwater quality and quantity are managed in accordance with federal and state laws, regulations, and rules.

Streetscape Utility Fees

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

Impact Fees

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

Exactions

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

In-Lieu-Of Fees

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

Bonds and Loans

Bonds have been a very popular way for communities across the country to finance their pedestrian and greenway projects. A number of bond options are listed below. Contracting with a private consultant to assist with this program may be advisable. Since bonds rely on the support of the voting population, an

education and awareness program should be implemented prior to any vote. Billings, Montana used the issuance of a bond in the amount of \$599,000 to provide the matching funds for several of their TEA-21 enhancement dollars. Austin, Texas has also used bond issues to fund a portion of their bicycle and trail system.

Revenue Bonds

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

General Obligation Bonds

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

Special Assessment Bonds

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

State Revolving Fund (SRF) Loans

Initially funded with federal and state money, and continued by funds generated by repayment of earlier loans, State Revolving Funds (SRFs) provide low interest loans for local governments to fund water pollution control and water supply related projects including many watershed management activities. These loans

typically require a revenue pledge, like a revenue bond, but carry a below

market interest rate and limited term for debt repayment (20 years).

Other Local Options

Facility Maintenance Districts

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

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

Partnerships

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

Local Trail Sponsors

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of

a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

Volunteer Work

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

Private Foundations and Organizations

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

Land for Tomorrow Campaign

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals and community groups committed to securing support from the public and General Assembly for protecting land, water and historic places. The campaign is asking the North Carolina General Assembly to support issuance of a bond for \$200 million a year for five years to preserve and protect its special land and water resources. Land for Tomorrow will enable North Carolina to reach a goal of ensuring that working farms and forests; sanctuaries for wildlife; land bordering streams, parks and

greenways; land that helps strengthen communities and promotes job growth; historic downtowns and neighborhoods; and more, will be there to enhance the quality of life for generations to come. For more information, visit http://www.landfortomorrow.org/

The Trust for Public Land

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

• Create urban parks, gardens, greenways, and riverways

• Build livable communities by setting aside open space in the path of growth

• Conserve land for watershed protection, scenic beauty, and close-to home recreation safeguard the character of communities by preserving historic landmarks and landscapes.

The following are TPL's Conservation Services:

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

and techniques to improve the practice of conservation and promote its public benefits.

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

Z. Smith Reynolds Foundation

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

North Carolina Community Foundation

The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for nonprofit organizations and

institutions throughout the state. Based in Raleigh, North Carolina, the foundation also manages a number of community affiliates throughout North Carolina that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. In addition, the foundation manages various scholarship programs statewide. Web site: http://nccommunityfoundation.org/

National Trails Fund

In 1998, the American Hiking Society created the National Trails Fund, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. Each year, 73 million people enjoy foot trails, yet many of our favorite

trails need major repairs due to a \$200 million in badly needed maintenance. National Trails Fund grants give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. For 2005, American Hiking distributed over \$40,000 in grants thanks to the generous support of Cascade Designs and L.L.Bean, the program's Charter Sponsors. To date, American Hiking has granted more than \$240,000 to 56 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$10,000 per project.

What types of projects will American Hiking Society consider? Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements. Building and maintaining trails 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: <u>www.americanhiking.org/alliance/fund.html</u>.

Bikes Belong

The Bikes Belong Grants Program strives to put more people on bicycles more often by funding important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths, lanes, and routes, as well as bike parks, mountain bike trails, BMX facilities, and large-scale bicycle advocacy initiatives.

Since 1999, Bikes Belong has awarded 166 grants to municipalities and grassroots groups in 44 states and the District of Columbia, investing nearly \$1.3 million in community bicycling projects and leveraging more than \$476 million in federal, state, and private funding.

APPENDIX B: SURVEY RESULTS

Survey Summary August 2008

The Eden Pedestrian Transportation Plan Survey was conducted from April 2008 through July 2008. There were 46 responses to the survey, which included 9 questions relating to walking-friendliness, how to improve the pedestrian environment and methods for improvements to be funded.

Summary:

- 93% of respondents think a walking friendly community is 'very important' or 'important';
- 37% of respondents ranked #1 'lack of sidewalks and trails' and 16% ranked #1 'deficient sidewalks' as the biggest factor discouraging walking;
- 50% of respondents ranked #1 'trails and greenways' as destinations they would most like to get to;
- 54% of respondents ranked #1 'new sidewalks' as the action most need to increase walking in the community;
- 27% of respondents reported 'pedestrian safety', 26% 'schools' and 15% 'sidewalk gaps' as the #1 important consideration in determining locations for new sidewalks;
- Aside from grants (47%), respondents reported public private partnerships (13%) and impact fees on new development (12%) as the #1 way to fund future pedestrian transportation improvements.



If respondents have suggested other comments, they are shown below each chart or graph.





1. How important to you is the goal of creating a walking-friendly community? (select one)					
Answer Options	Response Percent	Response Count			
Very Important	77%	34			
Important	16%	7			
Somewhat Important	2%	1			
Not Important	5%	2			
	44				
	skipped				
	question	2			



2. How often do you walk now? (select one)					
Answer Options	Response Percent	Response Count			
5+ times per week	27%	12			
Few times per week	34%	15			
Few times per month	25%	11			
Less than once a month	14%	6			
	answeredquestion	44			
	skipped question	2			



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walk in the future? Please also include the distance. (select all that apply)							
Answer Options	< 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile	> 1 mile	Response Count		
Fitness or recreation	1	3	8	25	37		
Walking for transportation (i.e. work, shopping, school)	9	4	3	4	20		
Social visits	9	10	2	4	25		
Walking the dog	3	2	5	5	15		
Walking the baby/pushing a stroller	2	3	2	2	9		
Other							
answered question							
skipped question							



- Walking with grandchildren
- Just a lovely stroll
- n/a

top 5, 1 being most discouraging and 5 being least discouraging)							
						Response	
Answer Options	1 Most	2	3	4	5 Least	Count	
Lack of sidewalks and trails	16	9	6	3	1	35	
Pedestrian unfriendly streets/land uses	4	7	7	7	3	28	
Traffic	2	1	2	5	1	11	
Unsafe crossings	1	5	2	3	6	17	
Aggressive motorist behavior	4	4	5	2	4	19	
Deficient sidewalks	7	4	6	1	2	20	
Lack of nearby destinations	2	2	2	3	1	10	
Lack of time	5	2	3	4	8	22	
Lack of interest	0	2	0	1	2	5	
Health issues	1	1	1	3	2	8	
Low lighting	1	0	1	1	3	6	
Other (please specify)							
answered question							
			9	skippe	ed question	3	

4. What are the biggest factors that discourage you from walking? (Please rank your top 5, 1 being most discouraging and 5 being least discouraging)



- Actually all of these factors are very important and rank a 5
- It seems business are now built out of walking distance.
- Three little children
- Did not like the scale, should be reversed

5. What walking destinations would you most like to get to? (Please rank your top 5, 1 being most desirable and 5 being least desirable)						
	1					Response
Answer Options	Most	2	3	4	5 Least	Count
Trails and greenways	23	5	5	2	3	37
Parks	7	15	5	6	0	33
Shopping	6	3	7	2	5	23
Restaurants	1	5	7	11	8	32
Libraries or recreation centers	2	5	10	3	3	23
Place of work	1	2	2	5	5	15
Entertainment	2	2	1	4	5	14
Medical Facility	1	2	0	3	5	11
Other	8					
	44					
skipped question						



- Easy access to trails, etc. Being able to either bike or walk without having to load up bikes to get started.
- all of the above
- I simple want safe sidewalks connecting the city. Convenience store in neighborhood
- Schools
- To the river
- Schools
- Dan River public boat access
- school! Leaksville-Spray Elementary

6. What actions do you think are the most needed to increase walking in the							
community? (Please rank your top 5, 1 being most needed and 5 being least needed)							
	1					Response	
Answer Options	Most	2	3	4	5 Least	Count	
More public transportation routes	2	0	2	6	2	12	
Crossing improvements	3	6	3	4	6	22	
Replacing deficient sidewalks (i.e. narrow)	4	2	9	1	2	18	
Repairing old sidewalks (i.e. broken, damaged)	1	7	2	5	6	21	
More pedestrian friendly land- uses	4	5	7	6	4	26	
Improved greenway trail systems	4	8	7	3	2	24	
New sidewalks	22	7	3	3	1	36	
Education for pedestrians and drivers	0	2	0	2	3	7	
Promotional efforts	1	1	1	0	3	6	
Planting street trees	0	1	0	2	1	4	
Benches	0	0	1	2	4	7	
Other (please specify) 3							
answered guestion							
skipped question 4							



- I have a major concern with unfriendly citizens
- adding sidewalks to entire city
- More enlightened city council and staff #1

7. What should be the most important considerations in determining locations to develop future sidewalks? (Please rank your top 5, 1 being most needed and 5 being least needed)							
							Not forced ranking, thus total responses for each rank exceed number who answered
Answer Options	1 Most	2	3	4	5 Least	Response Count	each question
Pedestrian safety	12	8	5	6	2	33	
Filling gaps of missing sidewalk	7	6	2	5	6	26	
Greenway trails	4	5	9	2	4	24	
Residential neighborhoods	7	9	4	6	3	29	
Schools	12	7	5	3	1	28	
Parks	2	3	6	8	6	25	
Business or commercial areas	2	5	5	3	8	23	
Other (please specify)						3	
answered question						40	
skipped question						6	



- Smooth transportation.
- All of the above
- Kings Hwy, Draper and Central with Freedom Park

8. Please rank interest in using the following funding sources to improve sidewalks, multi-use trails and lighting in Eden (Please rank all sources, 1 being most interested and 6 being least interested).							
Answer Options	1 Most	2	3	4	Response Count	Not forced ranking, thus total responses for each rank exceed number who answered each question	
Bond Referendum	7	4	8	8	27		
Local Sales Tax	6	7	6	8	27		
Public/Private Partnerships	10	11	7	8	36		
Impact Fees on New Development	9	3	7	11	30		
Grants	31	7	0	2	40		
Property Tax	4	3	6	8	21		
Donations	8	7	5	4	24		
	Other (please specify)						
	ed question	43					
skipped question 3							



- I believe that if we are to grow together we must work together and understand all concept.
- Fundraisers or adopt a sidewalk or block of sidewalk.
- n/a

9. What do you think are the top roadway corridors most needing sidewalk or trail improvements? Where are lighting improvements needed? Please be specific, include cross streets or landmarks where possible. Example: NC 14 (Van Buren Road) from Kings Highway to Stadium Drive.					
Street	Number				
Kings Hwy/Pierce St	20				
NC 14	4				
Highland Drive	3				
Meadow Road	3				
Pierce Street	2				
Stadium Drive	2				
Spray Circle	1				
All Schools	1				
Kennedy Street	1				
Hospital Crossing	1				
Washington Street	1				
Patterson Street	1				
Boone Rd	1				
Bridge Street	1				
Oakland Avenue	1				
Adams Street	1				

APPENDIX C: REFERENCES

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO) 1999 http://bookstore.transportation.org

Americans with Disabilities - Department of Justice <u>http://www.ada.gov/srchfoia.htm</u>

Eden Sidewalk Maintenance Report, Evans, John <u>http://www.uncg.edu/~kgdebbag/index_files/Teaching.htm</u>

Designing Sidewalks and Trails for Access http://www.fhwa.dot.gov/environment/sidewalk2/pdf.htm

Graham, NC Pedestrian Plan, 2006

Manual of Uniform Traffic Control Devices, FHWA, 2003 <u>http://mutcd.fhwa.dot.gov/</u>

Mooresville, NC Pedestrian Plan, 2005

North Carolina Department Division of Bicycle and Pedestrian Transportation – Helpful Links <u>http://www.ncdot.org/transit/bicycle/safety/safety_links.html</u>

Pedestrian and Bicycling Information Center - Developing Pedestrian Plans and Policies www.walkinginfo.org/develop/

PEDSAFE – Pedestrian and Bicycling Information Center <u>www.walkinginfo.org/pedsafe/</u>

Portland, OR Pedestrian Plan, 2005

Project for Public Spaces <u>www.pps.org</u>

Root Barriers March 2002 *Horticulture Update*, Dr. Welch, William Extension Horticulture, Texas Cooperative Extension, The Texas A&M University System, College Station, Texas. <u>http://aggie-horticulture.tamu.edu/extension/newsletters/hortupdate/mar02/art3mar.html</u>

Scenic America's Model Tree Ordinance <u>http://www.scenic.org/tree/model_ordinance</u>

"Street Designs that Support Walkable, Livable Communities" Zykofsky, Paul and Burden, Dan

"Visions for a New American Dream" Nelessen, Anton Clarence, p. 155

Walkability Checklist www.walkinginfo.org/

APPENDIX D: TRAFFIC CALMING PROGRAM FORMS

View the entire Residential Traffic Management Plan for Speed and Traffic Control at <u>www.ci.eden.nc.us</u>

Attachment A – Traffic Calming Request Form

This form is used to report a speeding or traffic problem on a residential street. When this form is submitted, City staff will evaluate the complaint to determine the nature of the problem, and make sure that the location is a City-maintained, residential street. After the initial report, City staff will explain how residents may put together a petition to verify that there is a widespread concern for the speeding or traffic issue.

1. Contact Information

Name (please print):	
Address, City, and Zip:	
Phone Number:	
Email:	

- 2. Please describe the location of the traffic concern. Attach a map or picture if necessary:
- 3. Please describe the nature of the neighborhood traffic problem you are concerned with (attach additional sheets if necessary):

4. Please list possible solutions to the problem that you would like the City of Eden to consider:

Please fill out this form and return to:

City of Eden Planning Department 308 E. Stadium Drive Eden, NC 27288 FAX: (336) 623-4057

Attachment B – Neighborhood Petition Form (Page 1)

Please fill out this form and return with attached sheets to:

City of Eden Planning Department 308 E. Stadium Drive Eden, NC 27288 FAX: (336) 623-4057

THE UNDERSIGNED AGREE TO THE FOLLOWING:

All persons signing this petition do hereby certify that they own property or reside within the following area:

- 2. All persons signing this petition do hereby agree to the following problem in the defined area:
- 3. All persons signing this petition do hereby agree that the following contact person(s) represents the neighborhood in matters pertaining to items 1 and 2 above:

Name of key contact persor	n #1 (please print):					
Address, City, and Zip Cod	e:					
Telephone (day):	Fax:	E-mail:				
Name of kay contact person #2 (place print):						
Address, City, and Zip Code:						
Telephone (day):	Fax:	E-mail:				

Please attach additional pages if necessary to discuss the request.

Date Submitted: _____

Attachment B – Neighborhood Petition Form (Page 2)

This petition is provided so that residents in a neighborhood may verify that there is a widespread concern for a speeding or traffic issue.

City staff will identify an "area of influence" in the neighborhood. The area of influence includes properties abutting the street and properties on intersecting streets within a reasonable distance of the problem street. The Planning Department will provide a map and addresses for the area of influence.

The petition must be signed by at least 75 percent of the owners or residents of properties within the "area of influence." Each property is entitled to one signature. Valid signatures include those from (1) a property owner or spouse, (2) an adult head of household, or (3) an adult renting the property.

SIGNATURE AND PRINTED NAME	ADDRESS OF PROPERTY	DATE
	-	
	-	
	-	
	-	
	-	
	-	
	-	
]	
	4	

APPENDIX E: SIDEWALK REPLACEMENT LIST 2008

Sidewalk Replacement List for 2008								
Street	Side	Termini 1	Termini 2	Width	2008 Priority	Linear Feet of Sidewalk To Replace	Square Yards of Sidewalk To Replace	Linear Feet of Curb & Gutter To Replace
Washington St	N	Cedar	Prospect	- 5	1	37	21	0
Washington St	N	Prospect	Patterson	4	1	64	28	0
Washington St	N	Loftus	Hamilton	4	1	407	181	0
Washington St	N	Hamilton	Patrick	7	1	172	134	18
Washington St	S	Martin	Wright	- 4	1	60	27	5
Washington St	S	Wright	McConnell	4	1	56	25	13
West Ave	W	Washington	Westwood	4	1	106	47	0
West Ave	W	Westwood	Harris	4	1	88	39	0
West Ave	W	Harris	End	4.5	1	81	41	0
West Ave	E	Central	Harris	3	1	21	7	0
West Ave	E	Burton	Washington	2.5	1	23	6	0
Central Ave	S	West	End	3	1	4	1	Ő
Burton St	S	West	McConnell	3	1	69	23	0
McConnell Ave	W	Washington	Burton	25	1	130	36	0
McConnell Ave	W	Harris	End	3	1	50	17	0
McConnell Ave	F	Harris	Burton	3	1	115	38	0
McConnell Ave	E	Burton	Washington	4	1	36	16	0
Harrie St	N	McCoppell	Martin	5	1	161	89	0
Hamis St	N	Martin	Hway 87	5	1	80	44	0
Hamilton St	E	Harrie	Weebington	5	1	77	13	0
Hamilton St	E	lav	Lindeau	4	4	17	45	0
Hamilton St	-	Lindoov	Endsdy	4	-	220	-00	0
Hamilton St	14/	Contor Church	Lany		-	100	50	0
Hamilton St	VV VV	Center Church	Colloway	4	4	100	15	0
Hamilton St	14/	Collegiou	Galloway			103	40	0
Flamilion St	VV	Galloway	Seymour	5	-	40	20	0
Seymour Ct	N	Hamilton	End	4		01	- 21	0
Seymour Ct	5	Hamilton	End	4		26	12	0
Jay St	2	Hamilton	Patrick	4		8	4	U
Jay St	5	Henry	Monroe	4	-	20	9	0
Patrick St	W	Hams	washington	5	1	106	59	0
Patrick St	vv	washington	Jay	5	1	35	19	0
Patrick St	W	Jay	Lindsay	5	1	298	166	0
Patrick St	w	Lindsay	Early	4	1	80	36	0
Patrick St	E	Early	Moncure	4	1	154	68	0
Patrick St	E	Moncure	Jay	4	1	28	12	0
Patrick St	E	Jay	Washington	5	- 1 :	40	22	0
Patrick St	E	Washington	Harris	4	1	11	5	0
Henry St	W	Harris	Washington	5.5	1	35	21	0
Henry St	W	Washington	Jay	6	1	64	43	0
Henry St	W	Jay	Moncure	4	1	57	25	0
Henry St	W	Moncure	Taylor	4	1	123	55	0
Henry St	E	Early	Taylor	4	1	53	24	0
Henry St	E	Talyor	Moncure	5	1	80	44	0
Henry St	E	Moncure	Jay	5	1	51	28	26.5
Henry St	E	Jay	Washington	6	1	73	49	26.7
Henry St	E	Washington	Harris	5.5	1	116	71	0

Sidewalk Replacement List for 2008								
Street	Side	Termini 1	Termini 2	Width	2008 Priority	Linear Feet of Sidewalk To Replace	Square Yards of Sidewalk To Replace	Linear Feet of Curb & Gutter To Replace
Moncure St	N	Henry	Monroe	4	1	33	15	0
Moncure St	N	Monroe	Bridge	5	1	45	25	0
Moncure St	N	Bridge	Moir	5	1	52	29	0
Monroe St	W	Jay	Moncure	5	1	31	17	0
Monroe St	W	Moncure	Taylor	4	1	46	20	0
Monroe St	E	Jay	Moncure	4	1	107	48	0
Lindsay St	N	Hamilton	Patrick	5	1	68	38	0
Taylor St	N	Bridge	Moir	4	1	15	7	0
Taylor St	N	Moir	Greenwood	4	1	22	10	0
Taylor St	N	Greenwood	Glovenia	4	1	47	21	0
Taylor St	S	Bridge	Moir	4	1	38	17	0
Taylor St	S	Moir	Greenwood	4	1	46	20	0
702 Taylor St.	N			4	1	18	8	0
Taylor St	S	Greenwood	Glovenia	4	1	62	28	0
Early Ave	S	Hamilton	Patrick	4	1	78	35	0
Early Ave	S	Henry	Monroe	5	1	53	29	0
Farly Ave	S	Monroe	Bridge	5	1	30	17	0
Early Ave	S	Bridge	Moir	3	1	47	16	Ő
Early Ave	S	Moir	Greenwood	3	1	97	32	0
Early Ave	S	Greenwood	Glovenia	3	1	205	68	0
Early Ave	S	Glovenia	Vine	3	1	208	69	0
Early Ave	S	Vine	End	3	1	65	22	0
Early Ave	N	Bridge	Monme	5	1	53	29	0
Inving Ave	S	Henny	Monroe	4	1	94	42	30.5
Irving Ave	S	Monroe	Bridge	4	1	134	60	153
Inving Ave	6	Bridge	Moir	4	-	134	8	155
Inving Ave	6	Moir	Greenwood	4	4	31	14	0
Inving Ave	S	Greenwood	Boulevard	7	1	48	37	0
Inving Ave	N	Hamilton	Monle	46	4	73	37	0
Inving Ave	N	Manle	Cedar	4.0	1	20	10	0
Bridge St	14/	Hamilton	loving	4.5	2	20	11	0
Bridge St	W	Indina	Early	4	2	52	23	0
Bridge St	W	Early	Taylor	4	2	45	20	0
Bridge St	W	Moncura	lav	5	2	27	15	0
Bridge St	W	lav	Washington	9	2	57	57	21
Bridge St	W	Washington	Fod	5	2	191	101	172
Bridge St	E	Kinge Hwy	Boone	5	2	101	6	17.2
Bridge St	F	Indigs Hwy	Moncure	5	2	45	25	0
Bridge St	F	Moneuro	Toluor	5	2	130	77	0
Bridge St	E	Talvor	Early	5	2	170	06	7
Moir St	W	Eady	Talvor	4	2	100	30	0
Moir St	W	Tahior	Moncure	4	2	112	47	0
Moir St	E	Talver	Forth	4	2	107	50	0
Greenwood St	W	Eady	Talvor	4	2	121	50	0
Greenwood St	W	Taluor	Reeves	5	2	136	76	8
Greenwood St	E	Regiuge	Toluer	3	2	130	10	0
Greenwood St	E	neeves	raiyor	4	2	3/	10	U

Sidewalk Replacement List for 2008								
Street	Side	Termini 1	Termini 2	Width	2008 Priority	Linear Feet of Sidewalk To Replace	Square Yards of Sidewalk To Replace	Linear Feet of Curb & Gutter To Replace
Greenwood St	E	Talyor	Early	3	2	137	46	0
Center Church Rd	N	Hamilton	Maple	4	2	54	24	5.2
Center Church Rd	N	Maple	Cedar	4	2	13	6	0
Center Church Rd	N	Cedar	Coleman	4	2	7	3	0
Church St	N	Greenwood	Primitive	4	2	43	19	5.6
Church St	S	Greenwood	Primitive	4	2	81	36	0
Boulevard	W	Primitive	Manley	4	2	48	- 21	- 0
Boulevard	W	Manley	Oak	4	2	54	24	0
Boulevard	W	Oak	Irving	7	2	100	78	0
Boulevard	W	Irving	Glovenia	5	2	21	12	0
Boulevard	E	Chestnut	Howe	4	2	20	9	16.5
Boulevard	E	Howe	Carroll	4	2	30	13	0
Boulevard	E	Carroll	Hollingsworth	4	2	53	24	0
Boulevard	E	Hollingsworth	Oak	5	2	234	130	26
Boulevard	E	Oak	Manley	4	2	4	2	0
Boulevard	E	Manley	Primitive	4	2	10	4	0
Chestnut St	W	Glovenia	Ash	4	2	37	16	0
Chestnut St	W	Ash	Highland	4	2	61	27	- 0
Chestnut St	W	Highland	Farly	4	2	169	75	0
Boone Rd	N	Bridge	Reeves	4	2	26	12	Ő
Boone Rd	N	Reeves	Glovenia	5	2	44	24	Ő
Boone Rd	S	Bridge	Glovenia	5	2	163	91	0
Boone Rd	S	Glovenia	Highland	5	2	25	14	0
Boone Rd	S	Walker	Kuder	5	2	67	37	0
Boone Rd	S	Kuder	Meadow	5	2	136	76	11
Glovenia St	W	Boulevard	Morehead	4	2	106	47	79
Glovenia St	W	Morehead	Early	4	2	34	15	12
Glovenia St	W	Fady	Talvor	4	2	80	36	0
Glovenia St	W	Talvor	Boone	4	2	80	36	31
College St	W	Glovenia	Dumaine	4	2	69	31	0
Dumaine St	N	College	Highland	4	2	12	5	0
Highland Dr	F	# 304	T lighter for	4	2	16	7	0
Highland Dr	F	"B"	Dumaine	4	2	86	38	- 0
Highland Dr	F	"B"	"C"	39	2	34	15	0
Highland Dr	F	Glovenia	Dumaine	4	2	8	4	ő
Morgan Rd	N	Church	Wall	5	2	53	29	38
Morgan Rd	N	Lee	Vinson	5	2	20	11	0
Morgan Rd	N	Vinson	End	4	2	11	5	0
Morgan Rd	S	Church	Warehouse	4	2	25	11	37
Morgan Rd	S	Warehouse	Armfield	4	2	34	15	0
Aiken Rd	S	Washburn	Turner	4	2	152	68	34
Aiken Rd	S	Turner	Thacker	4	2	94	42	0
Aiken Rd	S	Thacker	Gordon	4	2	42	19	11
Aiken Rd	S	Gordon	Riverside	4	2	49	22	0
Main St	E	Ridge	Fieldcrest	4.1	3	60	27	0
Main St	W	Meadow	End	8	3	66	59	0

Sidewalk Replacement List for 2008									
Street	Side	Termini 1	Termini 2	Width	2008 Priority	Linear Feet of Sidewalk To Replace	Square Yards of Sidewalk To Replace	Linear Feet of Curb & Gutter To Replace	
Main St	E	Meadow	End	7.9	3	91	80	0	
Stadium Dr	N	Hale	Hundley	3.9	3	172	75	0	
Stadium Dr	N	Slayton	Center	4	3	57	25	0	
Stadium Dr	N	Center	Main	4	3	9	4	0	
Stadium Dr	N	Main	Fieldcrest	4	3	29	13	0	
Stadium Dr	N	Fieldcrest	High	4	3	74	33	0	
Stadium Dr	N	Bethel	French	4	3	134	60	0	
Hundley Dr	W	Stadium	Ridge	4.8	3	10	5	0	
South Ave	N	Center	Fieldcrest	3	3	45	15	0	
Mill Ave	S	Fieldcrest	High	8	3	33	29	0	
High St	W	Ridge	Stadium	4	3	47	21	0	
High St	E	Ridge	Stadium	4	3	126	56	0	
Fieldcrest Rd	S	End	Hale	3.4	3	30	11	0	
Fieldcrest Rd	S	Hale	Hundley	3.4	3	124	47	0	
S. Fieldcrest Rd	W	Delaware	South	4	3	56	25	0	
S. Fieldcrest Rd	E	Third	Fourth	5	3	70	39	41	
					Priority 1	5,793	2,740	279.7	
					Priority 2	4.042	2.009	359.5	
					Priority 3	1,233	624	41.0	
					Total	11,068	5,373	680.2	

Note: In the "2008 Priority" column the 1, 2, and 3 rankings are in order from most critical to less critical needs.

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PIEDMONT TRIAD COUNCIL OF GOVERNMENTS

Piedmont Triad Council of Governments (336) 294-4950 www.ptcog.org