2012

Comprehensive pedestrian Plan

City of Lenoir

NORTH CAROLINA

Division of Bicycle & Pedestrian Transportation
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE

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ACKNOWLEDGEMENTS

The development of the City of Lenoir Comprehensive Pedestrian Plan, 2012, was a collaborative effort that involved numerous stakeholders, including the City of Lenoir Council, Project Oversight Group, Lenoir City Staff, McGill Associates' Planners, and the North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation which provided funding for this study.

The City of Lenoir wishes to express its sincere appreciation to those individuals, who, in any way, contributed to the creation of the Master Plan. Without the knowledge and expertise of these persons, in both individual and team capacities – this document would not be possible.

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SECTION ONE: INTRODUCTION

1.1 VISION STATEMENT

The City of Lenoir is committed to providing its citizens with a safe community in which to live, work, and play. Part of this commitment includes the future improvement and/or construction of pedestrian-friendly transportation corridors throughout the City. Consequently, the City of Lenoir hired McGill Associates to develop a Comprehensive Pedestrian Plan, which would assist the City in its efforts. A portion of the funding for the plan was derived through a grant, which was received from the North Carolina Department of Transportation (NCDOT), Division of Bicycle and Pedestrian Transportation (DBPT).

In June, 2011, McGill Associates met with members of the Pedestrian Plan Steering Committee to define their vision for the proposed Lenoir pedestrian network. After a brief introduction, the Steering Committee participated in an exercise designed to elicit their perceptions of the needs and desires for a pedestrian system in Lenoir. The vision statement (below) was derived from that exercise and submitted to the committee for approval.

The vision of the Lenoir Comprehensive Pedestrian Plan is *"to promote a high quality of life through a safe, aesthetic, equitable, and well-connected pedestrian system for all the residents and visitors of the City of Lenoir".*

1.2 OVERALL GOALS

The purpose of the Comprehensive Pedestrian Plan is to create a document to guide the City of Lenoir in the (1) planning, (2) design, (3) financing, (4) implementation, and (5) maintenance phases of its proposed pedestrian system. While enhancing and prioritizing capital improvements/maintenance projects for the City, the plan will give special consideration to *critical* areas for pedestrian transportation and safety; as well as address the Americans with Disabilities Act (ADA) compliance issues.

Downtown Lenoir

The goals of the City of Lenoir Comprehensive Pedestrian Plan, which were developed by the Steering Committee, are as follows:

Goals and Objectives

- Increase "walkability" in the City of Lenoir:
  - Increase and improve the pedestrian infrastructure.
  - Provide aesthetically pleasing landscaping and resting places.
  - Connect the pedestrian network to destination points.
  - Promote a "walking culture" in Lenoir.

- Create a pedestrian network that is an important part of the urban structure:
  - Encourage walking in the downtown areas of the City.
  - Provide attractive, yet safe, pedestrian *connections* from the downtowns to outlying areas.
  - Provide attractive, yet safe, pedestrian *facilities* within the downtown area.
  - Encourage alternative uses of sidewalk space (such as sidewalk sales or outdoor cafes) that promote a healthy, vibrant downtown.

Cafés can provide alternate sidewalk usage

- Promote walking as a healthy exercise:
  - Develop and/or participate in more healthy walking programs such as "Eat Smart, Move More North Carolina", etc.
  - Partner with health and recreation providers to create walking programs and events.

- Create a pedestrian environment that is friendly to all users - including seniors, disabled persons, and children:
  - Provide ADA compliant sidewalks and curb ramps.
  - Increase pedestrian safety with regard to traffic.
  - Provide facilities for sitting/resting opportunities.

- Improve connections between disparate parts of the City:
  - Provide pedestrian connections between downtown Lenoir and surrounding areas/destinations
  - Promote neighborhood connectivity
  - Provide equitable access to the pedestrian network(s)
  - Provide pedestrian access to schools, shopping areas, and work places

- Promote pedestrian safety:
    - Promote pedestrian safety through educational programs both inside and outside the schools.
    - Design a pedestrian network that can be safely traversed by all.

1.3 HISTORY

The original settlement of Lenoir was first known as Tucker's Barn, named after the family that settled on the north side of Lower Creek around 1765. The Tucker homestead became a gathering place, serving as a voting precinct, muster ground, store, and a place for "frolics" and celebrations. At least one large Fourth of July celebration included a drum corps, a march of Revolutionary War veterans, and speeches by General William Lenoir. The place was so popular that a piece of music suitable for violins was composed and entitled "Tucker's Barn." When Caldwell County formed in 1841, the county seat was named Lenoir, in honor of General William Lenoir, a Revolutionary War hero and trustee of the University of North Carolina.

Prior to the Civil War, Lenoir's economy was based on agriculture with large farms producing cotton, corn, and some tobacco. A bartering market, Hogwaller, Davenport College, opera houses, and large library led Lenoir to be described as the "Athens of North Carolina."

With an abundance of natural resources and a rail line incorporated in 1880, the furniture industry boomed. The Lenoir Furniture Company existed from 1889 to 2000, bearing names like Broyhill, Thomasville, Bernhardt, Hammary, Fairfield Chair, and Kincaid. The region was known as the "Furniture Center of the South," exporting products to over 30 countries. During this time, textile and plastic manufacturing joined the industry, bringing unemployment to an all-time low.

Since the late 1990s, the reduction in manufacturing has redefined the future of Lenoir by focusing on its location for tourists in the Appalachian Mountains, rich music, artistic traditions, and strong networks of civic organizations. In 2006, the City's Main Street Program became one of only twelve, which were certified in North Carolina. Lenoir's Downtown Historic District was placed on the National Register of Historic Places in 2007. Lenoir was also the recipient of the prestigious All-American City Award, presented by the National Civic League in 2008.

Benefits of Walking

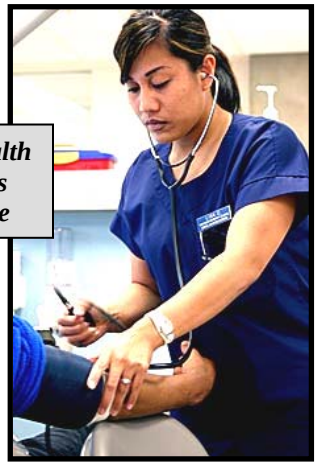
Walking is the oldest form of transportation known to mankind. For centuries, the pedestrian has been a constant presence in the human environment. Most individuals walk to some destination every day. The environment which facilitates walking is different for every pedestrian; it is as varied as urban settings within center cities – to - linear parks running along creeks. Pedestrian environments are created either by being deliberately

Pedestrian venues may vary

planned; or, they can develop as a result of natural landscape characteristics, with no particular forethought of the pedestrian. To better understand what makes a pedestrian-friendly environment, it is necessary to study and analyze the places where people travel most comfortably as pedestrians. For instance, the addition of a random sidewalk may not encourage people to walk; unless it connects pedestrians to places they want to go. This example reinforces the need for a pedestrian plan *prior* to the actual realization of it.

A walkable community needs connecting pedestrian corridors that are conveniently located in close proximity to homes, schools, entertainment/shopping meccas, and places of employment. A "walkable" community is defined by its ability to enhance the lives of all its citizens through a variety of measures, which include the following:

- Community Health
- Transportation Alternatives
- Environmental Benefits
- Safety
- Community Identity



Walking reduces health risk factors such as high blood pressure

Community Health

There are numerous benefits to be gained by walking - the most prevalent being the acquisition of healthier lifestyles. Unhealthy eating habits, which are primarily due to the increased consumption of fast food, continue to contribute to rising obesity rates in Americans of all ages. Walking is a preventive measure for heart disease, cancer, diabetes, and mental health diseases. 'Walkable communities' encourage people to walk, - whether consciously or subconsciously; thereby, increasing physical activity and decreasing television or computer time (which promulgate sedentary lifestyles).

By providing accessible, inviting pedestrian facilities, the City of Lenoir can provide equal opportunities for everyone to improve health and prevent disease through routine or planned walking exercise(s). This, in turn, saves governments and local employers the money in health care costs and the lost productivity due to sick days that would otherwise have occurred.

Studies show that walking increases:

- Energy, stamina, and metabolism
- Wellness, fitness, and psychological well-being

- The reduction of risk factors (such as high blood pressure, anxiety, obesity, etc.), which contribute to coronary artery disease, some cancers, and other chronic diseases
- HDL – the 'good' cholesterol
- Muscle development and bone density

Transportation Alternatives

Walking also creates an alternative to vehicular transportation. Nationally, traffic congestion in urban areas is getting worse and the cost of owning/operating an automobile is rising astronomically. Pedestrian facilities are necessary to provide a means whereby people may choose to walk instead of drive; thus, reducing the number of vehicles on the road.

Walking decreases auto air pollutants

Walking is a cost-effective means of transportation. There are no fees, taxes, or licenses required as compared to the average annual cost of operating an automobile - which can easily exceed $5,000 per year. Economically speaking, walking is - by far - the most affordable mode of transportation available to anyone.

For some segments of the population, walking is the *only* means of transportation available. Such a cross section of the community primarily includes people, whose incomes prohibit them from purchasing/maintaining automobiles, and senior citizens, who eventually become unable to drive. These members of our society rely heavily on walking in order to work, shop, exercise, and/or participate in other social activities.

Environmental Benefits

Walking is (not only) the most affordable mode of transportation, it also has the least negative impact on the environment. Choosing to walk to destinations as an alternative to using a vehicle will reduce air pollution. Improving air quality is a major concern across the United States. During the 1996 Olympics in Atlanta, Georgia, some Atlanta thoroughfares in the area were closed to vehicular traffic in order to relieve traffic congestion. During this period of time, the local, environmental air quality monitoring indicated a significant decrease in various air pollutants as when it was compared to periods of normal traffic flow. It is a well-known statistic that air pollutants will increase in direct proportion to the increased vehicular miles that are traveled each year in this country.

Walking, as opposed to driving vehicles, also positively impacts the availability and conservation of our natural resources. Reducing the consumption of petroleum

(specifically in cars and asphalt) will be increasingly beneficial in the years to come. Although sensitive populations should *decrease* walking during ozone-active days, an overall *increase* in the amount of walking done on a regular basis could actually reduce mobile emissions/ozone. As more walking occurs, lesser emissions are produced; thus, creating a cyclic phenomenon, which is naturally and environmentally friendly.

Some pedestrian facilities (such as greenways) are often developed along rivers and streams. Often, these facilities create "buffers", which separate drainage areas from new development; thereby improving the water quality for watersheds. As an added benefit, greenways help provide connectivity for wildlife habitats and natural ecosystems.

Police Departments typically teach pedestrian safety at schools

Safety

The walking community needs to be safe and comfortable. Any area, which seems dangerous or has obstacles, discourages people from walking; and consequently, the would-be walkers resort to other methods of transportation. Pedestrian routes need to be designed to minimize vehicular conflict by providing pathways, which are safe and free of hazards. Safety is a *major* component in all phases of this Comprehensive Pedestrian Plan.

Community Identity

Pedestrian facilities are an important medium for maintaining and enhancing the public and social interaction of a community. The pedestrian experience should be aesthetically inviting and elicit feelings of pleasure and comfort. Open spaces, parks, the downtown area, convenient retail, and other similar destinations - all enhance the pedestrian environment. In addition, the ideal pedestrian environment should possess amenities such as landscaping, benches, specialty paving, safety, and other elements that create a safe environment that pedestrians enjoy. The restoration or construction of new sidewalks should be an important aspect in the City of Lenoir - as sidewalks often serve as *catalysts* for walking, outdoor dining, window shopping, sitting areas (benches) for social interaction, business engagements, and tourism.

Planning Studies

Current planning studies include several on-going efforts by state and local entities, which were taken into consideration as the Comprehensive Pedestrian Plan for the City of Lenoir evolved. They are discussed in Section 3 and include, but are not limited to: The Thoroughfare Plan Technical Report for the Caldwell County Urban Area (NCDOT 2005), The City of Lenoir Comprehensive Planning Plan, and various other data from NCDOT studies of the Lenoir Area.

Other programs and/or initiatives that are either currently underway or being planned involve resources from the Transportation Improvement Program (TIP) and various Safety & Education Programs.

Past and Current Municipal Efforts

Lenoir Greenway

The Lenoir Greenway can be accessed at 710 Powell Road

Beginning on Powell Road, the Lenoir Greenway is spread over approximately 25 acres and entails 4.76 completed miles of paved trail ways for transportation and outdoor activity. It consists of a system of several loops and endpoints, which meander through an urban landscape of parks and open areas, recreation centers, the library, and wooded tracts. The Greenway accommodates runners, walkers, cyclists, and skaters.

Historic Lenoir Streetscape Improvements Program/ War Memorial

Under the project management of Mike Norris, ASLA, Director of Land Planning and Recreation, McGill Associates recently received a Certificate of Special Recognition for "Best Outdoor Space Improvement" from the North Carolina Department of Commerce Division of Community Assistance for work on the City of Lenoir Veterans Memorial project, which is a key element of the Historic Lenoir Streetscape Improvement Program. The award was presented at the NC Main Street conference, which was recently held Jan. 27 at the Don Gibson Theater in Shelby, NC. Lenoir City Manager Lane Bailey and McGill Associates' Mike Norris accepted the certificate.

McGill Associates assisted the City in providing a creative design while also addressing traffic, utilities, and public space improvements as part of ongoing enhancement efforts in downtown Lenoir. The memorial commemorates fallen soldiers who have served the United States and is located on the southeast quadrant of the square in downtown Lenoir. This recognition marks the third award that McGill Associates and the City have received for downtown revitalization efforts. The memorial was completed in the fall of 2009.

Streetscape showcases War Memorial

1.4 SCOPE, METHODOLOGY, AND PURPOSE OF PLAN

McGill Associates, P.A., was contracted by the City of Lenoir to prepare a city-wide pedestrian plan as a guide for identifying and prioritizing safe pedestrian linkages; thereby, creating a viable pedestrian network. Many areas within the city limits lack sufficient pedestrian facilities. The City recognizes the need to plan for the future by developing a pedestrian network, which provides connectivity for its users. Using a proactive approach (such as this) is imperative in establishing priorities for future pedestrian facilities, reducing construction costs, and implementing facilities in a logical manner.

The study area spans the City of Lenoir city limits and the immediate, surrounding extraterritorial jurisdiction (ETJ). Although the research will be focused primarily within the city limits, it is important to understand the existing pedestrian patterns into and out of Lenoir and their destination points.

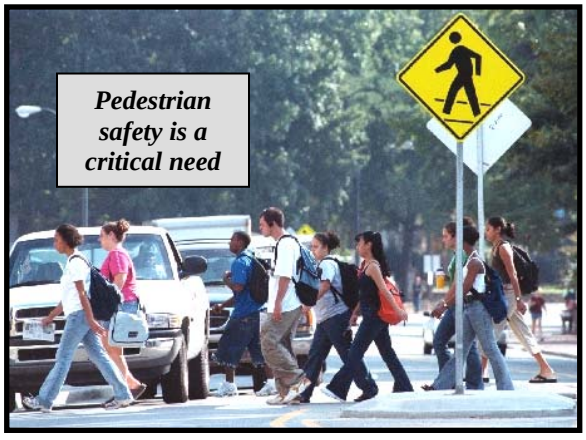
In order to comprehend the existing conditions, identify user needs, and be able to recommend appropriate improvements in the pedestrian plan, the following processes were used:

1. ***Inventory of the existing pedestrian system:*** A sidewalk, greenway, and crosswalk inventory of the City's pedestrian facilities was conducted - identifying existing safety issues.

2. ***Assessment of the needs of the pedestrian:*** The needs of pedestrians and their apparent lack of connectivity to destination points were identified and evaluated through data collected via public meetings, surveys, and direction provided by City Staff and the Project Steering Committee.

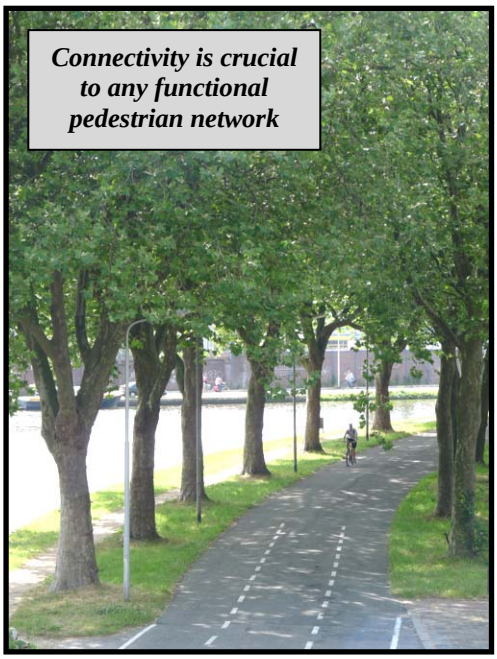
3. ***Formulation of objectives and recommendations:*** Guidelines for the future development of facilities, repair of existing facilities, and maintenance were created. Probable costs for all recommendations were provided.

4. ***Implementation of improvements by action-oriented method:*** Key pedestrian linkages and sidewalk needs were identified and prioritized. Possible funding sources for the City to pursue were identified.



5. ***Examination and possible revision of current policies/programs:*** *Guidelines and implementation of current policies and existing pedestrian programs were identified and addressed.*

These components (above) provide justification for the proposed improvements. Also, any time that recommendations for improvements or new construction are made, these recommendations must be prioritized. Implementing all of the proposed improvements at one time – or in a short time frame - would be overwhelming; it is important that the most immediate needs be recognized first as the implementation of capital improvements begins. In addition to facility needs, the formation of an implementation plan is an important short-term goal in establishing long-term objectives.



Connectivity is crucial to any functional pedestrian network

Pedestrian facility-related needs – which are considered to be of the highest priority – are called "critical" needs. The critical facility needs for the City of Lenoir are all focused on improving safety conditions for pedestrians. In addition to sidewalk improvements, other emphasis should be placed on immediately addressing unmarked crosswalks and inappropriate signage. The 'safety of pedestrians' is critical; it is the most important component of the pedestrian facilities.

Pedestrian facilities are the primary focus of this plan - in particular, sidewalks (located on City streets and state roads) and pedestrian safety at intersection and crosswalks. In addition, off-street pedestrian facilities such as greenways and multi-purpose trails are examined. Thus, the Lenoir Pedestrian Plan delineates the (current and future) location, implementation, and maintenance of the proposed facility improvements; thereby, creating a pedestrian network that allows for connectivity within the City as well as with neighboring communities.

The improvements recommended in this Pedestrian Plan are intended to be implemented over a period of time and will require creative funding mechanisms. Therefore, another significant short-term goal will be to identify improvement costs and funding opportunities, as well as prioritizing the improvements and projects.

- END OF SECTION -

SECTION TWO:
EVALUATING CURRENT CONDITIONS

2.1 OVERVIEW

In Section 2, the existing pedestrian facility conditions in the City of Lenoir are inventoried and evaluated. To begin this process, information was gathered from a variety of sources, which included interviews, site analysis, a public questionnaire, community meetings, relevant planning documents and direction from the Project Oversight Committee and City staff. The information gleaned from this initial research was later used to develop the final City of Lenoir Comprehensive Pedestrian Plan.

In general, a pedestrian-friendly environment indicates a strong and actively-involved community. Improving the walkability between destinations within Lenoir would serve – not only to support walking as a safe and healthy alternative to driving – but would enhance the vitality of the entire community. According to *CLRsearch* (http://www.clrsearch.com/Lenoir_Demographics/NC), 7.7% of households in the city do not have a vehicle for transportation. This is higher than the North Carolina state average of 5.64%. This means that a viable pedestrian transportation network is *essential* to the economic and social welfare of a sizable population within the community. Functional pedestrian facilities strive for (but are not limited to) accommodating the characteristics discussed in Section 1, which were the following:

(1) Healthy lifestyles
(2) Alternative transportation
(3) Reduction of environmental impacts
(4) Safety
(5) Community identity

The History of the City of Lenoir

The City of Lenoir, North Carolina, is the county seat for Caldwell County. Incorporated in 1851, the City was named for Revolutionary War figure and early North Carolina Statesman, General William Lenoir, who lived nearby. His restored home, Fort Defiance, is a popular tourist and historical attraction.


Fort Defiance

Lenoir is one of the principal cities in the Hickory-Lenoir-Morganton, NC Metropolitan Statistical Area (MSA), which had an

estimated population of 3,365,364 in July, 2009. The MSA is defined by the US Census Bureau as an area consisting of four (4) counties in the Catawba Valley region of western North Carolina – often referred to by locals as the Unifour, although this name is largely unknown outside of the region.

The City of Lenoir was the recipient of an All-America City Award in 2008. Lenoir's governing entities fall under the auspices of the Western Piedmont Council of Governments (Region E) – one of 17 regional North Carolina Councils of Governments established by the General Assembly for the purpose of regional planning and administration.

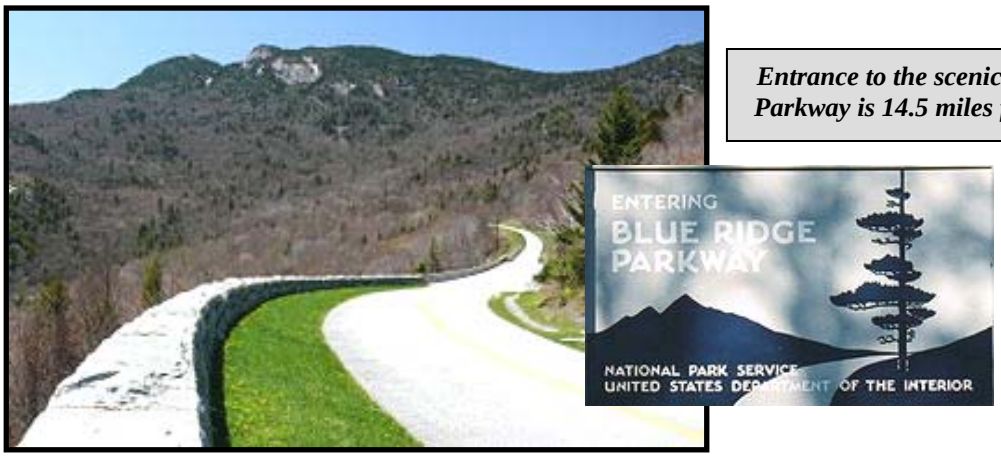
The Broyhill Furniture company (Furniture Brands International), one of the largest furniture companies in the United States, has its headquarters in Lenoir and has historically been one of the City's largest employers. The Bernhardt and Fairfield furniture companies also located in Lenoir; thus, the area has a long history of furniture manufacturing. However, in the 1990's, these companies began outsourcing some work in overseas markets – causing economic hardships for many of Lenoir's workers. As a result, the medical and educational sectors are now the largest employers in the area.

In addition, Shuford Mills (founded in the area in 1880 and employing a number of Lenoir residents) remains one of the most respected names in the textile industry, earning a reputation for quality woven products, exceptional service, and commitment to the markets it serves.

Fortunately, recent influxes of new service and technology-based business are providing much-needed jobs and a boost to the local economy. For instance, Google, Inc. recently located a server farm (data center) in the City of Lenoir.

Also, the City of Lenoir has been revitalizing the downtown area in efforts to attract new stores and business. A combination of gathering places, public art, and scheduled events are keeping downtown Lenoir an active and attractive place to be. The Tucker's Art Gallery of outdoor sculptures, the Lenoir Cruise-In, renovations to the quadrangle, and the NC Blackberry Festival – all combine to form recreational and leisure activities in the downtown area.

Lenoir's location – nestled in the foothills of the mountains of western North Carolina – affords its residents and visitors close proximity to major metropolitan cities with international airports (Charlotte, Asheville); gorgeous mountain ranges (Blue Ridge/Appalachian Chain); *numerous* local and state parks; national parks (Great Smokies, Appalachian Trail, Blue Ridge Parkway, Mt. Pisgah) and large rivers (Catawba, Yadkin).



Entrance to the scenic Blue Ridge Parkway is 14.5 miles from Lenoir

The City's location in the Blue Ridge Mountains has led to a large number of tourists traveling through or visiting the area each year; and consequently, some out-of-state tourists have begun to build vacation homes just north of the City. The resulting economic growth has helped to increase the estimated median household income from $29,369 in 2000 to $29,860 in 2010. However, like many communities across the nation, the City has been adversely affected by the current economic down-turn. A comparison of median household income levels between the City of Lenoir, North Carolina and national figures from 2010 reveals that income levels in Lenoir ($29,860) are below both the state ($44,726) and national ($51,144) figures (2010 US Census Data).

User Demographics/Current Usage

According to the United States Census bureau, the estimated population for the City of Lenoir in 2010 was 18,228 people. This gives the City of Lenoir a population density of approximately 1,072 individuals per square mile. Census 2000 had the City's population at 16,793. This means the growth rate between 2000 and 2010 of 8.55%.

Downtown Lenoir

The Federal Census, *2005-2009 American Community Survey* gives a breakdown of the population of Lenoir according to the following age groups:

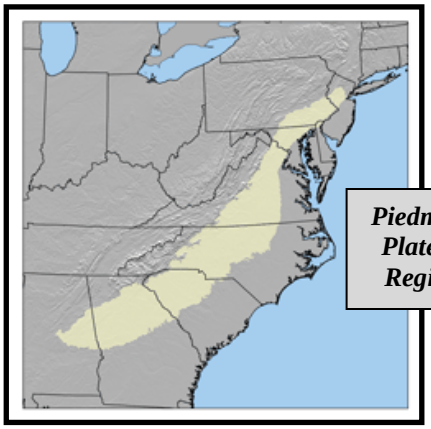
Age Distribution – City of Lenoir

AGE	LENOIR	PERCENTAGE
Under 5 years	**1,193**	**6.7**
5 to 9	**1,194**	**6.7**
10 to 14	**1,270**	**7.1**
15 to 19	**997**	**5.5**
20 to 24	**682**	**3.8**
25 to 34	**2,115**	**11.9**
35 to 44	**2,347**	**13.2**
45 to 54	**2,674**	**15.0**
55 to 59	**1,115**	**6.3**
60 to 64	**1,015**	**5.7**
65 to 74	**1,579**	**8.9**
75 to 84	**1,213**	**6.8**
85 yrs. and over	**453**	**2.5**

Source: U.S. Census Bureau, 2005-2009 American Community Survey: General Profile of Characteristic at http://factfinder.census.gov

The age breakdown of the City of Lenoir's population reflects the averages for the State of North Carolina. The adult population is the largest demographic for the City, with adults between the ages of 45 and 54 supplying 15% of the population. There is also a healthy population of children and young adults in the City (29.8%). The senior population is slightly higher than the state average (60+ = 23.9%). It should be noted that both the senior and youth populations often utilize alternate forms of transportation other than a personal motor vehicle. However, it should be noted that according to the 2010 US Census approximately 5,561 individual persons within the City of Lenoir (ages 16 and older) reported driving a motor vehicle to work, while only 98 individuals reported utilizing other means to commute to work. This data indicates the possible need for improved pedestrian opportunities and/or promotion of alternatives to commuting via motor vehicle.

Physical Characteristics

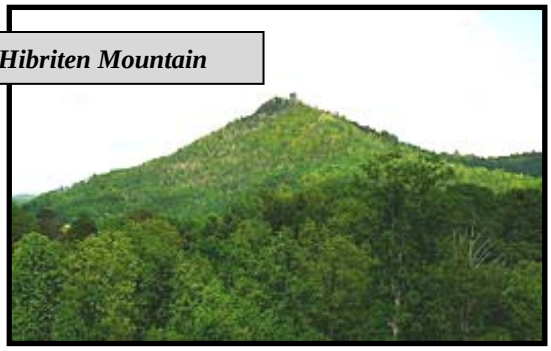


Piedmont Plateau Region

The City of Lenoir is located in the foothills (Piedmont) of the Blue Ridge Mountains, which are physiographic province of the larger Appalachian Mountain Range. "Foothill" roughly translates into *pied* (foot) *mont* (hill) and is named after the Italian region of Piedmont. The Piedmont is a geographic area described as a plateau region in the eastern United States between the Atlantic

Coastal Plain and the main Appalachian Mountains, stretching from New Jersey in the north to central Alabama in the south.

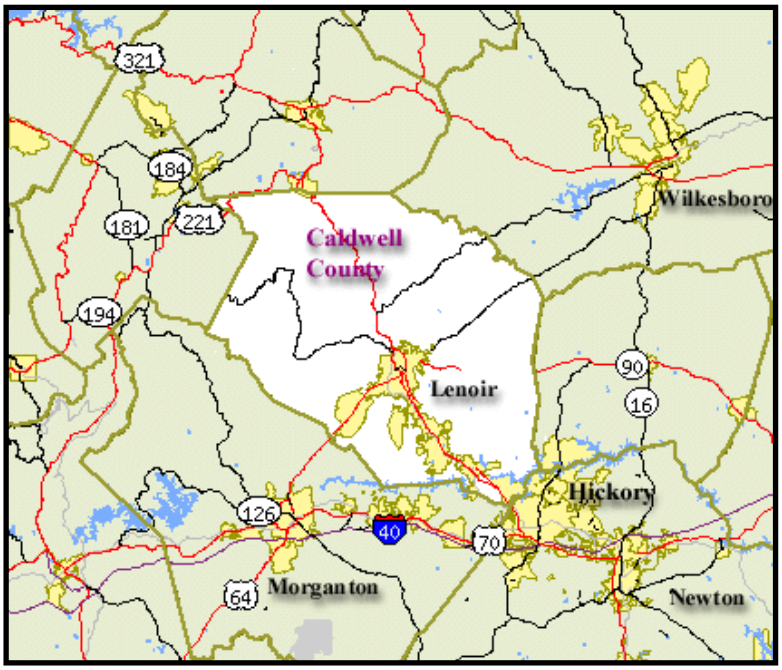
The surface relief of the Piedmont is characterized by relatively low, rolling hills with heights above sea level between 200 to 1,000 feet. Its geology is complex, with numerous rock formations of different materials and ages intermingled with one another. Essentially, the Piedmont is the remnant of several ancient mountain chains that have since been eroded away. Soils are generally clay-like and moderately fertile; and in this northeastern part of the state there are orchards, dairying, and general farming.



Hibriten Mountain

Beginning in the southeast section of Lenoir, the Brushy Mountains (an isolated "spur" of the Blue Ridge Mountains) run

northeastward and are separated from the Blue Ridge Mountains by the Yadkin River Valley. For the most part, the Brushy Mountains divide the waters of the Yadkin River and the Catawba River, which are two (2) of central North Carolina's largest rivers. Approximately 45 miles long, but only 4 to 8 miles wide, the "Brushies" boast notable peaks in its chain - including Hibriten Mountain (over 2,200 feet in elevation), which is a prominent landmark in the City of Lenoir. Primarily known from their abundance of apple orchards, the Brushy Mountain region was also once known as a hotbed from "moonshining" – the production of illegal homemade liquor. Subsequently, some of the earliest stock car racers in the industry trace their roots to moonshining.



Lower Creek and its tributaries, Zack's Fork Creek and Spainhour Creek, are the major bodies of water in the City of Lenoir and drain into Lake Rhodhiss to the

south. Two (2) major highways cross through the municipality – US Highway 321 (traveling north/south) and US Highway 64 (traveling east/west).

Sitting at an approximate elevation of 1,168 feet, the City of Lenoir covers 19.28 square miles of land. It is 63 miles from ***City of Lenoir – Geographic Location in County, State***

Charlotte and 24 miles from Appalachian State University, and approximately 20 miles from the Blue Ridge Parkway. The following maps show the City of Lenoir as related to its location in Caldwell County and the State of North Carolina.

2.2 LOCAL TRANSPORTATION NETWORK ASSESSMENT

Public transportation plays a vital role in enhancing the productivity and the quality of life in the United States. It promotes access to employment, community resources, medical care, and entertainment in communities across America. Both those who *choose* to ride (and those who have no other choice) benefit from its presence. By reducing congestion, air pollution, and travel times; public transportation benefits pedestrians, as well.

In urban areas, transit typically ranks as the second most used travel mode (after personal vehicles). North Carolina has one of the better highway systems in the nation and it has supported the emergence of the state as an economic power and population center. However, in urban areas, congestion and travel delays are occurring more frequently; and even though North Carolina continues an aggressive highway building program, it appears that the state will be unable to keep pace with the demands placed on its capacity. With this in mind, area planners have been leaders in meeting the current and future needs of transit.

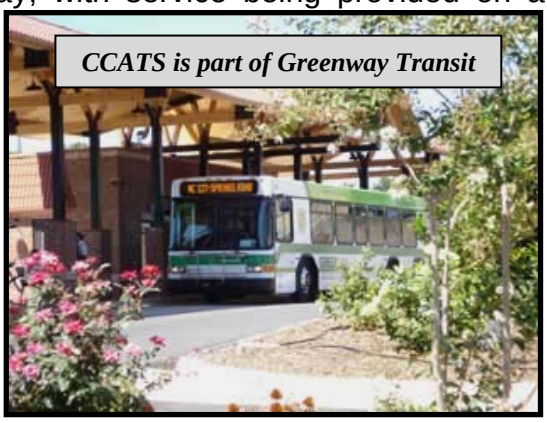
Existing Non Pedestrian Transportation Network

Beginning in 2001 (and facilitated by the Western Piedmont Council of Governments), officials of Alexander, Burke, Caldwell, and Catawba Counties along with the municipalities of Hickory, Newton, and Conover began the process of passing resolutions and securing grants for one of the first regional transportation authorities with consolidated urban-rural transit service in the state of North Carolina. Tentatively called the Western Piedmont Regional Transit Authority, the transit system assumed operations in the four-county area

(Unifour) in July, 2008. Its new name – Greenway Public Transportation – is symbolic of the system's role with regard to providing environmentally responsible transportation solutions and enhancing the overall quality of life within the region. Greenway Public Transportation provides over 300,000 trips each year for residents living in the four-county area. The following subsections will review existing non pedestrian transportation network, public involvement and community input.

Caldwell County Area Transportation System

The Caldwell County Area Transportation Systems (CCATS) – a division of Greenway Public Transportation – is located in the City of Lenoir and provides transportation services to the residents of Caldwell County. It is a private, non-profit corporation that provides transportation services to individuals qualifying for human service programs and to the general public. Vehicles operate from 6:00 am to 6:00 pm on Monday through Friday, with service being provided on a demand response basis.


CCATS is part of Greenway Transit

Human service transportation is provided for qualifying individuals covered by Medicaid, the Work First program, General and Medic I Transportation for Senior Citizens enrolled by the Division of Aging, Elderly Disabled Transportation Assistance program, and other specific human service agencies that contract various client transportation(s). Medical transportation for eligible riders is available to both in- and out-of-county facilities. Lift-equipped vehicles are available for individuals with disabilities.

"Just One Day A Week"

On Earth Day, April 20, 2011, Greenway Public Transportation sponsored a free fare day – encouraging automobile drivers in the region to abandon their cars for just one day and use public transportation instead. As a result, there was a dramatic decrease in congestion on the highway and improved air quality. The transit service pointed out the advantages of voluntarily giving up an automobile "just one day a week", every week, as follows:

Economic Development – by increasing transit to jobs, social opportunities, government facilities, and organizations

Financial Savings – on both car maintenance and gasoline

Emission Control – by eliminating 2,000 pounds of emissions per year

Cost of Gasoline – by reducing the country's dependence on foreign oil

Stress Reduction – by using driving time more pleasurably (reading, music, napping, conversation, etc.)

Community Concerns, Needs, and Priorities

In order to ensure a successful study, it is vital that the public user of pedestrian facilities be able to share their issues, needs, and desires. The methodology used in establishing a Pedestrian Plan for municipalities should always include citizen input.

To better understand the needs of facility users, three (3) different methods were used to identify specific concerns/demands of City residents. The different methods offer options to local citizens and present additional information that, otherwise, could not be assessed from just one (1) method. These methods consisted of conducting Steering Committee discussions, pedestrian surveys, and Community Workshops. While the surveys, and map exercises were good tools to record participant responses to specific questions, open discussion with citizens also contributed a great deal of information regarding the desires and concerns of local pedestrians.

Steering Committee Discussions

To act as a *guide* for the development of the Pedestrian Plan, a Steering Committee was formed during the initial planning process to establish a vision and identify the needs and priorities of pedestrians. The steering committee was

composed of members from the City staff, City Council, NCDOT Representative(s), and the local citizens. The names of Steering Committee members can be found in the Acknowledgments at the beginning of this document. The Steering Committee acted as the principle advisory body to the pedestrian plan project. In addition, meetings were held to evaluate the planning process at various stages.

During an initial Steering Committee meeting to solicit input on the pedestrian environment in the City, members were divided into small groups and given maps along with colored dots and markers. The members were asked to check the maps for inaccuracies and to mark pedestrian destinations, areas where heavy pedestrian traffic occurred, and problem intersections and gaps in the pedestrian network. They were also asked to draw where they would like to see new sidewalks and greenways. The results of this exercise and those from the Community Workshops are recorded in the following paragraphs. The Steering Committee Recommendations Map illustrates the outcomes of the group map exercises and can be seen at the end of this section. See: (Steering Committee Recommendations Map at the end of this section).

Community Workshops

Community workshops were held during special events that would provide the public an opportunity to be involved in the pedestrian planning process. This also assured a good crowd from which to attract participants for the workshop exercises.

Community Workshop #1

1st workshop held during the Blackberry Festival

Over 30 people participated in the initial pedestrian workshop. Meeting participants were invited to fill out a pedestrian survey and to participate in a mapping analysis exercise. The survey was available in both paper and electronic versions. A copy of this survey can be found in the Appendix. The map exercise was used to initiate discussions about existing pedestrian corridors, needed pedestrian facilities and dangerous conditions for pedestrians in Lenoir. A map reflecting participant concerns and comments can be found in the Appendix.

The consensus of opinion is that the Lenoir Greenway should be expanded to connect with the Downtown and surrounding neighborhoods and schools. Other popular ideas included having sidewalks along US 321 from Smith Cross Roads

to Bo's. Other pedestrian paths that people were concerned with included College Avenue and Morganton Boulevard SW near the Google property and Mulberry Recreation Facility. The major concern for participants was that people are moving along these paths already but sidewalks and pedestrian crossing opportunities are not available or in poor maintenance creating hazardous conditions for both pedestrian and vehicles.
Dangerous Intersections that were identified:

- US 321 and Harper Avenue (Smith Cross Roads)
- US 321 and Hospital Avenue
- Harper Avenue and Hospital Avenue
- Post workshop, pedestrian improvements included widened sidewalk, new crosswalk, wayfinding signage and landscaping)
- Harper Avenue and Ridge Street NW/Norwood St. SW

Community Workshop #2

Table set up for Public mapping and survey exercises

The second community meeting took place August 02, 2011 during the "National Night Out". The event is an evening of recreation and interaction between local law enforcement/fire rescue professionals and the community. A cook-out with refreshments, were made available for participants as well as educational displays, and demonstrations. Pedestrians participating in the "National Night Out" event as well as local law enforcement individuals were offered the opportunity to view maps showing the existing conditions of transportation/pedestrian facilities in Lenoir. Participants were asked to review, comment, and share their ideas about the existing and proposed pedestrian facilities and conditions. survey to collect more detailed information regarding their pedestrian experience in Lenoir and their suggestions for improving the system. A total of 28 people participated in either the map or survey (or both) exercises.

Comments varied slightly from the initial community meeting largely due to there being a different demographic population being represented. One marked

difference from the first community meeting was that a large number of participants were from the West side also more young people and high school aged individuals participated. Expansion of the greenway trails received a great deal of positive support. However, the participants of the second meeting were also very concerned about vehicular traffic speed and the safety of children walking to bus-stops where few sidewalks and pedestrian signs existed. The predominant request was for more speed tables and marked crossing locations.

Community Workshop #3

The third community meeting took place February 9th, 2012 during a City of Lenoir Community Meeting. The meeting took place at Central Baptist Church at 6 p.m. and included representatives from every city department, including Board members, the Mayor and City Manager as well as someone from NCDOT. The meeting was an opportunity for area citizens to ask city officials questions and discuss any topics of interest. Many city departments displayed visual presentations of current projects and programs. McGill Associates displayed Pedestrian Plan Maps for the public to study and discuss. Proposed improvements and ideas posed thus far were open for discussion. Community surveys were also made available to collect public opinion.

Community Workshop #4

The fourth community meeting took place April 26th, 2012 during a City of Lenoir Community Meeting. The meeting took place at the St. Paul A&M Church at 6 p.m. and included representatives from every city department, including Board members, and the City Manager. The meeting was an opportunity for area citizens to ask city officials questions and discuss any topics of interest. Many city departments displayed visual presentations of current projects and programs. McGill Associates solicited attendees to fill out Pedestrian Plan surveys. Proposed improvements and ideas posed thus far were open for discussion.

Community Workshop #5

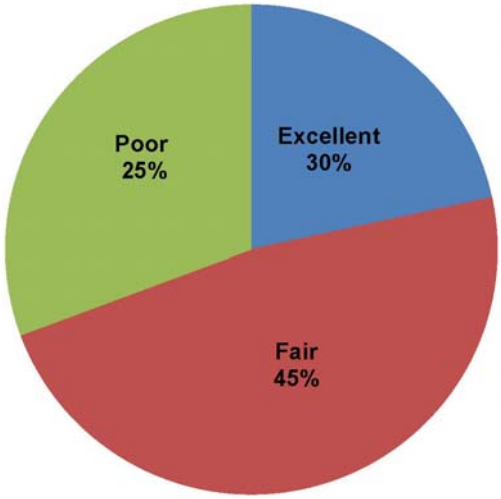
The fourth community meeting took place July 14, 2012 during the 2012 Lenoir Blackberry Festival. A large tent with tables was set up to display the Pedestrian Inventory and Proposed Facilities maps. Surveys were available to the public. The meeting was an opportunity for area citizens to stop by and ask questions or comment on Pedestrian related issues within the city. Despite the heat of the summer many people stopped by the table to discuss pedestrian issues and ask about the progress of the plan.

Pedestrian Survey

To further solicit input from the public about the pedestrian system in Lenoir, a public survey was conducted by means of "questionnaires", which were made available to residents via Community Meetings, by pick-up at the City Hall, and via the internet from a link on the City's main web page. The pedestrian survey, which can be found in the Appendix, was designed to solicit opinions on both *general* and *specific* pedestrian concerns in the City of Lenoir. Approximately one hundred (100) people filled out the Lenoir Pedestrian Survey. The survey questions and a summary analysis for each are as follows:

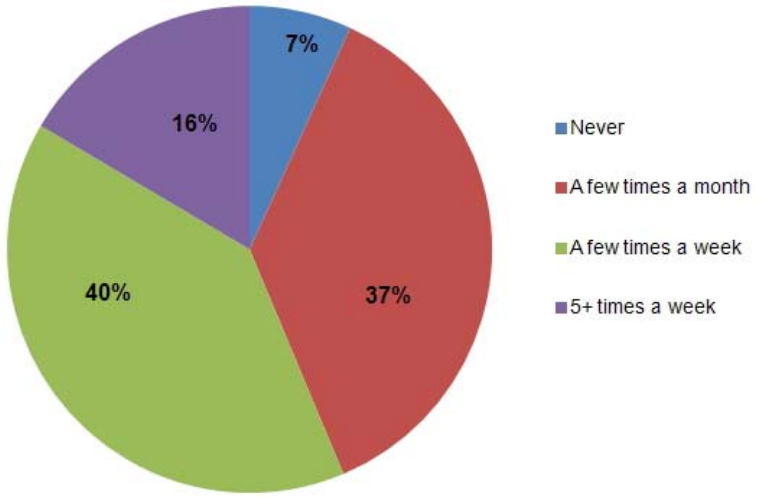
1. Present Pedestrian Conditions:

How do you rate present pedestrian conditions in Lenoir?



The majority of respondents feel that the pedestrian conditions in the City are fair to excellent.

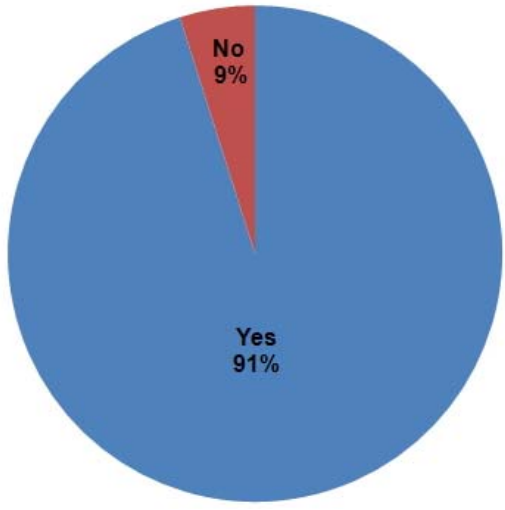
2. How often do you walk?



A large number of survey respondents report walking a few times a week (40%) to a few times a month (37%). 16% of respondents claim to walk five or more times a week and only 7% report never walking. These results support the fact that people in Lenoir do walk and use the existing pedestrian facilities.

3. Survey respondent willingness to use expanded pedestrian facilities:

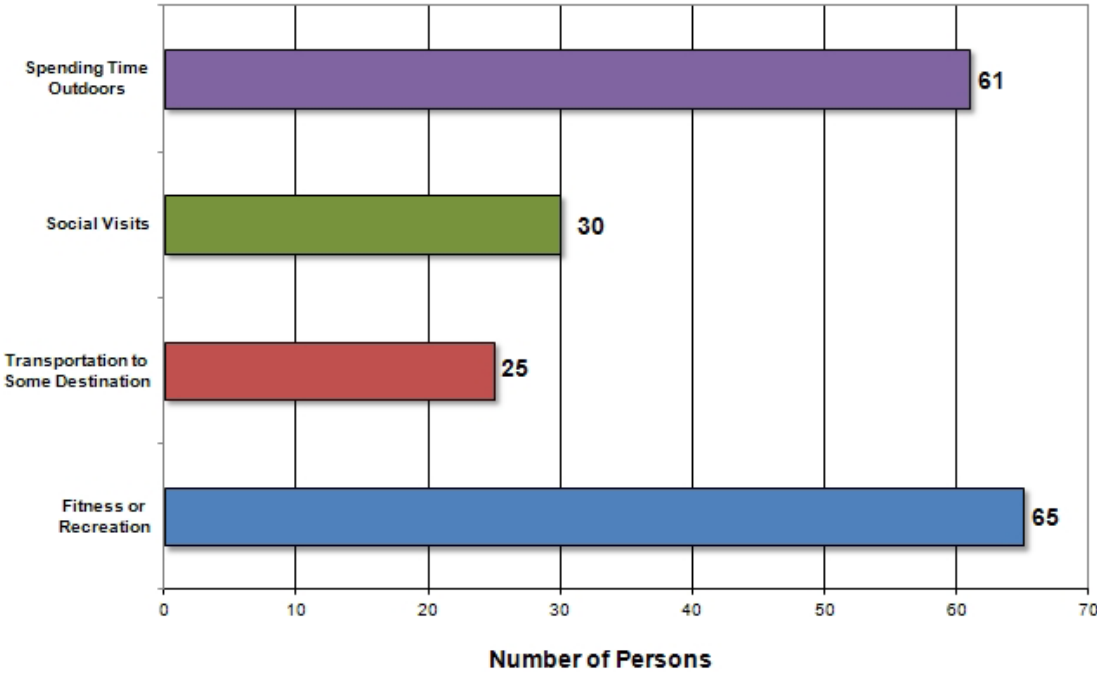
Would you walk more often if more sidewalks, trails and safe roadway crossings were provided for pedestrian transportation?



The majority of respondents indicate a definite willingness to walk more if more sidewalks, trails and safe roadway crossing were provided.

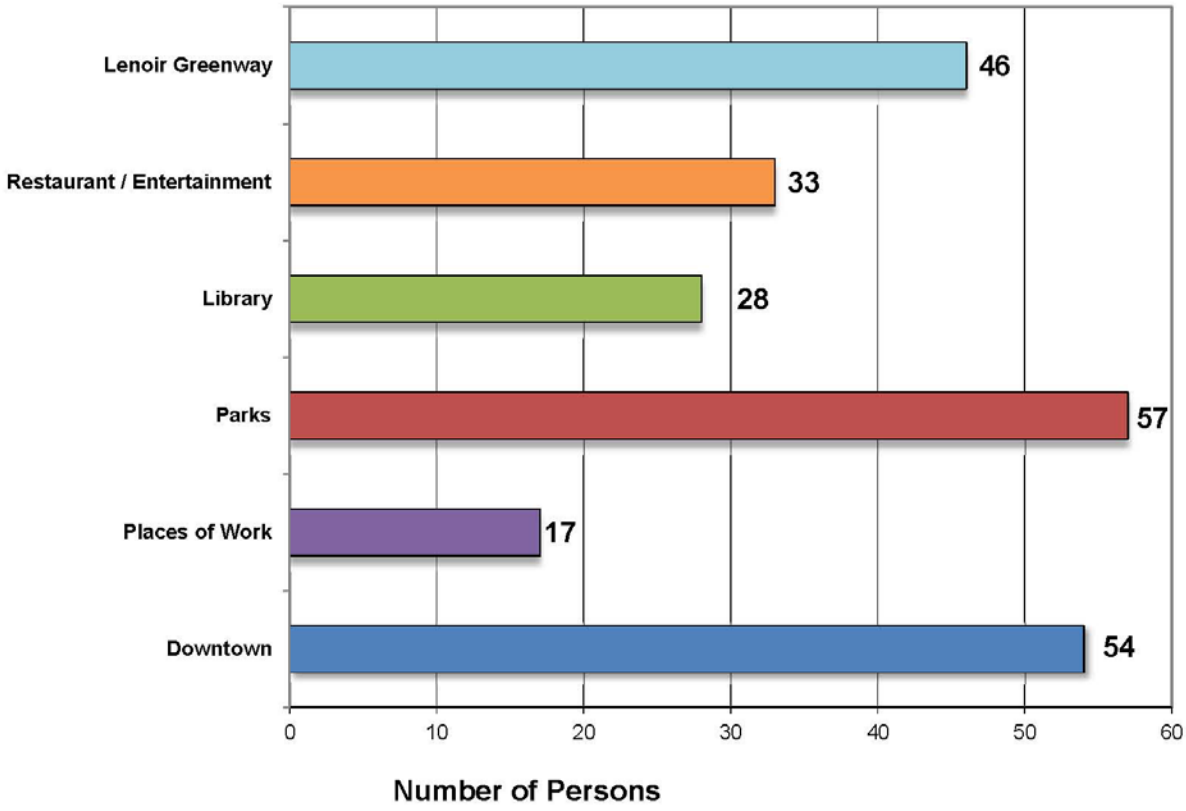
4. Reasons to walking trips:

For what reasons do you walk now, and/or what reasons may make you want to walk in the future?



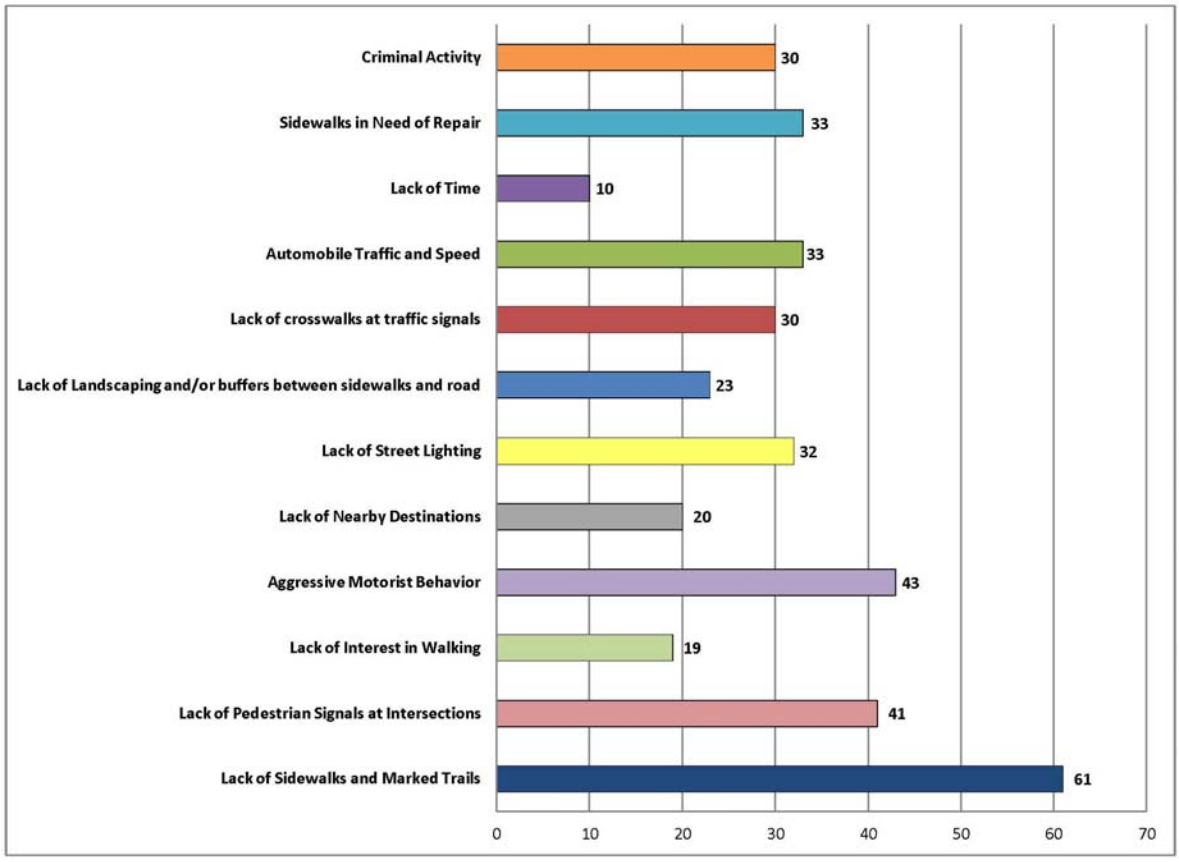
The majority of currently indicated reasons for citizens making walking trips are for recreation/leisure endeavors. However, walking for social reasons has been indicated as making up some of the reasons for respondents to walk. With current trends in population growth, environmental concerns and fuel prices, the number of and reasons for using the pedestrian network will probably steadily increase in the future.

5. Respondents' most likely destinations for walking:



The respondent's indications of what destinations are most often walked to clearly indicate a broad range of reasons for walking trips. From those that choose to walk to work, the library or to downtown for business or personal reasons, or those that are heading to area parks or the Greenway, the reasons people walk are varied but without the existing pedestrian facilities those trips wouldn't happen as safely or as often.

6. Important factors that influence respondents' decision to walk:



Those that answered this question felt that the lack of sidewalks and marked trails was the main reason discouraging walking trips, while aggressive motorists behavior was listed as the second most discouraging factor preventing walking. As would be expected the next most listed reasons lack of pedestrian signals at intersections, automobile traffic and speed, sidewalks in need of repair and lack of crosswalks at traffic signals.

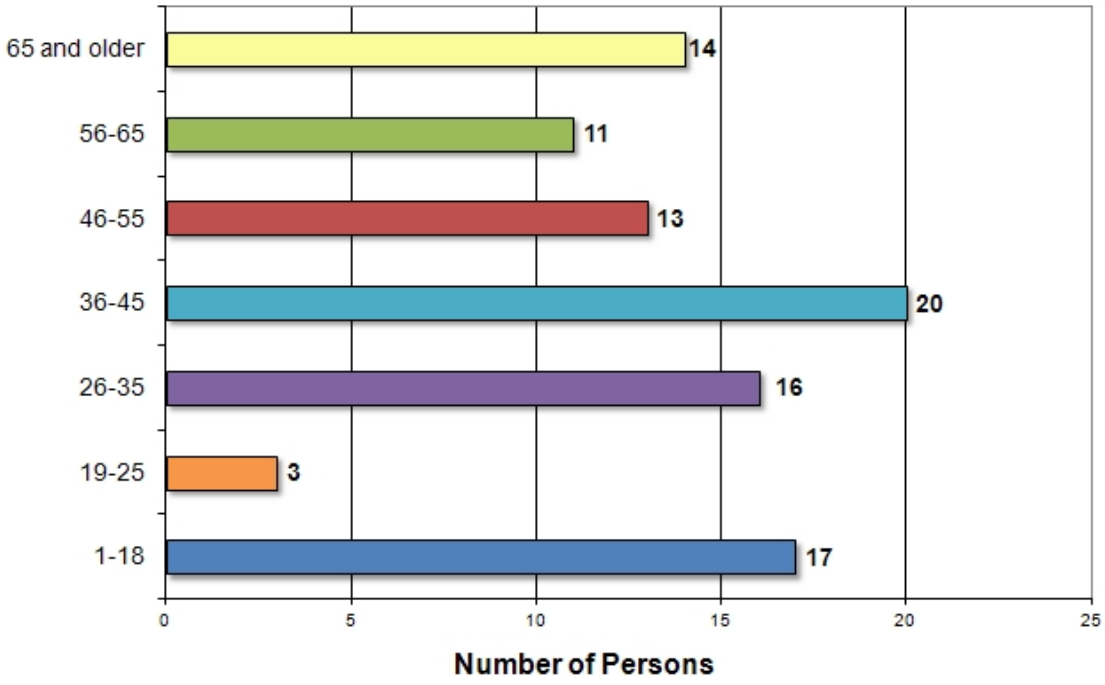
7. Please list the specific roads/or intersections that you feel are most in need of new sidewalks or other pedestrian-based improvements

Roads/intersections listed as in need of new sidewalks and pedestrian facilities included:

- Hill Street
- Curve between VA Street and Poplar Street
- West End Park Area

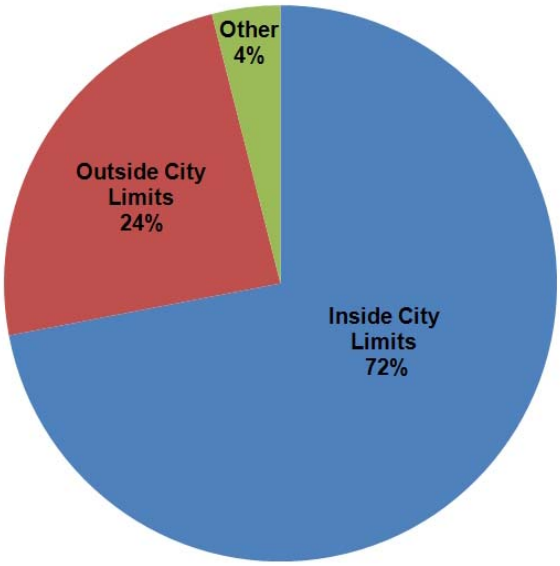
- Greenway down to Mulberry Recreation Center
- Intersection of Blowing Rock Boulevard
- West End
- Smith Cross Roads
- Stone Croft
- Uptown Lenoir
- West Harper Avenue
- Norwood Street
- Hibriten Drive
- Hospital Avenue
- Morganton Boulevard
- Lower Creek
- Harper Avenue Corridor

8. Age Range



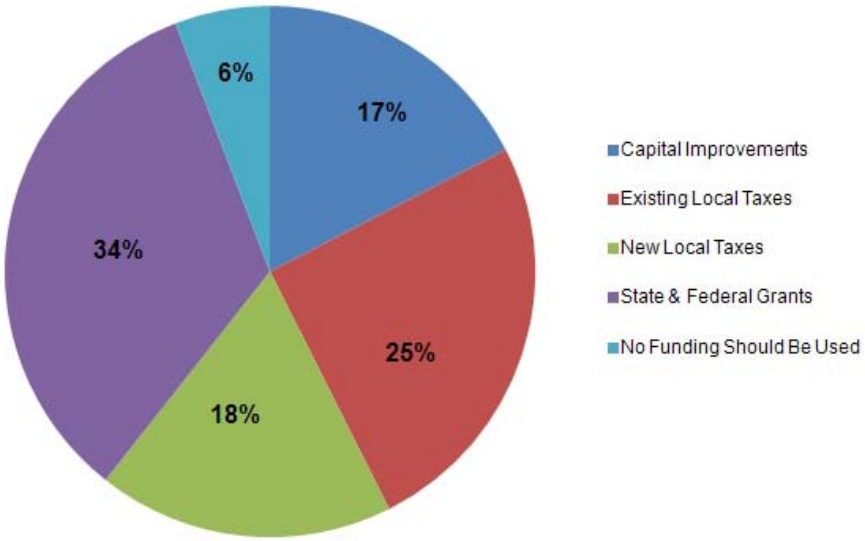
While respondents ranged from children all the way up to those 65 or older, the majority of survey respondents were adults aged 36-45, children and adults aged 26-35. Adults 46-55 followed close with the adults aged 65 and older. The smallest group of respondents were young adults aged 19-25.

9. Resident / Non-Resident



The majority (72%) of survey participants report living within the City of Lenoir city limits. A sizable 24% of responses indicated living from outside the City limits. This number reinforces the importance of Lenoir and its facilities to those living presumably nearby within Caldwell County or in a neighboring community. It should also be noted that 4% of survey participants indicated living somewhere "other". This may indicate that perhaps tourists visited Lenoir and partook in community outreach efforts.

10. Public Funding Usage:



Clearly a large majority are in favor of funding pedestrian projects with most respondents hoping for State and Federal grants to make up the bulk of funding. However, a total of 43% indicate the desire to use local taxes (25% for the use of existing tax dollars, and 18% indicating that new local taxes be used).

These excellent funding opportunities may be sought and are discussed in detail in Section 7.6. Some of the state and federal funding agencies are listed below:

State
NCDOT Transportation Improvement Program
NCDOT Governor's Highway Safety Program
NCDOT Safe Routes to School Program
NCDOT Powell Bill Program
NCDENR Land and Water Conservation Fund
NCDENR Ecosystem Enhancement Program
NC Division of State Parks – Adopt-A-Trail Grant Program
NC Division of State Parks – Recreational Trails Program
NC Division of State Parks – Parks and Recreation Trust Fund
NC Division of Forest Resources – Urban and Community Forestry Grants
NC Division of Water Resources – Water Resources Development Grants
NC Division of Commerce – Community Revitalization Grants
North Carolina's Clean Water Management Trust Fund
North Carolina Natural Heritage Trust Fund
North Carolina Health and Wellness Trust Fund

Federal
Community Development Block Grant Program
Rivers, Trails, and Conservation Assistance Program
Public Works and Economic Development Program

Lenoir Crash Data

When pedestrian paths cross vehicular pathways there is always the possibility of collision, injury, and/or death. Though the number of pedestrian fatalities in the United States has fallen in the last 10 years, in 2007, 4654 pedestrians were killed in collisions with motor vehicles and 70,000 were injured. The category of pedestrians with the highest fatality rate is that of senior citizens. Most pedestrian vehicle injuries/fatalities occur away from intersections, at night, in good weather, and in urban areas.

According to data provided by the Highway Safety Research Center (HSRC) at the University of North Carolina at Chapel Hill (UNC), with funding from North Carolina Governor's Highway Safety Program (GHSP), between 2007 and 2009, the state had recorded 32 pedestrian related accidents in Lenoir. (See Appendix for Lenoir/Caldwell County Crash data)

The City of Lenoir Police Department also keeps a record of both reported and non-reportable accident data. (See Appendix for Lenoir Top Traffic Accident Summary Report) An Accident Summary Report was provided by the Lenoir Police Department for "Top Traffic Accident Intersection Locations from years 2006-2011. This report listed the number of accidents at intersections in the City. This report clearly defines where pedestrians may be at highest risk of being involved in a vehicular related accident and points to what corridors may be the most hazardous. The intersections and/or corridors with the highest number of accidents included:

- Smith Cross Roads (US 321/Wilkesboro Boulevard/Harper Avenue) - **34 accidents**,
- Morganton Boulevard/Harper Avenue/Loop - **21 accidents**,
- Harper Avenue/Morganton Boulevard – **13 accidents**,
- Connelly Springs/Loop - **12 accidents**,
- Blowing Rock Boulevard/US 321 (various crossing streets) - **40 accidents.**

It should be noted that Harper Avenue had numerous crossing streets with at least one accident during the timeline of this report. The number of total accidents for this corridor, minus those already listed above for Harper was **20** accidents.

Clearly the US 321/Blowing Rock Boulevard, Harper Avenue, and Connelly Springs corridors present high risk corridors for accidents. The Smith Crossroads and Morganton/Harper intersections top the list of high risk crossing locations. It should be noted that this five (5) year accident report shows **no pedestrians involved** in these accidents. However, as the traffic volume increases with anticipated population growth and as pedestrians continue to use and cross the above mentioned corridors/intersections the risk for pedestrian involvement will increase as well.

2.3 ASSESSMENT OF THE PEDESTRIAN COMPATIBILITY OF THE LOCAL TRANSPORTATION SYSTEM

Pedestrian System Access

The pedestrian system in the City of Lenoir consists of mainly formal downtown and neighborhood sidewalks and some side-of-the-road foot paths worn from frequent use. Most of the sidewalks are in fair condition - with short stretches that are going to require repair or replacement. There is a limited network of sidewalks from the Downtown business area to nearby residential areas but the system does not appear to have been expanded in a very long time. Areas of development just outside the Downtown area either are without any sidewalks or do not connect with the older established system of sidewalks that lead into the Downtown area. Some residential areas east of town now benefit from the recent development of the Lenoir Greenway. These areas along the Greenway (Eastern Lenoir/Lower Creek) now have access to the main Library, Lenoir Aquatic Center, Soccer complex and a spur now leads under US 321 making an East/West connection very possible but not yet complete. Such an East/West pedestrian connection would allow for better connectivity to Downtown and from the busy US 321 corridor. For now, *some* areas being used for walking along US 321 include sections of parking lots and driveways. The absence of curb cuts or other ADA requirements make a hazardous path for pedestrians. Expanding the Greenway into Downtown would allow for a safe and accessible East/West pedestrian corridor.

There is poor connectivity from Downtown to busy residential and business areas just outside the Downtown area.

The historic Downtown areas offer the best pedestrian facilities within the City. Unfortunately, there is very poor connectivity to get to the downtown from residential and business areas just outside the historic Downtown area.

Pedestrian access to downtown from the east at US Highway 321 (Smith Cross-Roads) is non-existent. This growing area of the City of Lenoir serves as a residential and commercial hub as well as a gateway to the Mountains for traffic heading north on US Highway 321. While US 321 is an important business and transportation corridor; other important pedestrian corridors include Morganton Boulevard, Harper Avenue, Mulberry Street, West Avenue NW and Main Street.

Hotels and restaurants which serve tourist traffic in the area are not accommodated by a planned pedestrian network. Being that this area is not connected to

Downtown via sidewalks or other pedestrian paths, Downtown business are not benefitting fully from this busy asset.

Many pedestrian destinations in Lenoir are not served by sidewalks at all. Few of the schools in City can be accessed by sidewalks. These include: West Lenoir Elementary School, Davenport Elementary School, and William Lenoir Middle School. Lower Creek School, Valmead Basic Elementary, Whitnel Elementary School and Hibriten High School are without pedestrian access.

The majority of parks, including Broyhill walking Park, J.E. Broyhill Park, Martin Luther King Jr. Community Center, West End Park, Mulberry Recreation Center, and the new Lenoir Community Garden (Unity Park) along College Avenue cannot be accessed via sidewalks. Other than Lenoir's Downtown area, there are almost no pedestrian paths from residential neighborhoods into shopping districts.

The only sidewalks in the City that lead to the busy 321 commercial areas are on Harper Avenue. However, this path stops short about 425 yards from US 321. Pedestrians are being forced to walk on the edge of a very busy vehicular path and through two very dangerous intersections (Morganton Boulevard SW and Harper Avenue, and US Highway 321 and Harper Avenue NW-'Smith Cross Roads'). No sidewalks are in place along either side of this connection to US Highway 321 despite the importance of this commercial strip. This area has un-accommodated pedestrian traffic along a dangerous vehicular corridor. A small spur of sidewalk was recently installed at the US 321/Hospital Avenue intersection on the east side of 321 (Walgreens and Cook-Out) and other recently completed business from Arron's Rentals/Dollar Tree to Bo's Bowling along the West side of US 321 have installed sidewalks now. However, these new paths are disjointed and do not connect with the east side of the highway via crosswalks. The section of US 321 from Harper Avenue to Hospital Avenue on both sides of the highway is very busy for both vehicular and pedestrian traffic but doesn't have pedestrian facilities in place. This section currently has pedestrians walking along the road, across busy driveways lacking accessible sidewalks, curb cuts and without crosswalks or pedestrian signals. This very busy, four-lane artery is lined with restaurants, businesses, and stores; nonetheless, pedestrian facilities are dangerously incomplete.

Walking Trip Characteristics

Walking trips are typically broken down into two (2) main categories: walking for recreation and walking to reach a destination. The Broyhill Walking Park offers

dedicated, picturesque recreational paths just out of Downtown. The Lenoir Greenway currently offers approximately 7 miles of well maintained walking path available and is beginning to serve as an important connecting component for the budding Lenoir pedestrian network. Traffic generators in Lenoir include shopping areas, job sites, schools, parks, doctors' offices, and Caldwell Community Hospital. (See Existing Conditions Map at the end of this section).

Recreational sites generating traffic include:

- **Broyhill Walking Park** – there are no sidewalks leading to the park.
- **JE Broyhill Park** – there are no sidewalks leading to the park.
- **West End Park** – there are no sidewalks leading to the park.
- **Old Lenoir High School** – Older sidewalks do lead to the facility, ADA updating required
- **Wilson Athletic Park** – there are no sidewalks leading to the park.
- **Martin Luther King Jr. Community Center** – New sidewalk and traffic calming speed tables and signage now lead to the facility
- **Lenoir Aquatic and Fitness Center** – The Lenoir Greenway connects to the facility.
- **Lenoir Rotary Soccer Complex** – The Lenoir Greenway connect to the facility**.**
- **Mulberry Recreation Center/Optimist Park** – Sidewalk leading to the facility from Downtown stops short of connecting due to lack of crosswalk across Morganton Boulevard SW.
- **Lenoir Greenway** – Connects a number of parks and the Library on the east side of the City. Pavement conditions and crossings are in good condition.
- **Caldwell County Library** – there are no sidewalks leading directly to the library despite being adjacent to a residential area. However, a spur of the Lenoir Greenway does connect with the facility.

Shopping destinations are scattered throughout the City, but the main areas that generate pedestrian traffic are:

- **Downtown Lenoir** – Downtown Lenoir has a mix of poor to good condition sidewalks that extend from the center of downtown along most major streets.
- **The US Highway 321 corridor** – There are some new sidewalks and no bicycle lanes along this extremely important vehicular/pedestrian corridor. What sidewalk there is was recently added as new commercial development has occurred (mainly in the Wal-mart area north of Hospital Avenue).
- **Harper Avenue** Harper Avenue serves as a main artery through downtown and has the most un-interrupted section of sidewalk in Lenoir. Sidewalk is mostly in fair condition but sections of poor sidewalk should be identified and repaired for full accessibility. Many residential streets and

businesses link to Harper Avenue and many pedestrians and vehicles frequent this busy corridor.

- **Mulberry Street** – Sidewalk access along this path is fair in condition and starts at First Baptist Church in Downtown and runs past Caldwell Community Hospital all the way south to Morganton Boulevard SW. However, despite being approximately 82 feet from the Mulberry Recreation Center sidewalk, no cross walk exists from this busy pedestrian path across Morganton Boulevard to the Recreation Complex. Pedestrians, including many children are attempting to cross the 4/5 lanes of Morgan Boulevard which has a posted speed of 45/55 mph without the safety of a pedestrian cross-walk. Many people that work at Caldwell Community Hospital report walking to work or parking several blocks from the hospital and walking in.

There are a number of intersections in the City of Lenoir that have been deemed dangerous because of the volume and speed of vehicular traffic. The intersections most often cited are those that intersect with Highway 321, Morganton Boulevard, and Harper Avenue.

Most of these intersections do not have pedestrian signals or crosswalks. The exception is the intersection of Morganton Blvd. and Westview Street (near the old Lenoir Mall) which does have both a cross-walk and pedestrian signal.

US Highway 321 effectively divides the City of Lenoir in half; and, people are somewhat hesitant to cross the highway because of high volumes of vehicular traffic and lane width. Crossing barriers to pedestrian traffic flow such as the current situation on US Highway 321 may encourage pedestrian opportunities vs. short car trips.

Roadways pose a major barrier for pedestrians trying to walk from one point to another. According to NCDOT, the roadways with the highest Annual Average Daily Traffic counts (AADT) in the City of Lenoir include:

- **US Highway 321** – 30,000 to 33,000 AADT
- **Morganton Boulevard SW** – 15,000 to 18,000 AADT
- **Harper Avenue** – 8,700 to 12,000 AADT
- **Creekway Drive** – 8,400 AADT
- **Mulberry Street** - 4,600 to 5,700 AADT
- **Main Street** – 4,300 AADT

Pedestrian signage gives drivers clear warning of pedestrian crossing location.

An NCDOT map showing Average Annual Daily Traffic Counts for the City of Lenoir can be found in the Appendix at the end of this document.

To create a pedestrian-friendly transportation system in the City of Lenoir, existing pedestrian corridors will have to be strengthened by filling in gaps, repairing existing facilities, and providing safe and efficient paths across major vehicular corridors. Additional pedestrian corridors need to be provided to connect major portions of the City (east to west and north to south) and to serve as neighborhood connectors. New connectors need to be provided to reach important destinations, especially the public schools, parks, and popular commercial areas.

2.4 INVENTORY AND ASSESSMENT OF EXISTING PEDESTRIAN FACILITIES

The City of Lenoir is committed to improving the opportunities for pedestrian transportation. Along with McGill Associates, P.A., the City of Lenoir Steering Committee conducted an inventory of pedestrian facilities. This inventory delineates the location(s) of existing sidewalks and their condition(s) as well - shown on the *Existing Conditions* map*,* found at the end of this section.

This inventory includes the existing condition of city sidewalks, greenways, suggested locations of crosswalk and curbs ramp improvements as well as suggested signalized crossings. The inventory was developed to identify needed linkages that would improve connectivity and to assess both the condition of facilities and ADA compliance.

In addition to the visual survey, interviews were conducted with appropriate staff and agencies within the City government. These interviews were designed to solicit information from knowledgeable staff about departmental issues and concerns with the existing pedestrian network and how it currently serves the needs of the citizens of Lenoir.

Visual Survey Results

Sidewalks

The locations and conditions of existing sidewalks are shown on the Existing Conditions map at the end of this Section. Existing sidewalks in the pedestrian network were rated as good, fair, or poor.

- Good – overall good, usable condition. Sidewalks must be at least four feet wide. A few minor cracks, small amount of spalling, and/or discoloration is acceptable.

- Fair – usable condition. Any sidewalk less than four feet in width, moderate number of cracks, minor settling or uplifting, spalling, and/or intrusive vegetation.

- Poor – dangerous or unusable sidewalks. Major cracks and breakage, major uplifting or settling, crushed concrete, missing segments, and/or excessive vegetation intrusion.

Overall, the existing sidewalks in Lenoir are in *fair* condition. The major issues for the overall sidewalk system are:

- Age: Many of the sidewalks in Lenoir are advanced in age. These require constant monitoring to repair problems as they occur.

- Lack of sidewalks: While many of the residential areas in or near Downtown had access to sidewalks a number of residential areas on the east side of US 321 or on the north and south ends of the city limits did not have sidewalks.

- Lack of Connectors: A number of popular destinations in the City lacked a connecting sidewalk to the next destination, nearby residential area or to Downtown shopping areas. Destinations such as the TH Broyhill Walking Park, the Future Unity Park/Community Garden, Hibriten High and the Caldwell County Civic center were nearly cut off to pedestrian access.

- Debris: Some sidewalks were obstructed by cars parked improperly. This is a parking enforcement issue. Other sidewalks had numerous utility poles, trash cans or vegetative overgrowth blocking the safe accessibility of these paths.

- Poor repair: Many of the existing sidewalks in City needed repairs to correct cracking and heaving. A number of intersections needed curb ramp improvements (to meet A.D.A. requirements). However, many of the Downtown sidewalks did show evidence of ongoing improvements and recent repairs taking place.

Downtown Sidewalks

Downtown Lenoir has a system of sidewalks and pedestrian facilities, including a pedestrian oriented City center known as the Downtown Quad (West Avenue and Main Street). The Quad is becoming an important center for socialization in Lenoir and hosts many community functions throughout the year. Connectivity to the Quad is very good from most locations downtown however; improved connectivity with nearby residential areas would further enhance the usefulness and prominence of this important civic space. Most sidewalks in Downtown have some form of curb cuts but only the most recently updated intersections include tactile warning devices as well. These downtown intersections include:

- West Avenue and Main Street (Lenoir Quad)
- West Avenue and Church Street
- West Avenue and Boundary Street
- Harper Avenue and Main Street
- Harper Avenue and Church Street
- Harper Avenue and Boundary Street

The majority of the existing Downtown sidewalks are in *fair* to *good* condition (see visual survey results on the Existing Conditions map at the end of this Section). There are areas where the sidewalks are cracked or have other safety issues (such as lifting, obstacles, etc.). These obstacles - though small - can create safety hazards, especially for people using walkers or wheelchairs and should be inspected for maintenance issues on a regular schedule. The greatest hindrance for pedestrians in Lenoir is the lack of safe sidewalks and/or trails between popular, local destinations.

Sidewalks downtown connect available parking with businesses.

The pedestrian corridor along US Highway 321 has been mentioned as a busy corridor for both vehicles and pedestrians. It has also been pointed out that some new sidewalk has been installed in front of recently developed properties north of Hospital Avenue. However, the existing pedestrian path from Smith Cross Roads follows along available paved areas (driveways and parking lots), which are hazardous for pedestrian use but, nevertheless, are still being used by people. The lack of a designated pedestrian path can lead to increased risks of

pedestrian/vehicular conflicts. Also, the absence of curb ramps at these areas prohibits accessibility thus, preventing elderly and disabled pedestrians from safely using the corridor.

Lenoir Greenway

The Lenoir Greenway begins on Powell Road, the Greenway is spread over approximately 25 acres and entails 5.6 completed miles of paved trail ways for outdoor activity. Lenoir's Greenway accommodates runners, walkers, cyclists, and skaters and continues to expand to accommodate more users. The Greenway is in good condition and offers accessible walking trail to many local users and visitors.

Pedestrian Intersections

There are several busy intersections lacking in safe pedestrian facilities in the City. The Downtown Quad is the existing intersection that has a signalized crosswalk and is ADA compliant. Crosswalk and signal needs are also shown on Map 1 at the end of this section. There are many intersections that require pedestrian signals, crosswalks, areas of refuge, tactile warning devices, curb ramps or safe sidewalks or a combination of these needs in order to protect pedestrians as they navigate across vehicular traffic. The following list is for intersections in need of safe pedestrian crossing improvements. All intersections listed require A.D.A compliant curb ramps, tactile warning devices, etc. The recommended crossing treatment is within parentheses:

- US 321 and Hospital Avenue (Signalized Crosswalk)
- US 321 and Greenhaven Drive NW/Nuway Circle NE (Marked Crosswalk)
- US 321 and Seahorn Street NE (Marked Crosswalk)
- US 321 and Elizabeth Street NW (Marked/Signalized Crosswalk)
- Harper Avenue and Pennton Avenue NW (Marked Crosswalk)
- Harper Avenue and Hospital Avenue (Marked Crosswalk – completed 2011)
- Harper Avenue and Ridge Street NW/Norwood Street SW (Marked Crosswalk)
- Morganton Boulevard and Norwood Street SW (Marked Crosswalk)
- Morganton Boulevard and Virginia Street SW (Marked Crosswalk)
- Morganton Boulevard and Mulberry Street (Signalized crosswalk)
- Lower Creek Dr. NE and Wilkesboro Boulevard SE. (Signalized Crosswalk)

Care should be taken to avoid barriers to safe and accessible sidewalks

Barriers

In addition to the lack of safe and complete sidewalks, curb ramps, and pedestrian crossings show on Map 1 (Sidewalk Inventory/Existing Conditions), other obstacles and barriers may prevent safe walking trips. Barriers consist of objects located on sidewalks which prevent a safe lateral clearance. Typical sidewalk barriers include utility poles, traffic signs, fire hydrants, and intrusive vegetation.

The biggest barrier within the pedestrian system is the absence of sidewalks and pedestrian crossings directly along the US 321 corridor. Environmental factors such as challenging grades, natural barriers as well as man-made features such cul-de-sacs do not pose a major limitation to pedestrian travel within the City of Lenoir. There are few tactile warning devices for visually-challenged pedestrians at most intersections within the City of Lenoir.

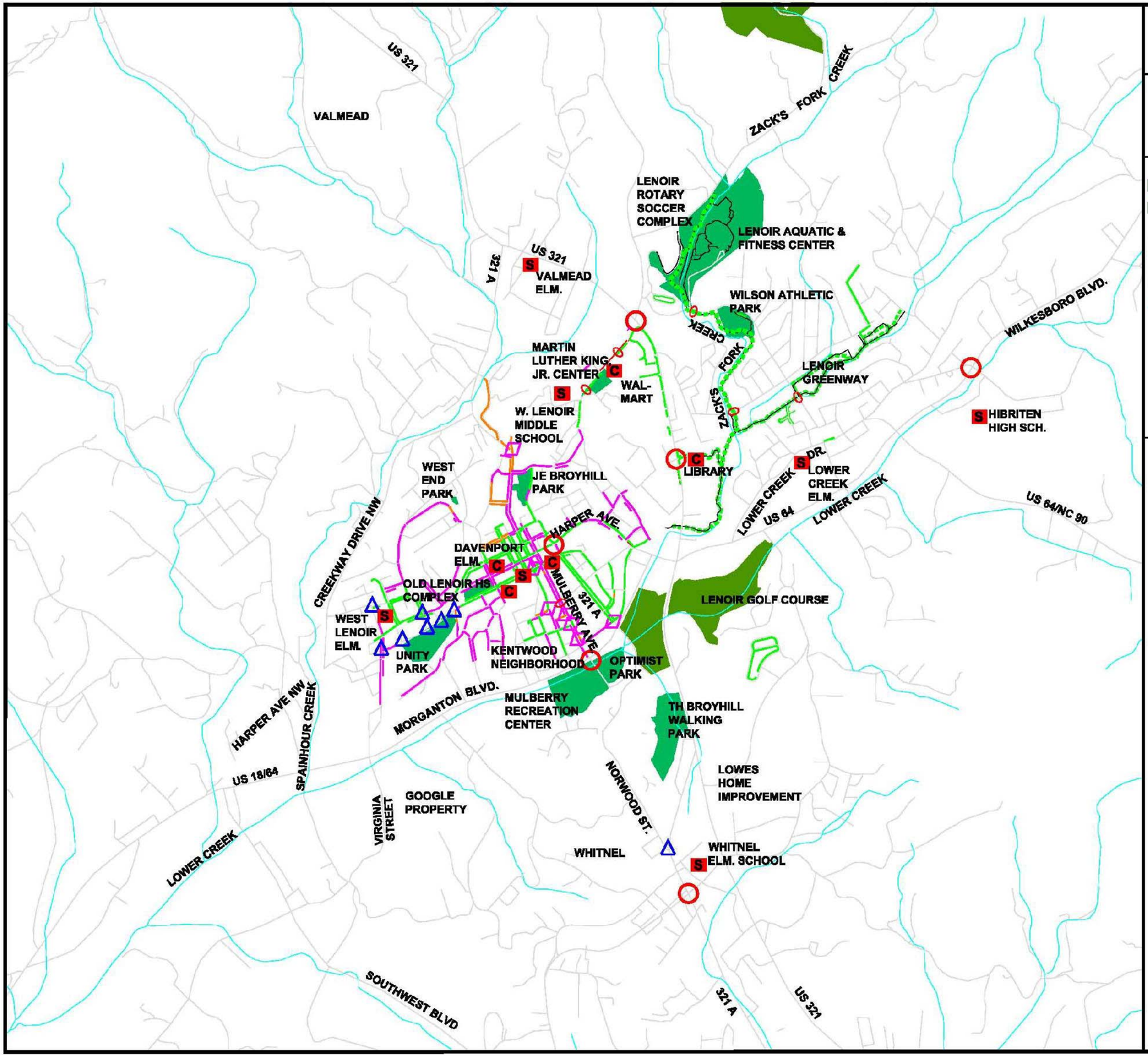
Other potential barriers for pedestrian traffic in Lenoir include utility poles, trash containers, parked vehicles, traffic signs, poles, and/or boxes. In the City of Lenoir, these objects are typically placed either up against a building or by the curb, which keeps them out of the pedestrian pathway. However, this is not always the case on some of the more narrow sidewalks located in residential areas.

Downtown Lenoir Sidewalk Inventory Map

The following is a visual sidewalk inventory, which exhibits existing sidewalk and other pedestrian facility conditions in Lenoir.

PEDESTRIAN PLAN
CITY OF LENOIR

Existing Conditions



CITY OF LENOIR PARKS/RECREATIONAL FACILITIES

OTHER PARKS/RECREATION FACILITIES

HIGHWAYS

ROADS

EXISTING GREENWAY TRAIL

CREEKS

S SCHOOL

C CULTURAL FACILITIES

VISUAL INVENTORY OF SIDEWALK CONDITIONS

Poor Condition Sidewalk

Fair Condition Sidewalk

Good Condition Sidewalk

Identified as needing curb ramp improvements

Identified as needing painted crosswalk

Identified as needing signalized crossing

Raised pedestrian crossing

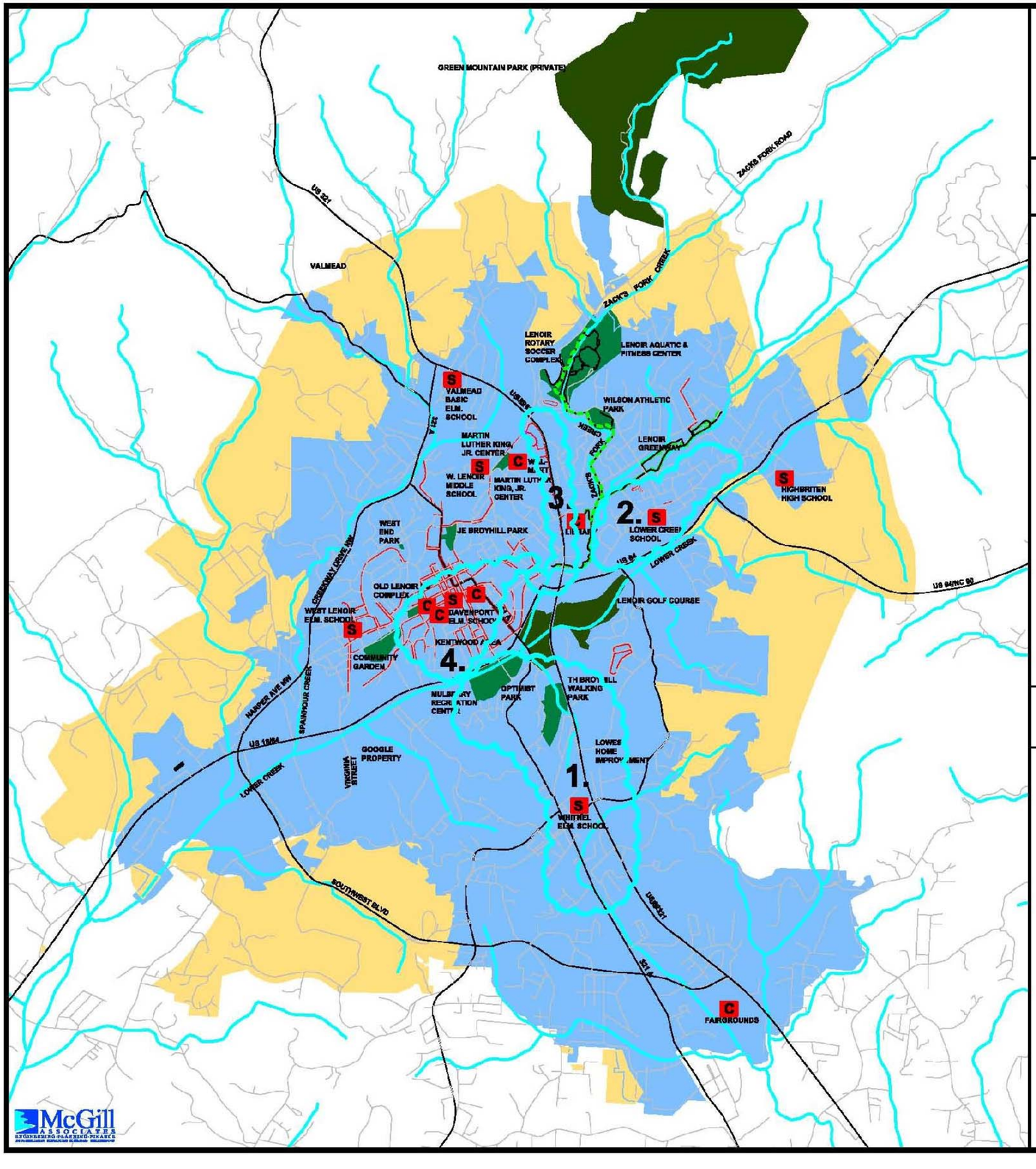
0 660' 1320' 2640' 3960' 5280'

SCALE: 1"=1320'

North

PEDESTRIAN PLAN
CITY OF LENOIR

COMMUNITY INPUT MAP EXERCISES



WHAT ARE THE DESTINATIONS DO YOU TYPICALLY WALK TO AND WHAT PATHS ARE IN MOST NEED OF IMPROVEMENTS?

PUBLIC COMMENTS:

1. "THIS AREA REALLY NEEDS SIDEWALKS"
2. "PEOPLE JUST WALK ON THE ROADS"
3. "YOU CAN SEE FOOT PATHS WORN INTO THE GROUND ON THE SIDE OF THE ROAD"
4. "THE GREENWAY SHOULD GO DOWNTOWN"

McGill Associates
Engineering-Planning-Finance

SECTION THREE:
EXISTING PLANS, PROGRAMS, AND POLICIES

Numerous planning documents and recommendations have previously been prepared relating to issues addressing current and future pedestrian facilities for the City of Lenoir. Such reports and documents are important efforts and need to be addressed and incorporated into this pedestrian plan. Many of these planning documents, which address greenways, transportation, public transportation, capital improvements, and land-use planning, provide valuable insight and background toward future decisions, which will be made for the City. This section contains an outline of the key documents and studies, which already exist, and have been reviewed in their entirety.

3.1 LOCAL, REGIONAL, AND STATE PLANS AND GUIDELINES

Transportation and Other Related Plans

Thoroughfare Plan Technical Report for the Caldwell County Urban Area (NCDOT 2005)

The NCDOT Caldwell County Urban Area Thoroughfare Plan Study was a joint effort by the following entities to develop a Thoroughfare Plan in 2005:

- Caldwell County
- The municipalities of:
  - Town of Cajah's Mountain
  - Town of Gamewell
  - Town of Granite Falls
  - Town of Hudson
  - City of Lenoir
  - Town of Sawmills
- NCDOT

This planning document was intended as "a guide for providing a coordinated, adequate, and economical major street system for the area." The Thoroughfare Plan was also intended to be used to prioritize local area needs when requesting the funding needed for project level planning, feasibility, and environmental studies, right-of-way acquisition, roadway design and the construction of most new transportation projects.

The primary purpose of this report is to present the findings and recommendations of the thoroughfare plan study conducted for the Caldwell County Urban Area. The secondary purpose of this report is to document the basic thoroughfare planning principles and procedures used in developing these recommendations.

As a result of the United States Census Bureau's designation for urbanized areas, the Caldwell County Urban Area is now considered a part of the Greater Hickory Metropolitan Planning Organization.

One major aspect of the plan includes the "preservation of the remaining integrity of Highway 321 by strictly limiting if not completely deterring any further direct commercial access onto this facility." The Plan recommendations include:

> "TIP Project U-4435 [which] calls for the construction of an interchange at the intersection of US 64/NC 18 and US 321 (Smith's Crossroads) at a cost of 36.32 million dollars. The construction of the interchange would eliminate direct driveway access along US 321 from the Smith's Crossroads intersection to the driveway for the [old] Kmart shopping plaza approximately 1900 feet north of Smith's Crossroads. The construction of service roads could potentially restore access that the interchange ramps would remove…" "This recommendation calls for the construction of a median along these sections of road in order to limit the left turning traffic. With a median in place the left turning traffic would be facilitated only through existing signalized intersections. This recommendation would also require that turn lanes be lengthened for added storage capacity and signal timing adjusted. Constructing a median is an access management strategy, which increases roadway capacity and drastically improves safety without constructing additional lanes."

It should be noted that TIP Project U-4435 has been deleted from NCDOT'S STIP and proposed improvements for the 321/64 intersection folded into TIP Project U-4700 which NCDOT describes as the widening of 321 to 6 lanes from US 70 to US 64/NC18.

City of Lenoir Comprehensive Planning Plan

The 2005 Comprehensive Plan created by interested Lenoir citizens serves as a guide to future planning and zoning efforts within the City and ETJ. The Comprehensive Planning Plan was reviewed as part of the research that went into this Pedestrian Plan. With regards to pedestrian facilities the Comprehensive Plan recommends a number of strategies to improve the walkability of the City. Relevant recommendations from the Plan that are incorporated into this Pedestrian Plan include:

- Requiring new subdivisions to be designed as walkable neighborhoods
- Encouraging connectivity in new residential and commercial development
- Limiting the length of residential cui-de-sacs and requiring stub-out streets to be adjacent vacant properties,
- Creating pedestrian connections to commercial, recreational and mixed-use destinations,
- Encouraging the increased use of alternate types of transportation, such as walking, bicycles, buses and railroads/(light rail),

- Provide safe pedestrian access along sidewalks, trails and bicycle routes,
- Improve connectivity between recreation facilities and other points of interest such as schools, downtown and shopping areas,
- Whenever Lenoir or NCDOT improves an existing road to request adding the necessary pavement for a standard DOT bicycle lane,
- Creating multiple access points for pedestrians to cross US Highway 321 safely.

Capital Improvement Plans

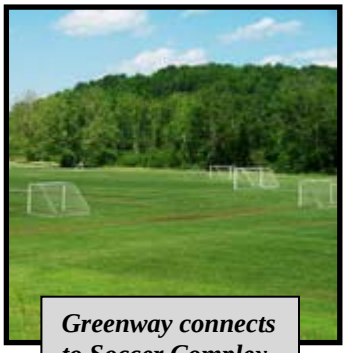
The City of Lenoir maintains a Capital Improvement Plan and routinely evaluates transportation improvements as part of the City's long range plans. However, the City should consider the option of additional infrastructure funding in Capital Improvement Budgets as growth patterns require and economic conditions allow.

Caldwell County Pathways

In 2000, several Caldwell County Commissioners held public meetings over a six-month period of time to discuss bikeways, pathways, and multipurpose trails. Subsequently, a 21-member committee was appointed, called the Caldwell County Pathways, with a mission "to develop, coordinate, and promote non-motorized, multi-use pathways for the enhancement of the quality of life in Caldwell County". Representing all of the municipalities (including Lenoir) and the County as a whole, the committee established three (3) subcommittees to address the issues of 1) wellness and safety, 2) recreation, and 3) non-motorized transportation. Much of their vision "to provide the best, safest, and most accessible greenways, blueways, and multi-use pathways in Western North Carolina" has already been realized with the following accomplishments:

- Bridge across Gunpowder Creek connecting two (2) Caldwell Community College & Technical Institute (CCC&TI) campuses
- Paved multi-purpose pathway on CCC&TI campus
- Paved pathway connecting CCC&TI to Hudson, Hayes Educational Forest, and Hudson Recreation Center and Park
- Bridge and multi-purpose pathway for Hudson Elementary and Middle School students to walk to school away from traffic
- Educational and bike safety programs for elementary schools
- Free bicycle helmets for children
- Pine Ridge Connector Trail, which links the Wilson Creek Visitor Center to the Mountain to Sea Trail.
- Bicycle racks in Lenoir and Hudson (with Arts Council)
- Yadkin Valley Community Park and walking trail.
- School House Ridge Shelter for hikers
- Trails to Trails Incredible Challenge (with CCHD and Healthy Caldwellians)

- Right-of-ways and funding to connect a complex of greenways to the library, Wilson Recreational Field, Aquatics Center, Soccer Complex, and under Hwy. 321 at Smith Crossroads (with City of Lenoir)
- Signage for area trails and parks
- Paved multi-purpose trail down the river from Ruritan Park (with Colletsville Ruritan Club and Google)
- Pedestrian lane in new Hwy. 268 bridge in Happy Valley
- Planning, design, and easement acquisitions/funding of Yadkin River Greenway.
- $32,089 Recreational Trails Grant to build greenway connecting Hudson Elementary and Middle Schools.
- $60,000 grant to provide art, seating, and shelter along the Yadkin River Greenway (with Arts Council)



Greenway connects to Soccer Complex

State Transportation Improvement Program (STIP)

NCDOT officials have developed a strategic plan for transportation decision-making that focuses on achieving the department's long-term goals of safety, mobility and infrastructure health. Reforms regarding transportation projects follow the 2040 Plan. The 2040 Plan outlines a 30-year Statewide Long-Range Plan which includes the State Transportation Improvement Program (STIP) projects per NCDOT Highway Division and County. It provides costs and schedules for each project. It is important to evaluate existing initiatives in order to appropriately incorporate current proposed improvements into the pedestrian plan. The State Transportation Improvement Program (STIP) is important in establishing long range goals for improving pedestrian transportation. The following projects (with location, stage, and schedule) are currently being planned; and, although long-range, should be taken into consideration in the formulation of the master pedestrian plan.

TIP #: R-2637
Route: Various
Status: Division project – Planning/Design and Right of Way In Progress
Description: Guardrail installation and safety improvements

TIP #: BD-5111
Route: Various
Status: NA
Description: Division 11 Purchase Order Contract Bridge Replacement Projects At Selected Locations.

TIP #: BF-5311
Route: Various
Status: NA
Description: Screen And Evaluate Potential Federal Funded Bridge Projects Division 11

TIP #: BL-5511
Route: Various
Status: NA
Description: Bridge Improvements In Division 11

TIP #: BS-5411
Route: Various
Status: NA
Description: Screen And Evaluate Potential State Funded Bridge Projects Division 11

TIP #: EE-4911
Route: Various
Status: NA
Description: Ecosystem Enhancement Program Ford Division 11 Project Mitigation.

TIP #: R-2237*
Route: US321
Status: NA
Description: US 321, North Of NC 268 To Multi-lanes North Of Blowing Rock. Widen to Multi-Lanes.

TIP #: U-4700
Route: US321
Status: NA
Description: US 321, US 70 In Hickory To US 64/NC 18/NC 90 In Lenoir. Widen to Six Lanes.

TIP #: U-2211
Route: SR 1001 (Connelly Springs Road)
Status: Division Project – Planning/Design And Right Of Way In Progress
Description: SR 1001 (Connelly Springs Road), SR 1933 (Southwest Boulevard) To SR 1712 (Oak Hill School Road) East Of US 321 In Lenoir. Widen To Multi-lanes With Curb And Gutter, Part On New Location And Construct An Interchange At US 321.

TIP #: U-2543
Route: US321A
Status: Planning/Design In Progress
Description: US 321A, SR 1107 (Falls Avenue) In Granite Falls To SR 1180 (McLean Drive In Lenoir. Two-Lane Upgrade.

TIP #: B-3933
Route: Lenoir
Status: NA
Description: Broadway Street Over Blairs Fork Creek. Replace Bridge No. 75

TIP #: B-3932
Route: Lenoir
Status: City Of Lenoir – Municipal Project.
Description: Mulberry Street Over Lower Creek. Replace Bridge No. 68

TIP #: B-5011
Route: Lenoir
Status: Under Construction By The City Of Lenoir – Municipal Bridge
Description: Fairview Drive. Replace Bridge No. 74 Over Lower Creek.

TIP #: E-4802
Route: Lenoir
Status: Scheduled For Feasibility Study
Description: Phase A: Lenoir Greenway Extension Along Zack's Fork Creek, Caldwell County Library To Pennton Avenue NW In Lenoir.

Design Guidelines

ADA Design Guidelines

The Americans Disability Act (ADA) states that cities and municipalities must construct, modify, or adapt pedestrian facilities to accommodate individuals with disabilities and accessibility limitations. The following are some basic topics that must be addressed for sidewalks to comply with ADA requirements.

- Overgrown, broken, root laden, or otherwise rough conditions are not acceptable.
- Curb ramps provide entry and exit to sidewalks.
- Ramps also provide alternate routes around staircases.
- Cuts in medians at crosswalks allow travel across divided roadways.
- Slopes must be realistic for traveling.
- Ramps provide access to buildings that are not ground level.
- Adequate width provides sufficient passing.
- Historic district exemptions should be taken into account.
- Adjusted crossing times allow for safe travel across wide intersections.

For more information please refer to the A.D.A. main page at: http://www.ada.gov/ This online resource provides valuable data to assist with accessibility issues.

3.2 PROGRAMS AND INITIATIVES

Safety and Education Programs and Resources

Lenoir Police Department, Patrol Division

The Patrol Division is comprised of one Captain, three Lieutenants, five Sergeants, four Corporals, four Traffic Officers, two School Resource Officers, one Community Resource Officer, and twenty additional Officers that provide a response for all dispatched calls for police service in the City of Lenoir. Specialized services also include:

- Bike Patrol
- K-9
- Special Response Team
- Honor Guard
- Explorers Post
- Auxiliary Reserve

Local Officers are responsible for all calls for service at their respective schools. They also coordinate courses of Law related instruction provided to the students. Course topics include **Bicycle Safety**, Accident Investigation, Common Traffic Laws, Driving under the Influence penalties and consequences. Instruction of Common Traffic Laws includes pedestrian issues such as proper crossing locations and pedestrian right of way. One goal of the Patrol Division's efforts is to improve pedestrian and motorist safety awareness and behavior. The Officers are involved in all areas of the student life, including disciplinary issues, counseling, extracurricular activities, safety and mentoring.

The Officers work in partnership with many local organizations to include Communities in Schools, the Chamber of Commerce / Economic Development, the LINK Center / West End Community, Lenoir Housing Authority, Community Management Corporation, United Way, Caldwell County Leaders for CHANGE, Shelter Home, Robin's Nest Child Advocacy Center, Soup Kitchen, Foothills Radio Broadcasting, and the County's televised broadcast station. Additionally, they play a large role in raising money for the Special Olympics, Crime Stoppers, Explorers Post, DARE, and Calendars for Kids (a program to help purchase school items for children-in-need).

A number of programs and opportunities are available throughout the year for the public:

Citizens Police Academy
Citizens Canine Academy
National Night Out
Bicycle Safety

Child Restraint
Identity Theft and Internet Security
Community Watch
Crimes Against the Elderly
Self-Defense
Internship
Facility Tours
Gang Awareness
Security Checks
Child Safety / Free Identification Kit
Safety Fairs

Caldwell County Health Department

CCHD promotes healthy lifestyles

The Caldwell County Health Department (CCHD) is located in the City of Lenoir and assists tremendously in promoting the wellness of individuals, families, and the community. Offering many services, the CCHD strives to "promote, protect, and improve the health of our community". Some of the following CCHD-sponsored programs, which contribute to the overall fitness of the local community, include – but are not limited to – the following:

- WIC/Nutrition Services
- Primary Care Clinic
- Prenatal (Baby Love) Care
- Dental Care for Children (4-18)
- Environmental Health Services
- Child Health and Immunization Services (Birth-18)
- Health Education/Promotion
- Pregnancy and STD/HIV Testing
- Smoke-Free restaurants/Winner's Circle Restaurants
- Employee Wellness

The Caldwell County Health Department regularly promotes walking as exercise at local farmers markets, church events for the public, and Caldwell County Employee Health Fairs. The CCHD also went so far as to have installed a public walking trail around the County Health Department Building to support walking for exercise. The CCHD works hard in the background by partnering with ally agencies like Caldwell County Pathways to promote health related behaviors such as walking and biking.

WIC / Nutrition Services

WIC is a special supplemental nutrition programs for women, infants, and children – funded by the United States Department of Agriculture (USDA) and regulated by the Caldwell County Health Department. Eligibility for assistance from WIC is based on a combination of household size and income, established family assistance, and/or the presence of health risk factors. In addition to qualifying for special foods, participants may obtain education and information in these areas:

- Breastfeeding Education and Support
- Nutrition for a Healthy Pregnancy
- Infant Feeding
- Child Growth and Development
- Eating Smart and Moving More
- Special Diets
- Food Buying
- Referrals to Health and Community Services

WIC plays an important role in the initiation of public health because of its interaction with its clients. Through the WIC program clients can be linked with multiple support groups that encourage and promote healthy life choices including exercise. One example of a program that WIC clients may be encouraged to become involved with is Eat Smart Move More NC.

Eat Smart Move More, NC

The Eat Smart Move More program encourages healthy eating and exercise habits for all North Carolinians. In addition to nutritional resources offered, the program encourages walking and biking initiatives that support accessibility and well being. The following web address provides a wealth of resources on healthy habits and choices: http://www.eatsmartmovemorenc.com

Caldwell County Senior Adult Resources

Many services and facilities are available to seniors and disabled adults of Caldwell County, as well as their families and caregivers, through the Senior Adult Resources. These include:

- Adult Day Care
- Caregiver & Personal Care Programs
- Educational Opportunities
- Elder Abuse
- Emergency Access Systems
- Employment Services
- End-of-Life Planning
- Financial Assistance Programs
- Health and Dental Services
- Home Health Services
- Home Modification & Repair
- Housing Options
- Information & Referral
- Legal Assistance
- Medical Equipment
- Medicaid Resources
- Medicare services
- Mental Health
- Nutrition/Food Services
- Recreational Opportunities
- Senior Center Programs
- Social Groups
- Social Security
- Support Groups
- Transportation Service
- Veteran Services
- Volunteer Services

Home Health Services

Satie & JE Broyhill Caldwell Senior Center

When clients of the Caldwell County Senior Center come to receive guidance for any of the above listed services, they become in contact with a number of local resources and opportunities that may encourage them to become involved with walking for exercise. One very common result is that seniors are introduced to the Lenoir Greenway and other recreational opportunities within the city.

Healthy Caldwellians

The local coalition of the Caldwell County Healthy Carolinians (Healthy Caldwellians) provides a broad array of services, programs, and events to promote health, fitness, and well being for the residents of Caldwell County. Healthy Caldwellians partnered with NC Cooperative Extension Service, Caldwell Community College, Caldwell County Schools, Caldwell County Health Department, and

Lowe's Foods to create a Healthy Caldwell Month Calendar of suggested activities, with a fourteen-day menu guide, "What's for dinner? F.I.N.E. Food – Families Interested in Nutritious Eating!" This group is located at 1966-B, Morganton Blvd., Lenoir, NC 28645 (PO Box 400). (828)426-8519

The Lenoir Economic Development Board

The Lenoir Economic Development Board (LEDB) directs the Main Street program for The City of Lenoir, identifying improvements to the downtown streetscape and recruiting volunteers to work with the City on those improvements.

In 2007/08 City staff worked with the Western Piedmont Council of Governments in developing a revitalization plan for a 2.5 block area of downtown that received $900,000 of Section 108 loan funds from HUD. A transportation enhancement grant of $650,000 from the North Carolina Department of Transportation supplemented $424,000 of city funding for street improvements and conversion of traffic patterns in the district.

Encouraged by the development of revitalization plans for downtown, private investors purchased and renovated 8 downtown buildings, supplementing their private investments with $53,166 from the Building Rehabilitation grant program developed by the LEDB and funded through the City's municipal service tax district.

The installed streetscape improvements included new sidewalk and A.D.A accessible curb ramps and crosswalks. Much of the success of Lenoir's Downtown pedestrian friendly atmosphere can be linked directly to the efforts of the Lenoir Economic Development Board.

North Carolina Rural Economic Development Center, Inc.

The N.C. Rural Economic Development Center is a private, nonprofit organization whose mission is to develop sound economic strategies that improve the quality of life in rural North Carolina.

In April of 2011, the City of Lenoir was granted $160,000 to renovate a vacant building for use by a doughnut maker for production and retail sales. The project will create 20 jobs. The City of Lenoir was also awarded $15,000 on November 16, 2011 to renovate a vacant building for use by a restaurant. The project is slated to create six new jobs for the community and provide another possible pedestrian destination for the City.

The grants were approved by the center's board of directors and made possible by appropriations of the N.C. General Assembly and other funders.

3.3 LOCAL STATUTES AND ORDINANCES

The City of Lenoir Subdivision Ordinance

The City of Lenoir Subdivision Ordinance provides regulatory guidance for developers seeking to construct subdivisions within the City's planning jurisdiction. The Ordinance establishes specific requirements for the construction of new streets and their design. The ordinances dictate how streets are to connect, look, and be designed. Intersection design is also regulated by the ordinances.

The City of Lenoir Code of Ordinances (Part 2, Chapter 18 – Streets and Sidewalks) requires that a petition for a new sidewalk be filed before any sidewalk project can be approved and constructed.

3.4 PEDESTRIAN LAWS

The State of North Carolina follows a standard set of basic pedestrian laws, outlined in a guidebook published by the North Carolina Department of Transportation. A summary of these laws is below:

1. *Pedestrians need to obey traffic control signals.*
2. *Pedestrians have the right-of-way in crosswalks where there are no traffic control signals.*
3. *Pedestrians have the right-of-way at intersections without marked crosswalks.*
4. *Pedestrians have the right-of-way in walkways at alleys, driveways, private roads and building entrances.*
5. *Between adjacent intersections with traffic control signals, pedestrians may cross only in a marked crosswalk.*
6. *Pedestrians must yield right-of-way to vehicles if they are in the roadway but not at a marked or unmarked crosswalk (intersection).*
7. *It is unlawful to walk in the roadway if a sidewalk has been provided.*
8. *If no sidewalk is provided, pedestrians should walk on the extreme left of the road, or the left shoulder, facing on-coming traffic.*
9. *Standing, sitting, or lying upon highways or streets is prohibited.*
10. *At any street, highway, or road crossing or intersection that is not regulated by traffic control signals or officers, a blind or partially-blind pedestrian with a white cane or guide dog shall receive the right-of-way.*
11. *At intersections with traffic control*

Blind persons have right of way during a signal change

signals, if a blind or partially-blind pedestrian with a white cane or guide dog is partially across the street when the signal changes, that pedestrian shall have the right-of-way to finishing crossing the street.

12. *A person with a mobility impairment that is using a motorized wheelchair or similar conveyance shall be given all the rights and responsibilities of a pedestrian.*
13. *Electric personal assistive mobility devices may be operated on public highways with speeds of less than 25 mph, sidewalks and bicycle paths. They are required to yield right-of-way to pedestrians and other human-powered devices.*

These laws are available to the public in the NCDOT booklet, A Guide to North Carolina Bicycle and Pedestrian Laws, and can be accessed at the NCDOT website, http://www.ncdot.gov/bikeped/lawspolicies/laws/.

Other relevant state and federal policies are listed below and can be accessed at the accompanying websites.

- NCDOT Pedestrian Policy Guidelines
  http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A//www.ncdot.gov/doh/preconstruct/altern//value/manuals/ppm/ppm28/ppm28-1.pdf

- NCDOT Greenway Policy
  http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf

- NCDOT Board of Transportation Resolution for Bicycling and Walking
  http://www.ncdot.org/transit/bicycle/laws/laws_resolution.html

- United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations (March 2010)
  http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm

- FHWA Policy for Mainstreaming Nonmotorized Transportation (FHWA Guidance – Bicycling and Pedestrian Provision of Federal Transportation Legislation)
  http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm

- TND Guidelines
  http://www.ncdot.org/doh/preconstruct/altern/value/manuals/tnd.pdf

- NCDOT Complete Streets Policy
  (http://www.bytrain.org/fra/general/ncdot_streets_policy.pdf
  and
  http://www.nccompletestreets.org/)

- END OF SECTION -

SECTION FOUR
STRATEGIC PEDESTRIAN SYSTEM PLAN

Based on the objectives established earlier in this document – along with inventories of existing conditions and prior studies - McGill Associates has prepared recommendations for a Comprehensive Pedestrian Plan for The City of Lenoir. Section 4 describes these recommendations and/or proposals, which would expand the pedestrian facilities into a cohesive, safe, and usable network.

This section is separated into several components, which include: the *types* of recommended facilities, *specific* recommendations, and *users* of the pedestrian facilities. (The methodology utilized in the development of these recommendations was described in Section 1.4.)

This Pedestrian Plan serves as a guide for identifying and prioritizing safe pedestrian linkages within the City; thereby, creating a viable pedestrian network. This guide is based on input from the public, Steering Committee members, and City Staff. While enhancing and prioritizing capital improvements/maintenance projects for the City, the plan will give special consideration to *critical* areas for pedestrian transportation and safety; as well as address the Americans with Disabilities Act (ADA) compliance issues.

Section 4 and Section 7 will include recommendations, the establishment of priorities, and implementation guidelines for proposed pedestrian facilities. In particular, Section 4 outlines the proposed pedestrian network and identifies areas of need and areas of opportunity.

4.1 SYSTEM OVERVIEW

Overall Network

The City of Lenoir currently has an incomplete, aging pedestrian system. Many areas lack pedestrian connections to/from Downtown and other significant pedestrian generators.

Gaps in System

There is very little connectivity in the existing pedestrian network in The City of Lenoir. There are some connections to the Downtown from the surrounding residential areas; however, these few existing connections often are in need of accessibility improvements, maintenance or have large gaps.

Most of the intersections along the main corridors lack marked pedestrian crosswalks and signals. There is poor pedestrian connectivity between Downtown Lenoir and the eastside of Lenoir - despite evidence of frequent pedestrian traffic. However, most park areas and public schools in the City are accessible by pedestrian facilities. The major shopping and residential areas in the City do lack safe connectivity with existing pedestrian facilities.

Valmead Elementary has poor pedestrian access

Barriers and Safety Hazards

By far, the greatest barriers to pedestrian travel in The City of Lenoir are the lack of sidewalks and crosswalks. While the sidewalk inventory map provided at the end of Section 2 provides details of where sidewalk exists and where crossings are in need of improvement. Sidewalks and safe pedestrian crossings should be considered for any areas that generate the most walking traffic.

The main pedestrian corridors through the City are Harper Avenue and Highway 321, which also has to support a large amount of vehicular traffic – but few marked pedestrian crossings are in place. Harper Avenue divides the Downtown area into two halves. Both areas north and south of Harper Avenue include residences, major destinations for shopping, business, and visitors; however, there is an absence of safe pedestrian crossings on this busy corridor which

forces many pedestrians to risk crossing busy vehicular traffic to reach their destinations.

A high number of pedestrian generators are also located on US Highway 321, but few pedestrian facilities exist to serve the non-vehicular population. While recent portions of sidewalk have been constructed north of Hospital Avenue at recently constructed retail/commercial sites, there is a crucial need for sidewalks and crossings south of Hospital Avenue as well. Well worn paths have been worn along the roadway, notably adjacent to the Days Inn and neighboring businesses. However, the lack of sidewalks, crossing locations, and other pedestrian facilities prevent people from being able to safely walk here.

4.2 CORRIDOR IDENTIFICATION

Existing Pedestrian Corridors

US 321

US 321 not only is a very busy vehicular expressway but also supports a large amount of pedestrian traffic. This major roadway through Lenoir carries a high volume of traffic and is a major destination for residents and guests alike - with lodging, restaurants, schools, civic organizations, shops, and other businesses spread out along the length from Smith Cross Roads to Main Street NW. It is also a major corridor into the Downtown from the surrounding residential areas. A node of the Lenoir Greenway is accessible from near the mid-section of this corridor and passes under this corridor via a recently completed drainage improvement that incorporates a section of the paved greenway. Although sidewalks and other pedestrian facilities are lacking along this corridor, foot paths can be seen worn into the ground along various sections and on both sides of the road. What sidewalks exist has only recently been installed as property improvements have been completed (Sidewalk at intersection of Hospital and 321/Cook-Out and Walgreens, Sidewalk along new Wal-mart property). The vast majority of this corridor is in need of safe pedestrian facilities including sidewalks, and crosswalks on both sides of the roadway.

Harper Avenue

Harper Avenue is a major vehicular corridor that connects US 321 via Smith Cross Roads with Downtown Lenoir. This corridor terminates at Morganton Boulevard SW. Besides being a major gateway to Downtown, a number of other destinations generate pedestrian traffic along this route including lodging, restaurants, schools, parks, civic organizations, shops, and other businesses.

Some places on Harper Avenue have sidewalks and crosswalks. Recent sidewalk improvements from the Hickory Boulevard westward past the intersection of with Hospital Avenue and on to the intersection with Norwood Street include beautification, repair, landscaping and crosswalk work. Sidewalk from Downtown West towards Morganton Boulevard SW is aged but in fair condition. This segment of the corridor should be inspected regularly for needed repairs and accessibility issues. Possible conflicts may occur where parking extends into common pedestrian paths.

Hospital Avenue

Hospital Avenue connects Harper Avenue near Downtown with US 321. Pedestrian generators may include dining and shopping opportunities at either end of this corridor. Other pedestrian destinations include the Caldwell County Public Library and Lenoir Greenway which has a node adjoining the Library. Sidewalks are dated but in fair condition. Inspections for repairs should be done regularly. Accessibility conflicts including curb ramps and barriers should be further accessed and remedied to improve this vital pedestrian corridor. The most notable improvement may be pedestrian safety at US 321.

Mulberry Street

This corridor connects Downtown Lenoir with recreation opportunities just south of Morganton Boulevard. Sidewalk conditions are fair with some repairs needed for accessibility for all persons. A little over a year ago, street traffic calming initiatives (speed tables, signage, striping) were completed parallel to the segment of sidewalk that runs past Caldwell Memorial Hospital all the way south to Morganton Boulevard SW. However, despite being approximately 82 feet from the Mulberry Recreation Center sidewalk, no crosswalk exists from this busy pedestrian path across Morganton Boulevard to the Recreation Complex. Pedestrians, including many children are attempting to cross the 4/5 lanes of Morganton Boulevard which has a posted speed of 45 mph without the safety of a pedestrian crosswalk. Many people that work at Caldwell Memorial Hospital report walking to work or parking several blocks from the hospital and walking in.

Lower Creek Drive

The Lower Creek area is a thriving residential community of Lenoir that has a lot of pedestrian traffic generated by the Lenoir Greenway, Lower Creek School and foot traffic heading towards destinations on Wilkesboro Boulevard and US 321. However, few sidewalks or pedestrian facilities exist along Lower Creek Drive.

This corridor's terminating intersections with Wilkesboro Boulevard do not have pedestrian facilities despite having reported pedestrian use.

Wilkesboro Boulevard (Hwy. 18)

Wilkesboro Boulevard is an important gateway into Lenoir from the neighboring Cities of Wilkesboro and North Wilkesboro and residential areas in between. This roadway is primarily a vehicular corridor; however, some pedestrian traffic is generated by nearby residential areas. Currently, pedestrians coming from the Lower Creek area report connecting to US 321 along Wilkesboro Boulevard.

Greenhaven Drive NW

Connecting residential areas northeast of Downtown with shopping centers and other destinations on US 321, Greenhaven Drive NW sees steady foot traffic. Pedestrian traffic also includes trips to William Lenoir Middle School, and The Martin Luther King Jr. Recreation Center. In 2010 the street was updated with drainage improvements, speed tables, any necessary signage and new sidewalk from US 321 to Holloway Place NW.

Lenoir Greenway

While the Lenoir Greenway has become a destination unto itself it should be emphasized that this corridor has increased the walkability, quality of living, and connectivity of Lenoir. Pedestrians can now walk from the Zack's Fork Creek and Lower Creek neighborhoods to the Lenoir Rotary Soccer Complex, Lenoir Aquatic and Fitness Center, Wilson Athletic Park, the Caldwell County Public Library and other destinations to the east near US 321. With the US 321 greenway tunnel the potential to connect the Greenway to Downtown and beyond can become a reality. It is also recommended that trail crossing signage at Pennell Street and Powell Road be upgraded to meet MUTCD standard W11-15 and W11-15P.

City officials and staff should be commended on their efforts and encouraged to maintain and expand the Lenoir Greenway as possibilities arise. This important pedestrian corridor could one day serve as the main "pedestrian highway" that links all the main parts of the City together.

Proposed Pedestrian Corridors

Morganton Boulevard

Being a very busy highway from Harper Avenue southwest eventually connecting with the neighboring community of Gamewell, this mainly vehicular corridor has the potential to serve as an important pedestrian corridor connecting Gamewell with Lenoir with possible greenway or rail/trail paths. Possible nodes include the Downtown areas of Lenoir and Gamewell, the Google property, Quest 4 Life Medical facility and Mulberry Recreation Center.

Norwood Street SW

An important north/south corridor from Hudson, NC into Lenoir runs along Norwood Street/321A. This corridor was once a main corridor for traffic generated from furniture factories, and despite the closing of much of the factory production, this road remains a busy vehicular corridor. Norwood Street pedestrian traffic mainly consists of locals walking to shopping and work destinations. Residents of the Whitnel neighborhood have shown interest in developing sidewalks and other pedestrian facilities from the intersection of Connelly Springs Road NW northward towards Mulberry Street SW. Sidewalks are not installed along this corridor despite reported pedestrian traffic. Right turn lanes and curb radii are concerns for pedestrians. Marked/at-grade islands could provide some opportunities as pedestrian refuge islands.

US 321/Blowing Rock Boulevard (Greenhaven Drive to Valmead Elementary School)

This segment of the existing US 321 pedestrian corridor would extend pedestrian facilities northward to the Valmead Elementary School from Greenhaven Drive (Wal-mart shopping center), providing increased safety and connectivity for pedestrians coming from nearby residential areas off of 321, to shopping destinations along this corridor.

Pedestrian Generators/Attractors

Typical pedestrian generators and attractors can be seen on the proposed facilities map at the end of sub-section 4.4. Many of these are not currently served by pedestrian facilities and may not be attracting many pedestrians because of this factor.

Parks/Recreation

Lenoir Aquatic and Fitness Center

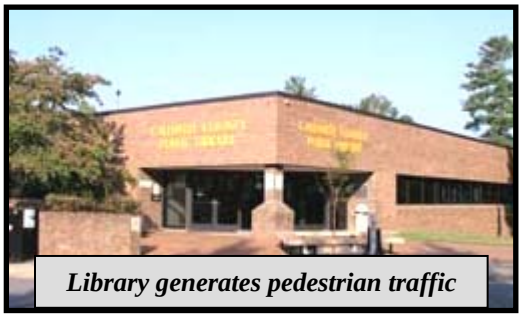
T. H. Wilson Athletic Park
T. H. Broyhill Walking Park
Mulberry Recreation Center
Lenoir Greenway
Martin Luther King Center
J.E. Broyhill Park
Lenoir Rotary Soccer Complex
Lenoir High School Gym, Auditorium, and Mack Cook Stadium
West End Neighborhood Park
Unity Park/Community Garden
Blackwelder Park (under design)
BJ's Bowling/Arcade
Lenoir Golf Club

Shopping

Galleria at Lenoir
Eastwood Village Shopping Center
Fairway Shopping Center 1
Lenoir Plaza
Thrift Shopping Center
Wal-Mart Shopping Center
Other Shopping Locations

Dining

Sister Futs Cafe
Pancho Villa #4
Myra's Catering
Krispy Kreme of Lenoir
Java Joe's/The Wine Cellar and Bistro
Firehouse Subs
Fatz Cafe
Canteen Vending Corporation
Blue Moose Coffee Lodge
The Game Keeper Restaurant
Sweet T's on Main
Sonic Drive-in
The Coffee House
Shoney's
Pizza Hut
Ruby Tuesdays
Wendy's
Cook-Out
Hannah's BBQ
Fuji Japanese Cuisine



Library generates pedestrian traffic

Mayflower Seafood
Long John Silver's
The Alibi Restaurant
Piccalo's
Wine Cellar and Bistro
Sagebrush
Other area restaurants

Schools

Hibriten High School
William Lenoir Middle School
Lower Creek Elementary School
Davenport Elementary School
Valmead Elementary School
Whitnel Elementary School
West Lenoir Elementary School

Civic/Service

J.E. Broyhill Civic Center

Cultural

Downtown Art Sculptures
Caldwell Arts Council
Caldwell County Public Library
Religious Institutions
Seasonal Downtown Events

4.3 SPECIAL FOCUS AREAS

High Pedestrian Use Areas

Corridors with the highest pedestrian usage in The City of Lenoir are located at:

- Main Street (Downtown) – Main Street from Ashe Avenue NW to College Ave SW is a very busy corridor that has sidewalks in fair to good condition, marked crossings and signage. This area is very much a part of the pedestrian fabric of Lenoir and while it is serving the current needs of the City it should be regularly evaluated for needed accessibility improvements.
- West Avenue (Downtown) – West Avenue from Ridge Street NW to Willow Street NW should be considered a visually significant corridor for the Downtown area. Many pedestrians use this corridor daily, and while it serves the current needs of pedestrians, it should be evaluated for regular

improvements. The 2008 Downtown streetscape enhancements (curb ramps, decorative pavers, improved lighting, etc.) should be extended from Boundary Street to Willow Street and should include crossing improvements and any necessary pedestrian signage at the intersection with Willow Street.

- US 321 (near Smith Cross Roads to Hospital Avenue) – Sidewalk installation on both sides of US 321 are needed to relieve pedestrians from walking through parking lots along curbs to access local businesses. It should be noted that sidewalk connections should be made with the Lenoir Greenway tunnel crossing under US 321.
- College Avenue (at Unity Park) – The recent opening of Unity Park has generated pedestrian traffic from nearby residential areas seeking to use the new facility. Sidewalks to connect this site to these areas are in poor condition or not present. Sidewalk should be included at all nearby crossing streets (Virginia St., Maple Dr., Beall St., the road adjacent to Fairfield Chair Co., and Underdown Ave.) to assist in the safe use of this new asset to the community.

4.4 POTENTIAL PROJECTS AND INFRASTRUCTURE IMPROVEMENTS

Pedestrian Network Methodology

As mentioned in previous sections of the Pedestrian Plan, The City of Lenoir has pedestrian facilities in some areas, but also has many areas that need improvements. Section 4 identifies both *general* and *specific* areas that need to be addressed. 'Connectivity' is a recurring theme within this portion of the comprehensive plan. Connecting pedestrian facilities to form a network of sidewalks and multi-use trails is a long-range project that requires extensive time and funding.

To create and develop a practical and feasible pedestrian transportation system for The City of Lenoir, a network of pedestrian-friendly facilities should be implemented. The system should be part of the urban fabric of the City, with the essential element being 'connectivity' that will allow pedestrians to reach their destinations. The pedestrian system must also be safe for users. *If pedestrians have to risk their lives in order to walk to a destination, they will choose to travel by a different mode of transportation.* The pedestrian network needs to be safe and accessible for all users.

In addition to connectivity, *repairing* existing dangerous pedestrian areas is also a major concern with the system. Hazardous areas are priorities that need to be addressed immediately. The safety of pedestrians is one of the main concerns of

The City of Lenoir. As new projects are developed, connectivity and safety should be among the primary goals and objectives.

A number of factors were used to develop the pedestrian recommendations. The previous sections describe topics such as community input and planning documents that were used as information sources. In addition, the Steering Committee, City staff, and on-site field work were also integral parts of plan development.

Lenoir Pedestrian Plan Input

- *Input from community workshops*
- *Input and recommendations from Steering Committee, City Staff and NCDOT*
- *Site visits*
- *Review of existing planning documents*
- *Evaluations of existing pedestrian facilities and gaps*
- *Evaluation of pedestrian trip generators (destination areas)*

Based on Community input, Steering Committee input, input from City of Lenoir Staff, goals and objectives were established as guides for making recommendations. The following are the predominate themes that served as catalysts for development of the proposals:

- *Increase connectivity from residential to destination areas*
- *Improve existing conditions and expansion of the pedestrian system in the Downtown areas*
- *Improve and repair existing non-compliant ADA pedestrian facilities*
- *Implement safe conditions for pedestrians where dangerous conditions exist*
- *Consider "future" development with regard to pedestrian facilities*
- *Connect pedestrian facilities where gaps and barriers exist*
- *Educate the public on fitness opportunities walking benefits*

Recommended Pedestrian Facilities

Numerous methods were involved in developing recommendations and proposals for the Lenoir Comprehensive Pedestrian Plan. The process can be broken down into these basic tasks:

- Demographics and Population Trends
- Existing Facilities
- Needs Inventory
- Goals and Recommendations
- Implementation

Contained in each of these tasks is detailed information used to help develop and justify the proposals within the total document. Meetings and site visits were conducted to ensure a better understanding of the needs and issues regarding pedestrian improvements. The proposals for ADA compliance and safety concerns are typical of most pedestrian plans. In addition to these *general* recommendations, the document identifies and makes proposals regarding issues that are *specific* to The City of Lenoir.

Many of the general proposals recommend connectivity, repair of existing facilities, and enhancement of future improvements; however, some of the future projects may not be facilities such as sidewalks or multi-use trails. Rather, the proposals may be goal-oriented – such as establishing creative partnerships, instituting safety programs, and/or coordinating special events. Proposed programs such as these will promote pedestrian use within the City, but are not project-based recommendations.

The Pedestrian Plan proposes a basic network of non-vehicular corridors. These corridors will allow pedestrians to use alternative transportation methods. The network will consist of both existing corridors and new corridors. Many of the existing pedestrian facilities within the City are in need of repair or improvement. The City has made improvements over the years, but there are still areas in need of improvements.

Pedestrian Crossing Projects

There are numerous unsuitable pedestrian crossings that have been identified in Lenoir (See Existing Conditions Map 1 in Section 2). Steps to improve these conditions range from, installing high visibility striping at crosswalks to the installation of pedestrian signals at high-volume traffic intersections. In extreme cases intersection curb radii may be reduced to shorten crossing distances. Correcting dangerous intersections will not only encourage pedestrians to use the facilities, but will also reduce potential injures. The intersections listed in the

Intersection Improvements table seen below were chosen for improvements by means of field observation, public input, and Steering Committee input. The following subsection lists intersections in need of practical improvements such as marked pedestrian crossings, pedestrian signal heads, pedestrian refuge islands, traffic lights, and/or a combination of the above (see Proposed Pedestrian Improvements map at the end of section four).

		Intersection Crossing Projects									
	Type of Facility		Crossing	Along	Pedestrian Signage ($1,200)	Reduction of Curb Radii or refuge island ($15,000)	Curb Ramps ($1,500 ea.)	Crosswalks (including stop bar/relocate) ($350 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
					US 321						
1	Crosswalk		US 321	Hospital Ave.	0	0	2	2	0	2	$8,500
2	Crosswalk		US 321	Seahorn/Walmart Entrance	0	0	2	1	0	2	$8,150
3	Crosswalk		US 321	Greenhaven/Nuway Cir	0	1	2	1	0	2	$23,150
	Subtotal Intersection Improvements				**0**	**1**	**6**	**4**	**0**	**6**	**$39,800**
					Hibriten Drive SW						
1	Crosswalk		Hibriten Drive SW	Norwood Street	0	0	4	2	0	2	$11,500
	Subtotal Intersection Improvements				**0**	**0**	**4**	**2**	**0**	**2**	**$11,500**
					Norwood St.						
1	Crosswalk		Norwood Street	Hibriten Drive SW	0	0	4	2	0	2	$11,500
2	Crosswalk		Norwood Street	@ Mulberry St. SW	0	0	0	1	0	0	$350
3	Crosswalk		Norwood Street	Harper Avenue	0	0	2	1	0	2	$8,150
4	Crosswalk		Norwood Street	McLean Dr. SW	0	0	4	2	0	2	$11,500
4	Crosswalk		Norwood Street	Mulberry St. SW	0	0	3	2	0	0	$5,200
4	Crosswalk		Norwood Street	Morganton Boulevard	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**15**	**9**	**0**	**6**	**$40,050**
					Harper Ave.						
1	Crosswalk		Harper Avenue	Pennton Ave. SW	0	0	4	1	0	2	$11,150
2	Crosswalk		Harper Avenue	Norwood Street	0	0	0	1	0	0	$350
3	Crosswalk		Harper Avenue	Road Adj. Fairfield Chair Co.	0	0	0	1	0	0	$350
	Subtotal Sidewalk Improvements				**0**	**0**	**4**	**3**	**0**	**2**	**$11,850**
					Lower Creek Drive						
1	Crosswalk		Lower Creek Drive NE	Wilkesboro Boulevard	0	0	4	1	0	0	$6,350
2	Crosswalk		Lower Creek Drive NE	@ Lower Creek School	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**6**	**2**	**0**	**0**	**$9,700**
					Hospital Ave.						
1	Crosswalk		Hospital Ave.	US 321	2	0	4	2	0	2	$13,900
	Subtotal Intersection Improvements				**2**	**0**	**4**	**2**	**0**	**2**	**$13,900**
					Seahorn/Walmart Entrance						
1	Crosswalk		Seahorn/Walmart Entrance	US 321	0	0	2	1	0	0	$3,350
	Subtotal Intersection Improvements				**0**	**0**	**2**	**1**	**0**	**0**	**$3,350**
					Pennton Ave. SW						
1	Crosswalk		Pennton Ave. SW	US 321	2	0	2	1	0	0	$5,750
	Subtotal Intersection Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
					Mulberry Avenue						
1	Crosswalk		Mulberry Avenue	Morganton Boulevard	0	1	2	2	0	4	$28,300
	Subtotal Sidewalk Improvements				**0**	**1**	**2**	**2**	**0**	**4**	**$28,300**
					West Avenue						
1	Crosswalk		West Avenue	Willow Street	2	0	2	2	0	0	$6,100
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**2**	**0**	**0**	**$6,100**
					Grove Avenue						
1	Crosswalk		Grove Avenue	Main Street	2	0	2	1	0	0	$5,750
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
					Virginia Street						
1	Crosswalk		Morganton Blvd.	Virginia Street	0	0	2	2	0	2	$8,500
1	Crosswalk		Poplar St. NW	Virginia Street	2	0	2	2	0	2	$10,900
	Subtotal Sidewalk Improvements				**2**	**0**	**4**	**4**	**0**	**4**	**$19,400**
					College Aveune						
1	Crosswalk		Collage Avenue	Main Street	2	0	0	4	0	0	$3,800
2	Crosswalk		Collage Avenue	Virginia Street	2	0	0	1	0	0	$2,750
3	Crosswalk		Collage Avenue	Maple Drive	2	0	0	1	0	0	$2,750
4	Crosswalk		Collage Avenue	Beall Street	2	0	0	1	0	0	$2,750
5	Crosswalk		Collage Avenue	Underdown Ave.	2	0	0	1	0	0	$2,750
	Subtotal Sidewalk Improvements				**10**	**0**	**0**	**8**	**0**	**0**	**$14,800**
Total Project Units					**20**	**2**	**51**	**41**	**1**	**26**	**$210,250**

A larger version of the Intersection Crossing Projects Table can be found in the Appendix. Refer to the Intersection Improvements Map on page 15 of this section.

Pedestrian Signals and Marked Pedestrian Crossings

Proposed locations for pedestrian signals have been restricted to areas where the danger to pedestrians from vehicular traffic currently has been indicated by public commentary. Locations for pedestrian improvements are shown on the Proposed Improvements Map in this section. Regular evaluation of pedestrian traffic patterns should occur by the City to identify new or additional pedestrian crossing needs. It is recommended that pedestrian crossings at any uncontrolled intersection should include NCDOT/MUTCD approved signage (See section 5.1) to warn approaching vehicles of the crossing ahead. All pedestrian crossing locations should include A.D.A. compliant curb ramps (where necessary) and tactile warning devices.

Crossing US 321 (along the stretch from Smith Cross Roads north towards Greenhaven Drive)

The current state of this pedestrian corridor is dangerous for pedestrians. Considering the frequent pedestrian use along this stretch of road, crossing locations with pedestrian signalization would help make a safer route. Crossing at Smith Cross Roads poses a number of difficult challenges that preclude this intersection from gaining pedestrian crossing facilities. Instead, it is recommended that wayfinding signage near the intersection and along established routes nearby indicate where safe crossings may be made. The nearest crossing location to this intersection may be made via the existing Lenoir Greenway tunnel which passes under US 321.

Below is a list of recommended locations where pedestrian crossing markings and Ped-heads (crossing signals) would be appropriate:

- **US 321 and Hospital Avenue**
- **US 321 and Greenhaven Boulevard** (Reduction of curb radii is also recommended.)

Other locations in the city where pedestrian crossing signalization is needed include the following locations:

- **Wilkesboro Boulevard and Lower Creek Drive/Arrowood Street SW** (near Hibriten High School) – With new Sidewalk from Wilkesboro Blvd. along Arrowood Street, Panther Trail at the school entry may be accessible from the Lower Creek neighborhood.
- **Morganton Boulevard and Mulberry Avenue**
- **Harper Avenue and Pennton Avenue**
- **Harper Avenue and Norwood Street –** With improvements, the existing pork chop island may provide some opportunities for a pedestrian refuge island.

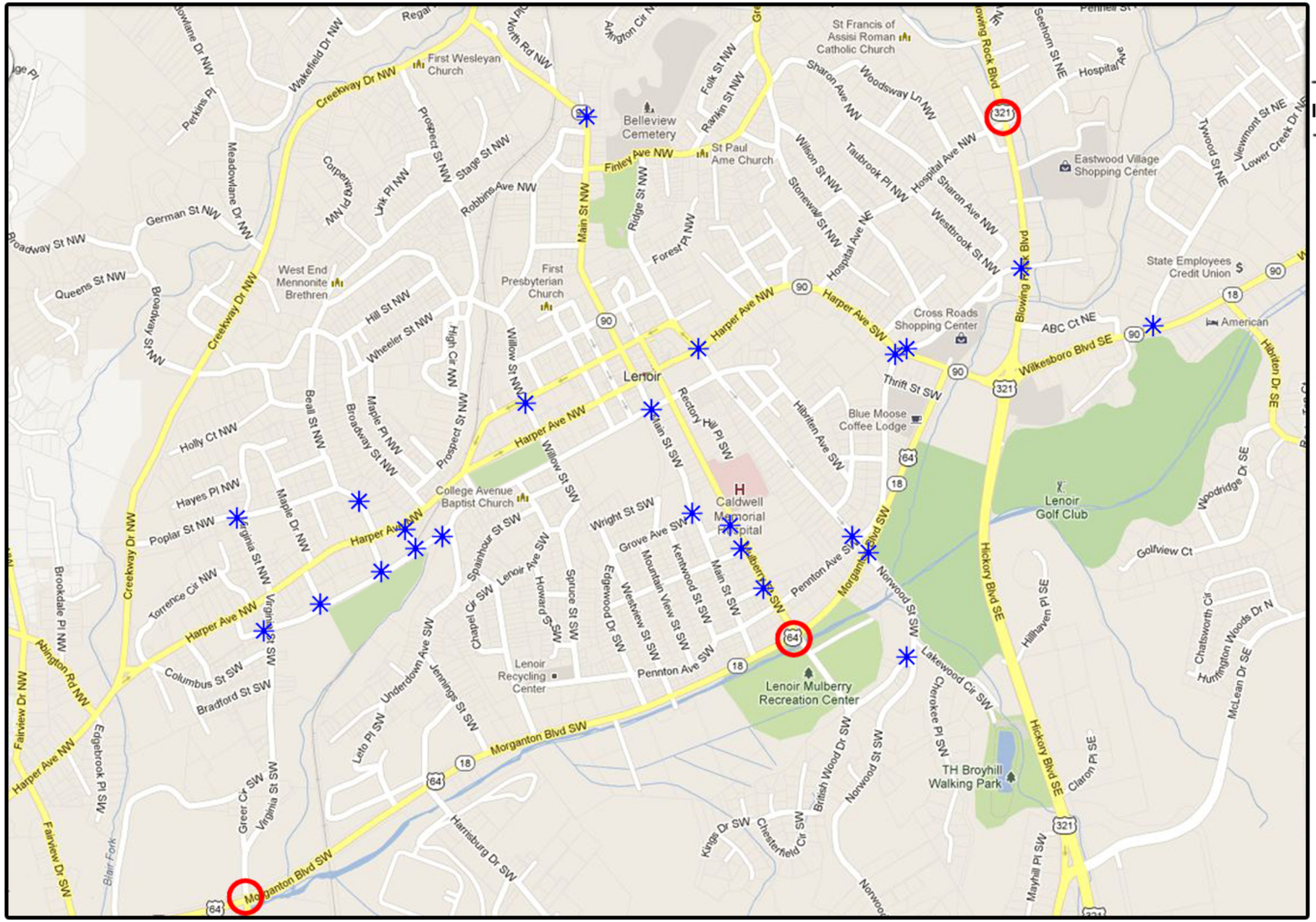
- **College Avenue and Main Street**
- **Virginia Street and Morganton Boulevard**
  This may become an important crossing location as Future Greenway development brings more pedestrians to this area. Therefore, this intersection should be regularly evaluated for pedestrian improvements. Pedestrian signals and crosswalk improvements should occur around the same time as the possible new greenway trail is constructed.
- **Norwood Street and Mclean Drive SW**
- **Norwood Street and Morganton Blvd.**

Crossing locations in need of marked/painted crosswalks and pedestrian signage without signalization include the following locations:

- **College Avenue and Virginia Street SW**
- **College Avenue and Maple Drive SW**
- **College Avenue and Beall Street SW**
- **College Avenue and the road adjacent to Fairfield Chair Company**
- **College Avenue and Underdown Avenue SW**
- **Harper Avenue and the road adjacent to the Fairfield Chair Company**
  The northbound signage should be relocated closer to the existing crosswalk, MUTCD signs W11-2 and W16-7P should replace the existing signage, and higher visibility crosswalks should be installed.
- **Norwood and Mulberry Ave.**
- **West Avenue and Willow Street**

DOWNTOWN LENOIR

Intersection Improvements Map



Proposed intersection improvements

Proposed signalized crossing

See Intersection Crossing Projects Table for more project details.

North

As with all pedestrian crossing projects there are potential constraints and barriers that must be identified and overcome prior to proceeding with design and construction. Constraints and barriers may include financial/economic deficiencies, politics, physical/mechanical obstacles, or other occurrences that may prevent action on pedestrian projects. Ensuring that all stakeholders involved with the project are involved and have an opportunity to take part in the planning and design process will help to avoid or plan to deal with most barriers encountered.

ADA Curb Ramps

Curb ramps that meet the Americans with Disabilities Act standards are a vital part of a good pedestrian system, ensuring equal access to the system for all mobile people. Several existing intersections in Lenoir do not currently have adequate curb ramps; thus, access to the sidewalk system for those in wheelchairs or strollers is not possible. All existing curb ramps in the City should be regularly inspected for needed repairs and accessibility issues. However, the following sidewalk areas and intersections should be examined closely and brought into compliance with current ADA requirements as soon as possible:

- College Avenue SW and Main Street
- Main Street and Grove Avenue SW
- Mulberry Street and Davenport Street SW
- Mulberry Street and Olive Street SW
- Mulberry Street and Park Street SW
- Norwood Street and Pennton Avenue SW

All new sidewalks that are installed must have ADA compliant curb ramps at intersections and driveways. (See Section 5)

Sidewalk Projects

Sidewalk projects primarily range from the replacement of unsuitable facilities to the implementation of new sidewalks for connectivity to destinations or existing sidewalks. By implementing these recommendations, The City of Lenoir can provide a more safe, accessible, and usable pedestrian network. Improvements are intended to connect to areas of high pedestrian volumes such as parks, commercial/retail centers, government/service centers, cultural amenities, and the existing sidewalk network. *All sidewalks, whether existing or proposed, should have marked crosswalks and curb ramps at intersections and driveways as a minimum requirement*. Intersections (having a high volume of vehicular traffic) should possess pedestrian crossing signals. These facility improvements should also be evaluated as future widening and roadway projects are constructed.

Sidewalk projects should include the following pedestrian-related amenities:

- Minimum of 5' in width
- ADA compliant curb cuts and ramps at all driveways and intersections
- Marked crosswalks at all intersections
- Pedestrian crossing signals at high-volume traffic intersections
- Sidewalks on one or both sides of the roadway

Currently sidewalks in Lenoir cover a majority of the Downtown area with some sidewalk extending out from residential areas and new commercial developments. The following proposed improvements enhance the connectivity of these existing corridors by filling gaps to extend the pedestrian network into new areas to help create a more cohesive, and pedestrian friendly walking environment in the City. The plan calls for both the expansion of the existing network and the renovation of the portions needing repair and upgrades. A detailed outline describing the general location(s), priority, and construction/renovation costs of proposed sidewalk projects can be found at the end of section 7. The proposed sidewalk and trail improvements are shown on the "Proposed Pedestrian Improvements Map" at the end of this sub-section (4.4).

US 321/Blowing Rock Boulevard

Sidewalk projects have been implemented as part of the upgrades for the Wal-Mart shopping center, and adjacent businesses as well as at the corner of US 321 and Hospital Avenue as part of the Walgreens and Cook-Out property projects. These added pedestrian facilities have the improved safety and walkability of the 321 corridor through Lenoir but also have hastened the need to fill gaps that now exist between the new sidewalk and existing businesses without sidewalk. Sidewalk should extend from the 321/Main Street NW intersection to the Lenoir Greenway tunnel crossing near Smith Cross Roads. It is recommended that sidewalk be on both sides of the roadway and be fully A.D.A. compliant.

Arrowood Street

To assist pedestrian traffic generated by Hibriten High School, sidewalk is recommended along at least one side (south side) of Arrowood Street from Wilkesboro Boulevard to the end of the Hibriten School Property.

Lower Creek Drive

Lower Creek Drive is an important thoroughfare for the Lower Creek residential area. Residents including children choosing to walk to school or work are forced to walk on the edge of the roadway without the safety of sidewalks. Therefore sidewalk on the south side of the road is recommended from Wilkesboro Boulevard to Lower Creek Elementary School and from the Elementary School towards the northeast intersection of Lower Creek Drive and Wilkesboro Boulevard near Hibriten High School. A crossing of Lower Creek Drive at Wilkesboro Boulevard is not being recommended at this time but should be evaluated in the future as the pedestrian population in this area increases.

Pennell Street

Another logical sidewalk project includes a run from the Lenoir Greenway at Zack's Fork Creek and Pennell Street northeast along Pennell to Plantation Drive (south side of street) linking with existing sidewalk on Barrington Drive NE. A small spur of sidewalk should link with the nearby Lenoir Greenway at this end of Pennell Street as well.

Sherlee Street/Cottrell Hill Road

To further enhance the connectivity of the Lenoir Greenway in the Lower Creek residential area a short section of sidewalk (south side of street) from the Greenway node on Sherlee Street should extend south to where Sherlee becomes Cottrell Hill Road. The sidewalk should extend down Cottrell Hill Road to the intersection at Wildwood Road.

Wildwood Road

Completing the northwest link between the Lenoir Greenway and Lower Creek Drive, a section of sidewalk (on the south side of the road) from Cottrell Hill Road should turn southwest heading down Wildwood Road making a link with proposed sidewalk on Lower Creek Drive.

Nuway Circle NE/Powell Road NE

To facilitate in moving residents living in the Northeast section of town from the Lenoir Greenway to the US 321 Corridor, a sidewalk connector should be located from the Lenoir Greenway node at on the east end of Powell Street NE to Nuway

Circle (south side of road) and then on to US 321 at the intersection of Nuway Circle/US 321/Greenhaven Drive.

Hibriten Drive SW

As the population of the Whitnel area continues to grow and with anticipated vehicular traffic also expected to increase for this residential area of Lenoir, pedestrian facilities are needed to alleviate safety issues for pedestrians currently walking here. Public commentary included the desire for sidewalks on Hibriten Drive. It is therefore recommended that a section of sidewalk be installed on south side of the roadway from the intersection of Cedar Place SW and Hibriten Drive westward across Norwood Street. Sidewalk on the north side of Hibriten road would link with Whitnel Elementary School and then cross the US 321 overpass and extend up to the intersection near Starcross Road. Right turn lanes and curb radii are concerns for pedestrians. Marked/at-grade islands could provide some opportunities as pedestrian refuge islands.

Norwood Street

To further enhance the walkability and connectivity of the Whitnel area with Downtown Lenoir a sidewalk on the west side of Norwood Street should extend northward from the intersection of McLean Drive to Mulberry Street SW and sidewalk on both sides of the road should extend from McLean to Hibriten Drive SW. Such a connection would allow pedestrians to access recreation opportunities north of Whitnel.

Mulberry Street

Sidewalk from the intersection of Mulberry and Norwood Street should link with the Mulberry Recreation Center. This section of sidewalk is necessary to form a cohesive link between the Whitnel residential area and Downtown Lenoir. South of the Mulberry Recreation center sidewalk should be on the south side of the street from Morganton Boulevard to near the intersection Norwood Street SW. It is recommended to raise the height of the railing on the bridge that crosses Mulberry Street (over Lower Creek). Since this bridge was recently replaced the current railing prohibits safe pedestrian use. It is recommended that the City consider retrofitting the existing rail with safe pedestrian use in mind.

Also, sidewalk should extend from Morganton Boulevard via pedestrian intersection improvements (see intersection Improvements table section 4) to the existing sidewalk on the west side of Mulberry Street.

Minor sidewalk repair is needed between Pennton Avenue and the Caldwell County Memorial Hospital on both sides of the street. All existing sidewalk along Mulberry Street should be closely inspected for A.D.A. accessibility issues and repairs made as needed.

Morganton Boulevard

Sidewalk should be located on the north side of Morganton Boulevard from Mulberry Street to Edgewood Drive SW. This pathway would help to channel pedestrians from Downtown and the Kentwood residential area to the proposed signalized pedestrian crossing at Mulberry Street.

Edgewood Drive

Sidewalk is recommended on the east side of Edgewood Drive from Olive Street south to proposed sidewalk on Morganton Boulevard.

Westview Street

Sidewalk is recommended on the east side of Westview Street from Olive Street south to proposed sidewalk on Morganton Boulevard.

College Avenue

Due to the recent construction and popularity of Unity Park, safe pedestrian access is crucial to prevent potential hazardous situations. Therefore, sidewalk should be constructed on the south side of the road from the intersection of Virginia Street and College avenue to head east on College Avenue to Underdown Avenue.

Maple Drive

To facilitate in moving residents living near the West Lenoir Middle School south towards the new Unity Park, sidewalk should be located on the west side of Maple Drive from Harper Avenue to College Avenue.

Harper Avenue

Harper Avenue is a well-traveled corridor and has existing pedestrian facilities. However, parking along this road near downtown should be evaluated for

potential conflicts with pedestrian crossing locations. The location where Harper Avenue and Pennton Avenue meet should be evaluated regularly for such conflicts. One pork chop island may provide some opportunities for pedestrian refuge island.

Beall Street

To facilitate in moving residents living near the West Lenoir Middle School south towards the new Unity Park sidewalk should be located on the west side of Beall Street from Harper Avenue to College Avenue.

Road adjacent to Fairfield Chair Company

To facilitate in moving residents living near the West Lenoir Middle School south towards the new Unity Park sidewalk should be located on the west side of the road adjacent to Fairfield Chair Company from Harper Avenue to College Avenue.

Hospital Avenue NE

Hospital Avenue has become very important vehicular and pedestrian corridor moving people from the US 321 corridor to Downtown. However, existing sidewalk only goes from Harper Avenue to near Wilson Street. It is recommended that sidewalk be constructed from Wilson Street to US 321 on the north side of Hospital Avenue in order to provide a better pedestrian connection.

Greenway Corridor Projects

Greenway corridor projects include multi-purpose or off-road pedestrian facilities, which typically take advantage of the use of existing linear stream corridors, easements, and other open space areas. Trails and greenways are very popular among residents and visitors. Visitors appreciate and often return to communities that provide places for bicycling and walking when they are safely removed from busy roads and streets. Trails offer scenic recreation opportunities suitable for a wide range of ages and abilities. These trails can have a tremendous impact on the economy, potentially providing additional tourist dollars. Where popular trails exist, lodging providers can encourage extended stays among their guests, thereby increasing occupancy. For residents, investment in trails and greenways can increase property values and improve the overall livability of a community.

Recommended Greenway projects include the following:

Hibriten High to T.H. Broyhill Walking Park Trail

It is recommended that a path be developed that would follow the Lower Creek from Arrowood Street just south of Hibriten High School to Hibriten Drive SE. The Greenway would then make its way around the Lenoir Golf Course perhaps continuing to follow the Creek where it would go through a proposed box culvert large enough to allow for pedestrian passage, similar to the arrangement used between the Days Inn and Taco Bell further north on US 321. The Greenway would eventually lead into the TH Broyhill Walking Park. A spur of the Greenway would exit at the southwest end of the Broyhill Walking Park and make its way to Norwood Street via an existing utility easement. The Lower Creek Greenway would connect the West side of Lenoir to the Southeast side of the City.

US321 to Mulberry Recreation Center Trail

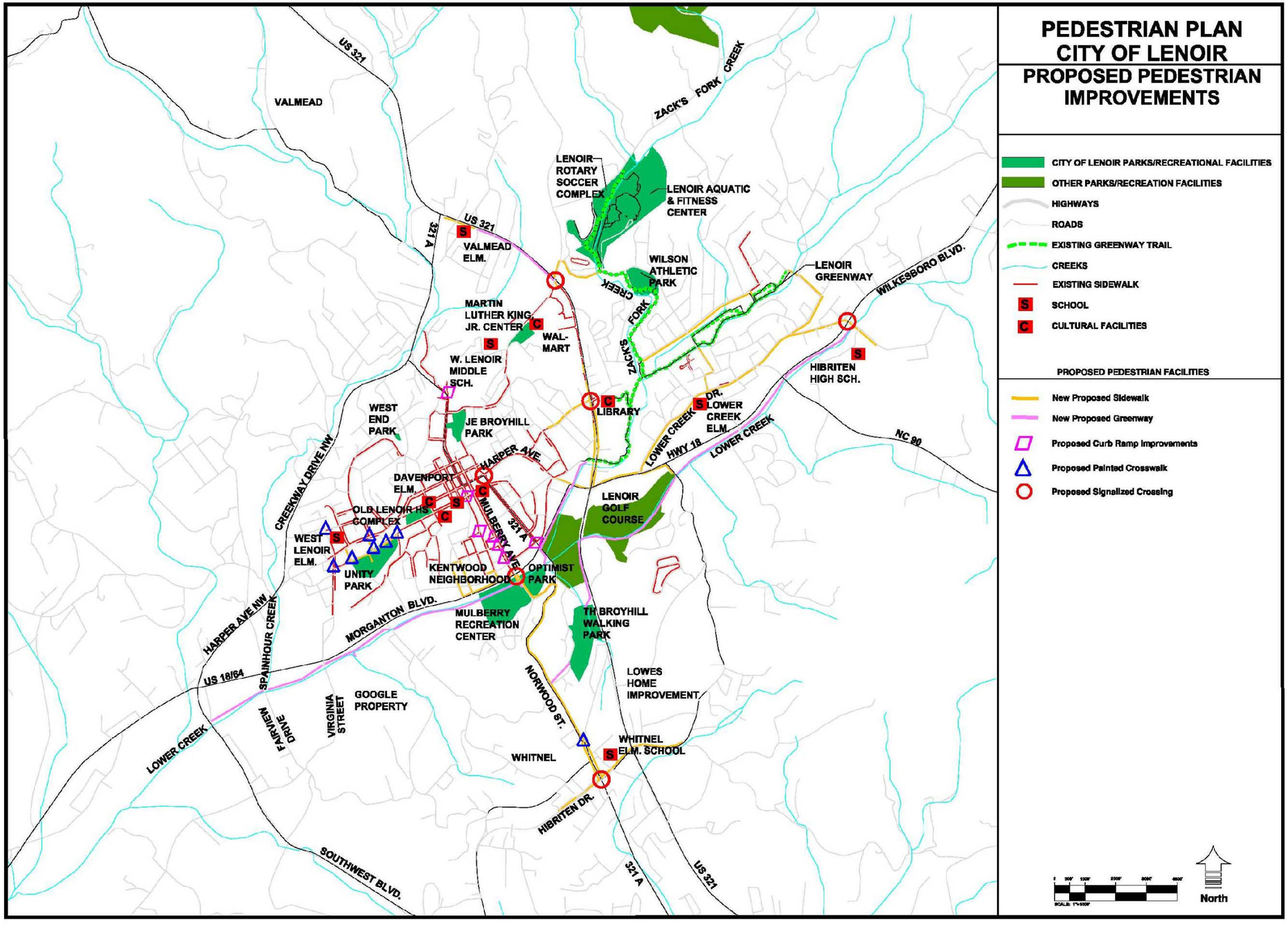
There are many benefits to an extension of the Lenoir Greenway into Downtown and areas east of downtown. Not only would such a trail provide exercise for residents and visitors, and reinforce the quality of life in the Lenoir; but also, an expanded, safe pedestrian corridor would be created to move walkers from the East side of Lenoir to the West. The expanded pedestrian corridor would provide pedestrians with access to most of the business and shopping centers of the City, which can only serve to support the local economy. However, any proposed Greenway routes would need well planed nodes and connecting sidewalks into each destination area. In order to proceed with such a project The City of Lenoir would need to cooperate with local land owners and research possible routes along utility easements or other available land before further developing a multi-purpose corridor. Possible routes could include lengths from US 321 into Downtown along Harper Avenue with a Harper Avenue crossing over/under to Morganton Boulevard. This connection would skirt just outside of the Lenoir Golf Course and eventually join with the Mulberry Recreation Center.

Mulberry Recreation Center to Southwest Boulevard Trail

It is recommended that a path be developed that would follow the Lower Creek (parallel to Morganton Boulevard) from the Mulberry Recreation Center westward along the Creek, past the Google Property with a terminating node near Southwest Boulevard. Such a greenway may be expanded in the future to link with a possible Greenway from the Town of Gamewell.

Benefits of Greenways

- *Encourage people to enjoy the area from an outdoor perspective*
- *Provide opportunities for families to safely enjoy a healthy activity together*
- *Encourage walking or bicycling to locations within a reasonable distance, such as school, work, and recreational areas*
- *Enhance the safety and convenience of travel to many residential and commercial areas, recreational access sites, and other points of interest.*
- *Provide benefits to all road users by reducing congestion and enhancing motorists' safety.*
- *Reduce parking congestion at popular destinations*
- *Increase safe and affordable options for recreation and exercise, thus helping to improve the health of visitors and residents alike.*
- *Increase economic benefits such as increased tourism, higher property values, additional residential and business growth, and job growth*


PEDESTRIAN PLAN
CITY OF LENOIR
PROPOSED PEDESTRIAN IMPROVEMENTS
CITY OF LENOIR PARKS/RECREATIONAL FACILITIES
OTHER PARKS/RECREATION FACILITIES
HIGHWAYS
ROADS
EXISTING GREENWAY TRAIL
CREEKS
EXISTING SIDEWALK
SCHOOL
CULTURAL FACILITIES
PROPOSED PEDESTRIAN FACILITIES
New Proposed Sidewalk
New Proposed Greenway
Proposed Curb Ramp Improvements
Proposed Painted Crosswalk
Proposed Signalized Crossing
North
VALMEAD
US 321
ZACK'S FORK CREEK
LENOIR ROTARY SOCCER COMPLEX
LENOIR AQUATIC & FITNESS CENTER
US 321
VALMEAD ELM.
321 A
WILSON ATHLETIC PARK
LENOIR GREENWAY
WILKESBORO BLVD.
MARTIN LUTHER KING JR. CENTER
WAL-MART
W. LENOIR MIDDLE SCH.
ZACK'S FORK CREEK
HIBRITEN HIGH SCH.
WEST END PARK
JE BROYHILL PARK
LIBRARY
DR. LOWER CREEK ELM.
LOWER CREEK
HWY 18
LOWER CREEK
NC 90
CREEKWAY DRIVE NW
HARPER AVE.
DAVENPORT ELM.
MULBERRY AVE.
321 A
LENOIR GOLF COURSE
OLD LENOIR HS COMPLEX
WEST LENOIR ELM.
UNITY PARK
KENTWOOD NEIGHBORHOOD
OPTIMIST PARK
HARPER AVE NW
MORGANTON BLVD.
MULBERRY RECREATION CENTER
TH BROYHILL WALKING PARK
US 18/64
SPAINHOUR CREEK
NORWOOD ST.
LOWES HOME IMPROVEMENT
LOWER CREEK
FAIRVIEW DRIVE
VIRGINIA STREET
GOOGLE PROPERTY
WHITNEL
WHITNEL ELM. SCHOOL
HIBRITEN DR.
SOUTHWEST BLVD.
321 A
US 321

Future Planning Efforts

Existing and future utility easements should be assessed to determine if they can be used for possible pedestrian connections. City utility lines can create a network of connectivity to neighborhoods. The associated public easements should include recreation and alternative transportation as uses for the public right-of-way, allowing trails to be constructed in the future.

4.5 SPECIAL POPULATION SECTORS

Many different user groups will make use of the increased pedestrian facilities in Lenoir. A segment of this population will be visitors while the vast majority will be residents - many with special needs. It will be imperative that new and existing facilities provide safe, pedestrian-friendly corridors for all users to navigate within the City, particularly for senior adults and children.

ADA requirements will increase proportionally with senior populations

Senior Citizens

Senior adults are special populations that need particular consideration in pedestrian projects. Currently, there are *independent living* and *assisted living* residences for seniors in The City of Lenoir. The US Census reported that there were 40.3 million people 65 and older in the US on April 1, 2010, increasing by 5.3 million since the 2000 Census when this population numbered 35.0 million. The percentage of the population 65 and older also increased during the previous decade. In 2010, the older population represented 13.0 percent of the total population, an increase from 12.4 percent in 2000. The senior population now represents the fastest growing and largest percentage group in the Country and will continue to grow in the foreseeable future.

As a general trend, seniors have the time and desire to participate in pedestrian activities. Seniors also tend to rely on alternate means of transportation rather than personal vehicles.

With the promotion of healthy lifestyles and a need for alternate transportation, this population will need safe pedestrian facilities to be offered by The City of Lenoir. Special attention is needed to ensure a community where this segment of the population can safely traverse the streets.

Children

The Walking School Bus promotes fitness

Children also require special safety procedures with regard to public safety. An equally important component in this equation is *safety education*. Many children are injured every year due to their lack of understanding of the utilization of a pedestrian system. Education programs such was *Safe Routes to School, Walking School Buses, etc.,* should be promoted to assist children in learning how to cross a street and to walk in safe areas. Promoting healthy lifestyles for children will encourage physical activity and the use of sidewalks for exercise. The encouragement of walking is very important; but at the same time, the pedestrian facilities must exist (sidewalks to schools) and be user-friendly.

Disadvantaged Neighborhoods

As in every City, there are areas in Lenoir that may be at an economic disadvantage. Since privately-owned automobiles are the primary means of transportation in Lenoir, the lack of an automobile can lead to significant difficulties in accessing jobs, medical facilities, schools, and other destinations, (See the percent population without automobile map in the Appendix). It is important to provide safe, equitable pedestrian opportunities for residents of these disadvantaged areas. Public commentary indicates that areas in and around the Whitnel area, other areas to the southwest of Downtown and many other outlying residential areas of the City limits may use pedestrian facilities more for primary transportation than other areas. Due to a number of circumstances the only assessable means of getting around for many pedestrians from these disadvantaged areas is to walk. This fact emphasizes the need for safe pedestrian facilities along all major corridors. A strong pedestrian network will allow those that choose to walk, access to needed services, cultural/recreational amenities, jobs, and retail centers. Increased pedestrian activity will help to build a strong sense of community identity for all area neighborhoods.

- END OF SECTION -

SECTION 5:
FACILITY STANDARDS AND GUIDELINES

5.1 PEDESTRIAN DESIGN CONSIDERATIONS AND GUIDELINES

The guidelines in the Pedestrian Plan were developed through assessment and documentation of practices (observed or informed) documented by site observation, community input, and/or Steering Committee comments. National and state design standards as defined by the NCDOT, the Manual of Uniform Traffic Control Devices (MUTCD), the American Association of State Highway Transportation Officials (AASHTO), the Americans with Disabilities Act (ADA), and the Federal Highway Administration (FHA) directly influenced the formation of these guidelines. If any discrepancies occur between the design guidelines developed for the City of Lenoir and existing national and state standards, the national and state standards take precedence. Furthermore, cost estimates provided for proposed improvements are relevant only for the date in which this document was prepared. The City of Lenoir should seek a current cost estimate for any proposed work from a qualified landscape architect and/or engineer before submitting the work for bid.

The following descriptions and typical details are intended to be used as design standards and alternative treatments for pedestrian facilities. The treatments are important and should be designed and constructed to meet the minimum standards for implementing a safe pedestrian and vehicular facility. Being that many of the local streets are NCDOT roadways, the City should obtain the proper approvals and permits from NCDOT prior to implementing projects on subject roads.

Pedestrian Facility Elements

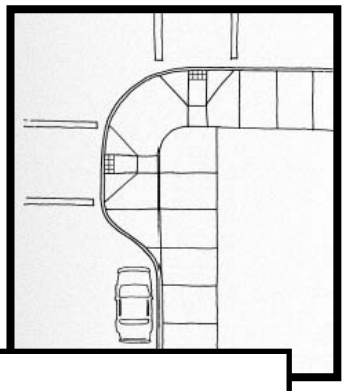
Sidewalks and Walkways

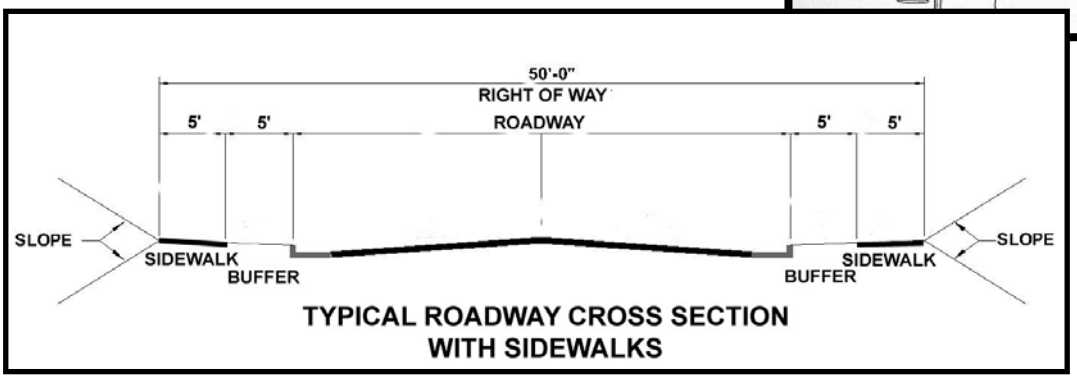
Sidewalks are the most important pedestrian network component

Sidewalks make up the majority of pedestrian facilities and are the most important component of a pedestrian network. The number of pedestrians using a particular facility will determine which type of sidewalk should be implemented. Sidewalks are the primary connectors for residential areas, shopping centers, and businesses. They create opportunities for people to meet and socialize.

They provide places for children to play and adults to exercise. They provide an alternate means for people to access commercial and business areas. Most of the sidewalks located in the City of Lenoir will be five feet in width, providing an ample pathway for pedestrians to walk to their destinations. Where adequate right-of-way is available, a buffer can be utilized in order to separate the sidewalk from the roadway. Sidewalk areas within and leading to busier areas in Lenoir should be wider to allow for a denser population, street furniture, and other amenities.

Sidewalks shall be constructed within the street right-of-way in accordance with NCDOT and City standards. Any location in which a sidewalk is not within the dedicated street right-of-way must have a sidewalk easement dedicated to the City of Lenoir. Sidewalks shall be installed at the time of roadway construction or widening unless otherwise approved by the City. In addition, sidewalks shall be provided along streets within new developments as well as existing development expansion that are non-residential, multi-family, or single family residences.





TYPICAL ROADWAY CROSS SECTION
WITH SIDEWALKS

The following roadway cross-section exemplifies the different standards that should be applied for the various applications. Sidewalks and planting strips (buffers) should be a minimum of 5' in width. *It should be noted that The North Carolina Department of Transportation (NCDOT) Complete Street Program requires varying buffers depending on roadway type.*

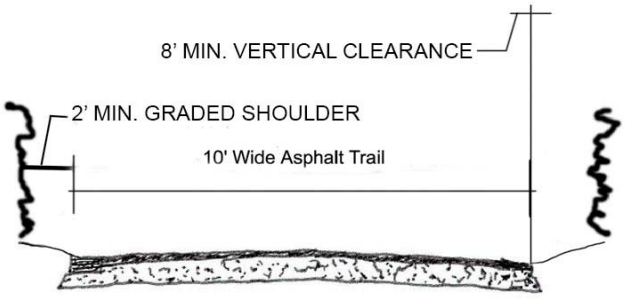
All sidewalks shall be constructed in accordance with the standard detail found in the NCDOT Construction Manual, and or the NCDOT Complete Streets Guidelines. These resources will provide enhanced guidance including varying sidewalk and buffer widths. Other general guideline areas as follows in the text.

Guidelines for Sidewalk Design/Construction:

- The minimum thickness of a sidewalk shall be 4 inches. At locations where a driveway crosses a sidewalk, a 6-inch depth is required.
- All sidewalks shall be constructed of concrete unless otherwise approved by the City. Sidewalks shall typically be a minimum distance of five (5) feet off the back of curb with a minimum width of five (5) feet. This requirement may vary upon the approval of the City depending on site constraints.
- The design of the sidewalk shall be such that pedestrian safety is provided and the usability of the sidewalk is not affected.
- Sidewalks shall have a uniform slope toward the roadway of ¼ inch per foot.
- If a 5-foot wide buffer or planting strip is provided between the sidewalk and back of curb, the slope shall not be less that ¼ inch per foot nor greater than 18 inches toward the roadway unless approved by the City. In some cases there may not be sufficient width to provide the planting strip.
- Where no curb and gutter exists on a road that requires sidewalks, the City may require curb and gutter installation in addition to the installation of the sidewalk.
- Where sidewalks and/or greenways intersect any section of curb and gutter or street section, a wheelchair ramp shall be installed per City standards.
- The design and construction shall conform to ADA standards.
- Pipes, drains, or other concentrated stormwater devices shall not discharge across a sidewalk, but be piped or flumed under the sidewalk.

Sidewalk/Walkway Costs:

The cost of a 5-foot wide concrete sidewalk is approximately $25/linear foot. The cost of curb and gutter is approximately $22/linear foot. Asphalt walkways are much less expensive in terms or construction cost but more difficult to traverse and more expensive to maintain.



TYPICAL MULTI-USE PATHWAY CROSS SECTION

Greenway Trail

As sidewalks have different standards for various applications, greenways vary due to such factors as space, existing conditions, and usage. The pedestrian facilities, which have been proposed for the City of Lenoir, differ in variety and purpose. A greenway can be a multi-use facility that is located off-street and offers multiple opportunities for different users - such as walking, in-line skating, and biking. Special considerations of safety should be made when these facilities are located near a roadway. Adequate separation or barriers should be implemented between the roadway and the multi-use path. The cross-section shown here identifies standards that should be implemented for each application.

A greenway is defined simply as *a trail corridor on primarily undeveloped land, as along a river or between urban centers, that is reserved for recreational use or environmental preservation*. As the greenway movement has experienced tremendous popularity, these facilities have been developed on abandoned railroad beds, utility corridors, and through residential communities. Most multi-use trails are wider than sidewalks for a variety of reasons. The minimum width for two-directional trails is 10'; however, 12'-14' widths are preferred where heavy pedestrian traffic is anticipated. Due to many of the facilities being off-road, the larger width provides access for maintenance and emergency vehicles. A majority of greenways are constructed using asphalt as the surface. This application is used primarily due to the lower cost as compared to concrete, which is used for sidewalks.

Greenways are multi-functional

To create an aesthetically pleasing greenway, design techniques should be considered. Clearing of vegetation should be limited to clearing for construction, clearing underbrush to increase sight lines, and clearing for the safety of the trail user. Meandering the greenway helps create opportunities for landscaping and sightlines, particularly along extended, straight corridors.

Greenway/Multi-Use Trails Costs:

The cost of a 10-foot wide asphalt trail is approximately $700,000/mile. This consists of a 6" stone base and 2" of asphalt.

Typical pavement design for a paved, off-road, multi-use trail should be based upon the specific loading and soil conditions for each project. These asphalt or

concrete trails should be designed to meet loading requirements including maintenance and emergency vehicles.

Concrete trails - In flood prone areas, concrete should be used due to its durability versus asphalt, which can wash away or heave. In addition, concrete trails will withstand sub-grade failure and root intrusion better that asphalt surfacing.

Asphalt trails - Asphalt is predominately used on greenways primarily due to cost. It requires more maintenance than concrete due to its flexibility, which can cause movement of the trail. It is also important to construct a 2' stone shoulder on both sides of the asphalt edge to help prevent the edges from failure and erosion.

Sidepaths

A sidepath is essentially a multi-use path that is oriented alongside a road but is separate from the road. The AASHTO Guide to the Development of Bicycle Facilities and North Carolina Bicycle Facilities Planning and Design Guidelines caution prudence for those contemplating a sidepath (or widened sidewalk) facility to look at all the various elements of the roadway corridor environment and the right-of-way before making a decision.

Sidepaths should only be constructed along corridors with relatively few intersections and driveways, reducing possible conflict points.

There are certain roadways with high traffic volume and vehicle speeds where sidepaths are the only bicycle facility that can be considered without radical changes to the existing roadway design. In these cases, a sidepath could be a possible treatment to accommodate bicycle traffic. This decision must consider possible intersecting driveway and roadway conflicts. Sidepaths should be provided on both sides of the roadway if possible to encourage bicyclists to ride in the same direction as adjacent traffic. Eventual long term solutions should be to widen the roadway or provide narrower travel lanes to accommodate bicycle lanes.

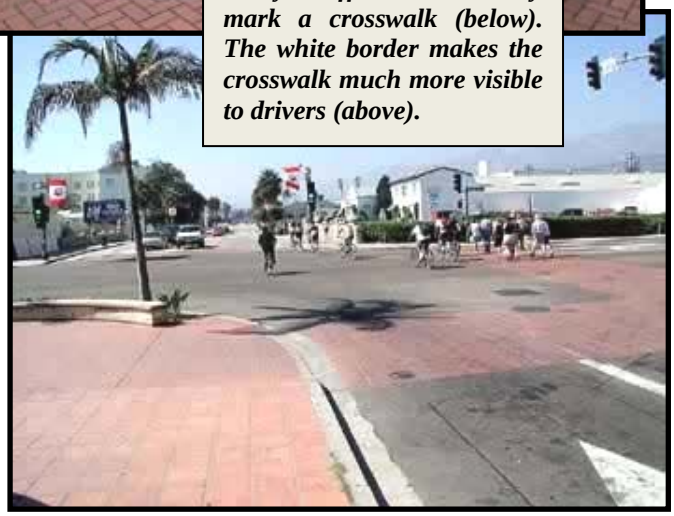
Marked Crosswalks

Pedestrians need to be able to traverse the local transportation system as easily and safely as those in vehicles. Providing marked crosswalks is one of many ways to facilitate the safe crossing of streets and parking lots. A marked crosswalk is any crosswalk, which is delineated by white painted markings placed on the pavement. *Crosswalks consisting of textured, colored, or otherwise contrasting materials are 'unmarked' crosswalks unless white paint is also present.*

- Crosswalks should consist of two (2) twelve-inch white lines with a separation of six (6) feet.

- Pedestrian crossing zones should have a width of at least five (5) to eight (8) feet.

A change of materials is not always sufficient to clearly mark a crosswalk (below). The white border makes the crosswalk much more visible to drivers (above).



- All marked pedestrian traffic crossings must be approved by the City or NCDOT Traffic Engineer prior to installation.

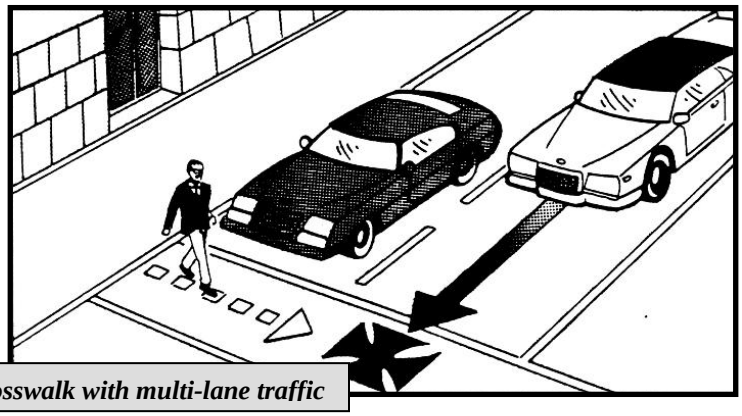
- All mid-block pedestrian traffic crossings shall be designated as a crosswalk with pavement markings and signage in accordance with MUTCD and must be approved by the City or NCDOT Traffic Engineer prior to installation.

A crosswalk may be edged with special paint; thermoplastic materials, plastic tape, or other approved materials – as long as it is white.

NCDOT follows the national guidelines outlined in the federal Manual of Uniform Traffic Control Devices (MUTCD), the Traffic Control Devices Handbook, and other references. These references cover all aspects of the placement, construction, and maintenance of all approved traffic control devices.

In order to ensure the public understanding of traffic control devices, the devices need to be consistent. All traffic devices - including crosswalk markings and signs - must conform to all state and federal standards and regulations for dimensions, color, working, and graphics. Legal crosswalks usually exist at all public street intersections, whether marked or unmarked. However, the only way a crosswalk can exist at a *mid-block* location is if it is marked. It should be noted that NCDOT requires that mid-block crossings be no less than 200 feet from an adjacent signalized intersection.

Crosswalks are not a guarantee of pedestrian safety. State laws require a motorist to yield to pedestrians in a marked crosswalk. However, on roads with moderate to higher speeds and traffic volumes, drivers seldom comply. More vehicle/pedestrian collisions occur at marked crosswalks on multi-lane streets with a high volume of vehicular traffic than at unmarked crosswalks. This may be explained in part by the observation that older adults tend to cross at marked crosswalks, rather than at unmarked. As this age group is the most vulnerable pedestrian group, this may explain the accident numbers. The addition of warning signs and lights for drivers decreases the risk to pedestrians.



Crosswalk with multi-lane traffic

There are definitely safety concerns on multi-lane roads, which have crosswalks. (See the figure below.) If the driver nearest the curb stops for a pedestrian, but the driver in the next lane cannot see them and continues through the crosswalk, then the driver in the adjacent lane strikes the pedestrian. Pedestrians should not be totally dependent on crosswalks; rather, they should consider crosswalks as means of assistance and direction along the safest route, rather than as a way to stop traffic.

Crosswalks should be marked at intersections where there is substantial conflict among the vehicles and the pedestrian activity, where there are concentrations of pedestrians (otherwise pedestrians could not find the proper place to cross), and where traffic movements are controlled. Examples of such locations are:

- Approved school crossings
- Signalized intersections
- Four-way stop intersections

Midblock Crossings

A Mid-Block Crossing is any crosswalk that is not located within an intersection. NCDOT standard practice is to install Mid-Block Crosswalks based on an engineering study. Mid-Block Crossings should be signed and marked in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the

North Carolina Supplement to the MUTCD, and the current NCDOT Roadway Standard Drawings.

- Crosswalks at mid-block should not be installed within 300 feet of another signalized crossing point.

- Advanced warning signs are needed when mid-block crossings are present.

- Raised crosswalks are typically used on two-lane streets with less than 35 MPH speed limit.

For additional information regarding the NCDOT policy on Mid-Block Crossings please refer to: http://www.ncdot.org/doh/PRECONSTRUCT/traffic/teppl/Topics/C-36pr.pdf (.)

Additional Guidelines for Crosswalks:

The following guidelines are taken from the USDOT Federal Highway Administration's *Pedestrian Facilities Users Guide – Providing Safety and Mobility* (2002), and the Association of State Highway and Transportation Officials' *Guide for the Planning, Design and Operation of Pedestrian Facilities* (2004).

- Crosswalks should not be installed where speeds exceed 40 mile per hour.

- As noted above, in some areas, crosswalks should be used together with other traffic control devices to increase pedestrian safety. This is especially important on roads where the average daily traffic exceeds 10,000 vehicles.

- When placing crosswalks NCDOT typically requires pedestrian facilities (sidewalks) on both sides of the roadway.

- The MUTCD requires that the width of crosswalks be at least six (6) feet wide. In areas of high vehicle and pedestrian traffic, the crosswalks should be at least ten (10) feet wide. The NCDOT recommends widths of 10' or greater.

- Pedestrian access to the crosswalks via curb ramps and other sloped areas should be fully contained within the crosswalk markings.

- Markings for the crosswalk should extend across the entire width of the roadway.

- The MUTCD recommends all crosswalk markings be white.

Ladder pattern crosswalk markings

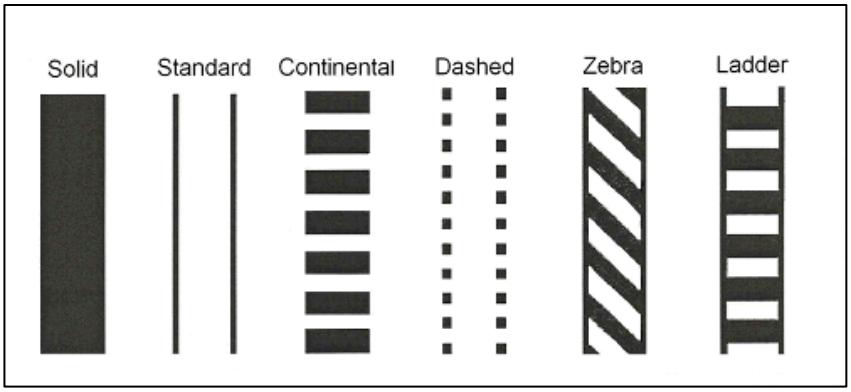
- The continental and ladder patterns for crosswalk markings are more easily seen and comprehended by motorists. Therefore it is recommended that one of these patterns be chosen for crosswalks in the City of Lenoir. Lines should be 12 inches to 24 inches wide and spaced one foot to five feet apart, depending upon the location and width of the roadway.

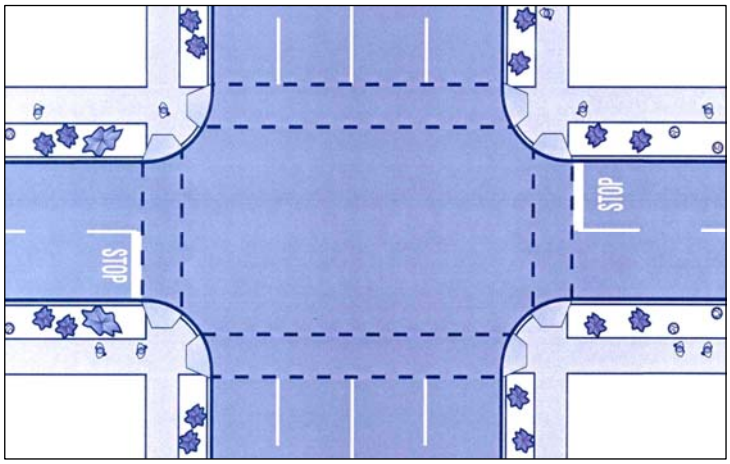
- Additional devices such as traffic signals and beacons should be added where vehicle speeds and traffic are higher.

Many factors must be analyzed before deciding on the location and type of crosswalk(s) to be installed. Some of them are:

- The number of pedestrians that will be served
- The function of the highway
- The volume and speed of vehicles
- The width of the road
- Both current and future predicted conditions
- The typical abilities of the pedestrians that would use the crosswalk
- Who will pay for and then maintain the crosswalk

Common intersection crosswalk markings are shown in the illustration below:





Pedestrian crosswalks should be marked at all intersections along the suggested routes to schools

Typical Crosswalks Costs:

Regular striped: $150
Ladder or continental crosswalks: $350
Pattern Concrete: $3,500

Maintenance costs vary according to the region and the pattern of striping used.

School Crosswalks

With the elevated concern for the safety of children walking to school, criteria for placing marked crosswalks along the route are a bit different from the general criteria. Crosswalks should be marked at all intersections along the suggested route to school where the volume of children reaches about 40 in a two-hour period.

Regulatory Signs and Warning Signs for Crosswalks

Regulatory signs give notice of traffic laws or regulations that pedestrians, cyclists, and motorists are required to follow. Warning signs call attention to unexpected conditions on, or adjacent to, a roadway, bike, or pedestrian facility that can be potentially hazardous to users.

Pedestrian-related signage serves primarily to alert motorists to the presence of pedestrians. The intended effect is to cause motorists to drive more cautiously and reduce their speeds, thereby improving safety for pedestrians in the given area.

Signs can be used in a variety of places, including crosswalks, intersections, in-street, and near schools. National standards for sign placement and use can be found in the Manual for Uniform Traffic Control Devices. The MUTCD provides guidance for warning signs which can be used at crosswalks or along the roadway:

Two types of pedestrian warning signs are shown here

The following are some recommended signs, which municipalities should consider installing. For more signs and more detailed guidelines for sign installation and use, the municipality should consult the MUTCD.

The first sign is usually installed in-street to warn motorists to yield to pedestrians in a crosswalk. The "school" sign (above) is added to the in-street sign for placement near a school.

The second and third signs are commonly used as pedestrian warning signs.

The fourth and fifth signs notify motorists to watch for pedestrians in specific instances. The fourth sign, "Turning Traffic", is usually placed at intersections to warn motorists that are turning right or left to yield to pedestrians in crosswalks.

For the fifth sign, the top sign can either be combined with the smaller "ahead" sign or the arrow symbol to indicate the presence of a crosswalk to motorists in a school zone.

The last sign is an example of typical wayfinding signage to help cyclists at major decision points along a route.

The following is a chart extracted from the MUTCD manual, which shows Pedestrian-Related Signage of the "regulatory" type.

MUTCD Pedestrian-Related Signage

Regulatory Signs

School, Warning, and Informational Signs

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

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

Additional pedestrian-related signage includes the STOP for pedestrians, as shown to the side; as well as the signs displaying “stop” and “yield” signs as state laws.

Regulatory Signs

Regulatory signs are enforceable by law

Regulatory signs are designed to warn motorists and pedestrians of a legal requirement such as STOP or YIELD. These signs require certain actions and are enforceable by law. Many motorist signs, including stop signs, yield signs, turn restrictions, and speed limits - have a direct or indirect impact on pedestrians. Some examples of signs which affect pedestrians include pedestrian warning signs, motorists warning signs, NO TURN ON RED signs, and guide signs.

The NO TURN ON RED sign may be used in some instances to facilitate pedestrian movements. *The Manual on Uniform Traffic Control Devices* lists six (6) conditions when "no turn on red" may be considered, three (3) of which are directly related to pedestrians or signal timing for pedestrians.

The use of NO TURN ON RED signs at an intersection should be evaluated on a case-by-case basis. Less restrictive alternatives should be *considered* in lieu of NO TURN ON RED. Also, supplementary signs, such as WHEN PEDESTRIANS ARE PRESENT or WHEN CHILDREN ARE PRESENT may be placed below the NO TURN ON RED sign.

There are occasions when NO-TURN-ON-RED restrictions are beneficial and specific recommendations relating to pedestrians include:

- Part-time restrictions should be discouraged; however, they are preferable to full-time prohibitions when the need only occurs for a short period of time.

- Universal prohibitions at school crossings should not be made, but rather restrictions should be sensitive to special problems of pedestrian conflicts, such as the unpredictable behavior of children and problems of the elderly and/or persons with disabilities. Pedestrian volume should not be the only criterion for prohibiting right turns on red.

Some regulatory signs are specifically intended to prohibit pedestrian activity

There are a number of regulatory signs, which are posted specifically for pedestrians, which include:

- PEDESTRIANS PROHIBITIED signs to prohibit pedestrian entry at freeway ramps.

- Pedestrian crossing signs are used to restrict crossings at less safe locations and to divert them to optimal crossing locations. Various alternatives include the USE CROSSWALK (with supplemental arrow) sign, which may be used at intersections with traffic signals that have high-conflicting turning movements or at mid-block locations directing pedestrians to use an adjacent signal or crosswalk. These signs are critical at schools or other buildings that generate significant pedestrian volumes.

- Traffic signal signs include the pedestrian push-button signs or other signs at signals directing pedestrians to cross only on the green light or WALK signal. Pedestrian push-button signs should be used at all pedestrian-actuated signals. It is helpful to provide guidance to indicate *for which* street the button is intended (either with arrows or street names). The signs should be located adjacent to the push button and the push buttons should be accessible to pedestrians with disabilities.

Warning Signs

Warning signs are used to inform unfamiliar motorists/pedestrians of unusual or unexpected conditions. Warning signs predominantly fall under the permissive category ("may" condition) and when used, should be placed to provide adequate response times. Warning signs are generally diamond-shaped with black letters or drawings on a yellow background and should be made of reflective or illuminated material. The overuse of warning signs breeds disrespect and should be avoided.

The warning sign predominantly used to warn motorists of possible pedestrian conflicts is the Advance Pedestrian Crossing sign. This sign should be installed in advance of mid-block crosswalks or other locations where pedestrians may not be expected to cross. This significantly minimizes their use at most urban intersections since pedestrian crossings are an expected occurrence. This sign may also be selectively used in advance of high-volume pedestrian crossing locations to add emphasis to the crosswalk.

Advance Pedestrian Crossing signage

Where there are multiple crossing locations, a supplemental distance plate may be used (NEXT XXX FEET). The advance pedestrian crossing signs should not be linked to other *warning* signs (except for a supplemental distance sign or an advisory speed plate) or *regulatory* signs (except for NO PARKING signs) to avoid information overload and to allow for an improved driver response. Care should be taken in sign placement in relation to other signs to avoid sign clutter and to allow adequate motorist response.

The Pedestrian Crossing Sign is similar to the Advance Pedestrian Crossing sign, but has the crosswalk lines shown on it. This sign is intended to be used at the crosswalk. When used, it should be preceded by the advance warning sign and should be located immediately adjacent to the crossing point. To help alleviate motorist confusion, a black-and-yellow diagonally downward pointing arrow sign may be used to supplement the pedestrian crossing sign.

The Playground sign may be used in advance of a designated children's play area to warn motorists of a potentially high concentration of young children. This sign should generally not be needed on local or residential streets where children are expected. Furthermore, play areas should not be located adjacent to high-speed major or arterial streets; or if so, should be fenced off to prevent children from darting into the street.

According to the *Traffic Control Devices Handbook*, CAUTION-CHILDREN AT PLAY or SLOW CHILDREN signs should not be used since they may encourage children to play in the street and may encourage parents to be less vigilant. Such signs also provide no guidance to motorists in terms of a safe speed, and the sign has no legal basis for determining what a motorist should do. Furthermore, motorists should expect children to be "at play" in all residential areas, and the lack of signage on some streets may indicate

otherwise. The signs are unenforceable and act as another roadside obstacle to pedestrians and errant motorists. Use of these non-standard signs may also imply that the involved jurisdiction approves of streets as playgrounds, which may result in the jurisdiction being vulnerable to liability.

School Warning signs include the advance school crossing signs, the school crossing sign, SCHOOL BUS STOP AHEAD sign, and others. School-related traffic control devices are discussed in detail in Part VII (Traffic Controls for School Areas) of the MUTCD. A reduced speed limit sign with flashing lights can be installed ahead of the actual crossing. The lights are set to flash during school hours, alerting drivers that a lower speed limit is in effect when the flashers are operating. Another sign and light combination is SCHOOL SPEED LIMIT 20, where the speed limit is illuminated during school hours.

The MUTCD allows for the development of other specialty warning signs based on engineering judgment for unique conditions. These signs can be designed to alert unfamiliar motorists or pedestrians of unexpected conditions and should follow the criteria for the design of warning signs. Their use should be minimized to retain effectiveness and should be based on well-informed judgment.

Flashing lights, warning signs, and posted speed limit give motorists plenty of advance warning of school crossings

Signs and Wayfinding

Signage is governed by the *Manual on Uniform Traffic Control Devices (MUTCD)*, which provides specifications on the design and placement of traffic and pedestrian signs installed within public right-of-ways. Signs are designed to provide important information that improves pedestrian and vehicular safety. By letting people know what to expect, there is a greater chance that they will react and behave appropriately. For example, giving motorists advanced warnings of upcoming pedestrian crossings or that they are entering a traffic calming area will enable them to modify their speeds. The amount and types of signage should be carefully considered as the overuse of signs can result in noncompliance, confusion, and disrespect.

Municipalities should develop clear guidelines for the use of vehicular and pedestrian signs. Care should be taken to avoid an over-reliance on signs and paint to control motorist behavior. This may mean altering and/or relocating existing signs and markings that have proven to be ineffective for pedestrian safety.

The MUTCD has developed guidelines for signs and pavement markings that leave sufficient room for creative regulatory design. As a result, there is leeway in adapting guidelines to policy needs for specific signing/marking. Colors for signs and markings should conform to the color schedule recommended by the MUTCD. Such uniformity allows for recognition and understanding across jurisdictions.

The recommended background colors for signs are as follows:

- General warning and school signs
- Stop or prohibited
- Service guidance, route markings
- Destinational/directional guidance, recreation, information
- Public recreation and scenic guidance
- Construction and maintenance warning
- Regulation
- Regulation and route markings
- A new fluorescent yellow-green color is now approved for use on school and warning signs. This bright, unique color easily attracts the attention of drivers.

For pavement markings, the following should be used:

- Centerline stripes
- All other pavement stripes and markings, including edge stripes, lane markings, and crosswalks.

Pedestrian Signs

Pedestrian signs are designed to give information and direction in order to improve safety and relieve conflict between motorists and pedestrians. Signs are used to direct pedestrians to crosswalks or to limit pedestrian crossings at specific locations. Signs can also warn pedestrians of unexpected driver maneuvers. All signs should be periodically checked to make sure they are in good condition, free from graffiti, and that they continue

to serve a purpose.

Unauthorized graffiti is illegal and is disruptive to drivers, pedestrians

Other signs may be used for pedestrians at traffic signals to define the meaning of the WALK, DON'T WALK, and flashing DON'T WALK signal indications. The decision to use these signs (or alternatively, stickers mounted directly on the signal pole) is strictly a judgment call and is primarily for educational purposes. As such, their use may be more helpful near schools and areas with concentrations of elderly pedestrians – both of which are high-risk areas. This information may also be effectively converted into brochures for distribution and ongoing educational purposes.

Guidelines for Pedestrian Signs:

- Pedestrian signs must be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD).
- Signs can be used to direct pedestrian traffic to desirable crossing locations and to prohibit pedestrian crossings at undesirable locations.
- Installing too many signs at a location should be avoided to prevent confusion and disregard.

Aside from signs designed to impart information or explanation to pedestrians, there are additional types of signs, directed at both pedestrians and motorists. These signs are intended to increase the safety of bicyclists and pedestrians.

Directional Signs

Directional signs for pedestrians are intended to assist people who are new to the area or to assist residents who may not know the most direct route to a destination by foot (or by vehicle, for that matter). Distances, which are meaningful to pedestrians (such as the number of blocks, miles, and/or the average walking time),

Pedestrian warnings in school zone hang above marked crosswalk

should be used to assist them when possible and/or practical.

School Zone Treatments and School Route Plan Map

Section 7 of the MUTCD is entirely devoted to "Traffic Controls for School Areas" and is the primary guidance available to municipalities for installing signs and markings in school zones. The section provides valuable additional guidance for school crossing treatments that can be utilized for the planning and design of schools that should be considered when making safety improvements

School crossing signs should clearly mark all school crosswalks on the suggested route, as well as be placed at crosswalks within the school zone. Busy intersections crossed by children should include traffic control devices such as signals and signs.

Advance Stop Bar

Advance Stop Bars

In order to increase vehicle and pedestrian visibility, the vehicle stop bar should be applied to the street 15 to 30 feet back from the pedestrian crosswalk at signalized crossings and mid-block crossings. Stop bars are one to two feet wide and extend across all approach lanes at intersections. By moving the bar further away from the crossing, motorists are influenced to stop further back from the crosswalk when yielding right-of-way to pedestrians. This helps to reduce conflicts (near collisions) between motor vehicles and pedestrians.

Advance Stop Bar Cost:

Signage: $50 - $150 plus installation

No additional cost if new line is installed in new paving.

Curb Ramps

Curb ramps are vital in providing access between the sidewalk and the street for people who use wheelchairs and other motorized mobility devices. Curb ramps are most commonly found at intersections, but they may also be used at other locations such as on-street parking, loading zones, bus stops and midblock crossings. The implementation

Curb ramp is ADA requirement

regulations under Title II of the ADA specifically identify curb ramps as requirements for existing facilities and all new construction. Curb ramps for existing facilities must be included in Transition Plans. According to the Title II implementation regulations, priorities for the installation of curb ramps in existing facilities should include access to government facilities, transportation, public accommodations, and for employees at their place of employment (U.S. Department of Justice, 1991a).

For many people with mobility impairments, curb ramps actually make it more difficult to navigate the pedestrian corridor. Crutches and canes are sized to fit the individual user so that the energy required for walking is minimized on a hard, level surface. Use of these types of walking aids is more difficult on sloped surfaces such as curb ramps. Widening the crosswalk to allow people to use either the curb or the curb ramp will ease access for cane and crutch users, who are not comfortable traveling on a sloped surface.

People with vision impairments rely on the "curb" to identify the transition between the sidewalk and the street. The installation of curb ramps removes this cue and replaces it with a ramp which is much more difficult to detect. Therefore, it is important that as curb ramps are installed to create access for people who use wheelchairs, they are installed in such a way as to maximize detect ability for people with vision impairments. The ADA requires the addition of a detectable warning on all curb ramps. This consists of truncated domes extending across the entire width of the ramp and they must be in a contrasting color to the surrounding paving - either dark to light or light to dark.

Guidelines for Curb Ramps:

- Provide a level maneuvering area or landing at the top of the curb ramp.
- Clearly identify the boundary between the bottom of the curb ramp and the street with a detectable warning.
- Design ramp grades that are perpendicular to the curb.
- Place the curb ramp completely within the marked crosswalk area.
- Avoid changes of grade that exceed 11 percent over a 610 mm (24 in) interval.
- Design the ramp that does not require maneuvering on the ramp surface.
- Provide a curb ramp grade that can be easily distinguished from surrounding terrain; otherwise, use detectable warnings.
- Design the ramp with grades of 7.1 ± 1.2%. [Do not exceed 8.33 percent (1:12).

- Design the ramp and gutter with a cross slope of 2.0 percent.
- Provide adequate drainage to prevent the accumulation of water or debris on or at the bottom of the ramp.
- Transitions from ramps to gutter and streets should be flush and free of level changes.
- Align the curb ramp with the crosswalk, so there is a straight path of travel from the top of the ramp to the center of the road to the curb ramp on the other side.
- Provide clearly defined and easily identified edges or transitions on both sides of the ramp to contrast with sidewalk.

Curb Ramp Costs:

The cost is approximately $1,500 to $2,000 per curb ramp (new or retrofitted).

Raised Medians

Raised median with cut-through

Medians (also known as refuge islands) are the portion of a divided roadway that separates traffic flows, which head in opposite directions. At roundabouts, these are called splitter islands. Medians help pedestrians cross intersections by reducing the crossing distance from the curb to a protected area. This allows pedestrians to cross during smaller gaps in traffic. For this reason, medians are especially helpful for pedestrians who are unable to judge distances accurately. In addition, medians also help people with slow walking speeds to cross wide intersections during a short signal cycle. Medians are also useful at irregularly-shaped intersections, such as sites where two roads converge into one.

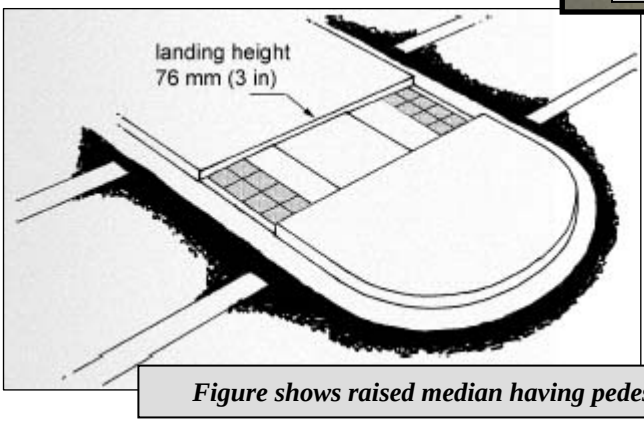


Figure shows raised median having pedestrian cut-through and curb ramp warning surfaces

In commercial districts, medians provide pedestrians with valuable protection from oncoming traffic. In residential areas, they serve as traffic calming devices and green space.

- Median crossings should be at least 6 feet in width to accommodate more than one pedestrian.
- Median crossings should include a level landing that is at least four feet square, providing a balanced resting space.
- Where streets are in excess of 60 feet, push-buttons for signalized crossing should be installed.
- Crossings in excess of 60 feet in width should be provided with medians or crossing islands and curb extensions.

Whenever possible, medians should be raised to separate pedestrians and motorists. Raised medians make the pedestrian more visible to motorists and they are easier for people with vision impairments to detect. Raised medians should be designed with a cut-through at street level or a ramp. This provides pedestrian access to individuals who cannot travel over a curb.

Detectable warning surfaces should be placed at the edge of both ends of the median in order for the streets to be recognized by pedestrians who are visually impaired. If the corner includes a pedestrian actuated control device, one should also be located at the median.

Raised Median Costs:

The cost is approximately $15,000 to $30,000 per 100 feet

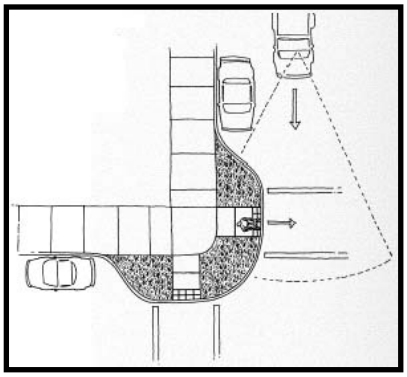
Curb Extensions (Bulb-outs)

Curb extensions improve visibility between pedestrians and motorists and make it easier to install perpendicular curb ramps with level landings. They also reduce the crossing distance for pedestrians.

Low landscaping or grass can be added to the curb extension to clarify the appropriate path of travel for individuals with vision impairments. In addition, the following steps should be considered:

- Trim the vegetation, relocate signs and utilities, and eliminate visual clutter.
- Prohibit parking near the corner of the intersection.
- Provide for raised medians /crosswalks. Provide advance stop line before marked crosswalk on a multi-lane road.

Photo and diagram illustrate features of pedestrian bulb-outs



Curb extensions are appropriate at certain mid-block crossings. The presence of turning truck traffic must also be acknowledged when considering the installation of any curb extensions. While larger curb radii may accommodate truck turning, smaller radii help to shorten pedestrian crossing distance.

Curb Extension/Bulb-out Costs:

The cost is approximately $2,000 to $20,000. The cost can increase depending on the amount of relocated infrastructure.

Traffic Calming

The term “traffic calming” may be described as the physical features and methods used to help negate the effects of vehicular traffic on pedestrian travel. Often the objectives of traffic calming are to reduce vehicular speeds, provide for a safer and more pleasing travel experience for both pedestrians and drivers and to improve the livability of neighborhood streets. Traffic calming often discourages the use of residential streets as cut-offs to main arterial routes. There are a number of different traffic calming engineering techniques such as median islands, speed tables, raised crosswalks, traffic circles, chicanes, curb extensions and speed limit reductions.

Recommendations for traffic calming along specific roadways are discussed further in Section 6, Program and Policy Recommendations. Good planning and study of how particular traffic calming options may impact the local community including nearby parallel roadways, on street parking availability, and emergency vehicles should be conducted before installing any selected treatment.

Bridges, overpasses and underpasses

Most bridges, overpasses and underpasses in Lenoir are poorly designed for pedestrians. One example of this would be the bridge/overpass on 321 that goes over the Lenoir Greenway. This section of US 321 has an approximately three (3) foot planted area from the back of curb to a guard rail. Pedestrians have worn a trail in to the grass here as they carefully walk in this space. There is no bicycle lane here as well. The walkable area here is not wide enough as it is. The need for a better, safer walking path with an adjacent bicycle lane here is obvious.

Another example is the overpasses on both Hibriten Drive and Countryside Drive. Narrow/non- existent pedestrian walks and no bicycle lanes make for a potentially dangerous pedestrian location. Future bridges and over passes built in Lenoir should account for pedestrian needs as well as vehicular and provide space for pedestrian facilities.

Pedestrian Railroad Crossings

Railroad crossings pose unique hazards for pedestrians. The rails, ties, and bedding surface(s) are potential tripping hazards; especially if the material used to pave the crossing is subject to buckling, expanding, or heaving (such as asphalt). Also, if there are inadequate lines of sight and/or poor night lighting, the approach of trains can be hidden from pedestrians.

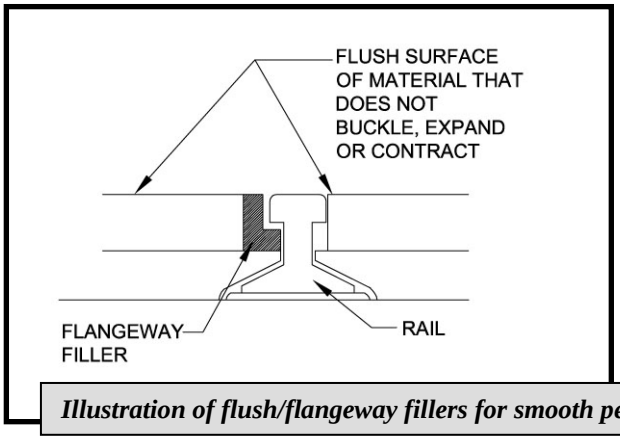


Illustration of flush/flangeway fillers for smooth pedestrian access

These hazards are magnified if the pedestrian has special visual needs and/or or mobility challenges.

One solution has been to fill the areas between the rail(s) with walking grade material. But in order for a train to pass, there must be at least a 2" gap between the material and the track or flange. This gap poses a hazard for wheelchairs and mobility scooters; when the small, narrow front wheels hit the unevenness of the gap, they will often turn sideways and can become lodged in the flangeway gap. The gaps are also large enough for a small child's foot or the tip of a cane walker to become stuck in the flangeway. Where pedestrians must cross Light Rail Train tracks or the tracks of slowly, moving trains, there is a rubber insert that can fill the flangeway gap and not interfere with the operation of the train.

Guidelines for Pedestrian Railroad Crossings:

- Raise the approach to the track to meet the top level of the rail. The approach should be flat for five feet on either side of the track.
- Use flangeway fillers wherever railroad traffic will allow.
- Use surface material that will not buckle, expand, or contract adjacent to the tracks to prevent tripping hazards.
- Pedestrian paths should always approach the tracks at a 90 degree angle.
- Install detectable, truncated warning domes in the sidewalk to warn pedestrians.
- Install railroad crossing warnings along sidewalk in the form of signs, flashing lights, and audible sounds.
- Signals and/or gates should be considered to prevent the passage of pedestrians when a train is approaching.

Pedestrian Railroad Crossing Costs:

Level Paving at Track: $400 per linear foot (lengthwise along track)

Pedestrian/Countdown Signals

Pedestrian signals are in place at crosswalk

Pedestrian signal heads should be used at all traffic signals where pedestrians are permitted to cross, unless pedestrian volumes are extremely low. The use of WALK/DON'T WALK pedestrian signal indicators at signal locations is important in many cases; in particular,
-when vehicle signals are not visible to pedestrians;
-when signal timing is complex (e.g., there is a dedicated left turn signal for motorists);
-at established school zone crossings;
-when an exclusive pedestrian interval is provided; and
-for streets are extra wide and where pedestrian clearance information is considered helpful.

In addition, *countdown signals* offer an additional safety measure by informing the pedestrian of the amount of time remaining to safely cross at a pedestrian crossing.

The use of international symbols on pedestrian signal heads is preferable and is recommended in the MUTCD; the "WALK" and "DON'T WALK" word messages are also accepted as allowable alternatives in the MUTCD.

NCDOT policy is the use of of signals with hand symbols. Pedestrian signal heads should be clearly visible to the pedestrian at all times – whether pedestrians are in the crosswalk or simply waiting on the far side of the street. Larger pedestrian signal heads can be beneficial in some circumstances where more activity is prevalent or greater distances are involved. Signals may be supplemented with audible messages to assist trained visually impaired pedestrians\; however, these audible messages should not be used randomly, because they can become an environmental (noise) issue – thus, inhibiting pedestrian safety.

Leading Pedestrian Interval

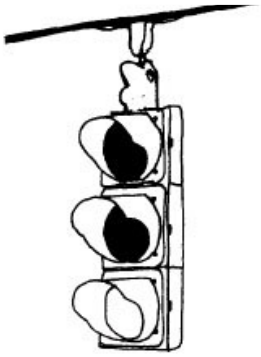
According to Ron Van Houten, Ph.D., Center for Education and Research in Safety, Dartmouth, Nova Scotia; “At signalized intersections, right and left turning vehicles present a danger to pedestrians crossing during the WALK interval, and crash statistics show that pedestrians are especially vulnerable to left turning vehicles (left turning vehicles are overrepresented in pedestrian crashes).

One practical solution to this problem is to program the traffic signals to allow the pedestrian to begin crossing before the vehicle traffic on the parallel street is given the green light. This is commonly referred to as a leading pedestrian interval (LPI). One of the most effective ways to decrease crashes that involve motor vehicles and pedestrians is to separate them in time. Pedestrians and motor vehicles can be separated in time by providing a leading pedestrian interval, which permits pedestrians to gain a head start before turning vehicles are released.

Research has shown that this treatment is associated with a decrease in pedestrian/motor vehicle conflicts and an increase in the percentage of motorists that yield right of way to pedestrians. This study examined the influence of a three-second LPI on pedestrian behavior and conflicts with turning vehicles (Van Houten, Retting, Farmer, Van Houten, & Malenfant, 2000).”

Guidelines for Pedestrian and Countdown Signals:

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



Pedestrian Signal/Countdown Signal Costs:

Signal cost is $5,000/ $500 to $800 per signal head.

Pedestrian Audible Cue Costs:

The cost is approximately $300 per signal.

High Intensity Activated Crosswalk (HAWK) and Rectangular Rapid Flash Beacon

The following description is an excerpt taken from the Manual on Uniform Directional Control Devices (M.U.T.C.D.)

> "The majority of pedestrian crashes occur at mid-block crossings. Any alternative traffic control device that is not a traffic signal has historically had minimal effect on motorist yielding behavior on multilane roads. Because of the high cost of traffic signals their installation is restricted to intersections with high motor vehicle and pedestrian usage. The traffic signal warrant also limits the application of such devices to high pedestrian volume areas.

One alternative to a traffic signal is the use the "High Intensity Activated Crosswalk" (HAWK) signal to assist pedestrians in crossing major streets. The HAWK beacon signal consists of two RED signal indications above a YELLOW signal indication forming a beacon signal that remains dark until activated by a pedestrian. Once activated the signal initiates a flashing yellow indication to warn approaching drivers, followed by a solid yellow identical to a normal signal to warn of impending requirement to stop. The solid yellow is followed by a brief solid red indication, which is followed by a wig wag flashing red signal requiring drivers to stop before proceeding." Typical costs range from $35,000 – $60,000.

It should be noted that pedestrian/vehicular conflicts can be further mitigated by adding painted warning stripes in advance to an approaching a crosswalk

in both lanes. The addition of stop bars and signage indicating where vehicles are to stop during a crossing event should also be included in this type of "mid-block" crossing. Other alternatives to the above described signalization are suggested in the M.U.T.C.D. as follows:

"One inexpensive device to increase yielding rates on multilane roads is the use of pairs of rectangular yellow LED beacons (RRFB) that employ a stutter flash pattern similar to that used on emergency vehicles."

Rectangular-shaped rapid flash LED beacon system.

One important study on the LED Beacon was performed by The Center for Education and Research in Safety. The study affirmed that, "At several multilane pedestrians crossings the device produced yielding levels that are equivalent to a traffic signal. No other device without a red indication has produced similar yielding data."(An Analysis of the Efficacy of Rectangular-shaped Rapid-Flash LED Beacons to Increase Yielding to Pedestrians Using Crosswalks on Multilane Roadways in the City of St. Petersburg, FL. Dr. Ron Van Houten & Dr. J.E. Louis Malenfant,).

RRFB Cost is approximately $10,000 to $15,000 for purchase and installation of two units (one on either side of a street). This includes solar panels for powering the units, pad lighting, indication units (for both sides of street) with RRFBs in the back and front of each unit, signage on both approaches, all posts, and either passive infrared detection or push buttons with audio instructions. Costs would be proportionately higher for additional units placed on a median island, etc.

For additional information on HAWK and RRFB signalized crossings please refer to: http://mutcd.fhwa.dot.gov/htm/2009/part4/part4f.htm or http://safety.fhwa.dot.gov/intersection/resources/techsum/fhwasa09009/

Traffic Signals

Traffic signals create gaps in traffic flow allowing pedestrians to cross the street. Traffic signals should allow adequate crossing time for pedestrians and an adequate clearance interval based upon a maximum walking speed of four feet per second. A lower speed of less than four ft. /sec. should be used in determining pedestrian clearance time for areas where there is a heavy concentration of the elderly or children. Signals are particularly important at high use, mid-block crossings on higher-speed roads, multi-lane roads, or at highly congested intersections. National warrants from the "Manual on Uniform Traffic Control Devices" (based on the numbers of pedestrians and vehicles crossing an intersection) are usually used in the selection of traffic signal sites. However, judgment must also be used on a case-by-case basis. For example: a requirement for installing a traffic signal is that there are a certain number of pedestrians present. If a new facility is being built (such as a park or recreational path) there will be a new demand and the signal should be installed in conjunction with the new facility, based on projected crossing demand. There

Intersections with traffic signals could be safer with the use of pedestrian crosswalks

may also be *latent* demand if a destination is not currently accessible but could become so with new facilities or redesign.

In downtown areas, signals are often closely spaced, sometimes located at every block. They are usually spaced further apart in suburban or outlying areas. When high pedestrian traffic exists during a majority of the day, fixed-time signals should be used to consistently allow crossing opportunities. Pedestrian actuation should only be used when pedestrian crossings are intermittent.

Traffic Signal Guidelines:

- Traffic signals should be used where pedestrian traffic is regular and frequent. The signal should be timed to a consistent interval. Pedestrian actuation should only be used when pedestrian crossings are intermittent.

- Signal cycles should be kept short (ideally 90 seconds maximum) to reduce pedestrian delay. Pedestrians are very sensitive to delays and a 30-second maximum wait time is ideal.

- Marked crosswalks at signals can encourage pedestrians to cross at the signal and help dissuade motorists from encroaching into the crossing area.

Traffic Signal Cost:

The cost ranges from $20,000 to $140,000.

Landscaping/Enhancement

A network of safe, comfortable, aesthetically pleasing pedestrian corridors with connectivity to desirable destinations creates and promotes a livable community. Without each of these elements present, the walking community is incomplete.

Landscaping provides street buffer; Tree island forms bioretention pond

Safety, beauty, and connectivity all play important roles in a comprehensive pedestrian plan and each basic fundamental should be considered throughout the entire planning process.

Landscaping can provide aesthetic improvement into a place that is otherwise hardened by buildings, concrete and streets. It can also be used to provide a buffer and separation from pedestrians and motorists, reduce the width of the roadway, calm traffic, and help to develop a desired aesthetic appearance.

Street trees can visually impact areas by breaking up the hardscape often found in urban areas. Also, trees and plantings improve the environment by shading the street; thus, providing cleaner and better air quality.

When tree islands are built and designed correctly, they can help collect and filter vegetative swales from nearby streets and buildings. These areas, called bioretention ponds, act as a sponge collecting oils, fertilizers, and detergents and then release the stormwater. Bioretention ponds are encouraged - not only to improve water quality, but also to reduce storm flows during heavy rain events.

The local municipality is typically responsible for the landscaping requirements; although, there are some instances where community groups assist with the funding and installation of landscaping and maintenance. Native plants are often preferable as they more easily adapt to the local environment. Growth characteristics of the plant material should be carefully considered when choosing plants for a particular location. For example, when choosing street trees - their height, spread, and root systems should all be considered - thereby avoiding overhead wires and the buckling of sidewalks and streets in the future.

Guidelines for Landscaping:

- Buffer zone plantings should be maintained at no higher than three feet to allow sight distance for motorists and pedestrians.

Decorative streetlight

- Trees with large canopies planted between the sidewalk and street should be trimmed to keep branches at least seven feet above the sidewalk.
- Plants and trees should be chosen to correspond to seasonal blooming and they should complement the culture and natural resources of the area.
- Landscape irrigation should be planned for and installed in the early phases of the construction process.

Landscaping Costs:

Landscaping costs can vary greatly. They may be supplemented by funds from community organizations or homeowners associations.

Roadway Lighting Improvements

Proper lighting quality, placement, and sufficiency can greatly enhance a nighttime urban experience as well as create a safe pedestrian facility. Two-thirds of all pedestrian fatalities occur during low-light conditions. Particular attention should be addressed at crosswalk locations so there is adequate lighting for motorists to see pedestrians.

Many times, street lighting is implemented along roadways to light the roadway and the sidewalk - allowing adequate lighting for motorists and pedestrians. In urban areas, low-level lighting can be implemented through decorative streetlights which offer pedestrian-scale lighting. This type of lighting should be placed where there is high pedestrian volumes to offer improved aesthetics. A variety of streetlight choices include mercury vapor, incandescent, or high-pressure sodium. High pressure sodium is more cost effective but does not have the best light quality. Roadway streetlights can range from 20-40 feet in height while pedestrian-scale lighting is typically 10-15 feet.

When planning for lighting, it is not only important to have *sufficient* lighting; but also, prevent light pollution and glare. A qualified lighting expert should be consulted in order to property plan for the wattage and placement with regard to area lighting.

Guidelines for Lighting Improvements:

- Ensure pedestrian walkways and crosswalks are sufficiently lit.
- Consider adding pedestrian-level lighting in areas of higher pedestrian volumes, downtown, and at major intersections.
- Install lighting on both sides of the street in commercial areas.
- Use uniform lighting levels.

Roadway Lighting Improvements Costs:

The cost of roadway lighting varies depending upon the type of fixtures and the service agreement with the local utility company. The cost can range from $10,000-$20,000 per pole.

Street Furniture and the Walking Environment

Sidewalks should be continuous and be part of a system that provides access to goods, services, public transit, and homes. Well designed walking environments are enhanced by urban design elements and street furniture such as benches, bus shelters, trash receptacles and drinking fountains. Carefully designed streetscapes enliven commercial districts and foster community life.

Sidewalks and walkways should be kept clear of poles, sign posts, newspaper racks, and other obstacles that could block the path of pedestrians or become tripping hazards. Benches, water fountains, bicycle parking racks, and other street furniture should be carefully placed to create an unobstructed path for pedestrians. Such areas must also be properly maintained and kept clear of debris, overgrown landscaping, tripping hazards, or areas in which water accumulates and causes problems for pedestrians.

Walking areas should also be interesting for pedestrians and provide a secure environment. Storefronts should exist at street levels and walking areas should be well lit and have good sight lines.

Street Furniture Guidelines:

- Good quality street furniture will show that the community values its public spaces; good furniture is more cost effective in the long run.

- Ensure proper placement of furniture and fixtures. Do not block pedestrian walkways or curb ramps.

Street Furniture Costs:

Benches: $600 - $1200
Trash Receptacles: $500 - $1000
Drinking Fountains: $1,000 – $4,000
Bollards: $300 - $1000

Transit Stop Treatments

Bus stop has convenient access; provides shelter to pedestrians

Good public transportation is as important to the quality of a community as good roads. Well–designed transit routes and stops are essential to a usable system.

Bus stops should be located at convenient intervals for passengers. The stops should be designed to provide safe and convenient access in comfortable places for people to wait. Adequate bus stop signing, lighting, shelter (with seating), trash receptacles, and

high visibility are all desirable features. Bus stops should also be placed where they can be accessed by walking, with road crossings.

The proper placement of bus stops is a key factor in user safety. For example, placing the bus stops on the near side of intersections or crosswalks may block pedestrians' views of approaching traffic and the approaching drivers' views of pedestrians. Approaching motorists may be unable to stop in time when a pedestrian steps out into traffic from the front of the bus.

Relocating the bus stop to the far side of the intersection can improve pedestrian safety since it eliminates the sight distance restriction caused by the bus. Placing bus stops at the far side of intersections can improve motor vehicle operation but should always be placed where pedestrians can cross the roadway safely.

The bus stop location should be fully accessible to pedestrians in wheel-chairs and should have paved connections to sidewalks where landscape buffers exist. Adequate room should exist to operate wheelchair lifts.

Guidelines for Transit Stop Facilities:

- Provide access to/from stops when transit stops are created.
- Ensure adequate room to load wheelchairs.
- Ensure a clear and comfortable walking path for passing pedestrians when placing transit shelters.
- Locate transit stops on the far side of marked crosswalks.

Transit Stop Facility Costs:

The cost ranges from $1,000 to $10,000, depending on the type of facility or facility improvement.

Pavement symbol markings

Pavement Word and Symbol Markings

The MUTCD allows for the use of pavement word and symbol markings such as SCHOOL XING or PED XING, as motorist warning devices. These may be helpful on high-volume or high speed streets with unusual geometrics (such as vertical or horizontal curves) in advance of a pedestrian crossing area. Markings should be white and placed to provide an adequate motorist response. Their use should be kept to a minimum to retain effectiveness.

Word markings

- END OF SECTION -

SECTION SIX:
PROGRAM AND POLICY RECOMMENDATIONS

A variety of programs and facilities (designed to increase walking and promote pedestrian safety in the City of Lenoir) are outlined in this section. Policies are included, which recommend that the City to help with the development and maintenance of the pedestrian network outlined in Section 4.

The following sections describe policies, programs, and action steps. These elements were developed using and evaluating existing planning documents mentioned in Section 3. The Steering Committee also assisted in developing the plan's overall goals which include the following:

- Increase walkability in the City of Lenoir
- Create a pedestrian network that is an important part of the urban structure
- Promote walking as a healthy exercise
- Create a pedestrian environment that is friendly to all users including seniors, the disabled, and children
- Improve connections between disparate parts of the City
- Promote pedestrian safety

Walking contributes to overall fitness

6.1 ANCILLARY FACILITIES AND PROGRAMS

Maintenance

Safety should be a high priority with existing and new facilities. Continual maintenance will be required to have a functional pedestrian network. Pedestrians typically aspire to use a facility that is in a good and safe condition; otherwise, it will not be used effectively. In addition to sidewalks, crosswalks at traffic intersections and mid-block crossings need to conform to the Manual of Uniform Traffic Control Devices (MUTCD). As crosswalks are installed, it will be important to place crosswalk warning signs to caution motorists where required.

With an aging population, it is imperative that accessibility and user needs be addressed at all street crossings. In order to effectively address these issues, it is recommended that the City staff conduct an inspection of existing pedestrian facilities within the City on a quarterly basis to not only address previously

identified maintenance issues, but also to inventory any additional areas where issues have arisen.

Signage

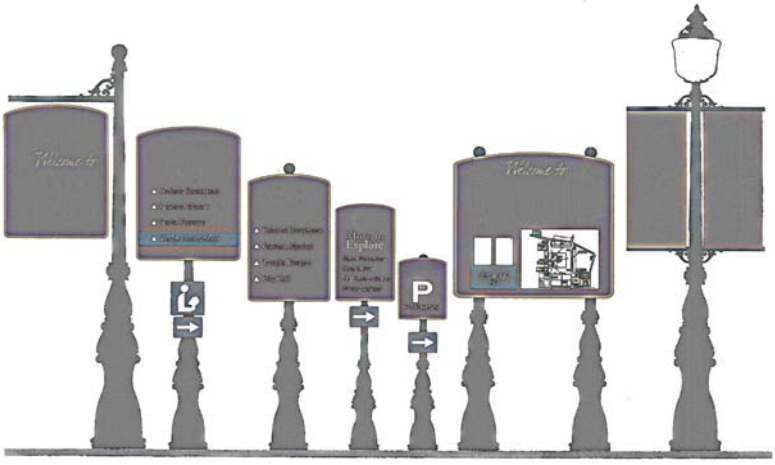
A map of existing facilities in the City of Lenoir can be found at the end of Section 2. Not only does the map delineate the conditions of existing pedestrian facilities, they also address crosswalk needs, and the lack of curb ramps. A number of destination areas such as businesses, schools, and parks are shown in order to better understand the relationship of existing pedestrian facilities to their uses.

Way Finding

Proper signage is an important part of any transportation system - whether it is pedestrian or vehicular in nature. Signs in schools zones, parking lots, and other areas alert drivers to the presence of pedestrians in the area. Signage for *pedestrian* facilities is equally as important as signage for *roadways*. Often, pedestrian facilities lack signage directing pedestrians along a designated route. It is hard to imagine having to walk to a specific destination without knowing the exact route to use; but, this is often the case with pedestrians - especially visitors to the area.

There are many different way finding signs pedestrians may find helpful depending on the reason for the pedestrian trip. However, most pedestrian facilities should have a clear and concise system of signage to direct users to various destinations such as Downtown shopping, the library, farmers market, and area parks/trails, and other pedestrian generators. It is recommended that the City of Lenoir further evaluate the existing system of way finding signage and make efforts to increase the use of way finding signage as well as ensure that

Example of easily identifiable pedestrian way finding signage.



signage style is consistent in order to make locating pedestrian signs easy and efficient for users. This will assist pedestrians in walking to particular destinations and encourage/promote walking in the community. Various types of way finding signage are illustrated below.

Spot Improvement Programs

The City of Lenoir will be responsible for most of the spot improvements within the City. Spot improvements are small projects such as the maintenance of curb ramps, the repair of damaged sidewalks, and the removal of debris. These improvements should be performed on a case-by-case basis with special consideration given to hazardous areas. The City should (annually) inventory and inspect areas requiring spot improvements, prioritize these locations, and proceed with the proper implementations.

Spot improvements prevent pedestrian accidents at hazardous areas

One potential, *specific* project for such funding is the upgrade of existing curb ramps. Many of the curb ramps in the Downtown area do not have ADA-approved, tactile, detectable warning devices.

Traffic Calming

There are many areas within the City where traffic speed is a problem. Areas where traffic speed may conflict with pedestrian routes includes areas of Harper Avenue NW adjacent to Downtown between Steel Street and Pennton Avenue SW as well as Hospital Avenue between Harper Avenue and the Public Library. Some areas of conflict which have previously been identified, (Pennell Street, Sherlee Street NE, and Powell Road) have received traffic calming treatments (raised cross walks, striping and signage). Greenhaven drive near the Wal-Mart shopping center has also received traffic calming devices since this plan was started.

An assessment for possible pedestrian/vehicular conflict should be conducted for areas near schools, parks, greenways, shopping, eating establishments, residential areas and where areas of future development are known to be located within the City of Lenoir. These areas may meet standard roadway criteria; however, they are dangerous locations from the perspective of the pedestrian, creating unsafe situations. High pedestrian traffic areas need safe traffic speeds

in order to reduce the possibility of vehicle/pedestrian accidents. Pedestrians want to be in *secure* areas where they feel comfortable and vehicular traffic is controlled.

There are many simple and effective methods used to achieve traffic calming. These techniques can be as simple as lane striping or on-street parking. Subconsciously, a driver feels the need to travel slower in areas where the traffic lane is *visually* narrower. Methods such as street trees, bulb-outs, and crossing islands may not narrow the actual traffic lane; but, will create a constricted visual corridor of the roadway, causing most drivers to decrease speed. Other techniques such as speed tables, raised crosswalks, and specialty pavement - all attract the driver's attention, causing an immediate slow down. Although many speed tables and similar measures have been used successfully throughout the state, it is imperative that proper planning, evaluation, and engineering occur before these devices are implemented. The City should consider "street narrowing" techniques as a way of creating more pedestrian oriented corridors.

Transit Interface

Western Piedmont Regional Transit Authority / Greenway Public Transportation offers Subscription Service, Demand Response Service, and General Public Service by utilizing conversion and lift-equipped vehicles. For a small fee, they also provide transportation for the general public. The system runs regular routes with transit stops.

Greenway Transit provides conversion and lift-equipped transportation

The City of Lenoir should consider including facilities for Greenway Public Transportation riders. These should include bus stop shelters, benches, and other street furniture to reduce the discomfort of standing by a busy street waiting for a bus. It will be important to place these stops where they can be easily accessed by pedestrians. The provision of crosswalks and signals for safely crossing the street, sidewalks or paving (which is wide enough to accommodate a group of people), and clearly-marked signage leading to identifiable bus stops will be critical, as well.

Identify Countermeasures

The City of Lenoir should continue to stay aware of what measures may be used to mitigate pedestrian accidents. National statistics indicate that nearly one-third of all pedestrian-related vehicular accidents occurred within 50 feet of a street

intersection. Even though crosswalks at intersections may be properly marked with appropriate signage, accidents still occur. At times the pedestrian does not take the proper precautions when crossing intersections. Sometimes the driver is at fault by failing to yield to pedestrians. Drivers and pedestrians should both take a defensive attitude toward pedestrian/vehicular safety when approaching intersections. NCDOT has published the handbook, *A Guide to North Carolina Bicycle and Pedestrian Laws: Guidebook on General Statues, Ordinances, and Resources* (http://www.ncdot.gov/vikeped/lawspolicies/laws/). This document serves as an educational tool for pedestrians, drivers, and the general public.

Statistically, less than ten percent (10%) of pedestrian fatalities in the nation involved a pedestrian walking along a road and not on a sidewalk. Most of these incidents involved the pedestrian walking "with" the traffic and being struck from behind. Safety guidelines suggest that pedestrians "face" the traffic when walking. More than one-fourth (1/4th) of all pedestrian accidents occurred at mid-blocks. This type of accident is typically associated with a pedestrian *darting* across the road. Prior to establishing a marked mid-block crossing, proper evaluation should be done to ensure the safety of the public.

These two noted types of pedestrian accidents represent over 65% of pedestrian fatalities in the nation. Over the past several years, countermeasures have been developed to mitigate pedestrian accidents. Countermeasures are generally "site-specific" improvements, which hopefully provide immediate solutions. The most effective countermeasures include roadway design, intersection design, traffic calming, traffic management, signals, signage, and pedestrian facility design. These planning and engineering methods are instrumental in reducing pedestrian accidents. Education and enforcement are also countermeasures that must be implemented in the prevention of pedestrian accidents. The following are examples of countermeasures that are related to pedestrian safety in Lenoir.

Roadway Design
- *Roadway Narrowing*
- *Lane Reduction*
- *Driveway Improvements*
- *Raised Medians*
- *Curb Radius Reduction*
- *Improved Right-Turn Slip-Lane Design*

Intersection Design
- *Modified T-Intersections*
- *Intersection Median Barriers*

Traffic Calming
- *Curb Extensions*
- *Chokers*
- *Crossing Islands*
- *Chicanes*

Chicanes are a set of 2 or 3 bulb-outs or curves that alternate from one side of the street to the other. They are designed to slow the speed of drivers – in this case, by creating a narrower lane.

Mini-Circles
Speed Tables
Raised Intersections
Raised Pedestrian Crossings
Gateways
Landscaping
Specific Paving Treatments
Serpentine Design

Traffic Management
Diverters
Partial Street Closure
Pedestrian Street/Malls

Signals and Signage
Traffic Signals
Pedestrian Signals
Pedestrian Signal Timing
Traffic Signal Enhancements
Right-Turn-on-Red Restrictions
Advanced Stop Lines
Signing

Pedestrian Facility Design
Sidewalks and Walkways
Curb Ramps
Marked Crosswalks and Enhancements
Roadway Lighting Improvements
Street Furniture/Walking Environment
Pedestrian Railroad Crossings

Education and Enforcement
Neighborhood Identity
Speed-Monitoring Trailer
On-Street Parking Enhancements
Pedestrian/Driver Education
Police Enforcement

Speed-Monitoring Trailer

6.2 POLICY RECOMMENDATIONS

The design and planning of pedestrian facilities are important components of roadway design. Fundamentally, both modes of transportation (pedestrian and vehicular) should acknowledge each other in matters of safety, accommodation, and relationship. Pedestrian movement has become an important focus for the City of Lenoir. The public needs connectivity, safer routes, and more walking opportunities. Although public meetings do not capture a *complete* synopsis of the City's pedestrian needs, they do identify concerns and issues. Based on information from the general public, there is a perceived need for an expanded pedestrian network in the City of Lenoir.

City staff and the Steering Committee also recognize other important issues. Connectivity and safety are of utmost importance to the City of Lenoir. Many areas within the City were acknowledged as safety concerns that need to be addressed with regard to reducing potential pedestrian accidents. Increasing public safety (with devices such as pedestrian signals, signage, and the removal of existing barriers) will create a user-friendly pedestrian network and thereby, increase the number of pedestrians. The Steering Committee also recognizes the importance of providing equal pedestrian system access to those that are physically or economically disadvantaged. Special attention is needed to bring the network up to ADA standards for physical access. Developing the network into economically-challenged areas will assure equitable access for all citizens.

Land Use

Land-use policies and regulations have a strong influence on promoting walkable communities. If pedestrian facilities are not *required*, developers may be discouraged from incorporating these facilities in future projects. The City of Lenoir should study its zoning and subdivision ordinances regularly – to ensure that developers adhere to policies and regulations, which create more pedestrian-friendly environments

As part of the Lenoir Comprehensive Pedestrian Plan, the City should continue to promote pedestrian facilities, particularly within new developments - both residential and commercial. Sidewalks should always be required for new streets, improved streets, or street extensions. Although developers may argue that this requirement increases development costs, this requirement will continually enhance and promote the pedestrian network established by the City.

This pedestrian plan also recommends regulations that require sidewalk facilities for any renovations and/or additions to existing structures. As urban commercial infill properties re-develop, sidewalks should be constructed with these projects. In some instances, these sidewalks may still be disconnected, but over time, as these

Developers should incorporate sidewalks in all future plans

developmental projects continue, they will enhance pedestrian connectivity and reduce costs for the City.
This allows the City to have control over current and future construction and maintenance of the pedestrian facilities. It also allows the City to develop facilities in a continuous and efficient way, preventing the pedestrian facilities from being removed by the developer. The requirement of sidewalk construction "fee in lieu of construction" should be included in development regulations and the subdivision code.

Although the City of Lenoir should be flexible with development opportunities, the City must require the developer to provide right-of-ways or easements for pedestrian facilities, including proposed greenway trails. All development approved by the City must include the accommodation of pedestrians by the developer(s).

RECOMMENDATIONS AND ACTION ITEMS

Pedestrian Network

The following recommendations are intended to help create and maintain a pedestrian route network that strengthens the local communities of Lenoir by connecting to existing and future parks, shopping centers, government offices, and businesses.

Recommendation #1 - *It is recommended that the City adopt language in the City's land development ordinance that requires sidewalks. Exceptions may be considered on a case-by-case basis due to such considerations as difficult terrain, inadequate width, or exponential costs.*

Recommendation #2 - *City ordinances and plans should be updated to reflect pedestrian plan recommendations and proposals.*

Recommendation #3 – *The City should work with the Caldwell County School System to ensure that future schools in the City have a strong emphasis on non-vehicular transportation, such as walking, bicycling, skating, etc. In choosing locations for future schools, emphasis should be placed on orienting the main entrance toward residential neighborhoods rather than at major thoroughfares. School programs should promote non-motorized means for transportation for students, when applicable.*

Coordinate efforts with Caldwell County School System

Recommendation #4 - *Provide pedestrian connectivity along existing thoroughfares such as US 321 and Norwood Street.*
Recommendation #5 - *Develop a system of way finding signage for pedestrian facilities and greenways that is consistent with the City standards.*

Recommendation #6 - *New commercial and residential development should be oriented to the pedestrian and include internal pedestrian walkways connecting the development to the external sidewalk network in the public right-of-way as well as future development. If a planned residential or commercial development is located on a planned pedestrian project, an easement must be dedicated for the future shared-use.*

Recommendation #7 - *Construct pedestrian facilities as identified on the Proposed Pedestrian Facilities Map and according to the prescribed guidelines. Alignment for facilities may require adjustment in order to meet necessary requirements*

Recommendation #8- *Maintain and repair existing sidewalks to current standards - ensuring that facilities are safe and free of obstacles and debris.*

Recommendation #9 - *Repair all noncompliant pedestrian facilities and ensure all new facilities should provide ADA accessibility to the maximum extent possible.*

Facilities must be ADA compliant

Recommendation #10 *– All maintenance should follow NCDOT standards, including the removal of unused or non-conforming driveway cuts.*

Recommendation #11 - *Coordinate planning efforts with county and nearby jurisdictions to provide regional pedestrian facility connectivity.*

Recommendation #12 *– Work closely with the Greater Hickory RPO to ensure sidewalk projects are included in all NCDOT roadway projects.*

Recommendation #13 - *Require developers to provide pedestrian connectivity to adjacent developments and destination areas.*

Safety and Health

Create, implement, and maintain safe pedestrian facilities which allow for a "walkable" community.

Recommendation #14 - *Partner with the Caldwell County School System in the initiation and implementation of school safety programs for school children.*

Recommendation #15 - *Install and/or replace all damaged and noncompliant pedestrian facilities as noted in the network recommendations, Items 6 and 7.*

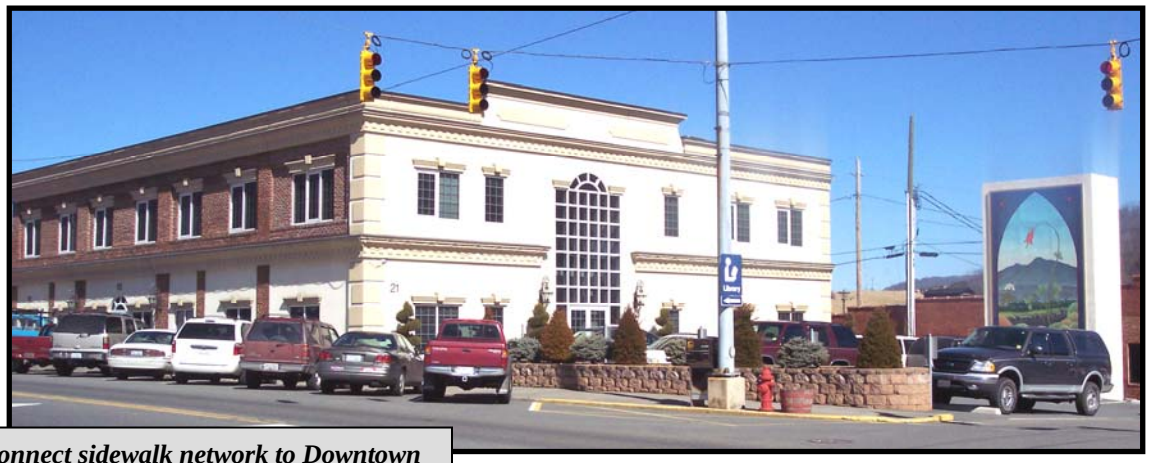
Recommendation #16 - *Prioritize sidewalk implementation where gaps are located and where there is a high volume of pedestrian activity.*

Recommendation #17 - *Ensure that all sidewalks are extended across driveways at safe and usable cross slopes.*

Recommendation #18 - *Create a maintenance program which monitors existing sidewalks for damage and fills in gaps in the pedestrian system that meets current standards.*

Recommendation #19 – *Establish regular reviews for the annual budget for sidewalk repair and expansion to obtain connectivity goals.*
Recommendation #20 - *Provide pedestrian scale lighting at regular intervals where there is pedestrian activity at remote areas and traffic intersections.*

Recommendation #21 - *Connect local businesses to the public sidewalk system.*



Connect sidewalk network to Downtown

Recommendation #22 - *Ensure that new construction projects are installed and meet all design requirements.*

Recommendation #23 *– Work with local organizations such as the Caldwell County Health Department* and Caldwell County, Services for Seniors to *educate and encourage citizens to include walking as a part of a healthy living plan. (See resources in Section 6.4)*

Recommendation #24 *– Encourage schools to develop walking programs to promote healthy exercise amongst their pupils.*

Crossing Safety

Improve and construct all pedestrian crossings in areas where there is a high volume of pedestrian activity or where safety is an issue.

Recommendation #25 - *Install marked crosswalks at all major intersections.*

Recommendation #26 - *Evaluate traffic intersections for possible design elements such as extended curbs and refuge islands for pedestrian safety.*

Recommendation #27 - *Update local traffic intersection guidelines to meet current state and federal requirements.*

Lower speed limits where there are high volumes of traffic, pedestrians

Recommendation #28 - *Implement lower speed limits where there is a high collision rate with and high volume of pedestrian activity. Make sure that all speed reductions are clearly marked and enforced. The Downtown should be designated as 20 mph or less. It is recommended that residential areas in Lenoir be studied further for traffic calming and speed reduction, particularly the west and south sides of town.*

Recommendation #29 - *Ensure that traffic intersections with pedestrian facilities are well lit.*

Recommendation #30 - *Evaluate pedestrian facilities annually for safety issues and implement solutions.*

Traffic Signals

Implement traffic signals at unsafe and dangerous intersections which improve pedestrian conditions

Typical countdown signal

Recommendation #31 - *Install pedestrian signals at all major intersections.*

Recommendation #32 - *Seek funding opportunities which help with design assistance and implementation of traffic and pedestrian signals.*

Recommendation #33 - *Review the signal timing to ensure that pedestrians have adequate crossing times at intersections.*

Recommendation #34 - *Consider audible pedestrian signals near senior centers and other high volume pedestrian attractors.*

Recommendation #35 - *Consider using "countdown" pedestrian signals near high pedestrian volume locations such as those along US 321 and Harper Avenue.*

Community Strengthening

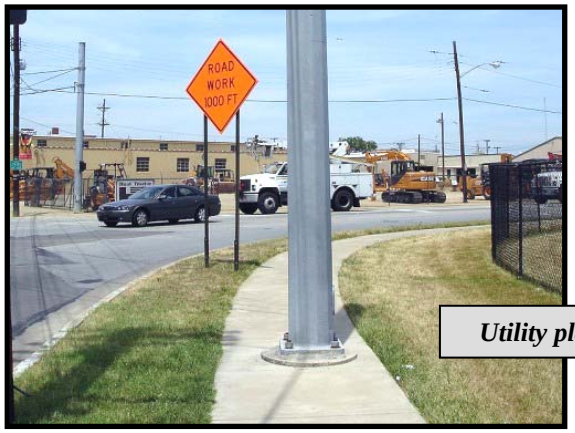
Provide amenities and elements that enhance the pedestrian environments and create a desirable place to live and work.

Recommendation #36 - *Implement streetscape improvements in the Downtown that include design elements such as decorative paving, street trees, and furniture.*

Recommendation #37 - *Develop environmental education and interpretive facilities, particularly along greenway corridors.*

Recommendation #38 - *Provide a planting strip between sidewalks and roadways for street trees and low plantings, where possible.*

Recommendation #39 *– Develop design standards for the placement of utilities (power poles, telephone poles, sewer inlets, etc.) so that they do not impede pedestrian traffic. This should be a part of the City's Code of Ordinances.*



Utility placements should be coordinated with the City

Recommendation #40 *– The City should coordinate the placement of all traffic and pedestrian signs with Caldwell County and NCDOT. Coordination should include the replacement and repair of signs.*

6.3 PROGRAM RECOMMENDATIONS

Education, encouragement, and enforcement programs should be in place to teach and promote safety and ensure the success of Lenoir's pedestrian network for the future. The recommended programs will be successful in serving the City's need to support pedestrian activity.

Safety Education Programs

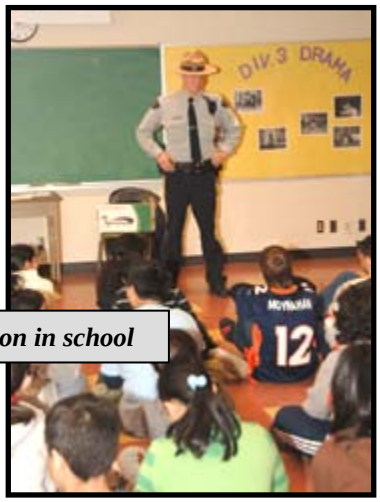
School-based programs that stress safety should be implemented regularly, particularly for young children. The promotion of 'walking to school initiatives'

will raise public awareness of child safety and instruct children in the proper usage of sidewalk and other pedestrian facilities, whether walking to school or to the school bus stop. The local police departments typically provide such programs as this. Police officials go to the schools and educate children on the proper use of sidewalks and street crossings. In particular, young pedestrians need instruction on how to cross streets safely and how to interact properly with vehicle traffic.

Traffic Safety

The National Highway Traffic Safety Administration (NHTSA) has a web resource for promoting traffic safety, including pedestrian safety. The site provides research and information on these related topics:

- preventing pedestrian casualties
- a walkability checklist
- child safety
- walking to school
- other topics that are of use in developing a safety education program.



Safety education in school

http://www.nhtsa.gov/portal/site/nhtsa/menuitem.dfedd570f698cabbbf30811060008a0c/ is the website for NHTSA.

Pedestrian Safety Action Plan

The Pedestrian and Bicycle Information Center (PBIC) has materials to help communities and organizations develop Pedestrian Safety Action Plans (PSAP). There are several safety training courses available on their website. These courses are designed to help communities develop and implement safe pedestrian networks. The website is http://www.walkinginfo.org/training/pdps/.

SafeRoutes
National Center for Safe Routes to School

Safe Routes to School

Safe Routes to School (SRTS) is a program meant to encourage students to walk or bike to school safely. Information can be found at NCDOT's website and at the National Center for Safe Routes to School website. According to the website, 'the program is designed to "improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools." The NCDOT grant program provides federal funds for the construction of infrastructure, such as

sidewalks and bike lanes, within two (2) miles of a school. The program also provides for the education and encouragement of communities in the planning and construction of pedestrian facilities for their neighborhoods. For additional information visit the SRTS website at http://www.saferoutesinfo.org/.

Safe Kids Walk this Way

Children participate in community safety

A program sponsored by Safe Kids, USA, Safe Kids Walk this Way strives to teach safe behavior to both motorists and children; and to promote safe, walkable communities. The program promotes safe walking events for children, provides research, participates in the International Walk to School Day (IWSD) in October each year, and promotes school-based pedestrian safety committees. Go to the website at http://www.usa.safekids.org/wtw/.

Other Education Resources:

- Turner-Fairbank Highway Research Center – Pedestrian and Bicycle Safety: Articles, facts, issues, publications, research, resources, and links to other sites. http://www.tfhrc.gov/safety/pedbike/index.htm

- Federal Highway Administration (FHWA) Pedestrian and Bicycle Safety. Materials, research, facts, and information on a variety of topics dealing with pedestrian safety. http://safety.fhwa.dot.gov/ped_bike/

- PedNet: Pedestrian advocacy group in Missouri. Their website is a useful tool for creating other groups like them at http://www.pednet.org/.

- The National Center for Bicycling and Walking (NCBW): Publications for promoting walking as a healthy lifestyle at http://www.bikewalk.org/.

- The Active Living Resource Center has a website to encourage the development of active neighborhoods by increasing the walkability of the community. The website, http://www.activelivingresources.org/index.php, has information on community involvement in developing active, pedestrian facilities.

Encouragement and Promotion

There are many initiatives that can be implemented by the City of Lenoir to promote pedestrian activity. Likewise, health-based organizations, employers, and civic organizations should offer incentive programs to encourage walking and physical fitness in general. Programs such as 'walk to school days' and 'visiting area walking facilities' can not only encourage walking, but also allow residents to use areas they may not know are available.

Other means to encourage and promote Lenoir as a walkable community include:

Locomotion Trail was a community project

- Publish and distribute a Lenoir walking guide brochure that covers the area's highlights, safety tips, suggested walking routes, and pedestrian rights and responsibilities.
- Promote neighborhood walks and nature walks.
- Promote walk-for-health programs with local churches, businesses, and recreation centers.
- Organize walk-to-work/school days and/or weeks.
- Promote the various walking tours in Lenoir by providing historical and/or directional maps.

Eat Smart Move More North Carolina

The Eat Smart Move More (ESMM) North Carolina program is a statewide promotion to encourage healthier lifestyles for North Carolinians. Encouraging residents to walk more is just one part of this multi-disciplinary program, which some residents of Lenoir have participated in. However, the City should continue to encourage residents to take part in this program. Healthy walking programs such as this can be put in place by a wide variety of organizations, including the health department, local hospitals, senior centers, local businesses, schools, churches, and recreation departments.

Walk to School Initiative

The National Center for Safe Routes to School and the NCDOT Safe Routes to School encourage "walk to school" events every October. These events are seen as a preliminary step in changing the attitude of people towards increased pedestrian activity. The *International I Walk to School in the USA* website has suggestions for events and classroom lesson plans for promoting the walk to school initiative. Visit http://www.walktoschool.org/eventideas/index.cfm.

Mature Adults: Be Healthy, Walk Safely

A resource for mature adults by the National Highway Traffic Safety Administration (NHTSA), this web brochure provides tips for developing a personal walking exercise program and safety guidelines for dealing with traffic at http://www.nhtsa.dot.gov/people/injury/olddrive/steppingout/index.html.

Enforcement Programs

A prominent issue that the City of Lenoir faces with *vehicular* verses *pedestrian* traffic is with regard to enforcement. For decades, the law has stated that **pedestrians have the right-of-way**; but many drivers ignore this law. To ensure safety, this law must to be enforced; as well as the enforcement of speed limits. It is also recommended that local law enforcement organizations ensure that all officers are fully knowledgeable on pedestrian laws. Studies have proven that motorists' speeds are directly proportional to the number of pedestrian deaths that occur. Reduced speeds give pedestrians more time to see and react in a timely manner. Pedestrians feel unsafe and will opt not to use sidewalks in areas where traffic laws are not enforced.

The City of Lenoir Police Department initiated a bicycle patrol unit in 2005. This unit frequently patrols Downtown and the Lenoir Greenway. Police officers on bicycles should remain a major factor in ensuring safe pedestrian practices on the streets of Downtown, during community and school events, and as a part of a possible future greenway system.

As the pedestrian network expands to include the schools within the City, it will be necessary to ensure safety oversight as school crossings and within the school zones. Crossing guards should be present at all official school crossings, along with approved school crossing signage and signals. The crossing guards should be trained using NCDOT's Crossing Guard Training Program. The police

department needs to provide a regular schedule of oversight of traffic during school hours in school zones. Any infractions within the school zone must be penalized to discourage future infractions and help to ensure the safety of the children.

- END OF SECTION -

SECTION SEVEN PROJECT DEVELOPMENT

Section 4 of the Lenoir Pedestrian Plan provided a *vision* for a comprehensive pedestrian system for the City of Lenoir. Section 7 of the Plan provides a *blueprint* for the City of Lenoir to assist them in implementing that vision. Section 7 identifies specific opportunities/strategies and provides a series of action steps to guide the City as it begins to execute the Plan. The projects proposed in Section 4 are prioritized in this section in order to present the City with a project schedule that is manageable. This section closes with ideas and sources for funding the projects.

Pedestrians use existing facilities

7.1 OPPORTUNITIES AND STRATEGIES

An opportunity is a situation or condition that is favorable for the attainment of a goal. The most obvious (of the opportunities for the City of Lenoir in attaining the goals set out in this Plan) is the already existing network of pedestrian facilities. The existing facilities consist of a aging network of sidewalks with numerous destination points, which are already attracting pedestrian traffic. The fact that people continuously use the existing facilities makes it easier to promote the expansion of the network into a comprehensive, connected, and safer pedestrian system.

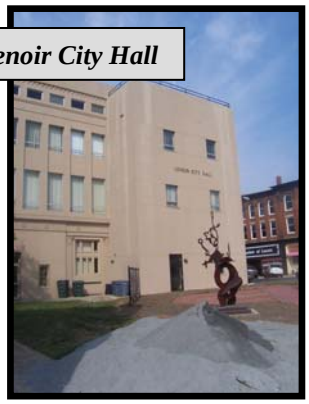
A strongly committed group of individuals interested in the development of a pedestrian network for the City of Lenoir yields another opportunity for attaining the stated goals of this plan. Members of the Steering Committee, City employees, and users of the existing pedestrian network provide Lenoir with a core group of advocates, who can promote the plan and recruit needed volunteers and supporters.

Regional initiatives such as those undertaken by the 501-c-3 non-profit organization, Caldwell County Pathways, Inc., provide the Lenoir with additional opportunities to tie their pedestrian network into a regional network of connecting open space, natural areas, and historic sites into a region-wide trails system. By embracing these initiatives and working with other regional organizations, the City of Lenoir can find alternate funding sources, connect to the regional pedestrian trail and greenway systems and increase community support for pedestrian focused projects.

7.2 ACTION STEPS

In order to implement the Lenoir Comprehensive Pedestrian Plan, the following steps need to be taken:

- Adopt the Plan. The first step in implementing the Pedestrian Plan is the adoption of the plan by the City Council. Adoption of the plan will allow the City of Lenoir to effectively influence regional decisions, so that the City and region concur with the goals set forth in the plan. Adopting the plan will also provide the City with greater authority to shape local land-use decisions.



Lenoir City Hall

- Create an Oversight Committee. An Oversight Committee consisting of City Staff and representatives from various other staffs (such as Caldwell County, Western Piedmont Council of Governments, etc.) will oversee the implementation of the plan.

- Develop a funding strategy. In order to undertake the proposed projects and secure adequate funding, it will be necessary to develop a funding strategy. The strategy should allow the community to incrementally complete each of the suggested pedestrian facility improvements over a ten-year (10-year) period. Opportunities are listed below:

    1. *The Capital Improvement Plan (CIP) needs to include yearly appropriations for sidewalk, crosswalk, and greenway development.*

    2. *The annual operating budget needs to include monies for minor construction and maintenance of pedestrian facilities.*

        - *The City should consider issuing a local municipal bond with monies allocated towards the pedestrian system.*

    3. *Actively pursue the addition of roads within the City via NCDOT's TIP program for sidewalk and greenway development and improvement.*

    4. *Community Development Block Grants (CDBG) can provide money for capital improvements such as sidewalks and greenways in low-income neighborhoods.*

    5. *Pursue funding from the sources listed in Section 7.6 Funding Opportunities.*

- Begin improvements and/or new construction. The work on the project(s) should begin with those listed as High Priority in Section 7.6

- Develop education and awareness programs. These programs will help to inform the public about the proposed projects and increase public support for them while strengthening enforcement and encouragement programs (See section 6 and 7.4).

- Acquire property and/or easements. Develop a plan for acquiring the land and easements necessary for the Lenoir Greenway System.

- Coordinate with other governing entities. Work with other government agencies such as with Caldwell County, the Western Piedmont Council of Governments of Governments, and the State of North Carolina to integrate the City of Lenoir's Pedestrian Plan with other transportation, land use, economic development, parks and recreation, environmental, and community planning efforts.

City should coordinate with Western Piedmont COG.

- Modify policies. Update the City of Lenoir's Zoning Ordinances to contain strong, carefully-considered policies and goals that will promote the development of pedestrian facilities as part of any *new* development or redevelopment. The current Zoning Ordinances can be viewed at (http://library.municode.com/index.aspx?clientId=14044).

- Connect to adjacent facilities. Schedule road or utility work to include improvements and additions to the adjacent pedestrian network, where possible.

- Identify supporting policies and guidelines. The NCDOT Division of Bicycle and Pedestrian Transportation has published a guidebook on General Statues, Ordinance, and Resources with regard to bicycle and pedestrian laws. This is a great resource, which pertains - not only to responsibilities for bicyclists and pedestrians - but also, for motorists. This guide should be incorporated into the standards for the City of Lenoir. It is particularly valuable for teaching public safety to school children.

  As mentioned in previous sections of this document, the street design guidelines need to conform to NCDOT standards. In addition to NCDOT standards, the Manual on Uniform Traffic Control Devices (MUTCD) should also be a

Roadway does not conform to pedestrian standards

reference for projects, particularly existing roadways that have not conformed to these standards. Areas such as traffic intersections will need to incorporate these guidelines for future improvements.

The American Association of State Highway and Transportation Officials (AASHTO) have published the 'Guide for the Planning, Design, and Operation of Pedestrian Facilities'. The purpose of this guide is to provide assistance with the planning, design, and operation of pedestrian facilities along streets and highways. Specifically, the guide focuses on identifying effective measures for accommodating pedestrians on public right-of-ways. This useful tool can be used to provide user-friendly pedestrian facilities along roadways.

- Develop an evaluation/monitoring process. Each year the City should evaluate the progress made in implementing proposed improvements suggested in this Pedestrian Plan. This evaluation should not only include new facilities; but also, repair to existing facilities, and evaluation of program and policy recommendations. At the beginning of the budget process for the next fiscal year, the City should determine the projects to be implemented for that year. In some cases, there may be large projects that will limit the number of tasks the City of feasibly commit to implementing.

The listed action steps should be considered annual tasks and projects stemming from these recommendations should be scheduled for annual review. City of Lenoir staff should work closely with the NCDOT, Caldwell County, the Western Piedmont Council of Governments, Unifour RPO and Caldwell County Pathways.

7.3 PRIORITIZATION OF THE PROPOSED PEDESTRIAN NETWORK

Proposed projects are listed on pages 12 and 13 of this section. The Recommended Facilities map shows proposed projects for the construction of pedestrian facilities located within the City limits. The proposed projects are listed by priority and the location, length, and cost are given. As mentioned earlier in this section, sidewalk improvements make up the majority of project costs for the proposed improvements. The projects listed on pages 12 and 13 are also listed in the priority calculator. The priority calculator which can be found in both the Appendix and on page six of this section helps to analyze and compare important factors of each project which lead to each project's ranking from High to Low.

The City of Lenoir and NCDOT are the primary agencies that will be involved with these pedestrian improvements. Many of these facilities are located on NCDOT public right-of-ways and are eligible to receive funding for NCDOT improvements. As new

development or redevelopment occurs, it will be important for the City of Lenoir to require the owners to implement the appropriate pedestrian facilities, as necessary.

Prioritization of Projects

The priorities of the pedestrian plan are divided into three (3) different categories of priorities: high, medium, and low. A priority calculator was used to help determine the priority ranking of each project.

The priority calculator was based on three (3) factors: Safety, Connectivity, and Recommendations from the Steering Committee. Each factor was broken down into categories. The categories were given a scale of numeric values.

Pedestrian corridors were then given a numeric value in each category. The total number of points provided a ranking to each corridor. The corridors were then grouped by thirds (approximately) to determine high, medium, or low rankings.

Priority Calculator Results

High Priority Projects

Some of the needed facilities or improvements that received high priority rankings were:

- A lack of sidewalks - forcing pedestrians out onto roads with medium to high volumes of traffic
- A lack of crosswalks and/or pedestrian signals at busy intersections that are commonly traversed by pedestrians
- Sidewalks that are in poor condition - creating hazards for pedestrians
- Lack of safety and accessibility amenities at intersections
- Lack of connectivity to high priority destinations, such as medical facilities and schools

Moderate Priority Projects

Moderate priority projects are designed to create a cohesive pedestrian network – with the use of the *existing* system. Some of the projects involve filling in missing gaps; others, additional safety issues that arise from the expansion of the network.

Low Priority Projects

The final category contains the low priority corridors. These areas are important to the City- but due to economic factors, may not be feasible to implement the facilities within the 10-year time frame. These facilities are located primarily in residential

neighborhoods and connect to other existing/proposed sidewalks that are of high or moderate priority. A long-range time period will be allowed for the implementation of pedestrian facilities in the low priority areas. As different areas in and around the City of Lenoir develop, priorities may change in the coming years.

City of Lenoir
Comprehensive Pedestrian Plan 2012
Corridor Priority Calculator

	Existing Corridor Ped. Facility Condition	Accessible Ped. Facilities	Traffic Volume	Traffic Speed	Pedestrian Crashes	Vehicular Crashes	**SC/ Public Recommendation	Safety Score	Schools	Medical Facilities	Recreation/ Leisure	Retail Center	Downtown	Connectivity Score	Total Score
Point Range	1-3	1-2	1-4	1-4	#	1-5	1-2		#(4)	1-3	1-3	1-3	1-2		
High Priority															
US Hwy 321	2	1	4	4	5	5	0	16.0	4	2	3	3	1	13	29.0
Morganton Boulevard/US64	3	2	4	4	3	4	0	17.0	0	3	2	3	2	10	27.0
Hibriten Drive SW	3	2	2	3	1	0	0	10.0	4	3	2	3	1	13	23.0
Wilkesboro Boulevard SE/18	3	2	4	2	0	2	0	13.0	0	1	3	3	2	9	22.0
Harper Avenue	1	1	3	3	7	4	0	12.0	0	2	2	3	2	9	21.0
Main Street SW	3	2	3	4	3	2	0	14.0	0	1	1	3	2	7	21.0
Lower Creek Drive	3	2	3	3	0	1	0	12.0	4	1	2	1	1	9	21.0
Maple Drive	3	2	1	1	0	0	0	7.0	4	3	2	3	2	14	21.0
Medium Priority															
Powell Road NE	3	2	2	3	0	0	0	10.0	4	1	1	1	1	8	18.0
Arrowood Street	3	2	1	3	0	0	0	9.0	4	1	2	1	1	9	18.0
Mulberry Street	2	1	2	3	0	0	0	8.0	0	3	2	3	2	10	18.0
College Avenue	3	2	2	2	2	0	0	9.0	4	1	1	1	2	9	18.0
Norwood Street	3	2	3	4	1	1	0	13.0	0	1	1	1	1	4	17.0
West Avenue	2	2	3	2	0	0	0	9.0	0	0	3	3	2	8	17.0
Hospital Avenue	2	1	3	2	1	2	0	10.0	0	1	2	2	2	7	17.0
Greenhaven Drive	1	1	1	4	1	0	0	7.0	4	1	1	1	1	8	15.0
Mulberry Rec. to Southwest Blvd. Trail	3	2	1	1	0	0	0	7.0	0	2	2	3	1	8	15.0
US 321 to Mulberry Rec. Trail	3	2	1	1	0	0	0	7.0	0	1	3	3	1	8	15.0
Beall Street	3	2	1	1	0	0	0	7.0	0	2	1	3	2	8	15.0
Creekway Drive	3	2	2	3	2	0	0	10.0	0	1	1	1	1	4	14.0
Pennell Street	2	2	2	3	0	0	0	9.0	0	1	1	2	1	5	14.0
Road Adj. to Fairfield Chair	3	2	1	1	0	0	0	7.0	0	1	1	3	2	7	14.0
Low Priority															
Wildwood Road	3	2	1	2	0	0	0	8.0	0	1	1	1	1	4	12.0
Nuway Circle/Powell Road	3	2	1	2	0	0	0	8.0	0	1	1	1	1	4	12.0
Hibriten High to T.H. Broyhill Walking Park Trail	3	2	1	1	0	0	0	7.0	0	1	2	1	1	5	12.0
Grove Avenue SW	3	1	1	2	0	0	0	7.0	1	1	1	1	1	5	12.0
Willow Street	3	1	1	2	0	0	0	7.0	0	1	1	1	2	5	12.0
Ashe Street	3	1	1	2	0	0	0	7.0	0	1	1	1	2	5	12.0
Edgewood Drive	3	2	1	1	0	0	0	7.0	0	1	1	1	1	4	11.0
Westview Street	3	2	1	1	na	0	0	7.0	0	1	1	1	1	4	11.0
Underdown Avenue SW	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Scroggs Street	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Vance Street	3	1	1	2	1	0	0	7.0	0	1	1	1	1	4	11.0
Old North Road	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Conley Place	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Davenport Street SW	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Sherlee St./Cottrell Hill Rd.	3	2	1	1	0	0	0	7.0	0	1	1	1	1	4	11.0
Highland Street SW	1	1	1	2	0	0	0	5.0	0	1	1	1	1	4	9.0

* = Sidewalks may have been divided by side of street, low priority automatically given to less prominent side of street

** SC = Steering Committee

Point Range Key

Safety	
Existing Ped. Corridor Facility Condition	**1**=Good, **2**=Fair/incomplete, **3**=None/Poor
Major Intersection Facilities	**1**=Exists, **2**=None
Traffic Volume	**1**=0-4,999, **2**=5,000-9,999, **3**=10,000-11,999, **4**=12,000+
Traffic Speed	**1**=Under 25mph, **2**=25-34mph, **3**=35-44mph, **4**=45+mph
Ped. Crashes	Number of reported pedestrian crashes from January 2000-June 2012
Vehicular Crashes	1 = 0-39, 2 = 40-79, 3 = 80-119, 4 = 120-159, 5 = 160+ (10 year time frame from City Police and NCDOT)
Other	
POG/Public Recommendation	**1**=Not from POG or public recommendations, **2**=A POG or Public Recommendation
Connectivity	
Schools	The number of schools located along the corridor X (4)
Medical Facilities	**1**=None, **2**=Clinics, Private Med. Offices, **3**=Hospital or EMS station
Recreation/ Leisure	**1**=None, **2**=(1) park/rec. facility, **3**=(2+) park/rec. facility
Retail Destinations	**1**=None, **2**=(1-4) retail locations, **3**=(4+) retail locations
Downtown	**1**=Not in Downtown, **2**=Within downtown

The higher the overall score the higher the need for pedestrian facilities, thus higher the priority rating.

The proposed improvements incorporate planning initiatives from other agencies (NCDOT and Western Piedmont Council of Governments of Governments) that affect the City of Lenoir. It will be essential to continue cooperation with these and other entities that can enhance the pedestrian network within the City of Lenoir and the surrounding communities. As additional needs are identified in the future, communication with these agencies will help with the coordination of future projects.

The Lenoir Pedestrian Plan proposes numerous pedestrian projects composed mainly of sidewalks, multi-purpose trails, and intersection improvements. In order to develop an action plan that is manageable, the recommendations have to be separated into projects that will be implemented on an annual basis. Each fiscal year, the City should identify specific projects and allocate funding for them. There are numerous funding mechanisms to assist with costs. The acquisition of funds will be an important component in the completion of the identified projects.

Sidewalk Projects

Many of the proposed improvements for the Lenoir Pedestrian Plan consist of the either new sidewalks, or the repair of existing sidewalks and accessibility improvements. These are considered to be *on-road construction projects*. A priority list identifying pedestrian corridors/sidewalks can be found above. Standards for the construction of the sidewalk projects can be found in Section 5: Design Guidelines. As many of the proposed facilities are located on NCDOT roadways, the City of Lenoir will need to receive an approval for all permitting and construction documents for this work *prior* to construction. Please see the sidewalk and greenway projects tables in section 7. These tables will be in larger format in the Appendix.

The Lenoir Greenway

Multi-purpose trails such as the proposed Lenoir Greenway Network are designated as *off-road construction projects.* These trails are typically 8 to 10 feet wide and allow for biking, which is not permitted on downtown sidewalks (see Chapter 11, Article 4 Sec.11-127 of the City Ordinances).

This pedestrian plan proposes expanding the existing greenway corridor - creating a network that can connect into similar projects initiated by immediate neighboring communities. The completion of these projects would prove to be an important asset to both the Lenoir and neighboring communities by providing a clear and safe route between area towns and the City as well as creating a possible attraction that could increase the number of visitors to the area.

The Lenoir Greenway is a project that could get support from the NCDOT as US 321 is improved. The proposed Harper Avenue crossing would help serve to provide a much-

needed pedestrian corridor connecting Downtown with the residential areas on the eastern side of Lenoir. In order to proceed with such a project, the City of Lenoir would need to cooperate with local land owners and research possible routes along utility easements or other available land before further developing this multi-purpose connector.

Please see the sidewalk and greenway projects tables in section 7. These tables will be in larger format in the Appendix.

City of Lenoir
Comprehensive Pedestrian Plan 2012
Preliminary Cost Estimates

High Priority Sidewalk Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	Length of 5' Sidewalk ($50 per lf)	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		US Hwy 321									
1	Sidewalk	Hwy 321 (East Side)	Wilkesboro Blvd.	Commercial Court NE	1,134	0	4	0	0	0	$62,700
2	Sidewalk	Hwy 321 (West Side)	Harper Avenue	Pennton Avenue NW	1,121	0	0	0	0	0	$56,050
3	Sidewalk	Hwy 321 (East Side)	Commercial Court NE	Walgreens @ Hospital Ave.	1,571	0	4	0	0	0	$84,550
1	Sidewalk	Hwy 321 (West Side)	Pennton Ave. NW	Hospital Avenue	1,562	0	0	0	0	0	$78,100
2	Sidewalk	Hwy 321 (East Side)	Cook-Out @ Hospital Aveune	Nuway Circle	4,000	0	6	0	0	0	$209,000
3	Sidewalk	Hwy 321 (West Side)	Hospital Avenue	Krispy-Kreme Doughnuts	1,193	0	4	0	0	0	$65,650
	Subtotal Sidewalk Improvements				**5,193**	**0**	**18**	**0**	**0**	**0**	**$556,050**
		Morganton Boulevard/US64									
1	Sidewalk	Morganton Boulevard (North Side)	Mulberry Avenue	Edgewood Drive	1,867	0	0	0	0	0	$93,350
	Subtotal Sidewalk Improvements				**1,867**	**0**	**0**	**0**	**0**	**0**	**$93,350**
		Hibriten Drive SW									
1	Sidewalk	Hibriten Drive SW (South Side)	Cedar Place SW	Norwood Street	980	0	0	0	0	0	$49,000
2	Sidewalk	Hibriten Drive SW (South Side)	Norwood Street	Starcross Road	3,271	0	0	0	0	0	$163,550
	Subtotal Sidewalk Improvements				**4,251**	**0**	**0**	**0**	**0**	**0**	**$212,550**
		Wilkesboro Boulevard/US64									
1	Sidewalk	Wilkesboro Boulevard (North Side)	US 321	Lower Creek Drive	1,678	0	2	0	0	0	$86,900
	Subtotal Sidewalk Improvements				**1,678**	**0**	**2**	**0**	**0**	**0**	**$86,900**
		Harper Avenue									
1	Sidewalk	Harper Avenue (Both Sides)	Future Lenoir Greenway	Pennton Avenue	700	0	2	0	0	0	$38,000
	Subtotal Sidewalk Improvements				**704**	**1**	**2**	**0**	**0**	**0**	**$54,200**
		Main Street									
1	Sidewalk	Main Street SW (East Side)	Pennton Ave. SW	Morganton Boulevard	325		2	0	0	0	$19,250
	Subtotal Sidewalk Improvements				**325**	**0**	**2**	**0**	**0**	**0**	**$19,250**
		Lower Creek Drive									
1	Sidewalk	Lower Creek Drive (South Side)	Wilkesboro Blvd.	Lower Creek Sch.	3,475	0	0	0	0	0	$173,750
2	Sidewalk	Lower Creek Drive (South Side)	Lower Creek Sch.	Wilkesboro Blvd.	5,500	0	0	0	0	0	$275,000
	Subtotal Sidewalk Improvements				**8,975**	**0**	**0**	**0**	**0**	**0**	**$275,000**
		Maple Drive NW									
1	Sidewalk	Maple Drive (west side)	College Avenue	Harper Avenue	455	0	2	0	0	0	$24,750
	Subtotal Sidewalk Improvements				**455**	**0**	**2**	**0**	**0**	**0**	**$24,750**
Total Pedestrian Improvements for High Priority Sidewalk Projects:					**26,948**	**1**	**29**	**0**	**0**	**0**	**$1,396,350**

Medium Priority Sidewalk Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	# of Curb Ramps along Corridor	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Powell Road NE									
1	Sidewalk	Woodhaven Street (West Side)	Lenoir Greenway	Lower Creek Drive	1,677	0	4	0	0	0	$89,850
	Subtotal Sidewalk Improvements				**1,677**	**0**	**4**	**0**	**0**	**0**	**$89,850**
		Arrowood Street									
1	Sidewalk	Arrowood Street (South Side)	Wilkesboro Blvd.	Panther Trail	818	0	2	0	0	0	$43,900
	Subtotal Sidewalk Improvements				**818**	**0**	**2**	**0**	**0**	**0**	**$43,900**
		Mulberry Street									
1	Sidewalk	Mulberry Street (South/West Side)	Norwood Street	Morganton Boulevard	1,814	0	3	0	0	0	$93,700
2	Sidewalk repair	Spot Improvement (Ease Side)	Olive Avenue SW	Park Street	20	0	0	0	0	0	$1,000
3	Sidewalk repair	Spot Improvement (Ease Side)	Across from:	Caldwell Co. Family Care	20	0	0	0	0	0	$1,000
	Subtotal Sidewalk Improvements				**1,854**	**0**	**3**	**0**	**0**	**0**	**$95,700**
		College Avenue									
1	Sidewalk	College Avenue (South Side)	Virginia Street	Underdown Avenue	2,355	0	8	0	0	0	$125,750
	Subtotal Sidewalk Improvements				**2,355**	**0**	**8**	**0**	**0**	**0**	**$125,750**
		Norwood Street									
1	Sidewalk	Norwood Street (Both Sides)	Hibriten Dr. SW	McLean Dr. SW	1,125	0	2	0	0	2	$64,050
2	Sidewalk	Norwood Street (West Side)	McLean Dr. SW	Mulberry St. SW	5,370	0	4	0	0	0	$274,500
	Subtotal Sidewalk Improvements				**6,495**	**0**	**6**	**0**	**0**	**2**	**$274,500**
		West Avenue									
1	Sidewalk	West (Both Sides)	Boundary Street	Willow Street	650	0	8	1	0	0	$40,700
	Subtotal Sidewalk Improvements				**650**	**0**	**8**	**1**	**0**	**0**	**$40,700**
		Hospital Avenue									
1	Sidewalk	Hospital Avenue (North Side)	170' East of Wilson St.	US 321	1,711	0	0	0	0	0	$85,550
	Subtotal Sidewalk Improvements				**1,711**	**0**	**0**	**0**	**0**	**0**	**$85,550**
		Greenhaven Drive									
1	Sidewalk	Greenhaven Drive	Intersection with US321	Sidewalk at BO's	165	0	0	0	0	0	$8,250
	Subtotal Sidewalk Improvements				**165**	**0**	**0**	**0**	**0**	**0**	**$8,250**
		Beall Street									
1	Sidewalk	Beall Street (west side)	College Avenue	Harper Avenue	412	0	2	0	0	0	$22,600
	Subtotal Sidewalk Improvements				**412**	**0**	**2**	**0**	**0**	**0**	**$22,600**
		Creekway Drive									
1	Sidewalk				0	0	0	0	0	0	$0
	Subtotal Sidewalk Improvements				**0**	**0**	**0**	**0**	**0**	**0**	**$0**
		Pennell Street									
1	Sidewalk	Pennell Street (South Side)	Lenoir Greenway node (west)	Barrington Dr. NE Lenoir Greenway node (east)	4,173	50	4	0	0	0	$221,150
	Subtotal Sidewalk Improvements				**4,173**	**50**	**4**	**0**	**0**	**0**	**$221,150**
		Road Adjacent to the Fairfield Chair Company									
1	Sidewalk	Road Adjacent to the Fairfield Chair Company (west side)	College Avenue	Harper Avenue	315	0	2	0	0	0	$17,750
	Subtotal Sidewalk Improvements				**315**	**0**	**2**	**0**	**0**	**0**	**$17,750**
Total Pedestrian Improvements for Medium Priority Sidewalk Projects:					**16,475**	**50**	**27**	**0**	**0**	**0**	**$1,025,700**

Low Priority Sidewalk Projects											
	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	# of Curb Ramps along Corridor (	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Wildwood Road									
1	Sidewalk	Wildwood Road (South Side)	Cottrell Hill Road	Lower Creek Drive	1,825	0	4	0	0	0	$97,250
	Subtotal Sidewalk Improvements				**1,825**	**0**	**4**	**0**	**0**	**0**	**$97,250**
		Nuway Circle/Powell Road									
1	Sidewalk	Nuway Circle/Powell Road	US 321	Lenoir Greenway Node	2,040	0	6	0	0	0	$108,000
	Subtotal Sidewalk Improvements				**2,040**	**0**	**6**	**0**	**0**	**0**	**$108,000**
		Grove Avenue SW									
1	Sidewalk	Repair/Replace	Kentwood Street	Main Street	135	0	0	0	0	0	$6,750
	Subtotal Sidewalk Improvements				**135**	**0**	**0**	**0**	**0**	**0**	**$6,750**
		Willow Street									
1	Sidewalk	Repair/Replace	Beall Street	Wheeler Street	900	0	0	0	0	0	$45,000
	Subtotal Sidewalk Improvements				**900**	**0**	**0**	**0**	**0**	**0**	**$45,000**
		Ashe Street									
1	Sidewalk	Repair/Replace (Both Sides)	Boundary Street	Willow Street	1,310	0	0	0	0	0	$65,500
	Subtotal Sidewalk Improvements				**1,310**	**0**	**0**	**0**	**0**	**0**	**$65,500**
		Edgewood Drive									
1	Sidewalk	Edgewood Drive (east side)	Olive Avenue SW	Morganton Boulevard	1,185	0	4	0	0	0	$63,250
	Subtotal Sidewalk Improvements				**1,185**	**0**	**4**	**0**	**0**	**0**	**$63,250**
		Westview Street									
1	Sidewalk	Westview Street (east side)	Olive Avenue SW	Morganton Boulevard	1,854	0	4	0	0	0	$98,700
	Subtotal Sidewalk Improvements				**1,854**	**0**	**4**	**0**	**0**	**0**	**$98,700**
		Underdown Avenue SW									
1	Sidewalk	Repair/Replace	College Avenue	Spainhour Street	1,321	0	0	0	0	0	$66,050
	Subtotal Sidewalk Improvements				**1,321**	**0**	**0**	**0**	**0**	**0**	**$66,050**
		Scroggs Street									
1	Sidewalk	Repair/Replace	Main Street	Vance Street	1,032	0	0	0	0	0	$51,600
	Subtotal Sidewalk Improvements				**1,032**	**0**	**0**	**0**	**0**	**0**	**$51,600**
		Vance Street									
1	Sidewalk	Repair/Replace (East Side)	Scroggs Street	Finley Avenue	50	0	0	0	0	0	$2,500
	Subtotal Sidewalk Improvements				**50**	**0**	**0**	**0**	**0**	**0**	**$2,500**
		Old North Road									
1	Sidewalk	Repair/Replace	Main Street	Main Street	2,000	0	0	0	0	0	$100,000
	Subtotal Sidewalk Improvements				**2,000**	**0**	**0**	**0**	**0**	**0**	**$100,000**
		Conley Place									
1	Sidewalk	Repair/Replace	Main Street	End of Road	390	0	0	0	0	0	$19,500
	Subtotal Sidewalk Improvements				**390**	**0**	**0**	**0**	**0**	**0**	**$19,500**
		Davenport Street SW									
1	Sidewalk	Repair/Replace	Main Street	Mulberry Avenue	325	0	0	0	0	0	$16,250
	Subtotal Sidewalk Improvements				**325**	**0**	**0**	**0**	**0**	**0**	**$16,250**
		Sherlee Street/Cottrell Hill Road									
1	Sidewalk	Sherlee Street/Cottrell Hill Road (South Side)	Lenoir Greenway node (East)	Wildwood Road	1,321	0	2	0	0	0	$69,050
	Subtotal Sidewalk Improvements				**1,321**	**0**	**2**	**0**	**0**	**0**	**$69,050**
		Highland Street SW									
1	Sidewalk	Repair/Replace	Meadow Street	Hibriten Avenue	20	0	0	0	0	0	$1,000
	Subtotal Sidewalk Improvements				**20**	**0**	**0**	**0**	**0**	**0**	**$1,000**
Total Pedestrian Improvements for Medium Priority Sidewalk Projects:					**15,708**	**0**	**20**	**0**	**0**	**0**	**$810,400**

Medium Priority Greenway Projects											
	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals	Pedestrian Signals	Probable Cost Estimate
		US 321 to Mulberry Recreation Center Trail									
1	Greenway	Lenoir Greenway Expansion	US 321	Harper Avenue	0	1130	2	0	0	0	$149,900
1	Greenway	Lenoir Greenway Expansion	Harper Avenue	Norwood Street	0	2221	2	0	0	0	$291,730
1	Greenway	Lenoir Greenway Expansion	Norwood Street	Mulberry St. SW	0	1300	2	0	0	0	$172,000
	Subtotal Greenway Improvements				**0**	**4,651**	**6**	**0**	**0**	**0**	$613,630
		Mulberry Recreation Center to Southwest Boulevard Trail									
1	Greenway	Lenoir/Gamewell Greenway	Mulberry Avenue	Harrisburg Drive	0	4,500	4	0	0	0	$591,000
2	Greenway	Lenoir/Gamewell Greenway	Harrisburg Drive	Virginia Street	0	2,517	4	0	0	0	$333,210
3	Greenway	Lenoir/Gamewell Greenway	Virginia Street	Fairview Drive	0	2,000	4	0	0	0	$266,000
4	Greenway	Lenoir/Gamewell Greenway	Fairview Drive	Southwest Boulevard	0	2,020	4	0	0	0	$268,600
	Subtotal Greenway Improvements				**0**	**11,037**	**16**	**0**	**0**	**0**	**$1,458,810**
Total Pedestrian Improvements for Medium Priority Greeway Projects:					**0**	**15,688**	**22**	**0**	**0**	**0**	**$2,072,440**

Low Priority Greenway Projects											
	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Hibriten High to TH Broyhill Walking Park Trail									
1	Greenway	Lower Creek Greenway	Hibriten High Sch.	NC 90/Taylorsville Road	0	2,760	4	0	0	0	$362,800
2	Greenway	Lower Creek Greenway	NC 90/Taylorsville Road	Tremont Park Drive SE	0	2129	4	0	0	0	$280,770
2	Greenway	Lower Creek Greenway	Tremont Park Drive SE	Hibriten Drive	0	2500	4	0	0	0	$329,000
2	Greenway	Lower Creek Greenway	Hibriten Drive	US 321	0	3650	4	0	0	0	$478,500
2	Greenway	Lower Creek Greenway	US 321	TH Broyhill Walking Park	0	2250	4	0	0	0	$296,500
	Subtotal Sidewalk Improvements				**0**	**13,289**	**20**	**0**	**0**	**0**	**$1,747,570**
Total Pedestrian Improvements for Medium Priority Greeway Projects:					**0**	**13,289**	**20**	**0**	**0**	**0**	**$1,747,570**

		Intersection Crossing Projects										
	Type of Facility		Crossing	Along	Pedestrian Signage ($1,200)	Reduction of Curb Radii or refuge island ($15,000)	Curb Ramps ($1,500 ea.)	Crosswalks (including stop bar/relocate) ($350 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
				US 321							
1	Crosswalk		US 321	Hospital Ave.	0	0	2	2	0	2	$8,500
2	Crosswalk		US 321	Seahorn/Walmart Entrance	0	0	2	1	0	2	$8,150
3	Crosswalk		US 321	Greenhaven/Nuway Cir	0	1	2	1	0	2	$23,150
	Subtotal Intersection Improvements				**0**	**1**	**6**	**4**	**0**	**6**	**$39,800**
				Hibriten Drive SW							
1	Crosswalk		Hibriten Drive SW	Norwood Street	0	0	4	2	0	2	$11,500
	Subtotal Intersection Improvements				**0**	**0**	**4**	**2**	**0**	**2**	**$11,500**
				Norwood St.							
1	Crosswalk		Norwood Street	Hibriten Drive SW	0	0	4	2	0	2	$11,500
2	Crosswalk		Norwood Street	@ Mulberry St. SW	0	0	0	1	0	0	$350
3	Crosswalk		Norwood Street	Harper Avenue	0	0	2	1	0	2	$8,150
4	Crosswalk		Norwood Street	McLean Dr. SW	0	0	4	2	0	2	$11,500
4	Crosswalk		Norwood Street	Mulberry St. SW	0	0	3	2	0	0	$5,200
4	Crosswalk		Norwood Street	Morganton Boulevard	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**15**	**9**	**0**	**6**	**$40,050**
				Harper Ave.							
1	Crosswalk		Harper Avenue	Pennton Ave. SW	0	0	4	1	0	2	$11,150
2	Crosswalk		Harper Avenue	Norwood Street	0	0	0	1	0	0	$350
3	Crosswalk		Harper Avenue	Road Adj. Fairfield Chair Co.	0	0	0	1	0	0	$350
	Subtotal Sidewalk Improvements				**0**	**0**	**4**	**3**	**0**	**2**	**$11,850**
				Lower Creek Drive							
1	Crosswalk		Lower Creek Drive NE	Wilkesboro Boulevard	0	0	4	1	0	0	$6,350
2	Crosswalk		Lower Creek Drive NE	@ Lower Creek School	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**6**	**2**	**0**	**0**	**$9,700**
				Hospital Ave.							
1	Crosswalk		Hospital Ave.	US 321	2	0	4	2	0	2	$13,900
	Subtotal Intersection Improvements				**2**	**0**	**4**	**2**	**0**	**2**	**$13,900**
				Seahorn/Walmart Entrance							
1	Crosswalk		Seahorn/Walmart Entrance	US 321	0	0	2	1	0	0	$3,350
	Subtotal Intersection Improvements				**0**	**0**	**2**	**1**	**0**	**0**	**$3,350**
				Pennton Ave. SW							
1	Crosswalk		Pennton Ave. SW	US 321	2	0	2	1	0	0	$5,750
	Subtotal Intersection Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
				Mulberry Avenue							
1	Crosswalk		Mulberry Avenue	Morganton Boulevard	0	1	2	2	0	4	$28,300
	Subtotal Sidewalk Improvements				**0**	**1**	**2**	**2**	**0**	**4**	**$28,300**
				West Avenue							
1	Crosswalk		West Avenue	Willow Street	2	0	2	2	0	0	$6,100
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**2**	**0**	**0**	**$6,100**
				Grove Avenue							
1	Crosswalk		Grove Avenue	Main Street	2	0	2	1	0	0	$5,750
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
				Virginia Street							
1	Crosswalk		Morganton Blvd.	Virginia Street	0	0	2	2	0	2	$8,500
1	Crosswalk		Poplar St. NW	Virginia Street	2	0	2	2	0	2	$10,900
	Subtotal Sidewalk Improvements				**2**	**0**	**4**	**4**	**0**	**4**	**$19,400**
				College Aveune							
1	Crosswalk		Collage Avenue	Main Street	2	0	0	4	0	0	$3,800
2	Crosswalk		Collage Avenue	Virginia Street	2	0	0	1	0	0	$2,750
3	Crosswalk		Collage Avenue	Maple Drive	2	0	0	1	0	0	$2,750
4	Crosswalk		Collage Avenue	Beall Street	2	0	0	1	0	0	$2,750
5	Crosswalk		Collage Avenue	Underdown Ave.	2	0	0	1	0	0	$2,750
	Subtotal Sidewalk Improvements				**10**	**0**	**0**	**8**	**0**	**0**	**$14,800**
Total Project Units					**20**	**2**	**51**	**41**	**1**	**26**	**$210,250**

7.4 ANCILLARY FACILITIES AND PROGRAMS

There are many ancillary facilities and programs that Lenoir can initiate or participate in. Many of these initiatives are relatively inexpensive. Signing/mapping projects and safety/enforcement programs can be performed through in-house services. Partnering with other organizations such as the Caldwell County Public Health Department, Western Piedmont Regional Transit Authority and The Caldwell County Area Transportation System (CCATS) as well as the Caldwell County School System, the Western Piedmont Council of Governments, Caldwell County Memorial Hospital, other civic groups, and health-based companies will allow promotional programming and transit interface programs.

Expanded Transportation Options

The City of Lenoir needs to work with the Caldwell County Transportation Authority (ACTA) to expand the existing transportation service to increase needed services for the citizens of the Town. An expansion in the transit system should correspond with the needs of residents.

Education Programs

Several state and national program guidelines are available for educating the public about pedestrian safety (see Section 6.4). These programs focus on law enforcement, pedestrians, and drivers. The City of Lenoir should work with the Caldwell County School System and the Lenoir Police Department to provide safe walking programs for the children and adults of Lenoir. Some of the resources available for use are:

National Center for Safe Routes to School – The Center offers a number of resources and information on how to start a Safe Routes to School program.

Walking School Bus – A program under the auspices of the National Center for Safe Routes to School, the Walking School Bus combines safety, community awareness, healthy exercise, and fun to help educate children and adults on pedestrian safety.

A Guide to the North Carolina Bicycle and Pedestrian Laws – This guide is intended for use by law enforcement officials, educators, planners, and citizens for education/enforcement of North Carolina pedestrian laws.

Healthy Communities Program

The City of Lenoir, the Caldwell County Health Department, the Caldwell County Healthy Caldwellians, and Caldwell County Memorial Hospital should join together in promoting and furthering the Health Department's goals and programs. A Healthy Communities program could encourage walking as healthy exercise. This program would recruit churches, civic organizations, and neighborhood associations to organize and promote walking for better health. The program should also include pedestrian education.

Healthy Communities Program should include input from Caldwell Memorial Hospital

Wayfinding

As pedestrian facilities are completed, they need to be incorporated into a Wayfinding System for Lenoir. Walking maps that highlight pedestrian routes should be developed to educate pedestrians as to the various routes available. Maps of primary pedestrian corridors can be made available at local government and retail centers. A uniform system of signage should be installed to direct pedestrians to destination points. Traffic signs should be installed that alert motorists to the pedestrian network (see Section 5: Design Guidelines.)

Spot Improvement and Maintenance Program

The Spot Improvement and Maintenance Program will most likely be the responsibility of the City of Lenoir Public Works Department. The Department needs to develop a regular schedule of inspection and repair to the various elements of the pedestrian network - including sidewalks, crosswalks, signage, and street furniture. In addition, the Department (itself) can make several of the spot improvements on the proposed project list. Some of the tasks that can be undertaken by the Maintenance Department include:

Maintenance Dept. can assist City

- Repair/install small areas of sidewalk or multi-purpose trail
- Repair retaining walls
- Install, repair, or replace signage
- Remove (or supervise removal) of litter
- Maintain landscaping
- Inspect/repair pedestrian amenities (benches, trash receptacles, etc.)

7.5 STAFFING

The City Manager and Planning Department staff will serve as the major catalysts for the development of Lenoir's pedestrian system. These departments will guide the City in the planning, design, construction, and funding of pedestrian facilities. They will also facilitate cooperation between the various agencies, which were mentioned in Section 7.4

Spot improvements will suffice in some areas of Town

The City Public Works Department will be a vital component in the implementation of projects and in the maintenance of those facilities that are the City's responsibility. The Planning Board and City Council will need to be advocates of pedestrian planning. Each fiscal year the City should implement pedestrian improvements as part of the City's general budget.

The Pedestrian Steering Committee was an integral component in developing recommendations for the Pedestrian Plan. It is recommended that an ongoing Oversight Committee be created to evaluate the pedestrian facilities and programs on an annual basis. An evaluation program is too comprehensive for just one individual to perform; such a program will require a group working together to conduct the evaluation. The Oversight Committee could also be responsible for recruiting volunteers and civic groups to assist with programming and simple maintenance tasks (such as litter removal). Maintenance issues and problems can often be addressed through the Oversight Committee and it, in turn, can inform the City of complaints from local residents and visitors.

The Lenoir Police Department will continue to assume tasks related to pedestrian safety. This includes education, enforcement of traffic and pedestrian laws, and crime prevention. The Department should also continue to maintain a record of all accidents involving pedestrians in order to address necessary improvements to the pedestrian network that might develop after the adoption of this plan.

7.6 FUNDING OPPORTUNITIES

Funding for the implementation of proposed projects can be overwhelming - particularly with increasing construction costs. Therefore, prioritization will aid in the completion of the proposed tasks. The projected construction cost estimates for all the proposed sidewalk projects is summarized in the table below.

Prioritized Facility Cost Estimates

Priority	Sidewalk Projects
High	**$1,396,350**
Medium	**$1,025,700**
Low	**$810,400**
Total	**$3,232,450**

A more detailed listing of the sidewalk projects, their priority status and approximate costs can be found above or in the Appendix under “Preliminary Cost Estimates”.

The function of the “Priority Matrix” is to help determine what pedestrian projects may be most needed or have the most positive impact on existing pedestrian circulation. The projects with the highest priority rankings should be considered as the initial improvements made by the City. However, as economic, environmental, and political changes will inevitably occur in the future, the calculator results should only serve to guide the City in deciding what projects to pursue. With a very talented and capable City Staff, Lenoir has the ability to accomplish many of the proposed improvements within their department(s). Spot improvements such as ADA compliant curb ramps, repair to damaged sidewalks, and small sidewalk projects can be accomplished by City Staff, which will dramatically decrease the costs of these projects.

The cost of the sidewalk applications will vary depending upon the choice of contractor, the scope of the project, and the cost of materials. The probable costs associated for implementing the high priority projects is $1,530,900.00.

Funding will be a large component in the process of developing Lenoir’s pedestrian facilities. The City will need to be aggressive in applying for funding every year for individual projects. Monies can be a combination of grants, contributions, bonds, and other methods. The cost of curbs, ramps, crosswalks, pedestrian signals, and traffic signals can be shared with NCDOT. In addition, proposed improvements that are a part of a larger NCDOT project can be funded as an “incidental” project by NCDOT. The City of work with NCDOT to have them install the proposed sidewalks and intersection improvements as approved by the Town.

Connectivity to recreational areas are often funded by grants

Grants, in particular, will be an important mechanism for funding. The projects, which are to be submitted for grants, need to reflect the objectives specified with each individual grant. Grants are typically oriented toward connectivity to a specific arena – such as education, recreation, or safety.

A variety of funding opportunities are available to Lenoir as

the City prepares for future improvement/development of its pedestrian system. Among these opportunities includes, the City of Lenoir's Capital Improvement Program, Western Piedmont COG/Greater Hickory MPO, BlueCross Blueshield of NC Foundation and the Robert Wood Johnson Foundation. The list below shows funding sources that have been utilized by other communities for pedestrian projects. Each of these will be addressed in this section.

- Taxation
- Bonds
- Grants
- User Fees
- Contributions
- Foundations
- Homeowner Assessmen

Taxation

Traditionally, *ad valorem tax revenue* has been the primary source of funding for the pedestrian facilities of properties/facilities owned by municipalities and counties. 'Pedestrian opportunities' are considered a public service and often are *standard line items* on general fund budgets. Creative financial opportunities are possible; however, ad valorem taxes will continue to be the major revenue source to support the system. As such, communities often vote to raise their local tax rate temporarily in support of their pedestrian systems. Some possible tax funding strategies are:

Sales Tax – local county governments are authorized to implement a local sales tax. These taxes are typically used for a variety of projects within the county. The increase in local sales tax must be approved by the state government. The sales tax may be implemented for a fixed period of time and then expire.

Property Tax - because of concern by local home owners, increases in property taxes should be addressed with care. *Property Tax Increase* must have wide public support for the resulting project. Such funds are often used to pay debt service on general obligation bonds that were issued for land acquisition(s).

Excise Taxes - excise taxes are levied on specific goods and services and are to be used for specified purposes. In general, these taxes are levied to achieve funds for the promotion of tourism or transportation, which include pedestrian facilities.

Occupancy Tax – occupancy taxes are levied by local governments on hotel and motel rooms. The funds are typically used for the promotion of tourism and related activities.

North Carolina Conservation Tax Credit (N.C.CTC)

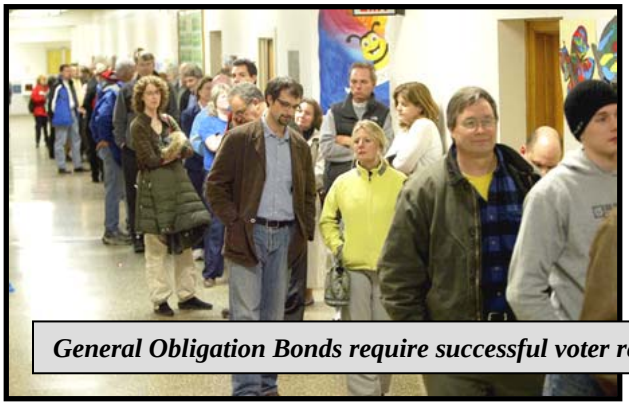
This program provides an incentive (in the form of an income tax credit) for landowners that donate interests in real property for conservation purposes. Property donations can be fee simple or in the form of conservation easements or bargain sale. The goal of this program is to manage stormwater, protect water supply watersheds, preserve working farms and forests, and set aside greenways for ecological communities, public trails, and wildlife corridors. The website is http://ncctc.enr.state.nc.us/.

Bonds

Many communities issue *bonds*, which are typically approved by the shareholders, to finance site development and land acquisition costs. The State of North Carolina grants municipal governments the authority to borrow funds through the issuance of bonds - the amount of which is not to exceed the cost of acquisition or the cost for improvement of pedestrian facilities. Total bond capacities for local governments (for pedestrian facilities) are limited to a maximum percentage of assessed property valuation. Since the issuance of bonds relies on the support of the voting population, the implementation of awareness programs is absolutely essential *prior* to a referendum vote. This method can be used for specific projects such as the creation of multi-purpose trails within a greenway.

Revenue Bonds – Revenue Bonds are issued by government agencies or funds that generate operating revenues and expenses, much like a business. Repayment of the bond is limited strictly to revenues generated by the agency associated with the purpose of the bonds. Only the revenues specified in the contract between the bond holder and bond issuer are subject to use for repayment of the bond principal and interest.

General Obligation Bonds - General Obligation Bonds are the preferred financing approach by the North Carolina Local Government Commission and the general securities market - because these instruments are backed by the full faith and credit of the issuer – which simply means that the bonds are representative of an encumbrance against the property tax base of the issuing jurisdiction and therefore offer the best



General Obligation Bonds require successful voter referendum campaigns

available security to the bond holder. The State of North Carolina gives the issuance of bonds that are not to exceed the total cost of improvements, including land acquisition. In view of the recommended capital improvements suggested in this plan, the borrowing of funds to develop new facilities may be necessary. Total bonding capacities for local governments is limited for parks and recreation to a maximum percentage of assessed property valuation.

The following are key factors to consider when evaluating the use of General Obligation Bonds for financing:

- In North Carolina, the issuance of General Obligation Bonds requires a referendum of the voters within the issuing jurisdiction.

- The term of the debt may be extended to 20-30 years.

- The debt is publicly sold. Therefore, there are costs associated with the sale that generally total 3% to 5% of the total bond principal. The issuance costs offset the lower interest rate so this instrument becomes more attractive as the size of the issuance increases and the issuance costs are spread over the larger debt. It has been found that this financing option becomes financially superior as the debt principal exceeds $10-$12 million.

- Prepayment of the debt can generally not be accomplished until reaching a call date, which is generally around 75% of debt retirement.

- Failure of the General Obligation Bond to be ratified by referendum could mean that the County could not go forward with an alternative approach to financing without substantially changing the scope of the project.

Special Assessment Bonds – Special Assessment Bonds are municipal bonds used to fund a project that benefits a specific neighborhood or community. The neighborhood or community then repays the bond through the levy of additional taxes or fees on the property owners who have benefited from the improvements.

Grants

State and federal agencies offer funding opportunities to assist municipalities in the financing of their pedestrian projects - including greenway trails. These sources of

funding should definitely be investigated and pursued by the City of Lenoir for present and future improvements.

State Agencies

North Carolina Department of Transportation Grants

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

NCDOT has established priorities that are addressed in the 2006-2015 Traffic Improvements Program (TIP). The projects are identified within the "Region D" thoroughfare plan, which includes Caldwell County (as published in September, 1993). The program identifies long-range projects of varied scopes, small to multi-million dollar facility improvements. The projects identify location, phase, and schedule.
Pedestrian facility projects are divided into two (2) categories within the TIP - *independent* projects and *incidental* projects. Independent projects are those which are not related to a 'scheduled' highway project. Incidental projects are those related to a 'scheduled' highway project.

- NCDOT annually sets aside $6 million for the construction of bicycle and pedestrian improvements that are independent of scheduled highway projects in communities throughout the state. Types of projects include shared-use paths, wide-paved shoulders, bike lanes, and sidewalks. These independent projects are funded through the Strategic Prioritization/State Transportation Improvement Program (STIP) process.

- The strategic prioritization process serves as the primary input source for the STIP. Metropolitan Planning Organizations, (MPOs), Rural Planning Organizations (RPOs), NCDOT Divisions, and the Division of Bicycle and Pedestrian Transportation (DBPT) as well as other units at NCDOT may submit projects through the prioritization process. For bike and pedestrian projects, the DBPT utilizes a project prioritization methodology with defined criteria to rank all bike/pedestrian projects. This process occurs every two years. Priority projects are included in the developmental STIP (years 6 to 10) and the 10-year Program & Resource Plan.

- Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bicycle-safe bridge design are frequently funded as incidental features of highway projects. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of federal and state roadway construction funds or with a local fund match.

- NCDOT's Sidewalk Program – Each year, a total of $1.4 million in STP-Enhancement funding is set aside for sidewalk construction, maintenance and repair. Each of the 14 highway divisions across the state receives $100,000 annually for this purpose. Funding decisions are made by the district engineer. Prospective applicants are encouraged to contact their district engineer for information on how to apply for funding.

Governor's Highway Safety Program (GHSP)

Upon approval of specific project requests, GHSP funding is provided through an annual program to undertake a variety of pedestrian and bicycle safety initiatives. Amounts of GHSP funds vary from year to year, according to the specific amounts requested. The GHSP plans and supports several highway safety programs annually. 'Click It or Ticket' began in 1993 and has become the national model for an enforcement and education campaign (bearing the same name), which is operated by the National Highway Traffic Safety Administration. All funding from the GHSP is allocated for highway safety purposes only. The funding provided for this program has been described as 'seed money', which is money that is needed to get programs started. The grantee is expected to provide a portion of the project cost and is expected to continue the program after GHSP funding expires.

http://www.ncdot.gov/programs/GHSP/

Safe Routes to School Program (managed by NCDOT, DBPT)

Safe Routes to School (SRTS) is a program that enables and encourages children to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates 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 North Carolina Safe Routes to School Program is supported by federal funds through SAFETEA-LU and MAP-21 legislation.

Different types of reimbursable funding opportunities are available through this program which include; Action Plans or School Travel Plans, Non-Infrastructure Program funding, Infrastructure Program funding, and Highway Division Funds. Please note that all SRTS projects "shall be treated as projects on a Federal-aid system under chapter 1 of title 23, United States Code." Although no local match

is required and all SRTS projects are 100% federally funded, agencies are encouraged to leverage other funding sources that may be available to them, including grant awards, local, state, or other federal funding.

The following provides information about the program.

- Action Plans or School Travel Plans: These are plans to improve pedestrian and bicycle safety within a two-mile radius of schools that are grades K-8. The Action Plans provide a framework for identifying projects, programs and activities that will make walking and bicycling to school safer and more appealing.
- Non-Infrastructure Funds: are used for pedestrian and bicycle education, encouragement, evaluation and enforcement. These grants are good for developing programs that inspire children to walk and bike to school.
- Infrastructure Funds: are funds that are awarded for the planning, design, and construction of pedestrian and bicycling facilities within a 2-mile radius of a school. Funding requests typically range from $100,000 to $300,000 per project. Types of projects may include sidewalk improvements, crossing improvements, on-street bike and pedestrian improvements, bike parking, traffic calming, and traffic separation devices among others. An adopted Comprehensive Transportation Plan or other type of pedestrian and bicycle plan that identifies needed infrastructure improvements is helpful in obtaining these grants.
- Highway Division Funds: are funds that are allocated by each of NCDOT's 14 Highway Divisions and the SRTS office to fund infrastructure projects on state-maintained roadways. The projects must be within 2-miles of a school serving grades K-8 to be eligible. The funding amounts can be used to improve conditions for walking and biking to school.

The contact for SRTS projects is:
Ed Johnson, ASLA, RLA, SRTS Coordinator
NCDOT, Division of Bicycle and Pedestrian Transportation
1552 Mail Service Center
Raleigh, NC 27699-1552
Email:erjohnson2@ncdot.gov Phone: 919-707-2604

For additional information via the Internet:

http://www.ncdot.gov/doh/preconstruct/traffic/congestion/cm/msta/docs/SRTS.pdf

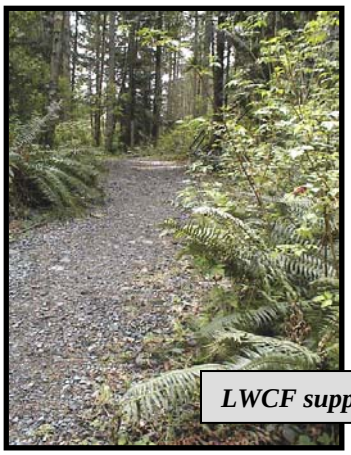
Powell Bill Program

The Powell Bill or the North Carolina Street-Aid Allocations to Municipalities is a program of the North Carolina Department of Transportation. Allocations are made annually to municipalities that establish their eligibility and qualify as provided by G.S. 136-41.1 through 136-41.3. These funds can be used for planning, construction, and maintenance of sidewalks along public streets and highways.

http://www.ncdot.org/programs/Powell_Bill/

North Carolina Department of Environment and Natural Resources

Land and Water Conservation Fund – North Carolina (LWCF)



LWCF supplements outdoor recreational projects

A federally-funded program, LWCF was established for local and state governments in 1965 as a funding source for outdoor recreation development and land acquisition. LWCF monies are derived form the sale or lease of nonrenewable resources, primarily offshore oil/gas leases and surplus federal land sales. Acquisition and development grants may be used for a wide variety of outdoor projects such as bike trails, City parks, tennis courts, outdoor swimming pools, and support facilities (roads, water supply, etc.). Facility design must be basic in nature (as opposed to elaborate) and must remain accessible to the general public. No more than 50% of the project cost may be federally funded by LWCF, although all or part of the project sponsor's matching share may be obtained from certain other federal assistance programs.

http://ils.unc.edu/parkproject/lwcf/home1.html

North Carolina Ecosystem Enhancement Program

The NC Ecosystem Enhancement Program (EEP) combines a wetlands-restoration initiative by the N.C. Department of Environment and Natural Resources with ongoing environmental efforts by the Department of Transportation to restore, enhance, and protect its wetlands and waterways. EEP provides:

- High-quality, cost-effective projects for watershed improvement and protection

- Compensation for simply unavoidable environmental impacts associated with transportation, infrastructure, and the area's economic development

- Detailed watershed-planning and project-implementation efforts within North Carolina's threatened or degraded watersheds

http://www.enr.state.nc.us/html/tax_credits.html

It is typical for scout groups to adopt trails

North Carolina Division of State Parks

NC Adopt-A-Trail Grant Program

The North Carolina Division of State Parks awards $108,000 each year to government agencies, nonprofit organizations, and private trail groups for trail projects, through the Adopt-a-Trail program. Funds may be used for building trails, signage and facilities, brochures, and maps.

http://www.ncparks.gov/About/grants/trails_grant.php

Recreational Trails Program (RTP)

The Recreation Trails Program (RTP) is an assistance program of the Department of Transportation's Federal Highway Administration (FHWA). RTP makes recreation funds available for state allocation – in the development and maintenance of recreation trails and trail-related facilities for both non-motorized and motorized recreation trail users. RTP funds are distributed to states by a legislative formula: half of the funds are distributed equally among all states and half are distributed in proportion to the estimated amount of non-highway recreational fuel used in each state. *Non-highway recreational fuel is the type that is typically used by snowmobiles, all-terrain vehicles, off-road motorcycles, and off-road light trucks.*

RTP assists with development of motorized recreation trails

North Carolina Parks and Recreation Trust Fund (PARTF)

PARTF was established for local governments and the North Carolina Division of Parks and Recreation in 1994 as a funding source for the development and/or improvement of parks and recreation facilities, as well as for the purpose of land acquisition. A state-funded program, PARTF matches monies spent by municipalities on parks and recreation, with each sharing 50% of the cost. In 2004, the fund request was elevated from a maximum of $500,000 to $1,000,000. The Recreational Resources Service should be contacted for additional information at (919) 515-7118.

www.ncparks.gov/About/grants/partf_main.php

North Carolina Division of Forest Resources

Urban and Community Forestry Grant Program

This program is designed to assist local governments in preserving existing tree cover in communities and to effectively and efficiently manage urban and community forests. Tree planting projects need to be part of a larger project aimed at promoting and enhancing the existing tree cover in a community.

Projects with pedestrian network elements include:

- Development of a pocket park
- Greenway development
- Tree planting in low-income neighborhoods
- Master Tree Plans
- Neighborwoods

http://www.dfr.state.nc.us/Urban/urban_grant_overview.htm

North Carolina Division of Water Resources

Water Resources Development Grant Program

This grant is designed to provide cost-share grants and technical assistance on projects related to water resources. There are seven (7) different project categories. The category which describes *the establishment of a greenway in close proximity to a body of water* is eligible for the Land

New River offers greenway opportunity

Acquisition and Facility Development for Water-Based Recreation grant.

http://www.ncwater.org/Financial_Assistance/

North Carolina Division of Commerce

Community Revitalization Grants

The purpose of the Community Revitalization Grant is to revitalize low or moderate income residential areas through improvements, preservation, or development. Eligible activities include housing, street improvements, public water service, public sewer service, community centers, and recreation facilities. Other activities may be eligible with pre-approval. Maximum grants are one million dollars.
http://www.nccommerce.com/en/CommunityServices/CommunityDevelopmentGrants/CommunityDevelopmentBlockGrants/

Miscellaneous State Funding Organizations

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

Created in 1996 by the North Carolina General Assembly, the Clean Water Management Trust Fund (CWMTF) grants monies to local governments, state agencies, and not-for-profit conservation groups to help finance projects that specifically address water pollution issues. CWMTF will fund projects that contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits. There is no match required from local municipalities for CWMTF funds; however, the "suggestion" of a match is highly recommended.

http://www.cwmtf.net/

North Carolina Natural Heritage Trust Fund (NHTF)

Monies from the NHTF must be accessed through state agencies such as DENR, the Wildlife Resources Commission, the Department of Cultural Resources, and/or the Department of Agriculture and Consumer Services (NCDA&CS). Funds are meant for the acquisition and protection of land with significant habitat value and/or cultural heritage value.

http://www.ncnhtf.org/

North Carolina Health and Wellness Trust Fund (HWTF)

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

HWTF receives 25% of the Tobacco MSA settlement fund. Three-fourths of this flue-cured tobacco, which is grown in the US, comes from North Carolina tobacco farms.

The Fit Community Program was designed to address the growing obesity problem in North Carolina. In 2004, HWTF partnered with Blue Cross and Blue Shield of North Carolina to launch a statewide campaign designed to raise awareness of the danger of being overweight and provide communities and individuals with the information and tools they need to address this problem.

Fit Community Grants are funded for two (2) years, for a maximum of $60,000. Applicants must first submit a Fit Community designation application and then apply for a Fit Community grant. Funding is for policy changes that will influence the public by promoting physical activity and changes to the physical environment; and, that encourage more physical activity (trails/greenways).

http://www.healthwellnc.com/

Federal Agencies

Community Development Block Grant Program (HUD-CDBG)

The CDBG is an extremely flexible grant program that provides communities with funding resources to address a wide range of unique

Community Development Block Grant

community development needs. The program is administered through the United States Department of Housing and Urban Development (HUD). Formed in 1974, the CDBG program is one of the oldest continuing HUD programs in existence. The CDBG program provides annual grants for facility and infrastructure related improvements to assist in revitalization and job retention within communities.

http://www.hud.gov/offices/cpd/communitydevelopment/programs/

Rivers, Trails, and Conservation Assistance Program (RTCA)

As new development occurs, RTCA protects natural resources in the area

The National Park Service (NPS) provides this program of advisory services and counseling. The NPS works with community groups and local and state governments to conserve rivers, preserve open space, and develop trails/greenways. No fixed amount is established for these services. Candidates must demonstrate a commitment for cost-sharing, which may include donations of time, cash, and services. RTCA has played a major role in community conservation/recreation through citizen-led partnership approaches to river protection, trail development, and land conservation.

www.nps.gov/ncrc/programs/rtca/

Public Works and Economic Development Program

This program is administered by the Economic Development Administration for the US Department of Commerce. Public Works and Economic Development investments help support the construction or rehabilitation of essential public infrastructure and facilities necessary to generate or retain private sector jobs and investments, attract private sector capital, and promote regional competitiveness.

Public infrastructure is essential in all aspects of community development

This includes investments that expand and upgrade infrastructure to attract new industry, support technology-led development, redevelop brownfield sites, and provide Eco-industrial development.

http://www.eda.gov/AboutEDA/Programs.xml

Contributions

The solicitation of *contributions* is an acceptable method of fund-raising for pedestrian improvements. These donations - typically in the form of land, cash, labor, or materials - can be solicited to assist the City of Lenoir with the enhancement of its pedestrian system. Corporations, civic organizations, individuals, and other groups generally donate to a specific pedestrian project; however, donations may also be solicited for multiple project improvements or additions. Private, nonprofit, tax-exempt foundations, such as the North Carolina Community Foundation (NCCF), are often used as a means of accepting and administering *private* gifts to a *public* entity.

Foundations

Foundations are another source of financing that allows direct contributions to be made within communities, states, or the nation. These types of funds are usually described as special program foundations, general-purpose foundations, or corporate foundations. Foundations generally have very few restrictions or limitations and are typically received form local entities. One example of such a foundation is the Cannon Foundation, Inc.

Partnerships

To implement the recommendations contained in the comprehensive pedestrian plan, Lenoir will most certainly have to expand their partnership agreements with other public agencies and private-sector organizations. There are many different types of partnerships that can be formed to achieve the goals established by the Town. In fact, many local governments throughout the nation are utilizing partnerships with public and private-sector interests to accomplish community goals.

Listed below are the various types of partnerships that the City should consider in its efforts for the improvement of pedestrian facilities:

- Programming partnerships to co-sponsor events and facilities or to allow qualified

outside agencies to conduct activities on properties, which are municipally-owned.

- Operational partnerships to share the responsibility for providing public access and use of facilities.
- Development partnerships to purchase land and/or build facilities.
- Management partnerships to maintain properties and/or facilities.
- Elected officials should become advocates for pedestrian facilities and promote the development of future improvements.

The City of Lenoir is currently "partnered" with several entities in other City-related endeavors/functions and should evaluate forming additional partnerships, which address the needs of the pedestrian system.

City should prioritize land purchases for multi-purpose trails

NCDOT will be a very important partner as more facilities are developed in the area. Many of the proposed improvements involve NCDOT. It will be imperative that this partnership has good communication and coordination for the efficient implementation of projects.

Direct requests should be made to potential partners, asking them to meet to evaluate the possible benefits of partnering. This step should be made to generate interest and agreement *prior* to solidifying any responsibilities for each participating party.

Land Acquisition and Development

There are many different types of *land acquisition* available to the City of Lenoir for the pedestrian system expansion and/or future development. Due to the land costs and availability, it is recommended that the City prioritize the property to be acquired for facilities regarding multi-purpose trails, which are typically off-street facilities. Listed below are several methods for acquiring/developing these trails:

Local Gifts

Donations of land, money, labor, or construction can have a significant impact on the acquisition and development of pedestrian facilities. The solicitation of local gifts is highly recommended and should be organized thoroughly, with the utilization of very specific strategic methods. Often untapped, this source of obtaining funds requires the contacting of potential donors - such as individuals, institutions, foundations, service clubs, etc.

Life Estate

A *life estate* is a gift whereby a donor retains the land during his/her lifetime and relinquishes title of the property after his/her death. In return, the owner (or family) is relieved of property tax for the given land.

Easement

An *easement* is the most common type of "less-than-fee" interest in land. An easement seeks to compensate the property owner for the right to use his/her land in some way or to compensate for the loss of his/her privileges to use the land. Generally, the land owner may still use the land and therefore continues to generate property tax revenue for the municipality.

Fee Simple Purchase

Fee simple purchase is the most common method used to acquire municipal property for pedestrian facilities. Although it has the advantage of simplifying justification to the general public, fee simple purchase is the most difficult method to pursue, due to limited monetary resources.

Fee simple with lease-back or resale

This method allows municipalities to acquire land by fee simple purchase, yet allows them to either sell or lease the property to prospective users with restrictions that will preserve the land from future development. The fee simple with lease-back or resale method of development commonly results from situations in which land owners who have lost considerable monetary amounts in property value, determine that it is more economical to sell the land to the municipality (with a lease-back option) than to keep it.

Long-term option

Long-term options allow municipalities to purchase property over a long period of time. This method is particularly useful because it enables the municipality to consider particular pieces of land that may have future value, though it is not currently desired or

affordable at the time. There are several advantages to this method of property acquisition: the City of protect the future of the land without purchasing it upfront; and meanwhile, the purchase price of the land will not increase, with the City having the right to exercise its option. The disadvantage to the City is that all privileges relinquished by the land owner require compensation in the form of securing the option.

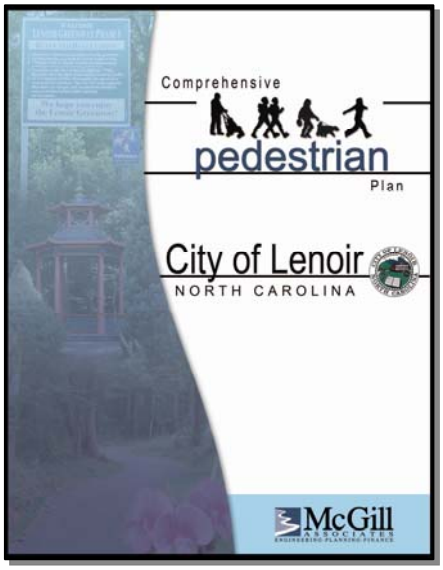
Identify Special Funding Opportunities for High Priority Projects

The funding sources listed above can be used for numerous projects proposed in this plan as well as future projects. Many of these projects can be funded as enhancement projects of TIP. The improvements along the major corridors (that have substantial construction cost) should be strongly considered. Funding for mapping and signage can be allocated through the Governor's Highway Safety Program.

It will be important to incorporate the future facilities with incidental highway projects. This document will be used by NCDOT to determine areas where pedestrian improvements should be incorporated into the proposed roadway improvements. Major construction projects may require more than grants. Although grant funding is a great resource, the amount of money available can limit the size of the project. A bond referendum could help to determine whether the City's residents are willing to accept the cost for construction of major facilities.

The grants available for funding pedestrian facilities will evolve in the future. The funding amount for many grants may not be as much as others, while some may be very competitive because of the monies available. Partnering with other organizations typically lends more project significance when applying to funding agencies. Having multiple organizations applying for a grant, shows unity within a community; this, in turn, supports the grant application. In addition, having multiple partners will allow for more monies to be used for matching funds.

7.7 THE CITY OF LENOIR COMPREHENSIVE PEDESTRIAN PLAN



The City of Lenoir Comprehensive Pedestrian Plan 2012 is merely a guide for the future. As new development and growth occurs in Lenoir, new priorities may develop. The City should continually evaluate and update the plan in order to meet the primary needs of the community. As the projects are implemented, the City should take steps to update all involved parties in the progress being made. Additions to the plan should be formalized in order to insure continuity as stakeholders change.

- END OF SECTION -

Appendix A

Comprehensive Pedestrian Plan 2012

Lenoir Needs YOU!

This Is YOUR City...YOUR Vision

Bring your ideas, your opinions and your local knowledge! City Officials will be on hand to share information and to answer questions.

COMMUNITY MEETING

Thursday, February 9th

6:00 P.M.

Central Baptist Church

1444 Norwood Street SW

Everyone Welcome!

Refreshments

Prizes

For More Information

Contact the City of Lenoir

at

757-2200

Appendix B

Comprehensive Pedestrian Plan 2012

City of Lenoir Comprehensive Pedestrian Plan

The City of Lenoir is in the process of creating a Comprehensive Pedestrian Plan and would like your input. Please take a moment to complete the following survey. The information that you provide will help determine pedestrian facility priorities in our community.

1. How do you rate present pedestrian conditions in Lenoir?

- [ ] How do you rate present pedestrian conditions in Lenoir? Excellent
- [ ] Fair
- [ ] Poor

2. How often do you walk now?

- [ ] How often do you walk now? Never
- [ ] A few times a month
- [ ] A few times a week
- [ ] 5+ times a week

3. Would you walk more often if more sidewalks, trails, and safe roadway crossings were provided for pedestrian transportation?

- [ ] Would you walk more often if more sidewalks, trails, and safe roadway crossings were provided for pedestrian transportation? Yes
- [ ] No

4. What types of public funds, if any, should be used to improve pedestrian facilities?

- [ ] What types of public funds, if any, should be used to improve pedestrian facilities? Capital improvements
- [ ] Existing local taxes
- [ ] New local taxes
- [ ] State and Federal grants
- [ ] No funding should be used

Other (please specify)

5. For what reasons do you walk now, and/or what reasons may make you want to walk in the future?

- [ ] For what reasons do you walk now, and/or what reasons may make you want to walk in the future? Fitness or recreation
- [ ] Transportation to some destination
- [ ] Social visits
- [ ] Spending time outdoors

Other (please specify)

6. What destinations would you most like to walk to?

- [ ] What destinations would you most like to walk to? Downtown
- [ ] Place of work
- [ ] Parks
- [ ] Library
- [ ] Restaurant/Entertainment
- [ ] Lenoir Greenway

Other (please specify)

7. What factors do you feel would discourage walking?

- [ ] What factors do you feel would discourage walking? Lack of sidewalks and marked trails
- [ ] Lack of pedestrian signals at intersections
- [ ] Lack of interest in walking
- [ ] Aggressive motorist behavior
- [ ] Lack of nearby destinations
- [ ] Lack of street lighting
- [ ] Lack of landscaping and/or buffers between sidewalks and road
- [ ] Lack of crosswalks at traffic signals
- [ ] Automobile traffic and speed
- [ ] Lack of time
- [ ] Sidewalks in need of repair
- [ ] Criminal activity

8. Please list the specific roads and/or intersections that you feel are most in need of new sidewalks or other pedestrian-based improvements

Please list the specific roads and/or intersections that you feel are most in need of new sidewalks or other pedestrian-based improvements

9. What is your age?

- ☐ What is your age? 1-18
- ☐ 19-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ 65 and older

10. Where do you live?

- ☐ Where do you live? Inside city limits of Lenoir
- ☐ Outside city limits of Lenoir but in Caldwell County
- ☐ Other

Thank you for your time!

Appendix C

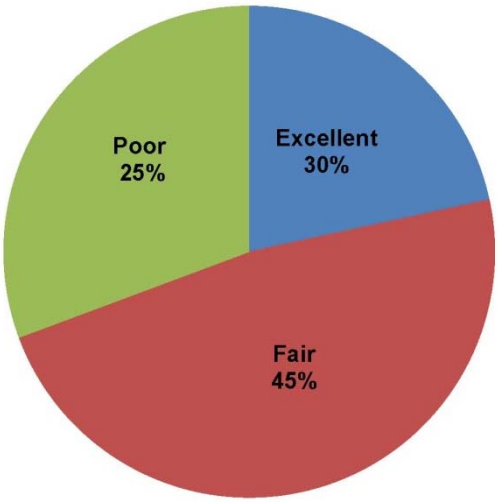
Comprehensive Pedestrian Plan 2012

Pedestrian Survey

To further solicit input from the public about the pedestrian system in Lenoir, a public survey was conducted by means of "questionnaires", which were made available to residents via Community Meetings, by pick-up at the City Hall, and via the internet from a link on the City's main web page. The pedestrian survey, which can be found in the Appendix, was designed to solicit opinions on both *general* and *specific* pedestrian concerns in the City of Lenoir. Approximately one hundred (100) people filled out the Lenoir Pedestrian Survey. The survey questions and a summary analysis for each are as follows:

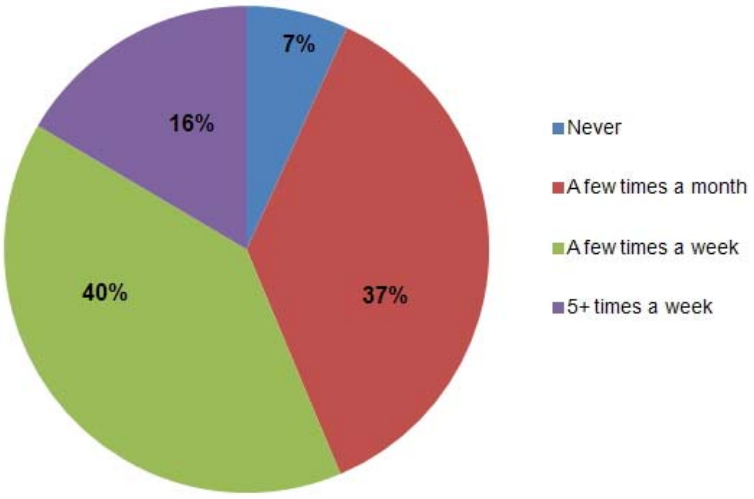
1. Present Pedestrian Conditions:

How do you rate present pedestrian conditions in Lenoir?



The majority of respondents feel that the pedestrian conditions in the City are fair to excellent.

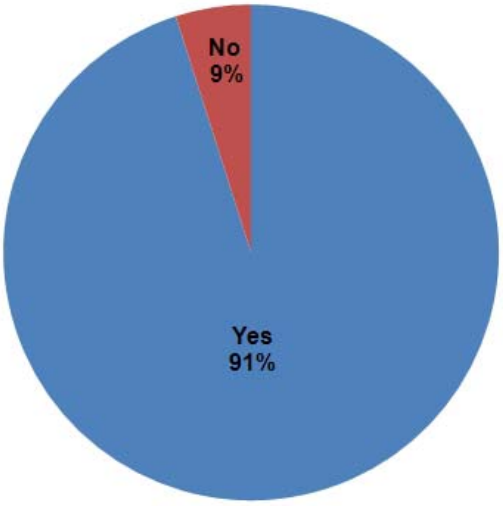
2. How often do you walk?



A large number of survey respondents report walking a few times a week (40%) to a few times a month (37%). 16% of respondents claim to walk five or more times a week and only 7% report never walking. These results support the fact that people in Lenoir do walk and use the existing pedestrian facilities.

3. Survey respondent willingness to use expanded pedestrian facilities:

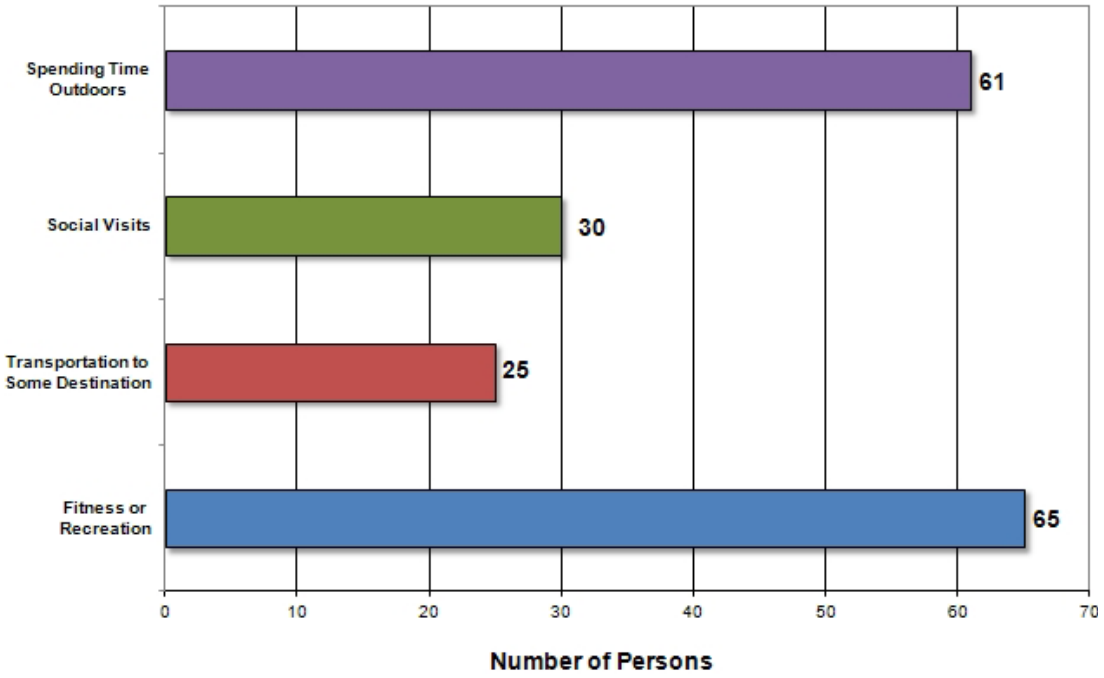
Would you walk more often if more sidewalks, trails and safe roadway crossings were provided for pedestrian transportation?



The majority of respondents indicate a definite willingness to walk more if more sidewalks, trails and safe roadway crossing were provided.

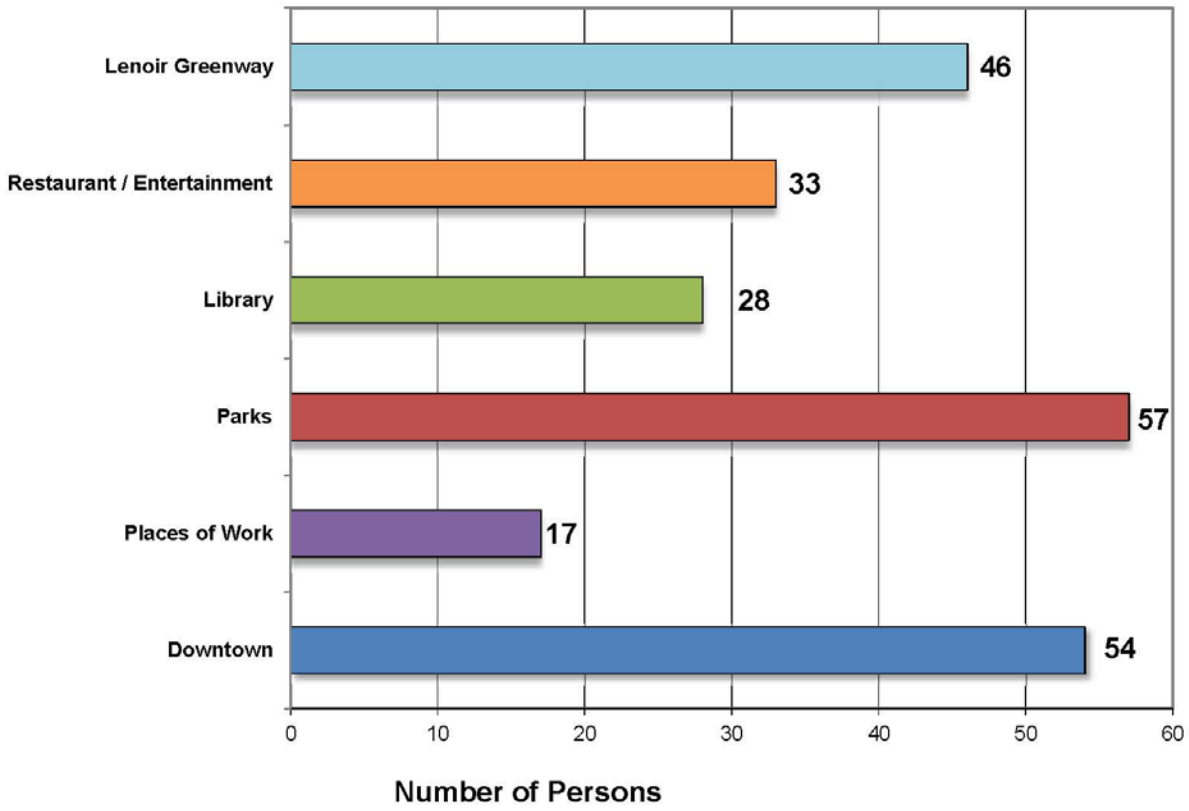
4. Reasons to walking trips:

For what reasons do you walk now, and/or what reasons may make you want to walk in the future?



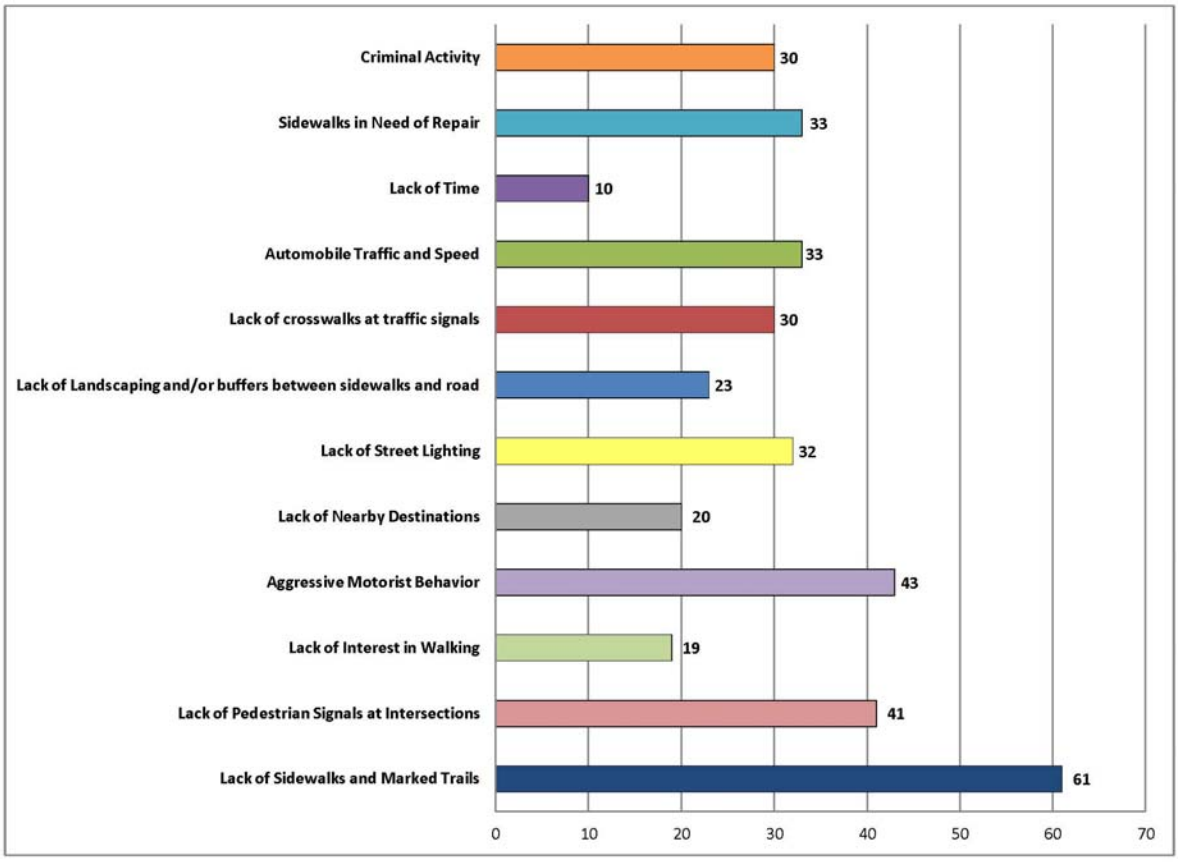
The majority of currently indicated reasons for citizens making walking trips are for recreation/leisure endeavors. However, walking for social reasons has been indicated as making up some of the reasons for respondents to walk. With current trends in population growth, environmental concerns and fuel prices, the number of and reasons for using the pedestrian network will probably steadily increase in the future.

5. Respondents' most likely destinations for walking:



The respondent's indications of what destinations are most often walked to clearly indicate a broad range of reasons for walking trips. From those that choose to walk to work, the library or to downtown for business or personal reasons, or those that are heading to area parks or the Greenway, the reasons people walk are varied but without the existing pedestrian facilities those trips wouldn't happen as safely or as often.

6. Important factors that influence respondents' decision to walk:



Those that answered this question felt that the lack of sidewalks and marked trails was the main reason discouraging walking trips, while aggressive motorists behavior was listed as the second most discouraging factor preventing walking. As would be expected the next most listed reasons lack of pedestrian signals at intersections, automobile traffic and speed, sidewalks in need of repair and lack of crosswalks at traffic signals.

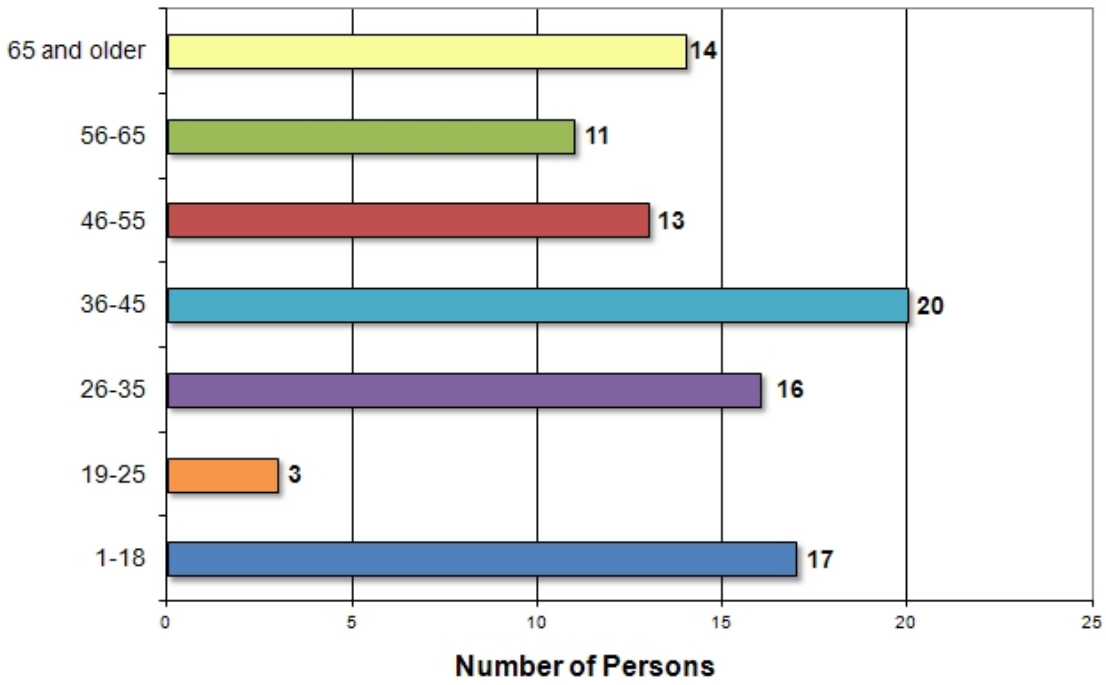
7. Please list the specific roads/or intersections that you feel are most in need of new sidewalks or other pedestrian-based improvements

Roads/intersections listed as in need of new sidewalks and pedestrian facilities included:

- Hill Street
- Curve between VA Street and Poplar Street
- West End Park Area
- Greenway down to Mulberry Recreation Center

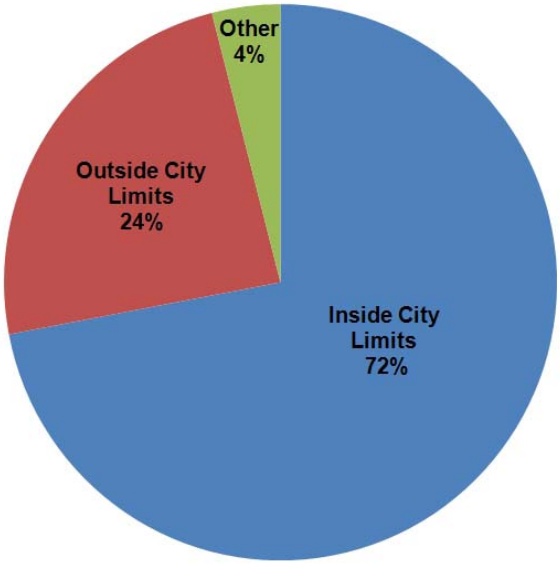
- Intersection of Blowing Rock Boulevard
- West End
- Smith Cross Roads
- Stone Croft
- Uptown Lenoir
- West Harper Avenue
- Norwood Street
- Hibriten Drive
- Hospital Avenue
- Morganton Boulevard
- Lower Creek
- Harper Avenue Corridor

8. Age Range



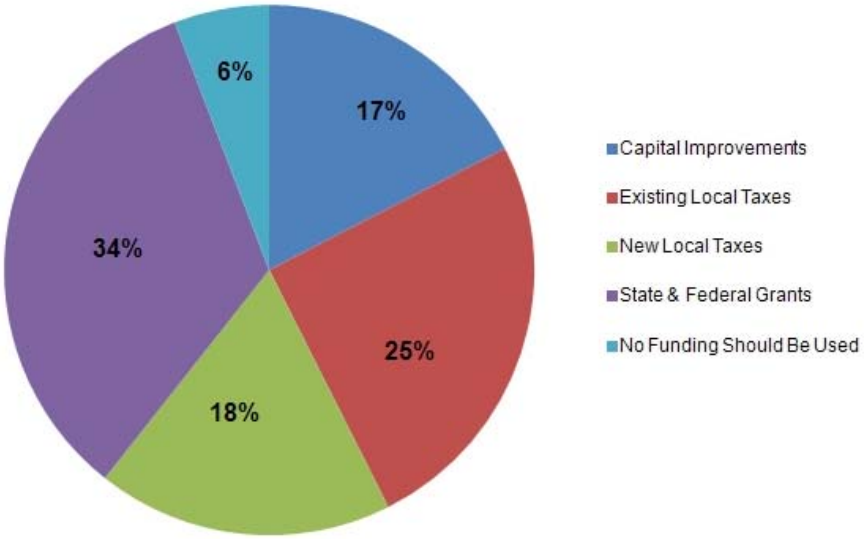
While respondents ranged from children all the way up to those 65 or older, the majority of survey respondents were adults aged 36-45, children and adults aged 26-35. Adults 46-55 followed close with the adults aged 65 and older. The smallest group of respondents were young adults aged 19-25.

9. Resident / Non-Resident



The majority (72%) of survey participants report living within the City of Lenoir city limits. A sizable 24% of responses indicated living from outside the City limits. This number reinforces the importance of Lenoir and its facilities to those living presumably nearby within Caldwell County or in a neighboring community. It should also be noted that 4% of survey participants indicated living somewhere “other”. This may indicate that perhaps tourists visited Lenoir and partook in community outreach efforts.

10. Public Funding Usage:



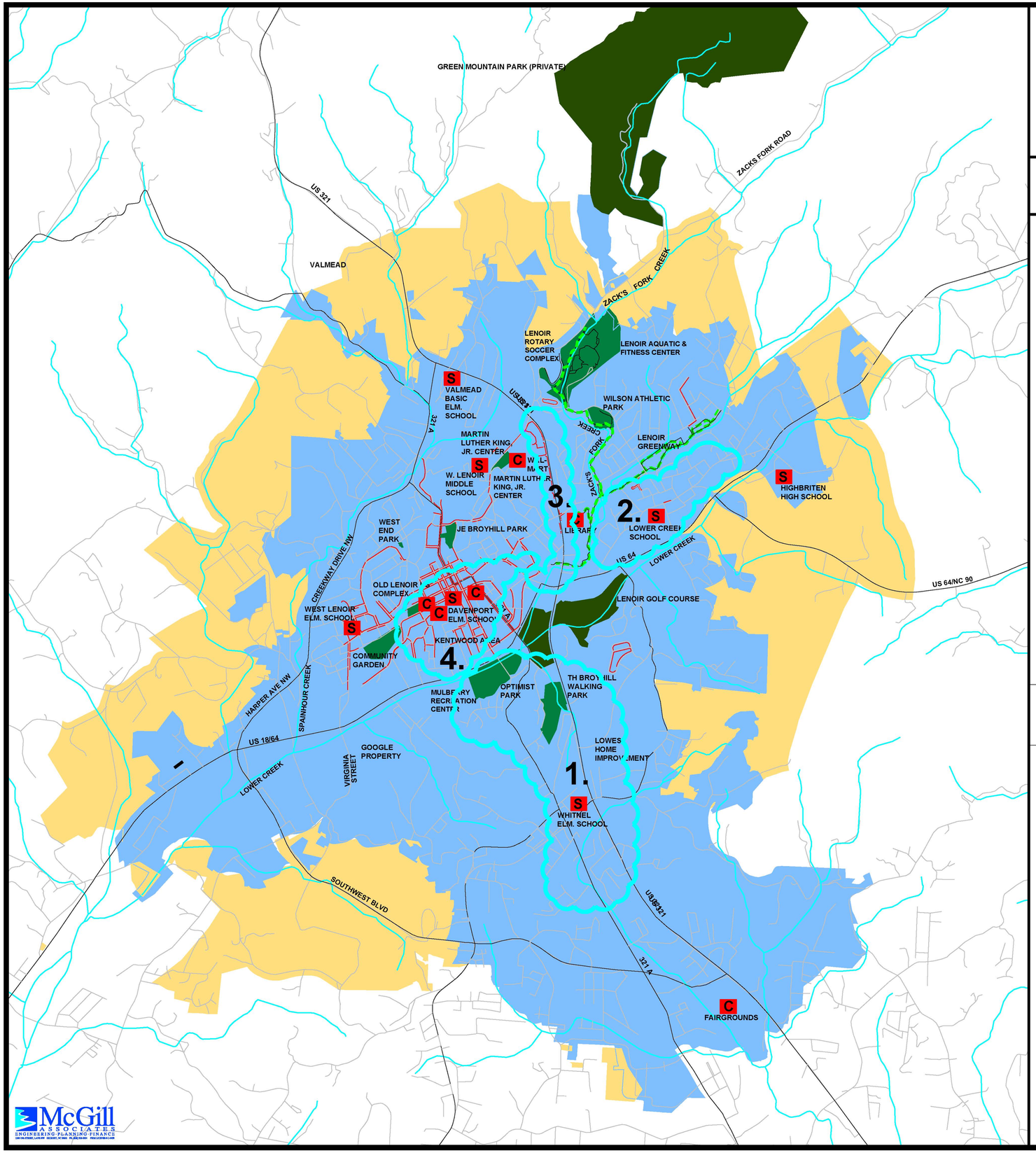
Clearly a large majority are in favor of funding pedestrian projects with most respondents hoping for State and Federal grants to make up the bulk of funding. However, a total of 43% indicate the desire to use local taxes (25% for the use of existing tax dollars, and 18% indicating that new local taxes be used).

Appendix D

Comprehensive Pedestrian Plan 2012

PEDESTRIAN PLAN
CITY OF LENOIR

COMMUNITY INPUT MAP EXERCISES



- CITY OF LENOIR
- CITY OF LENOIR EXTRA TERRITORIAL JURISDICTION
- CITY OF LENOIR PARKS/RECREATIONAL FACILITIES
- OTHER PARKS/RECREATION FACILITIES
- HIGHWAYS
- ROADS
- EXISTING GREENWAY TRAIL
- EXISTING SIDEWALK
- CREEKS
- S — SCHOOL
- C — CULTURAL FACILITIES
- AREA OF COMMUNITY CONCERN

0 1000' 2000' 4000' 6000' 8000'

SCALE: 1"=2000'

North

WHAT ARE THE DESTINATIONS DO YOU TYPICALLY WALK TO AND WHAT PATHS ARE IN MOST NEED OF IMPROVEMENTS?

PUBLIC COMMENTS:

1. "THIS AREA REALLY NEEDS SIDEWALKS"
2. "PEOPLE JUST WALK ON THE ROADS"
3. "YOU CAN SEE FOOT PATHS WORN INTO THE GROUND ON THE SIDE OF THE ROAD"
4. "THE GREENWAY SHOULD GO DOWNTOWN"

McGill Associates
Engineering · Planning · Finance

Appendix E

Comprehensive Pedestrian Plan 2012

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2006

BLOWING ROCK / WALMART (OLD)	7
BLOWING ROCK / HOSPITAL	6
CROSSROADS	5
HARPER / MORGANTON	5
MORGANTON / HARPER / LOOP	4
BLOWING ROCK / NUWAY	3
CONNELLY SPRINGS / LOOP	3
NORWOOD / CONNELLY SPRINGS	3
WILKESBORO / TAYLORSVILLE	3
HARPER / HOSPITAL	2
HICKORY / MCLEAN HIBRITEN	2
MAIN / ASHE	2
MAIN / COLLEGE	2
WILKESBORO / LOWER CREEK	2
BLOWING ROCK / COMMERCIAL	1
BLOWING ROCK / ELIZABETH	1
HARRISBURG / OVERLOOK	1
HICKORY / IDEAL	1
HICKORY / LOOP	1
HOSPITAL / HARPER	1
MAIN / ELIZABETH	1
MAIN / FINLEY	1
MORGANTON / MULBERRY	1
NORWOOD / LOOP	1
NORWOOD / MCLEAN	1
PENNELL / BARRINGTON GLEN	1
PENNELL / POWELL	1
SOUTHWEST LOOP / ROSEDALE	1
WEST / RIDGE	1
WILKESBORO / HIBRITEN	1
WILKESBORO / TREMONT PARK	1

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2007

CROSSROADS	11
BLOWING ROCK / HOSPITAL	3
BLOWING ROCK / MAIN	3
HARPER / MORGANTON	2
HICKORY / MCLEAN HIBRITEN	2
MORGANTON / HARPER / LOOP	2
WILKESBORO / LOWER CREEK	2
BLOWING ROCK / ABC	1
HICKORY / FAIRWOOD	1
LOWER CREEK / POWELL	1
MAIN / ASHE	1
MORGANTON / VIRGINIA	1
NORWOOD / CONNELLY SPRINGS	1
NORWOOD / MULBERRY	1

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2008

MORGANTON / HARPER / LOOP	9
CROSSROADS	5
CONNELLY SPRINGS / LOOP	3
BLOWING ROCK / WALMART (NEW)	2
HARPER / ABINGTON	2
HARPER / MORGANTON	2
HARPER / WILLOW	2
LOWER CREEK / WILDWOOD	2
WILKESBORO / LOWER CREEK	2
BLOWING ROCK / ABC	1
BLOWING ROCK / COMMERCIAL	1
BLOWING ROCK / HOSPITAL	1
BLOWING ROCK / MAIN	1
BLOWING ROCK / WALMART (OLD)	1
HARPER / MAIN	1
HARPER / NORWOOD RIDGE	1
HICKORY / LOOP	1
HICKORY / MCLEAN HIBRITEN	1
HOSPITAL / HARPER	1
LOWER CREEK / POWELL	1
MORGANTON / HARRISBURG	1
MORGANTON / MULBERRY	1
NORWOOD / MCLEAN	1
NORWOOD / MULBERRY	1
WILKESBORO / TAYLORSVILLE	1

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2009

CROSSROADS	3
WILKESBORO / ARROWOOD	2
BLOWING ROCK / COMMERCIAL	1
BLOWING ROCK / HOSPITAL	1
BLOWING ROCK / MAIN	1
BLOWING ROCK / WALMART (NEW)	1
CONNELLY SPRINGS / HIBRITEN	1
FINLEY / HARRINGTON	1
HARPER / MULBERRY	1
HARPER / TODD	1
HICKORY / MCLEAN HIBRITEN	1
MORGANTON / COMPLEX	1
MORGANTON / HARPER / LOOP	1
MORGANTON / MULBERRY	1
NORWOOD / CONNELLY SPRINGS	1

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2010

CROSSROADS	4
CONNELLY SPRINGS / LOOP	2
HARPER / MORGANTON	2
MORGANTON / HARPER / LOOP	2
BLOWING ROCK / ABC	1
BLOWING ROCK / COMMERCIAL	1
BLOWING ROCK / HOSPITAL	1
BLOWING ROCK / MAIN	1
COLLEGE / MULBERRY	1
CONNELLY SPRINGS / HIBRITEN	1
HARPER / MULBERRY	1
HARRISBURG / OVERLOOK	1
HARPER / WILLOW	1
HOSPITAL / WILSON	1
LOWER CREEK / POWELL	1
MORGANTON / NORWOOD	1
MORGANTON / OLD MORGANTON	1
NORWOOD / CONNELLY SPRINGS	1

Lenoir Police Department

Accident Summary Report

Top Traffic Accident Intersection Locations

2011

CONNELLY SPRINGS / LOOP	4
CROSSROADS	2
MORGANTON / HARPER / LOOP	2
HARPER / CREEKWAY	1
HARPER / FAIRVIEW	1
HARRISBURG / OVERLOOK	1
WILKESBORO / LOWER CREEK	1
WILKESBORO / TAYLORSVILLE	1

Lenoir Police Department

Accident Summary Report

Pedestrian Involved During 2011 (non-reportable)

1107059	12/12/2011	BROADWAY ST	F	PROPSECT ST	WHEELER ST	PED	12

Lenoir Police Department
Accident Summary Report
2006 - 2011

Morganton/Harper/Loop

Hit and Runs	1
Pedestrians	0
Fatalities	0
Personal Injury	4
Property Damage Only	16
Total Accidents	**21**

Crossroads

Hit and Runs	4
Pedestrians	0
Fatalities	0
Personal Injury	8
Property Damage Only	22
Total Accidents	**34**

Harper/Morganton

Hit and Runs	2
Pedestrians	0
Fatalities	0
Personal Injury	3
Property Damage Only	8
Total Accidents	**13**

Hospital / Wilson

Hit and Runs	0
Pedestrians	0
Fatalities	0
Personal Injury	1
Property Damage Only	0
Total Accidents	**1**

Morganton / Norwood

Hit and Runs	0
Pedestrians	0
Fatalities	0
Personal Injury	1
Property Damage Only	0
Total Accidents	**1**

Connelly Springs/Loop

Hit and Runs	0
Pedestrians	0
Fatalities	0
Personal Injury	6
Property Damage Only	6
Total Accidents	**12**

Reported Pedalcyclist and Pedestrian Crashes in Lenoir, North Carolina

For the Reporting Period of January 1, 2000 to June 30, 2012

NCDMV Crashid	*County Number*	*County Name*	*Municipality*	*On Road*	*Miles*	*Dir*	*From Road*	*Toward Road*	*Mileposted Route Number*	*Milepost Number*	*Crash Severity*	*Date of the Crash*	*Time of the Crash*	*Crash Type*
100032720	13	Caldwell	Lenoir	STAGE STREET	0.037	W	CENTER STREET	HILLCREST STREET		999.999		2/17/2000	1:06:00 AM	Pedestrian
100032724	13	Caldwell	Lenoir	SPRUCE ST	0.056		EAST ST	PENNTON AVE		999.999	C-Injury (Possible)	2/17/2000	4:34:00 PM	Pedestrian
100138619	13	Caldwell	Lenoir	CREEKWAY DR	0		PROSPECT ST	NC 90	40001300	0.169	Fatal (Killed)	2/14/2000	6:44:00 PM	Pedestrian
100189700	13	Caldwell	Lenoir	STONEWALL ST	0.009	N	RESACA ST	FOSTER PL		999.999	A-Injury (Disabling)	9/24/2000	2:44:00 PM	Pedestrian
100195173	13	Caldwell	Lenoir	VIRGINIA ST	0		GREER CIR	BRADFORD ST	50031782	0.47	B-Injury (Evident)	10/6/2000	4:05:00 AM	Pedestrian
100290274	13	Caldwell	Lenoir	CONNELLY SPRINGS RD	0.009	SW	NORWOOD ST	DELWOOD DR	40001001	0.009	B-Injury (Evident)	2/8/2001	3:40:00 PM	Pedestrian
100398550	13	Caldwell	Lenoir	STAGE ST	0.001	W	CENTER ST	HILLCREST ST		999.999	B-Injury (Evident)	7/15/2001	11:10:00 PM	Pedestrian
100550685	13	Caldwell	Lenoir	US 321	0.009	S	ELLISON PL	CRESTLINE PL	20000321	14.667	B-Injury (Evident)	10/10/2001	7:30:00 PM	Pedestrian
100550692	13	Caldwell	Lenoir	FINLEY AVE	0.009	W	RANKIN ST	SHARON AVE		999.999	B-Injury (Evident)	10/19/2001	11:56:00 PM	Pedestrian
100626360	13	Caldwell	Lenoir	BROADWAY ST	0.056	N	GERMAN ST	FAIRVIEW DR		999.999	B-Injury (Evident)	5/8/2002	10:15:00 PM	Pedestrian
100742445	13	Caldwell	Lenoir	US 322	0.028	N	MCLEAN DR	IDEAL DR	20000321	12.911	C-Injury (Possible)	7/10/2002	10:57:00 AM	Pedestrian
100779457	13	Caldwell	Lenoir	NC 18	0.026	NE	ABBINGTON RD	CREEKWAY DR	40001300	2.374	Fatal (Killed)	11/12/2002	7:46:00 PM	Pedestrian
100824664	13	Caldwell	Lenoir	US 323	0.028	N	PENNTON AVE	HOSPITAL AVE	20000321	14.2	C-Injury (Possible)	2/7/2003	11:52:00 AM	Pedestrian
101091392	13	Caldwell	Lenoir	US 324	0.024	N	WEST AVE	ASHE AVE	40001438	0.206	B-Injury (Evident)	1/12/2004	12:23:00 PM	Pedestrian
101178610	13	Caldwell	Lenoir	COLLEGE AVE	0.001	SW	MULBERRY ST	NC 90		999.999	C-Injury (Possible)	5/3/2004	2:06:00 PM	Pedestrian
101266603	13	Caldwell	Lenoir	SHASTA LN	0.2	W	US 321	HOGAN DR		999.999	B-Injury (Evident)	8/25/2004	8:10:00 PM	Pedestrian
101268616	13	Caldwell	Lenoir	HARPER AVE	0		MAIN ST	MULBERRY ST	39000018	2.02	C-Injury (Possible)	9/30/2004	2:25:00 PM	Pedestrian
101370654	13	Caldwell	Lenoir	US 325	0.065	N	PENNTON AVE	HOSPITAL AVE	20000321	14.237	Fatal (Killed)	11/15/2004	7:18:00 PM	Pedestrian
101371777	13	Caldwell	Lenoir	ARLINGTON CIRCLE	0	SE	MULUNGO ST			999.999	C-Injury (Possible)	12/25/2004	3:02:00 AM	Pedestrian
101424978	13	Caldwell	Lenoir	VIRGINIA STREET	0		FAIRVIEW DRIVE	US 64	40001145	0.766	B-Injury (Evident)	7/18/2005	6:13:00 AM	Pedestrian
101439752	13	Caldwell	Lenoir	US 326	0	W	JOYCETON CHURCH ST	SOUTHWEST BLVD	21000321	9.65	B-Injury (Evident)	3/24/2005	8:44:00 AM	Pedestrian
101471895	13	Caldwell	Lenoir	US 327	0.008	N	COMMERCIAL COURT	HOSPITAL AVENUE	20000321	14.138	Fatal (Killed)	6/21/2005	11:43:00 AM	Pedestrian
101474084	13	Caldwell	Lenoir	HILLCREST ST	0.001	SE	CORPENING PLACE	STAGE ST		999.999	C-Injury (Possible)	9/12/2005	2:16:00 PM	Pedestrian
101545995	13	Caldwell	Lenoir	MAIN ST	0		ASHE AVE	WEST AVE	30000090	29.29	C-Injury (Possible)	11/30/2005	1:57:00 PM	Pedestrian
101635025	13	Caldwell	Lenoir	US 328	0.114	S	SWAN DR	CLOVER DR	21000321	10.236	B-Injury (Evident)	9/23/2005	11:47:00 PM	Pedestrian
101635027	13	Caldwell	Lenoir	FINLEY AVE	0.057	E	MAIN ST	RIDGE ST		999.999	C-Injury (Possible)	9/16/2005	4:11:00 PM	Pedestrian
101642493	13	Caldwell	Lenoir	HARPER AVENUE	0.001	E	PENNTON AVENUE	MORGANTON BOULEVARD	39000018	2.691	C-Injury (Possible)	3/3/2006	2:13:00 PM	Pedestrian
101712317	13	Caldwell	Lenoir	STARCROSS RD	0.1	SW	COBB PL	STARSHAKER LN		999.999	Property Damage Only	5/13/2006	8:09:00 AM	Pedestrian
101813732	13	Caldwell	Lenoir	TORRENCE CR	0.02	W	POPE PL	HARPER AVE		999.999	A-Injury (Disabling)	9/29/2006	2:02:00 PM	Pedestrian
101921377	13	Caldwell	Lenoir	HARPER AVENUE	0.019	SW	WILLOW STREET	CHURCH STREET	39000018	1.761	B-Injury (Evident)	2/19/2007	5:15:00 PM	Pedestrian
101996319	13	Caldwell	Lenoir	HOLLY COURT	0		SPRING STREET	BEALL STREET		999.999	B-Injury (Evident)	6/12/2007	4:45:00 PM	Pedestrian
102007868	13	Caldwell	Lenoir	HARPER AVE	0.005	NE	STEEL ST	WILLOW ST	39000018	1.595	B-Injury (Evident)	6/22/2007	3:39:00 PM	Pedestrian
102042366	13	Caldwell	Lenoir	WESTBROOK ST	0.053	NW	SHARON AVE	HOSPITAL AVE		999.999	C-Injury (Possible)	8/13/2007	4:21:00 PM	Pedestrian
102114050	13	Caldwell	Lenoir	BLOWING ROCK BLVD	0		SEEHORN ST	GREENHAVEN ST	20000321	15.065	B-Injury (Evident)	11/24/2007	7:19:00 AM	Pedestrian
102182378	13	Caldwell	Lenoir	SOUTHWEST BOULEVARD	0.4	SE	BRADFORD MOUNTAIN ROAD	S ROSEDALE DRIVE	40001933	1.526	B-Injury (Evident)	2/14/2008	8:00:00 AM	Pedestrian
102191323	13	Caldwell	Lenoir	BRADFORD STREET	0.044	NE	LUTZ STREET	VIRGINIA STREET		999.999	B-Injury (Evident)	2/22/2008	3:35:00 PM	Pedestrian
102232041	13	Caldwell	Lenoir	MORGANTON BLVD	0.023	W	HOOVER ST	OLD MORGANTON RD	20000064	5.097	C-Injury (Possible)	3/20/2008	5:59:00 AM	Pedestrian
102302382	13	Caldwell	Lenoir	LEWIS PRICE PL	0.002	N	HARPER AVE	WEST AVE		999.999	C-Injury (Possible)	5/29/2008	9:57:00 AM	Pedestrian
102323216	13	Caldwell	Lenoir	BLOWING ROCK BLVD	0.047	N	HOSPITAL	VALENCIA PL	20000321	14.491	B-Injury (Evident)	6/16/2008	7:02:00 PM	Pedestrian
102367624	13	Caldwell	Lenoir	BLOWING ROCK BLVD	0.078	S	PENNTON AVE	HARPER AVE	20000321	14.094	A-Injury (Disabling)	8/11/2008	10:05:00 PM	Pedestrian
102387672	13	Caldwell	Lenoir	HARPER AVE	0.061	E	ABBINGTON RD	CREEKWAY DR	39000018	0.721	C-Injury (Possible)	9/4/2008	1:59:00 PM	Pedestrian
102475959	13	Caldwell	Lenoir	NORWOOD ST	0.062	S	CONNELLY SPRINGS RD	HIBRITEN DR	21000321	11.168	C-Injury (Possible)	12/19/2008	5:08:00 AM	Pedestrian
102507189	13	Caldwell	Lenoir	SOUTHWEST BOULEVARD	0.004	SE	BRADFORD MOUNTAIN RD	ROSEDALE DRIVE	40001933	1.13	A-Injury (Disabling)	1/31/2009	6:41:00 AM	Pedestrian
102510890	13	Caldwell	Lenoir	NORTH MAIN STREET	0.002	S	PIEDMONT DRIVE	CREEKWAY DRIVE	30000090	28.332	Fatal (Killed)	2/4/2009	8:02:00 PM	Pedestrian
102649865	13	Caldwell	Lenoir	CREEKWAY DRIVE	0.009	NE	CHARLES PLACE	MEADOWLANE DRIVE	40001300	0.687	B-Injury (Evident)	8/4/2009	10:02:00 PM	Pedestrian
102661864	13	Caldwell	Lenoir	GREEN HAVEN DRIVE	0.25	SW	HOLLOWAY PLACE	FINLEY AVENUE		999.999	B-Injury (Evident)	8/27/2009	3:53:00 PM	Pedestrian
102688827	13	Caldwell	Lenoir	US 64	0.152	SW	HARRISBURG DR	VIRGINIA ST		999.999	Fatal (Killed)	10/6/2009	9:30:00 PM	Pedestrian
102691647	13	Caldwell	Lenoir	WILSON ST	0.011	NW	RESACA ST	STONEWALL ST		999.999	C-Injury (Possible)	10/9/2009	1:58:00 PM	Pedestrian
102729586	13	Caldwell	Lenoir	HOSPITAL AVE	0		WOODLAND PL	BLOWING ROCK BLVD		999.999	C-Injury (Possible)	11/25/2009	4:00:00 PM	Pedestrian
102780309	13	Caldwell	Lenoir	MAIN STREET	0		GROVE AVE		50018682	20.35	C-Injury (Possible)	2/2/2010	11:05:00 AM	Pedestrian
102922259	13	Caldwell	Lenoir	BLOWING ROCK BLVD	0.056	S	HOSPITAL AVE	COMMERCIAL CT	20000321	14.388	Fatal (Killed)	7/27/2010	4:46:00 AM	Pedestrian
103024381	13	Caldwell	Lenoir	HARPER AVENUE	0.009	NW	PENNTON AVENUE	PALMER STREET	39000018	2.681	A-Injury (Disabling)	11/26/2010	6:02:00 PM	Pedestrian
103026154	13	Caldwell	Lenoir	HIBRITEN DR EXTENSION	0		HIBRITEN DR	US 321		999.999	B-Injury (Evident)	11/27/2010	1:11:00 AM	Pedestrian
103085840	13	Caldwell	Lenoir	SPAINHOUR STREET	0		REALTY STREET	REFORM STREET		999.999	B-Injury (Evident)	2/7/2011	5:00:00 PM	Pedestrian
103111405	13	Caldwell	Lenoir	COLLEGE AVENUE	0.009	E	BOUNDARY STREET	CHURCH STREET		999.999	C-Injury (Possible)	3/14/2011	4:34:00 PM	Pedestrian
103161709	13	Caldwell	Lenoir	HARPER AVE	0.006	W	GLENDALE ST	HOSPITAL AVE	39000018	2.354	B-Injury (Evident)	5/22/2011	8:41:00 PM	Pedestrian
103171563	13	Caldwell	Lenoir	SOUTHWEST BLVD	0.25	E	BRADFORT MTN RD	ROSEDALE DR		999.999	B-Injury (Evident)	6/1/2011	11:24:00 PM	Pedestrian
103177279	13	Caldwell	Lenoir	WALT ARNEY RD	0.028	W	FOREST HILL PARK PL	HAMPTON HEIGHTS PL		999.999	C-Injury (Possible)	6/8/2011	3:33:00 PM	Pedestrian
103296133	13	Caldwell	Lenoir	OLDE VALLEY DR	0.038	E	OLDE WELL RD	OLDE WELL RD		999.999	C-Injury (Possible)	11/7/2011	4:15:00 PM	Pedestrian
103310139	13	Caldwell	Lenoir	TREELAND CIRCLE	0.057	E	CONNELLY SPRINGS ROAD	CONNELLY SPRINGS ROAD		999.999	Property Damage Only	11/20/2011	12:39:00 PM	Pedestrian
103327068	13	Caldwell	Lenoir	BROADWAY ST	0.095	NW	PROSPECT ST	WHEELER ST		999.999	B-Injury (Evident)	12/12/2011	6:29:00 PM	Pedestrian
103390259	13	Caldwell	Lenoir	VANCE ST	0.038	S	ROBBINS AVE	SCROGGS ST		999.999	B-Injury (Evident)	2/28/2012	12:20:00 AM	Pedestrian
103445100	13	Caldwell	Lenoir	STONEWALL STREET	0.1	SE	PATTERSON STREET	RESACA STREET		999.999	B-Injury (Evident)	5/8/2012	6:16:00 PM	Pedestrian

***Note:** Crashes with the milepost number 999.999 were unable to be properly mileposted within the crash database.

Appendix F

Comprehensive Pedestrian Plan 2012

Medium Priority Greenway Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals	Pedestrian Signals	Probable Cost Estimate
		US 321 to Mulberry Recreation Center Trail									
1	Greenway	Lenoir Greenway Expansion	US 321	Harper Avenue	0	1130	2	0	0	0	$149,900
1	Greenway	Lenoir Greenway Expansion	Harper Avenue	Norwood Street	0	2221	2	0	0	0	$291,730
1	Greenway	Lenoir Greenway Expansion	Norwood Street	Mulberry St. SW	0	1300	2	0	0	0	$172,000
	Subtotal Greenway Improvements				**0**	**4,651**	**6**	**0**	**0**	**0**	$613,630
		Mulberry Recreation Center to Southwest Boulevard Trail									
1	Greenway	Lenoir/Gamewell Greenway	Mulberry Avenue	Harrisburg Drive	0	4,500	4	0	0	0	$591,000
2	Greenway	Lenoir/Gamewell Greenway	Harrisburg Drive	Virginia Street	0	2,517	4	0	0	0	$333,210
3	Greenway	Lenoir/Gamewell Greenway	Virginia Street	Fairview Drive	0	2,000	4	0	0	0	$266,000
4	Greenway	Lenoir/Gamewell Greenway	Fairview Drive	Southwest Boulevard	0	2,020	4	0	0	0	$268,600
	Subtotal Greenway Improvements				**0**	**11,037**	**16**	**0**	**0**	**0**	**$1,458,810**
Total Pedestrian Improvements for Medium Priority Greeway Projects:					**0**	**15,688**	**22**	**0**	**0**	**0**	**$2,072,440**

Low Priority Greenway Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Hibriten High to TH Broyhill Walking Park Trail									
1	Greenway	Lower Creek Greenway	Hibriten High Sch.	NC 90/Taylorsville Road	0	2,760	4	0	0	0	$362,800
2	Greenway	Lower Creek Greenway	NC 90/Taylorsville Road	Tremont Park Drive SE	0	2129	4	0	0	0	$280,770
2	Greenway	Lower Creek Greenway	Tremont Park Drive SE	Hibriten Drive	0	2500	4	0	0	0	$329,000
2	Greenway	Lower Creek Greenway	Hibriten Drive	US 321	0	3650	4	0	0	0	$478,500
2	Greenway	Lower Creek Greenway	US 321	TH Broyhill Walking Park	0	2250	4	0	0	0	$296,500
	Subtotal Sidewalk Improvements				**0**	**13,289**	**20**	**0**	**0**	**0**	**$1,747,570**
Total Pedestrian Improvements for Medium Priority Greeway Projects:					**0**	**13,289**	**20**	**0**	**0**	**0**	**$1,747,570**

City of Lenoir

Comprehensive Pedestrian Plan 2012

Preliminary Cost Estimates

High Priority Sidewalk Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	Length of 5' Sidewalk ($50 per lf)	Length of 10' Greenway ($130 per lf)	Curb Ramps ($1,500 ea.)	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		US Hwy 321									
1	Sidewalk	Hwy 321 (East Side)	Wilkesboro Blvd.	Commercial Court NE	1,134	0	4	0	0	0	$62,700
2	Sidewalk	Hwy 321 (West Side)	Harper Avenue	Pennton Avenue NW	1,121	0	0	0	0	0	$56,050
3	Sidewalk	Hwy 321 (East Side)	Commercial Court NE	Walgreens @ Hospital Ave.	1,571	0	4	0	0	0	$84,550
1	Sidewalk	Hwy 321 (West Side)	Pennton Ave. NW	Hospital Avenue	1,562	0	0	0	0	0	$78,100
2	Sidewalk	Hwy 321 (East Side)	Cook-Out @ Hospital Aveune	Nuway Circle	4,000	0	6	0	0	0	$209,000
3	Sidewalk	Hwy 321 (West Side)	Hospital Avenue	Krispy-Kreme Doughnuts	1,193	0	4	0	0	0	$65,650
	Subtotal Sidewalk Improvements				**5,193**	**0**	**18**	**0**	**0**	**0**	**$556,050**
		Morganton Boulevard/US64									
1	Sidewalk	Morganton Boulevard (North Side)	Mulberry Avenue	Edgewood Drive	1,867	0	0	0	0	0	$93,350
	Subtotal Sidewalk Improvements				**1,867**	**0**	**0**	**0**	**0**	**0**	**$93,350**
		Hibriten Drive SW									
1	Sidewalk	Hibriten Drive SW (South Side)	Cedar Place SW	Norwood Street	980	0	0	0	0	0	$49,000
2	Sidewalk	Hibriten Drive SW (South Side)	Norwood Street	Starcross Road	3,271	0	0	0	0	0	$163,550
	Subtotal Sidewalk Improvements				**4,251**	**0**	**0**	**0**	**0**	**0**	**$212,550**
		Wilkesboro Boulevard/US64									
1	Sidewalk	Wilkesboro Boulevard (North Side)	US 321	Lower Creek Drive	1,678	0	2	0	0	0	$86,900
	Subtotal Sidewalk Improvements				**1,678**	**0**	**2**	**0**	**0**	**0**	**$86,900**
		Harper Avenue									
1	Sidewalk	Harper Avenue (Both Sides)	Future Lenoir Greenway	Pennton Avenue	700	0	2	0	0	0	$38,000
	Subtotal Sidewalk Improvements				**704**	**1**	**2**	**0**	**0**	**0**	**$54,200**
		Main Street									
1	Sidewalk	Main Street SW (East Side)	Pennton Ave. SW	Morganton Boulevard	325		2	0	0	0	$19,250
	Subtotal Sidewalk Improvements				**325**	**0**	**2**	**0**	**0**	**0**	**$19,250**
		Lower Creek Drive									
1	Sidewalk	Lower Creek Drive (South Side)	Wilkesboro Blvd.	Lower Creek Sch.	3,475	0	0	0	0	0	$173,750
2	Sidewalk	Lower Creek Drive (South Side)	Lower Creek Sch.	Wilkesboro Blvd.	5,500	0	0	0	0	0	$275,000
	Subtotal Sidewalk Improvements				**8,975**	**0**	**0**	**0**	**0**	**0**	**$275,000**
		Maple Drive NW									
1	Sidewalk	Maple Drive (west side)	College Avenue	Harper Avenue	455	0	2	0	0	0	$24,750
	Subtotal Sidewalk Improvements				**455**	**0**	**2**	**0**	**0**	**0**	**$24,750**
Total Pedestrian Improvements for High Priority Sidewalk Projects:					**26,948**	**1**	**29**	**0**	**0**	**0**	**$1,396,350**

		Intersection Crossing Projects										
	Type of Facility		Crossing	Along	Pedestrian Signage ($1,200)	Reduction of Curb Radii or refuge island ($15,000)	Curb Ramps ($1,500 ea.)	Crosswalks (including stop bar/relocate) ($350 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
				US 321							
1	Crosswalk		US 321	Hospital Ave.	0	0	2	2	0	2	$8,500
2	Crosswalk		US 321	Seahorn/Walmart Entrance	0	0	2	1	0	2	$8,150
3	Crosswalk		US 321	Greenhaven/Nuway Cir	0	1	2	1	0	2	$23,150
	Subtotal Intersection Improvements				**0**	**1**	**6**	**4**	**0**	**6**	**$39,800**
				Hibriten Drive SW							
1	Crosswalk		Hibriten Drive SW	Norwood Street	0	0	4	2	0	2	$11,500
	Subtotal Intersection Improvements				**0**	**0**	**4**	**2**	**0**	**2**	**$11,500**
				Norwood St.							
1	Crosswalk		Norwood Street	Hibriten Drive SW	0	0	4	2	0	2	$11,500
2	Crosswalk		Norwood Street	@ Mulberry St. SW	0	0	0	1	0	0	$350
3	Crosswalk		Norwood Street	Harper Avenue	0	0	2	1	0	2	$8,150
4	Crosswalk		Norwood Street	McLean Dr. SW	0	0	4	2	0	2	$11,500
4	Crosswalk		Norwood Street	Mulberry St. SW	0	0	3	2	0	0	$5,200
4	Crosswalk		Norwood Street	Morganton Boulevard	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**15**	**9**	**0**	**6**	**$40,050**
				Harper Ave.							
1	Crosswalk		Harper Avenue	Pennton Ave. SW	0	0	4	1	0	2	$11,150
2	Crosswalk		Harper Avenue	Norwood Street	0	0	0	1	0	0	$350
3	Crosswalk		Harper Avenue	Road Adj. Fairfield Chair Co.	0	0	0	1	0	0	$350
	Subtotal Sidewalk Improvements				**0**	**0**	**4**	**3**	**0**	**2**	**$11,850**
				Lower Creek Drive							
1	Crosswalk		Lower Creek Drive NE	Wilkesboro Boulevard	0	0	4	1	0	0	$6,350
2	Crosswalk		Lower Creek Drive NE	@ Lower Creek School	0	0	2	1	0	0	$3,350
	Subtotal Sidewalk Improvements				**0**	**0**	**6**	**2**	**0**	**0**	**$9,700**
				Hospital Ave.							
1	Crosswalk		Hospital Ave.	US 321	2	0	4	2	0	2	$13,900
	Subtotal Intersection Improvements				**2**	**0**	**4**	**2**	**0**	**2**	**$13,900**
				Seahorn/Walmart Entrance							
1	Crosswalk		Seahorn/Walmart Entrance	US 321	0	0	2	1	0	0	$3,350
	Subtotal Intersection Improvements				**0**	**0**	**2**	**1**	**0**	**0**	**$3,350**
				Pennton Ave. SW							
1	Crosswalk		Pennton Ave. SW	US 321	2	0	2	1	0	0	$5,750
	Subtotal Intersection Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
				Mulberry Avenue							
1	Crosswalk		Mulberry Avenue	Morganton Boulevard	0	1	2	2	0	4	$28,300
	Subtotal Sidewalk Improvements				**0**	**1**	**2**	**2**	**0**	**4**	**$28,300**
				West Avenue							
1	Crosswalk		West Avenue	Willow Street	2	0	2	2	0	0	$6,100
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**2**	**0**	**0**	**$6,100**
				Grove Avenue							
1	Crosswalk		Grove Avenue	Main Street	2	0	2	1	0	0	$5,750
	Subtotal Sidewalk Improvements				**2**	**0**	**2**	**1**	**0**	**0**	**$5,750**
				Virginia Street							
1	Crosswalk		Morganton Blvd.	Virginia Street	0	0	2	2	0	2	$8,500
1	Crosswalk		Poplar St. NW	Virginia Street	2	0	2	2	0	2	$10,900
	Subtotal Sidewalk Improvements				**2**	**0**	**4**	**4**	**0**	**4**	**$19,400**
				College Aveune							
1	Crosswalk		Collage Avenue	Main Street	2	0	0	4	0	0	$3,800
2	Crosswalk		Collage Avenue	Virginia Street	2	0	0	1	0	0	$2,750
3	Crosswalk		Collage Avenue	Maple Drive	2	0	0	1	0	0	$2,750
4	Crosswalk		Collage Avenue	Beall Street	2	0	0	1	0	0	$2,750
5	Crosswalk		Collage Avenue	Underdown Ave.	2	0	0	1	0	0	$2,750
	Subtotal Sidewalk Improvements				**10**	**0**	**0**	**8**	**0**	**0**	**$14,800**
Total Project Units					**20**	**2**	**51**	**41**	**1**	**26**	**$210,250**

Low Priority Sidewalk Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	# of Curb Ramps along Corridor (	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Wildwood Road									
1	Sidewalk	Wildwood Road (South Side)	Cottrell Hill Road	Lower Creek Drive	1,825	0	4	0	0	0	$97,250
	Subtotal Sidewalk Improvements				**1,825**	**0**	**4**	**0**	**0**	**0**	**$97,250**
		Nuway Circle/Powell Road									
1	Sidewalk	Nuway Circle/Powell Road	US 321	Lenoir Greenway Node	2,040	0	6	0	0	0	$108,000
	Subtotal Sidewalk Improvements				**2,040**	**0**	**6**	**0**	**0**	**0**	**$108,000**
		Grove Avenue SW									
1	Sidewalk	Repair/Replace	Kentwood Street	Main Street	135	0	0	0	0	0	$6,750
	Subtotal Sidewalk Improvements				**135**	**0**	**0**	**0**	**0**	**0**	**$6,750**
		Willow Street									
1	Sidewalk	Repair/Replace	Beall Street	Wheeler Street	900	0	0	0	0	0	$45,000
	Subtotal Sidewalk Improvements				**900**	**0**	**0**	**0**	**0**	**0**	**$45,000**
		Ashe Street									
1	Sidewalk	Repair/Replace (Both Sides)	Boundary Street	Willow Street	1,310	0	0	0	0	0	$65,500
	Subtotal Sidewalk Improvements				**1,310**	**0**	**0**	**0**	**0**	**0**	**$65,500**
		Edgewood Drive									
1	Sidewalk	Edgewood Drive (east side)	Olive Avenue SW	Morganton Boulevard	1,185	0	4	0	0	0	$63,250
	Subtotal Sidewalk Improvements				**1,185**	**0**	**4**	**0**	**0**	**0**	**$63,250**
		Westview Street									
1	Sidewalk	Westview Street (east side)	Olive Avenue SW	Morganton Boulevard	1,854	0	4	0	0	0	$98,700
	Subtotal Sidewalk Improvements				**1,854**	**0**	**4**	**0**	**0**	**0**	**$98,700**
		Underdown Avenue SW									
1	Sidewalk	Repair/Replace	College Avenue	Spainhour Street	1,321	0	0	0	0	0	$66,050
	Subtotal Sidewalk Improvements				**1,321**	**0**	**0**	**0**	**0**	**0**	**$66,050**
		Scroggs Street									
1	Sidewalk	Repair/Replace	Main Street	Vance Street	1,032	0	0	0	0	0	$51,600
	Subtotal Sidewalk Improvements				**1,032**	**0**	**0**	**0**	**0**	**0**	**$51,600**
		Vance Street									
1	Sidewalk	Repair/Replace (East Side)	Scroggs Street	Finley Avenue	50	0	0	0	0	0	$2,500
	Subtotal Sidewalk Improvements				**50**	**0**	**0**	**0**	**0**	**0**	**$2,500**
		Old North Road									
1	Sidewalk	Repair/Replace	Main Street	Main Street	2,000	0	0	0	0	0	$100,000
	Subtotal Sidewalk Improvements				**2,000**	**0**	**0**	**0**	**0**	**0**	**$100,000**
		Conley Place									
1	Sidewalk	Repair/Replace	Main Street	End of Road	390	0	0	0	0	0	$19,500
	Subtotal Sidewalk Improvements				**390**	**0**	**0**	**0**	**0**	**0**	**$19,500**
		Davenport Street SW									
1	Sidewalk	Repair/Replace	Main Street	Mulberry Avenue	325	0	0	0	0	0	$16,250
	Subtotal Sidewalk Improvements				**325**	**0**	**0**	**0**	**0**	**0**	**$16,250**
		Sherlee Street/Cottrell Hill Road									
1	Sidewalk	Sherlee Street/Cottrell Hill Road (South Side)	Lenoir Greenway node (East)	Wildwood Road	1,321	0	2	0	0	0	$69,050
	Subtotal Sidewalk Improvements				**1,321**	**0**	**2**	**0**	**0**	**0**	**$69,050**
		Highland Street SW									
1	Sidewalk	Repair/Replace	Meadow Street	Hibriten Avenue	20	0	0	0	0	0	$1,000
	Subtotal Sidewalk Improvements				**20**	**0**	**0**	**0**	**0**	**0**	**$1,000**
Total Pedestrian Improvements for Medium Priority Sidewalk Projects:					**15,708**	**0**	**20**	**0**	**0**	**0**	**$810,400**

Medium Priority Sidewalk Projects

	Type of Facility	Primary Pedestrian Corridor	From	To	LF of New or Repaired Sidewalks	Length of 10' Greenway ($130 per lf)	# of Curb Ramps along Corridor	Crosswalks ($200 ea.)	Traffic Signals ($40,000 ea.)	Ped Heads ($2,400 ea.)	Probable Cost Estimate
		Powell Road NE									
1	Sidewalk	Woodhaven Street (West Side)	Lenoir Greenway	Lower Creek Drive	1,677	0	4	0	0	0	$89,850
	Subtotal Sidewalk Improvements				**1,677**	**0**	**4**	**0**	**0**	**0**	**$89,850**
		Arrowood Street									
1	Sidewalk	Arrowood Street (South Side)	Wilkesboro Blvd.	Panther Trail	818	0	2	0	0	0	$43,900
	Subtotal Sidewalk Improvements				**818**	**0**	**2**	**0**	**0**	**0**	**$43,900**
		Mulberry Street									
1	Sidewalk	Mulberry Street (South/West Side)	Norwood Street	Morganton Boulevard	1,814	0	3	0	0	0	$93,700
2	Sidewalk repair	Spot Improvement (Ease Side)	Olive Avenue SW	Park Street	20	0	0	0	0	0	$1,000
3	Sidewalk repair	Spot Improvement (Ease Side)	Across from:	Caldwell Co. Family Care	20	0	0	0	0	0	$1,000
	Subtotal Sidewalk Improvements				**1,854**	**0**	**3**	**0**	**0**	**0**	**$95,700**
		College Avenue									
1	Sidewalk	College Avenue (South Side)	Virginia Street	Underdown Avenue	2,355	0	8	0	0	0	$125,750
	Subtotal Sidewalk Improvements				**2,355**	**0**	**8**	**0**	**0**	**0**	**$125,750**
		Norwood Street									
1	Sidewalk	Norwood Street (Both Sides)	Hibriten Dr. SW	McLean Dr. SW	1,125	0	2	0	0	2	$64,050
2	Sidewalk	Norwood Street (West Side)	McLean Dr. SW	Mulberry St. SW	5,370	0	4	0	0	0	$274,500
	Subtotal Sidewalk Improvements				**6,495**	**0**	**6**	**0**	**0**	**2**	**$274,500**
		West Avenue									
1	Sidewalk	West (Both Sides)	Boundary Street	Willow Street	650	0	8	1	0	0	$40,700
	Subtotal Sidewalk Improvements				**650**	**0**	**8**	**1**	**0**	**0**	**$40,700**
		Hospital Avenue									
1	Sidewalk	Hospital Avenue (North Side)	170' East of Wilson St.	US 321	1,711	0	0	0	0	0	$85,550
	Subtotal Sidewalk Improvements				**1,711**	**0**	**0**	**0**	**0**	**0**	**$85,550**
		Greenhaven Drive									
1	Sidewalk	Greenhaven Drive	Intersection with US321	Sidewalk at BO's	165	0	0	0	0	0	$8,250
	Subtotal Sidewalk Improvements				**165**	**0**	**0**	**0**	**0**	**0**	**$8,250**
		Beall Street									
1	Sidewalk	Beall Street (west side)	College Avenue	Harper Avenue	412	0	2	0	0	0	$22,600
	Subtotal Sidewalk Improvements				**412**	**0**	**2**	**0**	**0**	**0**	**$22,600**
		Creekway Drive									
1	Sidewalk				0	0	0	0	0	0	$0
	Subtotal Sidewalk Improvements				**0**	**0**	**0**	**0**	**0**	**0**	**$0**
		Pennell Street									
1	Sidewalk	Pennell Street (South Side)	Lenoir Greenway node (west)	Barrington Dr. NE Lenoir Greenway node (east)	4,173	50	4	0	0	0	$221,150
	Subtotal Sidewalk Improvements				**4,173**	**50**	**4**	**0**	**0**	**0**	**$221,150**
		Road Adjacent to the Fairfield Chair Company									
1	Sidewalk	Road Adjacent to the Fairfield Chair Company (west side)	College Avenue	Harper Avenue	315	0	2	0	0	0	$17,750
	Subtotal Sidewalk Improvements				**315**	**0**	**2**	**0**	**0**	**0**	**$17,750**
Total Pedestrian Improvements for Medium Priority Sidewalk Projects:					**16,475**	**50**	**27**	**0**	**0**	**0**	**$1,025,700**

City of Lenoir
Comprehensive Pedestrian Plan 2012
Corridor Priority Calculator

	Existing Corridor Ped. Facility Condition	Accessible Ped. Facilities	Traffic Volume	Traffic Speed	Pedestrian Crashes	Vehicular Crashes	**SC/ Public Recommendation	Safety Score	Schools	Medical Facilities	Recreation/ Leisure	Retail Center	Downtown	Connectivity Score	Total Score
Point Range	1-3	1-2	1-4	1-4	#	1-5	1-2		#(4)	1-3	1-3	1-3	1-2		
High Priority															
US Hwy 321	2	1	4	4	5	5	0	16.0	4	2	3	3	1	13	29.0
Morganton Boulevard/US64	3	2	4	4	3	4	0	17.0	0	3	2	3	2	10	27.0
Hibriten Drive SW	3	2	2	3	1	0	0	10.0	4	3	2	3	1	13	23.0
Wilkesboro Boulevard SE/18	3	2	4	2	0	2	0	13.0	0	1	3	3	2	9	22.0
Harper Avenue	1	1	3	3	7	4	0	12.0	0	2	2	3	2	9	21.0
Main Street SW	3	2	3	4	3	2	0	14.0	0	1	1	3	2	7	21.0
Lower Creek Drive	3	2	3	3	0	1	0	12.0	4	1	2	1	1	9	21.0
Maple Drive	3	2	1	1	0	0	0	7.0	4	3	2	3	2	14	21.0
Medium Priority															
Powell Road NE	3	2	2	3	0	0	0	10.0	4	1	1	1	1	8	18.0
Arrowood Street	3	2	1	3	0	0	0	9.0	4	1	2	1	1	9	18.0
Mulberry Street	2	1	2	3	0	0	0	8.0	0	3	2	3	2	10	18.0
College Avenue	3	2	2	2	2	0	0	9.0	4	1	1	1	2	9	18.0
Norwood Street	3	2	3	4	1	1	0	13.0	0	1	1	1	1	4	17.0
West Avenue	2	2	3	2	0	0	0	9.0	0	0	3	3	2	8	17.0
Hospital Avenue	2	1	3	2	1	2	0	10.0	0	1	2	2	2	7	17.0
Greenhaven Drive	1	1	1	4	1	0	0	7.0	4	1	1	1	1	8	15.0
Mulberry Rec. to Southwest Blvd. Trail	3	2	1	1	0	0	0	7.0	0	2	2	3	1	8	15.0
US 321 to Mulberry Rec. Trail	3	2	1	1	0	0	0	7.0	0	1	3	3	1	8	15.0
Beall Street	3	2	1	1	0	0	0	7.0	0	2	1	3	2	8	15.0
Creekway Drive	3	2	2	3	2	0	0	10.0	0	1	1	1	1	4	14.0
Pennell Street	2	2	2	3	0	0	0	9.0	0	1	1	2	1	5	14.0
Road Adj. to Fairfield Chair	3	2	1	1	0	0	0	7.0	0	1	1	3	2	7	14.0
Low Priority															
Wildwood Road	3	2	1	2	0	0	0	8.0	0	1	1	1	1	4	12.0
Nuway Circle/Powell Road	3	2	1	2	0	0	0	8.0	0	1	1	1	1	4	12.0
Hibriten High to T.H. Broyhill Walking Park Trail	3	2	1	1	0	0	0	7.0	0	1	2	1	1	5	12.0
Grove Avenue SW	3	1	1	2	0	0	0	7.0	1	1	1	1	1	5	12.0
Willow Street	3	1	1	2	0	0	0	7.0	0	1	1	1	2	5	12.0
Ashe Street	3	1	1	2	0	0	0	7.0	0	1	1	1	2	5	12.0
Edgewood Drive	3	2	1	1	0	0	0	7.0	0	1	1	1	1	4	11.0
Westview Street	3	2	1	1	na	0	0	7.0	0	1	1	1	1	4	11.0
Underdown Avenue SW	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Scroggs Street	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Vance Street	3	1	1	2	1	0	0	7.0	0	1	1	1	1	4	11.0
Old North Road	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Conley Place	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Davenport Street SW	3	1	1	2	0	0	0	7.0	0	1	1	1	1	4	11.0
Sherlee St./Cottrell Hill Rd.	3	2	1	1	0	0	0	7.0	0	1	1	1	1	4	11.0
Highland Street SW	1	1	1	2	0	0	0	5.0	0	1	1	1	1	4	9.0

* = Sidewalks may have been divided by side of street, low priority automatically given to less prominent side of street

** SC = Steering Committee

Point Range Key

Safety

Existing Ped. Corridor Facility Condition	**1**=Good, **2**=Fair/incomplete, **3**=None/Poor
Major Intersection Facilities	**1**=Exists, **2**=None
Traffic Volume	**1**=0-4,999, **2**=5,000-9,999, **3**=10,000-11,999, **4**=12,000+
Traffic Speed	**1**=Under 25mph, **2**=25-34mph, **3**=35-44mph, **4**=45+mph
Ped. Crashes	Number of reported pedestrian crashes from January 2000-June 2012
Vehicular Crashes	1 = 0-39, 2 = 40-79, 3 = 80-119, 4 = 120-159, 5 = 160+ (10 year time frame from City Police and NCDOT)

Other

POG/Public Recommendation	**1**=Not from POG or public recommendations, **2**=A POG or Public Recommendation

Connectivity

Schools	The number of schools located along the corridor X (4)
Medical Facilities	**1**=None, **2**=Clinics, Private Med. Offices, **3**=Hospital or EMS station
Recreation/ Leisure	**1**=None, **2**=(1) park/rec. facility, **3**=(2+) park/rec. facility
Retail Destinations	**1**=None, **2**=(1-4) retail locations, **3**=(4+) retail locations
Downtown	**1**=Not in Downtown, **2**=Within downtown

The higher the overall score the higher the need for pedestrian facilities, thus higher the priority rating.

Appendix G

Comprehensive Pedestrian Plan 2012

PEDESTRIAN PLAN
CITY OF LENOIR

Steering Committee Recommendations

- CITY OF LENOIR
- CITY OF LENOIR PARKS/RECREATIONAL FACILITIES
- OTHER PARKS/RECREATION FACILITIES
- HIGHWAYS
- ROADS
- EXISTING GREENWAY TRAIL
- EXISTING SIDEWALK
- CREEKS
- S SCHOOL
- C CULTURAL FACILITIES

PROBLEM AREA/ AREA OF INTEREST IDENTIFIED BY STEERING COMMITTEE MEMBERS (Group Exercise)

- Steering Committee Group 1 Sidewalk Recommendations
- Steering Committee Group 2 Sidewalk Recommendations
- Steering Committee Group 3 Sidewalk Recommendations

Steering committee members identified as hazardous area for pedestrians and may need a signalized crossing.

Steering Committee Members Initial Comments

1. Common to see people walking from this area
2. Common to see people crossing at US64/NC18
3. Existing sidewalks need connecting sidewalks
4. Harper needs safety/lighting improvements
5. Possible opportunity for a rail-trail/greenway to Google property
6. Sidewalk to be refurbished with 2012 New Year
7. Highly used pedestrian path without paved sidewalk

SCALE: 1"=1500'

North

Appendix H

Comprehensive Pedestrian Plan 2012

Where the High Country Begins

Located on the Highway 321 corridor midway between Charlotte and Boone, Lenoir is rich in natural beauty and a strong tradition in visual and performing arts.The second largest municipality in the Hickory-Lenoir-Morganton MSA, Lenoir is home to over 18,200 residents. As our population grows and our economy diversifies, the commercial properties in our city offer excellent locations for retail and commercial development. Learn more about opportunities in Lenoir at the links below.

Website Redesign Update

The City of Lenoir will soon have a new website with easier access to information about city services. Please be aware that some information on this existing site may be out of date during the web site re-build.

*For up-to-date information during the website re-build, please check the City Facebook site **Connect** Lenoir or e-mail us **here**.*

***Click here** for the Development Guide for the City of Lenoir.*

*City of Lenoir **Quick Facts***

*Check **Senior Adult Resources** in Caldwell County*

Explore Lenoir/Caldwell County

Click Image Below

Special Notices

Annual Luminary Display at Blue Ridge Memorial Park on Friday, December 9th from 6-10 P.M.

Read results of the 2011 NC Gravity Games in Lenoir

Fall Leaf Collection in Lenoir
Check **here** for information on Voluntary Water Conservation in Lenoir.

2011 Lenoir Fire Department ***Breast Cancer Awareness***

City Recycling Center Open
Monday, Wednesday and Saturday

Have You Tried ***Citizen Request Tracker***? Use this feature to report and track requests for City services.

Fabulous Family Films ***Schedule*** for 2011

Funding Opportunities for Downtown Property Owners

*On-line Water and Sewer and Tax Payments may be made at this **link.***

Check **Connect Lenoir** for the most up-to-date city information.

*BREC Breakthrough Business Challenge Information **here**.*

*Want to share your ideas about the development of a comprehensive pedestrian plan for Lenoir? Please participate in this **survey**.*

*Do You Have **"The" Card**?*

*Looking for the **Perfect Father's Day Gift, Graduation Gift, or Just Because I Love You** Gift?*

Read more...

Search

Go

Full Site

This Section

Search Tips

Printer-friendly Version

If you are not receiving Connect-CTY messages from the City, or if you would like to provide additional contact information, click the Connect-CTY image to sign up.

Follow us on Facebook

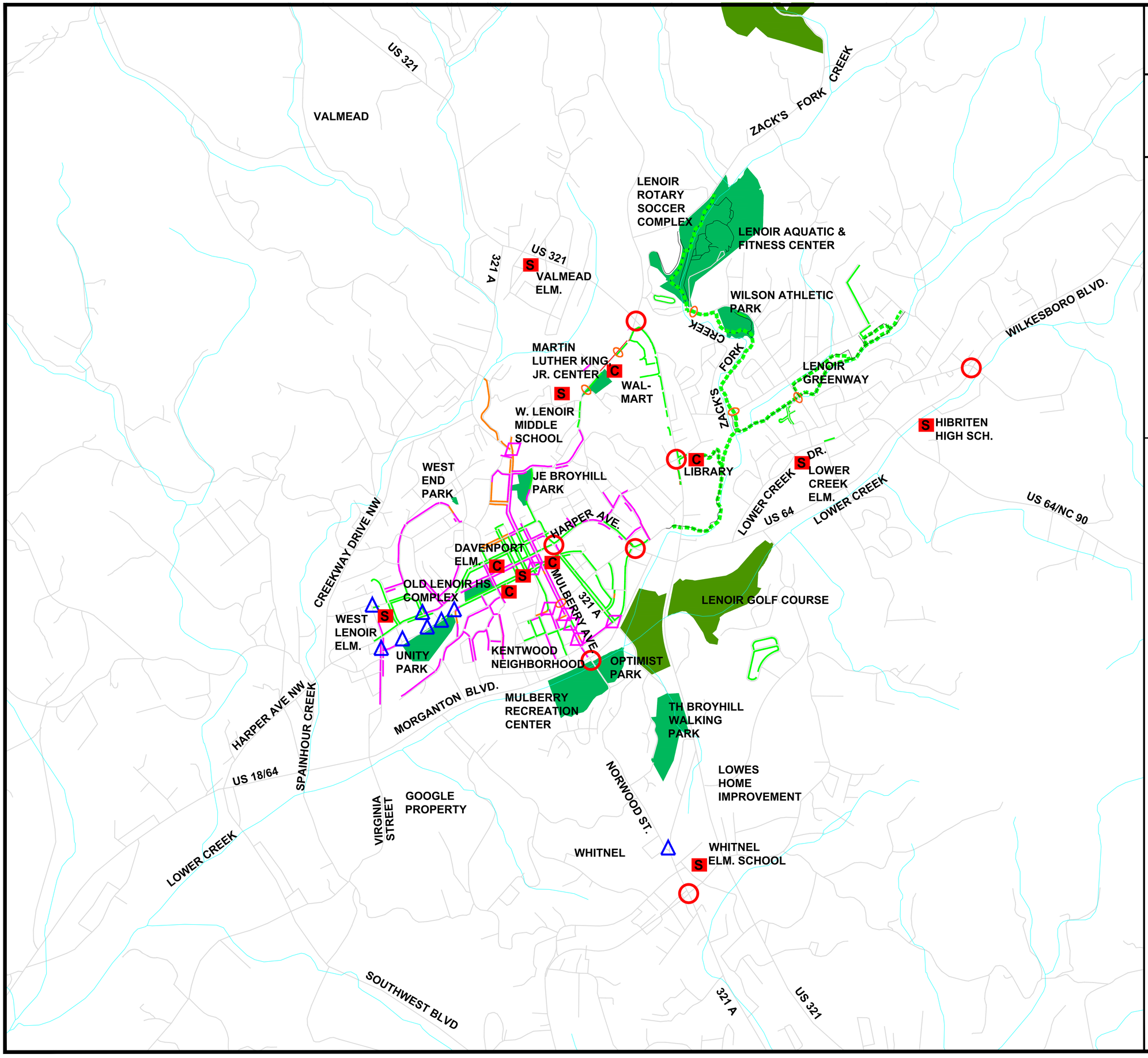
All America City 2008

This is the official government Website of the City of Lenoir, North Carolina --801 West Avenue, Lenoir NC 28645 --(828)-757-2200

Appendix I

Comprehensive Pedestrian Plan 2012

PEDESTRIAN PLAN
CITY OF LENOIR
Sidewalk Inventory
Existing Conditions



CITY OF LENOIR PARKS/RECREATIONAL FACILITIES

OTHER PARKS/RECREATION FACILITIES

HIGHWAYS

ROADS

EXISTING GREENWAY TRAIL

CREEKS

S SCHOOL

C CULTURAL FACILITIES

VISUAL INVENTORY OF SIDEWALK CONDITIONS

Poor Condition Sidewalk

Fair Condition Sidewalk

Good Condition Sidewalk

Identified as needing curb ramp improvements

Identified as needing painted crosswalk

Identified as needing signalized crossing

Raised pedestrian crossing

0 500' 1000' 2000' 3000' 4000'

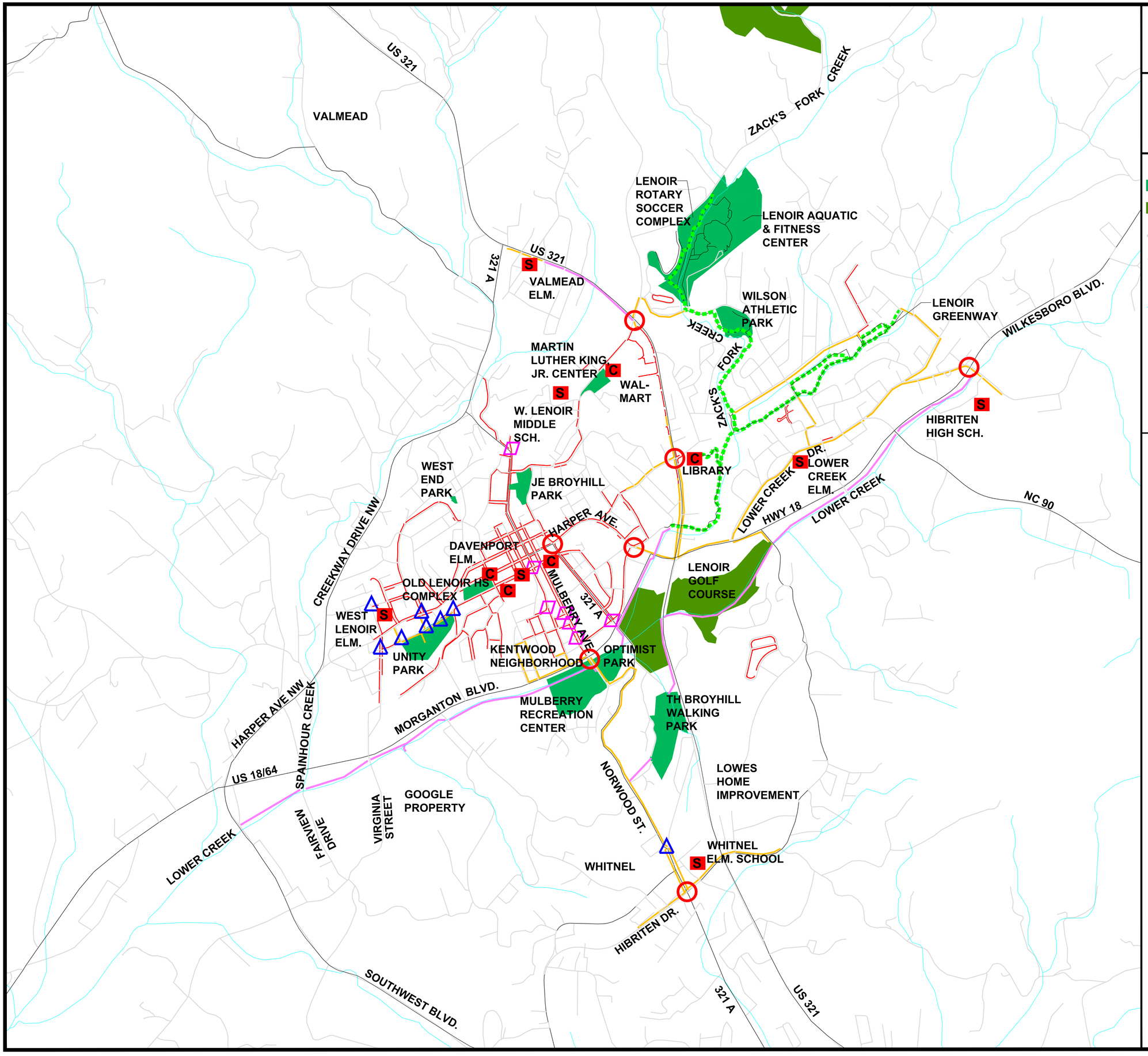
SCALE: 1"=1000'

North

Appendix J

Comprehensive Pedestrian Plan 2012

PEDESTRIAN PLAN
CITY OF LENOIR
PROPOSED PEDESTRIAN IMPROVEMENTS



CITY OF LENOIR PARKS/RECREATIONAL FACILITIES

OTHER PARKS/RECREATION FACILITIES

HIGHWAYS

ROADS

EXISTING GREENWAY TRAIL

CREEKS

EXISTING SIDEWALK

S SCHOOL

C CULTURAL FACILITIES

PROPOSED PEDESTRIAN FACILITIES

New Proposed Sidewalk

New Proposed Greenway

Proposed Curb Ramp Improvements

Proposed Painted Crosswalk

Proposed Signalized Crossing

0 500' 1000' 2000' 3000' 4000'

SCALE: 1"=1000'

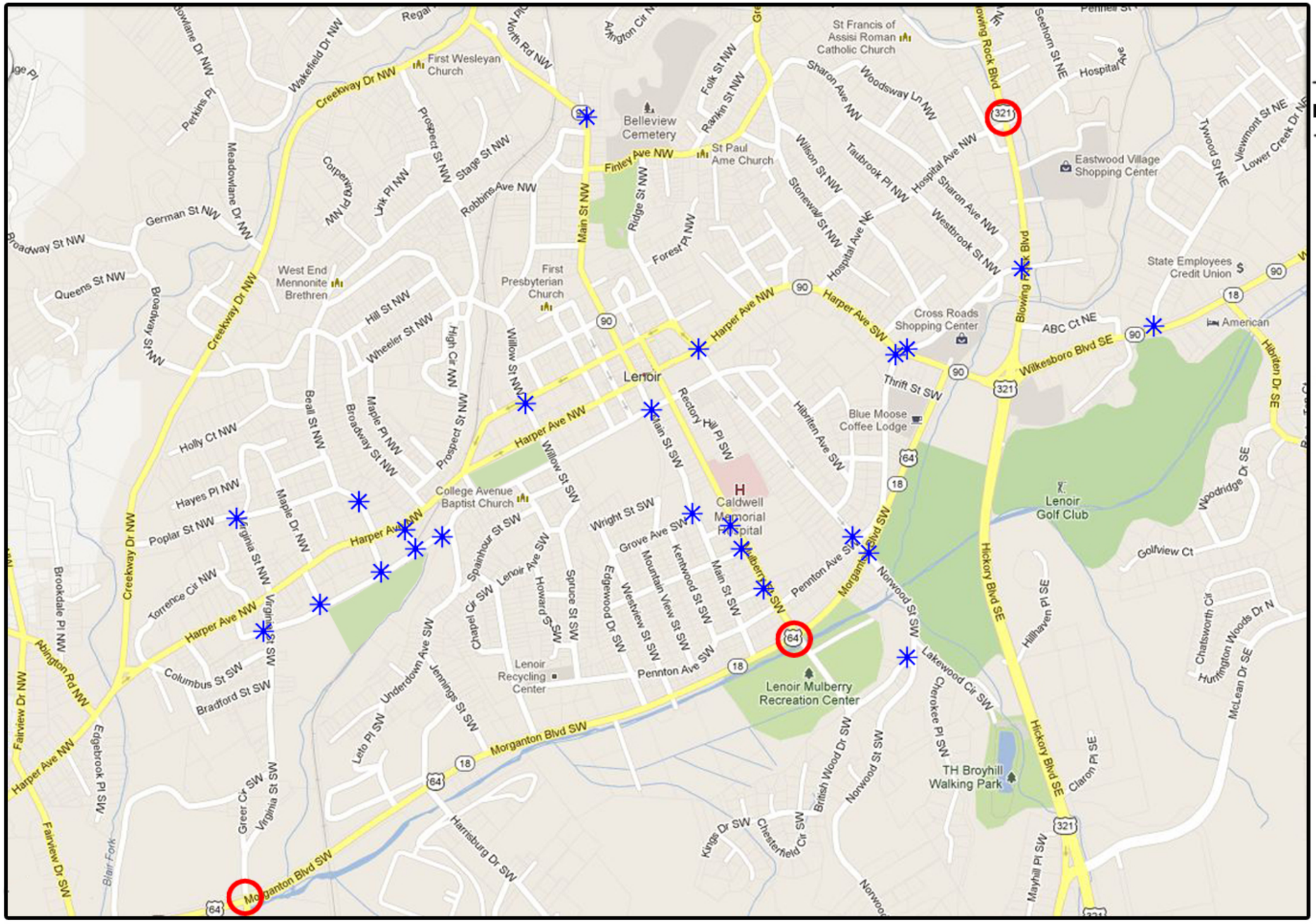
North

Appendix K

Comprehensive Pedestrian Plan 2012

DOWNTOWN LENOIR

Intersection Improvements Map



Proposed intersection improvements

Proposed signalized crossing

See Intersection Crossing Projects Table for more project details.

North