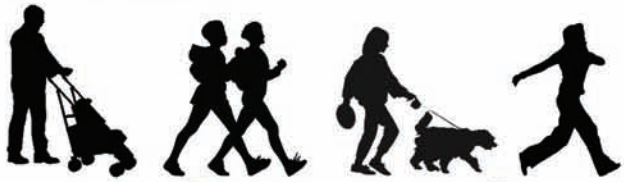
2010

Comprehensive



pedestrian

Plan

City of Locust

NORTH CAROLINA

Locust
a city with a soul

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE

ACKNOWLEDGEMENTS

The development of the Locust Comprehensive Pedestrian Plan was a collaborative effort that involved numerous stakeholders, including the Locust City Council, Locust Pedestrian Plan Advisory Committee, McGill Associates Planners, and the North Carolina Department of Transportation (Division of Bicycle and Pedestrian Transportation)

The City of Locust wishes to express its sincere appreciation for those entities and individuals, who, in any way, contributed to the creation of the Parks and Recreation Comprehensive Master Plan, some of which are identified below. Without the knowledge and expertise of these persons, in both individual- and team settings, this document would not be possible.

City of Locust Comprehensive Pedestrian Plan (2010-2020)

City of Locust Staff
James Inman, City Administrator
Tim Fesperman, Assistant City Administrator
Mandy Vari, City Planner
Frank Hartsel, Police Chief

Steering Committee

Michael Haigler	**Chief of Police**
Tim Flieger	**Director Public Works**
Dan Sullivan	**Director Parks and Rec.**
Larry Baucom	**City Council**
Nancy Sasser	**Downtown Business**
Bud Smith	**School System Rep.**
Ronnie Russell	**Major Community Rep**
Wilson Barbee	**Long Time Resident**
Jason Martin DSS	**Medical Community**
Dr. Sonny Gotro	**Medical Community**
Jean Friedman	**Community Advocate**
Helen Chaney	**NCDOT Administrator**

City of Locust City Council

Scott Efird, Mayor
Wilson Barbee
Larry Baucom
Joe Bishop
J. C. Burris
Mike Hinson
Joel Honeycutt
David Walker

Consultant
McGill Associates, P.A.

1240 19th Street Lane, NW
Hickory, North Carolina 28601

Consultant
North Carolina Department of Transportation
Division of Bicycle & Pedestrian Transportation
Helen Chaney DBPT Administrator

401 Oberlin Road, Suite 250
Raleigh, North Carolina 27605

TABLE OF CONTENTS

SECTION 1 INTRODUCTION

1.1 Vision Statement

The City of Locust has committed to providing a walkable environment for their community. This commitment shows in the creation of new guidelines for developments and in the neo-traditional design of Town Center that promotes walking as a major form of transportation. The City envisions a pedestrian system that encompasses the entire City with pedestrian connections between residential neighborhoods, schools, recreation areas, shopping, and businesses.

A planning grant was awarded to the City by the North Carolina Department of Transportation (NCDOT), Division of Bicycle and Pedestrian Transportation (DBPT) to develop a Comprehensive Pedestrian Plan. McGill Associates was hired to develop the Pedestrian Plan.

Subsequently, a Pedestrian Plan Steering Committee was created to guide the development of the plan. The Committee first met in April, 2009, and developed the following Vision Statement:

> ***To promote public health and safety by providing a comprehensive pedestrian network, anchored by the Town Center and connecting to all areas of the City. To provide a variety of pedestrian pathways that meet the transportation and recreation needs of the community.***

1.2 Overall Goals

The overall purpose of the Comprehensive Pedestrian Plan is to create a document to guide the City of Locust in (1) the planning, (2) the design, (3) the financing, (4) the implementation, and (5) the maintenance of its pedestrian system. The plan is designed to enhance and prioritize capital improvements and maintenance projects for the City with special consideration for addressing critical pedestrian transportation and safety; as well as adhering to the Americans with Disabilities Act.

Comprehensive Plan will address pedestrian safety

The goals and objectives developed by the Steering Committee are as follows:

Goals and Objectives

Directional signage is "key" to pedestrian facilities

- To promote pedestrian safety
  - Police/School Safety Program
  - Initiate "Safe Routes to School" program
  - Identify and install pedestrian crosswalks
  - Identify and install safe crossing routes to Locust Elementary School
- To encourage healthy lifestyles through walking
  - Develop walking programs with City Parks and Recreation
  - Develop healthy lifestyles programs with County Health Department
  - Initiate statewide programs such as "Eat Less, Walk More North Carolina"
- To create a pedestrian network that connects destinations throughout the City
  - Overcome division of City by US Highway 24/27 by creating safe crossing areas
  - Develop network centered on connections to Town Center
  - Create safe crossing areas for NC Highway 200
  - Identify and provide for connections to important pedestrian destinations
- To provide a convenient, alternate mode of transportation
  - Encourage walking as an alternative to vehicular travel
  - Reduce dependence upon automobiles for short trips
- To create an attractive pedestrian atmosphere that enhances the City's image
  - Create pleasant walking areas with introduction of shade trees and landscaping
  - Create areas for sitting, gathering, and relaxing along pedestrian thoroughfares
- To promote efficient and cost effective measures in developing the network
  - Identify sources of funding for pedestrian improvements
  - Work with NCDOT to fund enhancements of the transportation system to include pedestrian facilities
- To provide a variety of pedestrian pathways
  - Provide pathways for transportation alternatives
  - Provide pathways suitable for recreation or exercise opportunities
- To assure accessibility to all physically, economically, and ethnically challenged populations
  - Ensure compliance of all pedestrian facilities with the Americans with Disabilities Act (ADA)
  - Provide equitable access to pedestrian facilities for all neighborhoods

We are all pedestrians. For centuries the pedestrian has been a constant presence in the human environment. Each day, most individuals walk to some destination. 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 planned or they can develop as a result of landscape characteristics, with no particular thought toward the pedestrian. To better understand what makes a pedestrian-friendly environment, it is necessary to study and analyze places where people travel comfortably as pedestrians. The addition of a sidewalk alone may not encourage people to walk. Unless sidewalks connect pedestrians to places they want to go, pedestrians will not use them. These connecting pedestrian corridors need to be conveniently located in proximity to homes, schools, entertainment, shopping, and places of employment.

Pedestrian Corridors must be conveniently located

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 a car - which can easily exceed $5,000 per year. Economically speaking, walking is, by far, the most affordable mode of transportation available to anyone.

The pedestrian environment should provide pleasant places through which to walk. Open spaces, parks, the downtown area, convenient retail, and other 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 an environment that pedestrians enjoy.

The walking community needs to be safe and comfortable. Any area which seems dangerous or has obstacles discourages people from walking and thus, they 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. This is the essential purpose of this Comprehensive Pedestrian Plan.

Pedestrian venues may vary

1.3 History

BENEFITS OF WALKING

Walking is the oldest form of transportation known to mankind. The most affordable method of transportation, it also has the

lowest negative impact on the environment. The following results are generated in a 'walking' community:

Community Health

There are numerous benefits to be gained by walking, the most prevalent being the acquisition of healthier lifestyles. Unhealthy eating habits, primarily due to the increased consumption of fast food, continue to contribute to rising obesity rates in Americans of all ages. Walking can also help prevent heart disease, cancer, diabetes and mental health diseases. 'Walkable communities' encourage people to walk, increasing physical activity and decreasing television or computer time, which promulgate sedentary lifestyles.

By providing accessible, inviting pedestrian facilities, the City can provide equal opportunities for everyone to improve health and prevent disease through exercise. This in turn, saves money for governments and local employers – in terms of both health care costs and lost productivity due to sick days.

Walking increases…..

- Energy, stamina and metabolism
- Wellness, fitness and psychological well-being
- HDL – the 'good' cholesterol
- Muscle development and bone density

Walking decreases…..

- Risk factors for coronary artery disease, some cancers, and other diseases

Walking reduces health risk factors such as high blood pressure

Transportation Alternatives

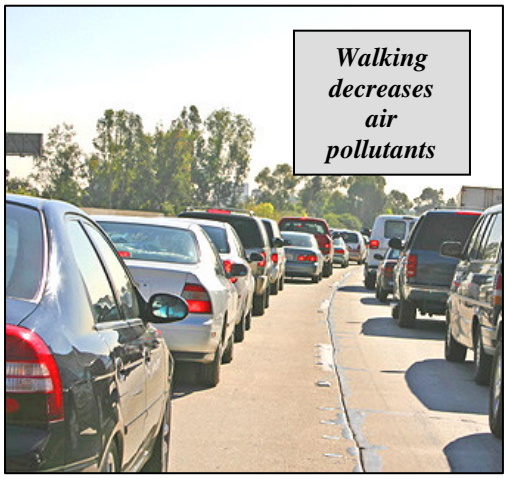
Walking also creates an alternative to vehicular transportation. Nationally, traffic congestion in urban areas is getting worse and the cost is rising. Pedestrian facilities are necessary to provide a means whereby people may choose to walk instead of drive, reducing the number of cars on the road.

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 a car, which can exceed $5,000 per year. Economically speaking, walking is by far, the most affordable mode of transportation available to anyone.

Environmental Benefits

Not only does walking decrease traffic congestion, but it also improves 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, some roadways in the area were closed to vehicular traffic in order to relieve congestion. During this period of time, air quality monitoring was conducted and the results indicated a significant decrease in air pollutants as compared to periods of normal traffic patterns. Air pollutants will increase in direct proportion to the greater number of vehicular miles that are traveled each year in this country. Walking, as opposed to driving vehicles, will also positively impact the availability of our natural resources. Of course, reducing the petroleum consumption (specifically in cars and asphalt) will be increasingly beneficial in the years to come.



While sensitive populations should avoid walking during ozone action days, increasing the amount of walking by everyone on a regular basis could reduce mobile emissions and decrease the negative effects to the ozone layer, which increases ozone protection.

Facilities such as greenways are often developed along rivers and streams. These facilities create buffers between drainage ways and development that help to improve the water quality for watersheds. In addition, greenways help provide connectivity for wildlife habitats and natural ecosystems.

Community Benefits

Pedestrian facilities offer an important public realm for maintaining and enhancing the public- and social interaction of a community. Sidewalks provide space for walking, outdoor dining, window shopping, bench areas for social interaction, engagement with businesses, and tourism.

Past Municipal Efforts

The City of Locust has supported the development of a walkable Town Center to replace the less walkable commercial/government buildings that were destroyed in the widening of NC Highway 24/27. Town Center is being constructed in a neo-traditional design that promotes walkability through the development of a strong pedestrian system and by creating a mixed-use commercial/residential downtown.

Planning Studies

In mid-1996 the City Council of Locust developed a new and improved Master Plan to respond to urban expansion from the City of Charlotte. The Master Plan spelled out strategies for future growth management within the City. The Master Plan reinforced and enhanced the small scale urban character of Locust while conserving its rural heritage.

A form-based zoning ordinance became a major component of the new Master Plan. The master planning process involved a great deal of community participation and lasted from August 1996 to March 1997. Planning Board members and members of the City Council were regularly involved throughout the process.

The adoption of the new Master Plan, future growth for the City of Locust included a new "Town Center" fronting NCDOT's expressway development for US Highway 24/27. Residential development then began filling in around Town Center. The plan has been praised for dictating recent City improvements and solidifying many of its initial goals.

Projects

The City of Locust has worked with NCDOT in the widening of the NC Highway 24/27 project. The project included the construction of sidewalks for most of the length of NC Highway 24/27 through the City.

The City of Locust has also received a Pedestrian Planning Grant from NCDOT, for the development of a Comprehensive Pedestrian Master Plan.

Locust has applied for monies to improve the sidewalk system leading to Locust Elementary School. The grant request is being made through NCDOT's Safe Routes to School (SRTS) Program.

Current/Future Trends

Until the twentieth century, walking was the primary method of traveling between destination points. With the invention and further development and use of the automobile, the popular mode of transportation was changed from 'pedestrian' to 'vehicular'. However, over the past decade, there has been a new trend whereby communities throughout North Carolina have reversed the dominant vehicular phase and have recently begun providing facilities for pedestrians and bicyclists. The development of these facilities was largely due to the demand by local communities and tourists for better alternative transportation opportunities and forms of passive recreation. This proactive approach of implementing bicycle and pedestrian facilities has led to the focus by municipalities on developing planned bicycle and pedestrian transportation systems. The NCDOT Department of Bicycle and Pedestrian Transportation (DBPT) has recognized the importance of this comprehensive planning effort and now provides assistance in terms of both guidelines and funding programs.

1.4 Scope and Purpose of Plan

McGill Associates, P.A., was contracted by the City of Locust to prepare the Pedestrian Plan as a guide for identifying and prioritizing safe pedestrian linkages which create a viable pedestrian network. Many areas within the City limits lack sufficient pedestrian facilities and the City recognizes the need to plan for the future and develop a pedestrian network that provides connectivity for the users. Using the proactive approach will establish priorities for future pedestrian facilities, reduce construction costs and implement facilities in a logical manner.

The study area spans the City of Locust City limits and the immediate, surrounding areas. Although the research will be focused primarily within the City limits, it is important to understand the existing pedestrian patterns into and out of Locust and its destination points.

Existing pedestrian facilities were identified

In order to better understand the existing conditions, identify user needs and make recommendations for the pedestrian plan, the following steps will be followed:

1. ***Conduct an inventory of the existing pedestrian system:*** *Provide an existing sidewalk, greenway and crosswalk inventory for the City's pedestrian facilities and identify existing safety issues.*

2. ***Perform an assessment of the needs of the pedestrian:*** *Identify and evaluate pedestrian needs and areas that are lacking connectivity to destination areas.*

3. ***Formulate objectives and recommendations:*** *Provide guidelines for future development and for the repair of existing facilities along with the probable costs associated with both.*

4. ***Prepare an action-oriented method for the implementation of improvements:*** *Identify and prioritize key pedestrian linkages, sidewalk needs (through an equitable and on-going process), and identify key funding sources for the City to pursue.*

These components provide justification for the eventual proposed improvements. Also, priorities for improvements must be established. Implementing all of the proposed

improvements over a small period of time would be overwhelming; it is important that the most immediate needs be recognized as capital improvements begin.

Pedestrian needs must be identified and evaluated

Identifying the critical facility needs of the City of Locust means identifying such improvements as sidewalks and safety conditions. The safety of pedestrians is, by far, the most important component of the pedestrian facilities. Damaged, broken sidewalks, crosswalks which still remain unmarked, and inappropriate signage are important areas that need to be addressed in the near future. In addition to facility needs, an implementation plan is an important short-term goal in establishing long-term objectives. 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.

Pedestrian facilities will be the primary focus of this plan, in particular, sidewalks (located on City streets and state roads) and pedestrian safety. In addition, off-street pedestrian facilities such as greenways and multi-purpose trails will be examined. The Locust Pedestrian Plan will delineate the 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.

Typically, police departments teach pedestrian safety to school children

- END OF SECTION -

SECTION 2 EVALUATING CURRENT CONDITIONS

2.1 Overview

This section examines the existing pedestrian and bicycling conditions in the City of Locust. Information was gathered from a variety of sources including interviews, on-site surveys, a public questionnaire, community meetings, and available documents. The information gleaned from this research is used to form the development of the City of Locust Pedestrian Master Plan.

In general, pedestrian-friendly environments indicate that the sense of community is strong and active. Improving the walkable routes between destinations within Locust supports walking and provides a safe and healthy alternative to driving. In 2000, the US Census Bureau reported that 5.1% of the population of Locust did not have access to a personal motorized vehicle; and 20.9% of households only had one (1) vehicle. This information underscores the importance of a good pedestrian transportation system to the economic and social welfare of the community. The trends consist of, but are not limited to:

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

The City of Locust

Established as a crossroads community in the late 1860s, today Locust straddles the junction of NC Highway 24/27 and NC Highway 200 in the western section of Stanly County. Locust is less than 25 miles from downtown Charlotte, the largest city in North Carolina. The County seat, Albemarle, is less than 20 miles to the East of Locust. The City of Locust is located in the Piedmont area of North Carolina.

Locust is in Piedmont North Carolina

Historically, the City of Locust has spread out east/west along NC Highway 24/27 and north/south along NC Highway 200. The newly-constructed Locust Town

Officer Jeff Shelton Memorial

Center, located west of NC Highway 200 on the north side of NC Highway 24/27, is designed to create a new business, residential, and government center for the City. Locust Town Center is also meant to serve as a focal point for the community, along with other points of interest, such as the Locust City Park and the Officer Jeff Shelton Memorial.

Residential areas are scattered along the existing feeder roads located off of NC Highway 24/27, NC Highway 200, and Meadow Creek Church Road. Much of the City and its extraterritorial jurisdiction (ETJ) are still *rural* in nature.

Demographics

According to the United States Department of Commerce (USDOC), Division of the Census, the population of the City of Locust in 2000 was 2,416 people. (2005-2007 census estimates are not available for this location.) The North Carolina State Demographics Department estimated the 2007 population at 3,108 people. This gives the City of Locust a population density of approximately 605 people per square mile and a growth rate between 2000 and 2007 of 28.64%.

The Census 2000 gave a breakdown of the population of Locust according to the following age groups:

AGE BRACKET	*LOCUST POPULATION*	*LOCUST PERCENTAGE*	*NORTH CAROLINA PERCENTAGE*
Under 5	***168***	***7.0***	***8.1***
5 to 9	***182***	***7.5***	***5.6***
10 to 14	***185***	***7.7***	***6.9***
15 to 19	***145***	***6.0***	***6.7***
20 to 24	***116***	***4.8***	***7.2***
25 to 34	***350***	***14.5***	***15.0***
35 to 44	***442***	***18.3***	***16.0***
45 to 54	***321***	***13.3***	***13.6***
55 to 64	***230***	***9.5***	***9.0***
65 and older	***277***	***11.5***	***8.4***
TOTAL	***2416***		

The adult population is the largest demographic for the City, with adults between the ages of 25 and 64 accounting for 56% of the population. In addition, the youth and senior populations are higher than the state average. This is indicative

of the youth and senior populations, who often require alternate forms of transportation - other than a personal motor vehicle.

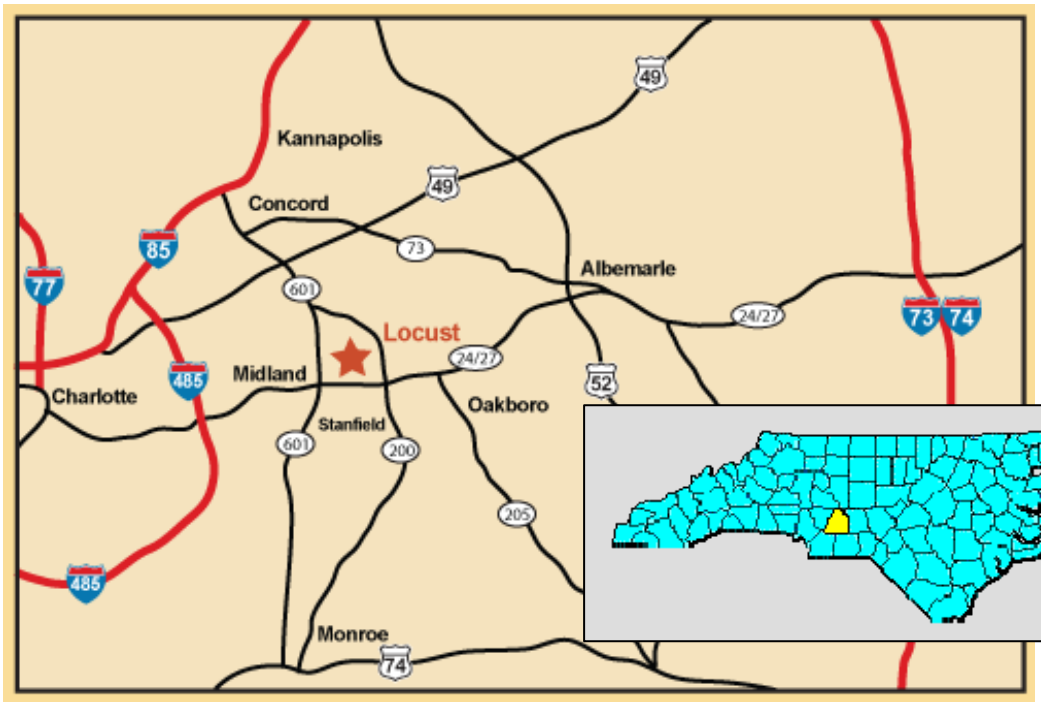
The census reports that in 2000, there were 47 households (5.1%) that had no vehicle available to them for transportation. 1.2% of households had members that walked to work, while 1.5% found other means of transportation besides personal vehicles.

Locust is in close proximity to Charlotte, NC

The increase in growth of the City can be attributed in part to its proximity to the City of Charlotte. The City of Locust is only 13 miles from the Interstate 485 outer corridor loop. This location enables residents to live in a rural/small City environment while commuting to Charlotte for work. Locust residents may also enjoy the various amenities of the larger, metropolitan, banking area – dining, shopping, entertainment, sports events – to name a few.

Physical Characteristics

Most of the City of Locust is located in Stanly County, North Carolina, but small areas are located in Cabarrus County to the west. NC Highway 24/27, which passes through the City of Locust, connects the City to Interstate 485 in the west and Interstates 73 and 74 in the east.



The Meadow Creek flows south along the western portion of Locust and enters the Rocky River in Cabarrus County, west of the City. The Rocky River forms the borders of Stanly, Anson, and Union Counties. Island Creek, also a tributary of the Rocky River, runs south passing through the easternmost portion of Locust.

2.2 Local Transportation Network Assessment

Existing Transportation Network

The existing transportation network in the City of Locust focuses heavily on motor vehicles. Two (2) state highways intersect in Locust and have historically served as the commercial corridors. Recent NCDOT work in Locust has included the installation of sidewalks down both sides of the newly-enlarged (five lanes) NC Highway 24/27 route. Two (2) private, residential developments have sidewalks and the new Locust Town Center has sidewalks throughout the completed part of the complex.

Stanly County Bicycle Route 2, an 84-mile designated bicycle route that circles Stanly County, runs through Locust along NC Highway 24/27. There are no special bicycle lanes along this road and NCDOT recommends that extra caution be taken when riding a bicycle along this busy route.

Public Transit

The major form of vehicular transportation in Locust is the private automobile. A major east/west corridor, NC Highway 24/27 passes through the City. This portion of highway through Locust has recently been widened to five (5) lanes; four (4), for driving, and one (1), for turning. NC Highway 200 is the major north/south highway through Locust. For the majority of its route, it is a two-lane, limited speed road.

The Stanly County Transportation Authority under the auspices of the Stanly County Umbrella Service Agency (SCUSA) runs an on-call bus route. SCUSA provides community transportation services responsive to the current and changing needs of Stanly County residents. Transportation includes trips to and from agencies, employment sites, businesses, medical centers (in and out of county), community college, Senior Center, nutrition sites, YMCA (for the after school program), dialysis, nursing homes, daycare's, etc. Services are provided utilizing vans and buses through subscription and demand response routes. Vehicles are available to better serve the disabled population.

There are early and late afternoon routes that run through Locust and Oakboro five (5) days per week. A nutrition site route is run on Monday, Tuesday, and Wednesday each week. On Mondays, a general public route runs between Locust and Albemarle.

Pedestrian and Bicycle Crash Data

When pedestrian and bicycle paths cross vehicular pathways, there is always the possibility of collision, injury, and death. Though the number of pedestrian fatalities is reducing each year, 4,784 pedestrians were killed and 61,000 were injured in collisions with motor vehicles in 2006. Most pedestrian vehicle injuries/fatalities occur away from intersections, at night, in good weather, and in urban areas. Between 1990 and 2008, there were five (5) pedestrian/vehicle crashes in the City of Locust, two (2) of which were fatal.

In 2006, the highest number of pedestrian fatalities occurred in the 40-60 year old range, followed by those of ages 16-30 and 70+. Of the five (5) Locust accidents, two (2) were in the 40-60 age range, one (1) in the 16-30 age range and one (1) was over 70. The fifth was under the age of 15.

NC Highway 24/27 has long stretches of highway with very few intersections

National Highway Traffic Safety Administration (NHTSA) data indicates that most vehicular-pedestrian accidents occur in parking lots or at non-intersection points along the roadway. Three (3) of the Locust accidents were on North Carolina state roads and one (1) was located off-road. NC Highway 24/27 and NC Highway 200 have very few marked intersections along their considerable distances through Locust. This lack of proximity of intersections with signals and marked crosswalks can lead to a higher number of pedestrians crossing at unmarked spots along the roadways.

Reported Pedalcyclist and Pedestrian Crashes in the City of Locust

For the Reporting Period of January 1, 1990 to September 30, 2008

On Road	*Miles*	*Dir*	*From Road*	*Toward Road*	*Crash Severity*	*Date of Crash*	*Time of Crash*	*Crash Type*
NC 24	0		MEADOW CREEK RD		C-Injury (Possible)	6/19/1990	3:20 PM	Pedestrian
MAPLE ST	0		SUMMIT ST	DOGWOOD ST	C-Injury (Possible)	4/5/1992	5:29 PM	Pedalcyclist
NC 200	0	N	DIXON ST		C-Injury (Possible)	1/26/2001	6:51 AM	Pedestrian
NC 200	0		MISSION CHURCH RD	BETHEL CHURCH RD	C-Injury (Possible)	4/12/2002	2:08 PM	Pedestrian

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 cannot be assessed from just one (1) method. These methods consisted of establishing a steering committee, completing a pedestrian survey, and conducting two (2) community workshops.

Steering Committee

To establish a group to act as a *guide* for the development of the Pedestrian Plan, a Steering Committee was formed during the initial planning process to identify the needs and priorities of pedestrians. The Steering Committee was composed of members from the City Staff, City Council, NCDOT Representative(s), and 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, several meetings were held to evaluate the planning process at various stages.

The initial meeting took place in May, 2009. At this meeting, committee members participated in two (2) exercises; one (1), a visioning exercise, and the other, a small group discussion exercise.


Steering Committee formed work groups

For the small group discussions, the committee members were divided into four (4) groups. Each group was given a map of Locust showing the road system and land uses. The groups were instructed to correct any errors on the maps, locate problems and deficiencies in the pedestrian network, and draw in proposed routes for sidewalks and trails that they felt were significant. The complete results of the map exercise are shown on maps 5 and 6 at the end of this sub-section. The "key" to the numbered map comments can be found in the appendix. General needs identified by the Steering Committee included:

Pedestrian Crossings and/or Signals

- NC Highway 24/27 and Locust Elementary School
- NC Highway 24/27 and NC Highway 200
- NC Highway 24/27 and Ray Kennedy Drive (Town Center entrance)
- NC Highway 24/27 and Church Street
- NC Highway 24/27 and Renee Ford Road
- NC Highway 24/27 and Browns Hill Road
- NC Highway 200 North and Lions Club Drive
- NC Highway 200 North and Bethel / Meadow Creek Church Road

Sidewalks and Trails

Several connections from existing and planned developments into Town Center were noted, as well as either a greenway trail or sidewalk through future site developments in Town Center. Other needed sidewalks were:

- Along NC Highway 200 from Elm Street north to Danita Drive (both sides of the street)
- Along Lions Club Drive. from NC Highway 200 to the Park
- Along Locust Avenue. and Sunset Drive
- Along Market Street
- Along Scout Street to Meadow Creek Church Road
- Along Meadow Creek Church Road from Scout Street. north to Twin Oaks Circle
- Along Redah Avenue

Greenway Trails

Greenway trail is proposed along Running Creek Church Road

- Along Meadow Creek in the western portion of the City, along Meadow Creek Church Road to Bethel Church Road, then south along Island Creek or Running Creek Church Road
- Along NC Highway 200 north to Quail Run Road

Results of the Steering Committee map exercises – as they relate to needed pedestrian crossings, signals, sidewalks, trails, and greenways are shown on the maps at the end of this sub-section

Community Workshops

McGill Staff solicited ideas and opinions at public event

The *first* community workshop was held at Town Center during the Locust Drive-In Car Show. The public event was held October 3rd, 2009, and attracted many area residents and visitors. Community participation included surveys, map exercises, and an opportunity for open-ended questions and answers.

A display table was set up for McGill to show signs, maps, and other items to Locust and area residents. McGill staff invited walkers-by to participate in the Locust Pedestrian Planning process. The participants would usually question our intent and we would direct their attention to the various exercises we were using to collect their ideas and public opinions regarding the Locust Pedestrian Plan.

The devices used, with short descriptions include:

- Surveys - Were handed out along with pens. Participants filled the survey out and we collected them
- Map exercises - Maps of Locust were on tables and on tripods, participants were asked to sketch or write where and what they saw as problem areas, areas needing improvement, or their ideas for improvements. Some participants placed numbered dots on the map that corresponded to their comment which was written on the side of the map.
- Open question opportunity was just that, people were asked if they had any questions on the Locust Pedestrian Plan or what were their thoughts, ideas, and concerns were concerning walkability in Locust. We recorded their questions and comments.

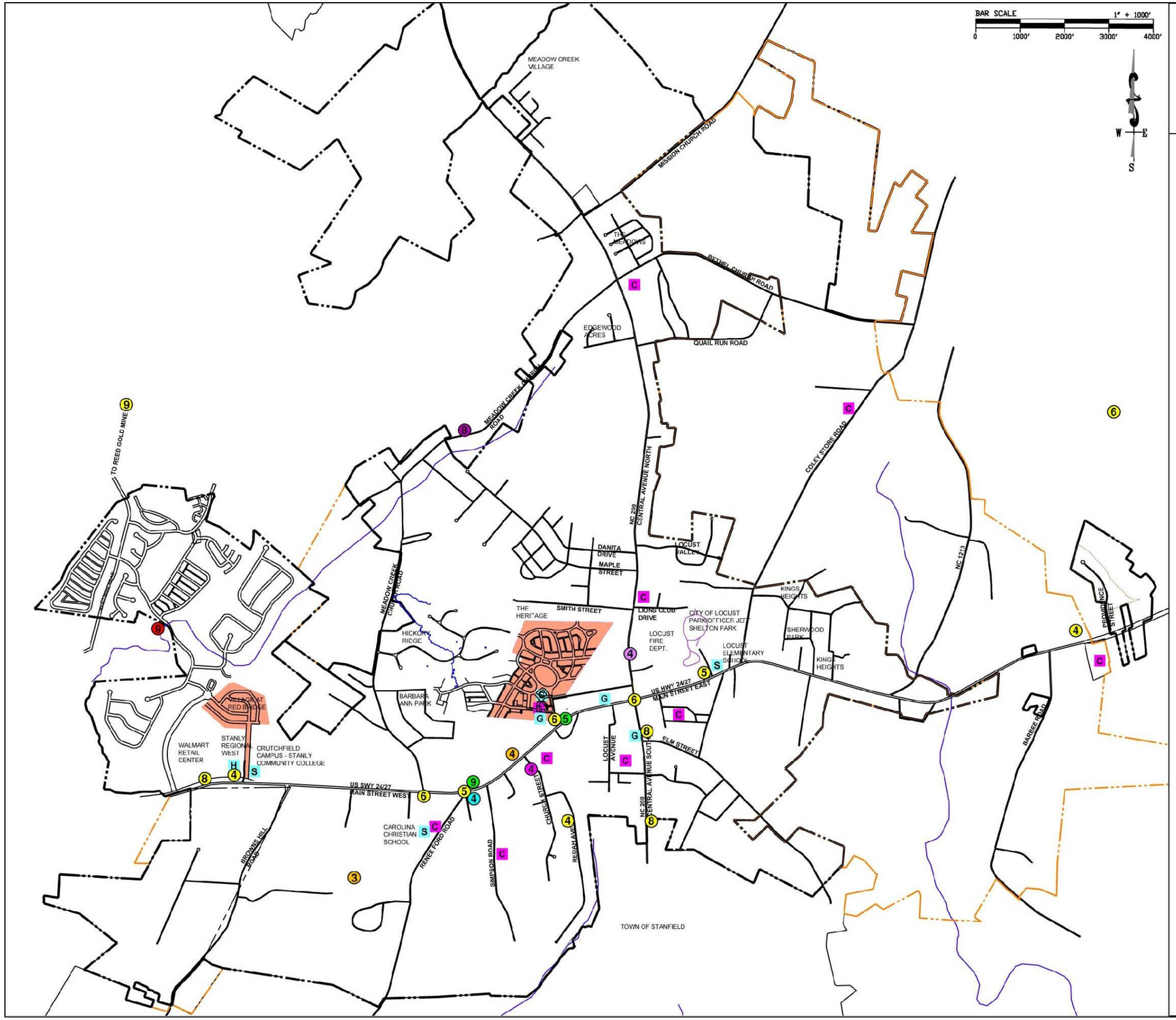
Workshops took place in Town Center

The *second* community workshop also took place at Town Center. This public meeting was held February 16, 2010 6:30 - 8:00 pm and drew many area residents. McGill Associates gave a brief introduction of the NCDOT Pedestrian Planning Grant Program and summarized the work to date that had been performed. A PowerPoint presentation was then shown addressing the planning process, which summarized the Plan Inventory and proposed draft recommendations. The presentation included specific areas of improvement within the City that were cited by City Staff and the general public

from previous meetings. Each of these areas was followed up with a proposed recommendation for method of improvement. After the presentation was completed, a brief question/answer session followed. The group was offered the opportunity to ask questions regarding the Pedestrian Plan, as well as propose recommendations.

When the question/answer session was complete, the attendees were divided into smaller groups and given maps of the City to review proposals and give additional input and comment. These groups were asked to identify common/important destinations, existing and desired pedestrian routes, and to list any concerns or ideas they had to improve the pedestrian system within Locust. Each group was asked to present their ideas to the entire group. The group participants were encouraged to participate in the Community Survey. Surveys were given out to everyone. Most meeting participants completed the surveys, which were collected at the end of the meeting.

Results of the map exercises, which were conducted at the Community Workshops, can be seen on the following map:



City of Locust

Comprehensive Pedestrian Plan
Community Workshop

Map - 4

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Future Development

Please place a numbered dot on the map to mark the following concerns and needs.

1. Existing Sidewalk Poor Condition
2. Dangerous Intersection
3. Handicap Ramp Needed
4. Problem Area
5. Pedestrian Crosswalk Needed
6. Pedestrian or Traffic Signal Needed
7. Dangerous volume or speed of traffic
8. Heavily Used Pedestrian Pathway
9. Point of Interest

Respondant Comments About "Problem Areas"

3. "Are the utility easements here Duke or REA or Union Power?"
4. "The existing sidewalk is incomplete"
4. "There is a need for a pedesrian lane"
4. "The signs here are difficult to read"
4. "Church St. is too narrow, needs widening"
4. "DOT Signalization at light may be off here"
5. "This intersection will continue to see growth in the future"
8. "There should be sidewalk from 24/27 to NC200 on Meadow Creek Church Road"
9. "If a greenway goes to the Rocky River Vineyard there could be a lot of people going there"
9. "Extend the greenway to here"

Pedestrian Survey

To further solicit input from the public about the pedestrian system in Locust, the public survey was made available on the Locust web page, at the public library, and city planning office. The survey (Appendix B) was designed to solicit opinions upon both general and specific pedestrian concerns in the City of Locust. The results help to inform decisions regarding existing pedestrian routes, areas of safety concern, and ideas for new sidewalks.

Survey Results

The majority of survey respondents were adults of age 45 and over. 56% of respondents were male and 45% were female. The survey participants were asked various questions pertaining to their current and future pedestrian needs and walking habits. The questions and responses provided were as follows:

How many times a month do you walk for recreation or leisure?

33% survey respondents reported walking for recreation 0-2 times a month. 28% of survey respondents reported recreational walking 11 or more times a month. Survey respondents reporting that they walk 3-5 times a month made up 23% of the total responses. Only 16% reported walking for leisure.

How many times per month do you walk to work?

When the respondents were asked the number of times per month they walked to work: 98% reported 0 -2 times. Only 2% of survey participants reported walking 6 - 10 times a month.

How many times per month do you or your children walk to school?

95% of survey respondents reported that they or their children only walked to school 0-2 times a month. 2.5% walked to school 3-5 times a month and 2.5% of people reported walking to school 6-10 times a month.

Most students travel to school by bus or automobile

How many times per month do you walk to go shopping or run an errand?

88% of survey respondents reported walking 0-2 times a month for shopping or errand running. 21% of respondents reported walking 3-5 times a month and 5% reported walking 6-10 times a month on shopping related trips. 7% of survey

participants reported walking 11 or more times a month to go shopping or run errands.

The reasons I walk now or will walk in the future are (check as many as apply):

When asked what the reasons for survey respondents walking were 40% reported walking for exercise or for getting fresh air. 25% of respondents reported walking with friends or a spouse. 17% walked to take their dogs out, 12% walked as a way of saving gasoline, 6% walked just a means of transportation, and 1% reported walking because they didn't have an automobile.

The reasons I don't walk more is (check as many as apply):

Interestingly, when asked for the reasons why survey participants did not walk 21% of people said because there were no nearby destinations, 17% of respondents were not interested in walking, while 16% reported that the intersections were too dangerous. Another 16% of survey respondents reported that there was not enough light for them to walk. 10 % of survey respondents reported a fear of crime as a reason for not walking more. 7% of respondents report the lack of trails and sidewalks as a reason for not walking more. Only 6% of survey respondents reported not walking more because of danger from traffic.

What destinations would you be likely to walk to (check as many as apply):

20% of survey participants reported a positive interest in walking downtown. Another 20% of respondents said that they would be likely to walk to a park, trail or greenway. 17% of people would walk to restaurants and 15% would walk to go shopping. 14% of people reported being likely to walk to a place of worship. Survey respondents that would be willing to walk to a library or museum made up 11% of the total number of responses. 1% of survey respondents reported a likeliness to walk to work and another 1% reported being likely to walk to school.

Some respondents wanted to walk to church

Which of the choices below would encourage you to walk more?

When asked what would make the survey responses walk more 16% of respondents would like more off-road walking trails while 15% reported a desire for healthy walking programs. Another 16% of survey respondents would like sidewalks in their neighborhoods. 14% of people surveyed would walk more if sidewalks were improved or increased. Landscaping and street trees along paths

would encourage 12% of survey respondents to walk more. Another 12% would be encouraged to walk if intersections were made pedestrian-safe. 8% of survey participants reported having a clean, safe-appearing environment would encourage them to walk more while another 8% sited a desire for special walking events.

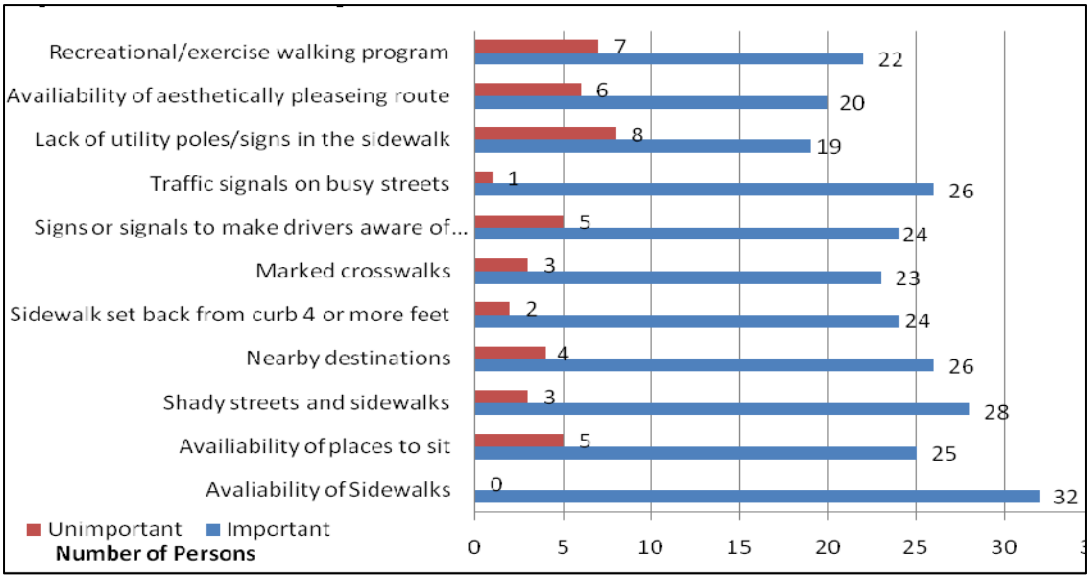
Do you have school aged children?

Survey respondents with school aged children made up 65% of the total number of respondents. When asked if these children walked or biked to school, 80% reported "no".

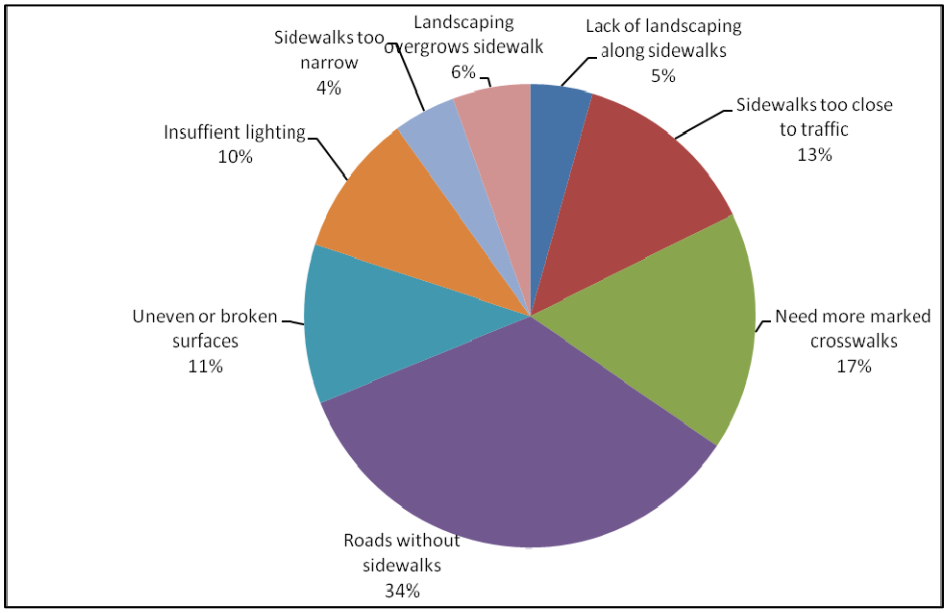
Please mark whether you think the following are important or unimportant for walking.

An overwhelming majority of survey respondents reported that the availability of sidewalks, places to sit, shade, lack of sidewalk obstructions and marked crosswalks were important for walking. An overwhelming majority of survey respondents also rated as important the need for nearby destinations, sidewalks set back four or more feet from street curbs, pedestrian warning signals on streets, aesthetically pleasing routes and recreational/exercise walking programs.

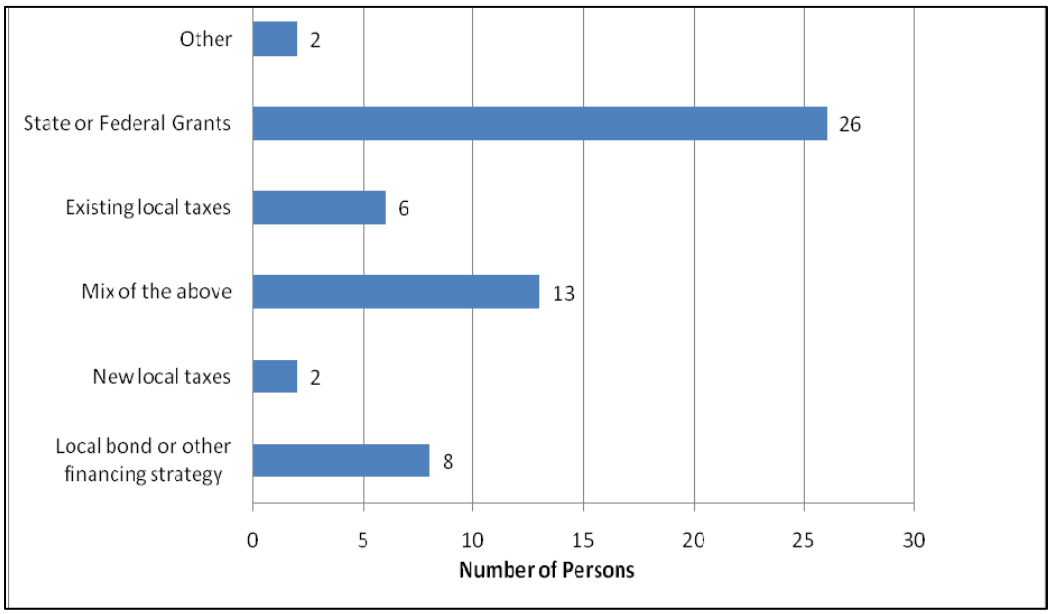
Please mark whether you think the following are important or unimportant:

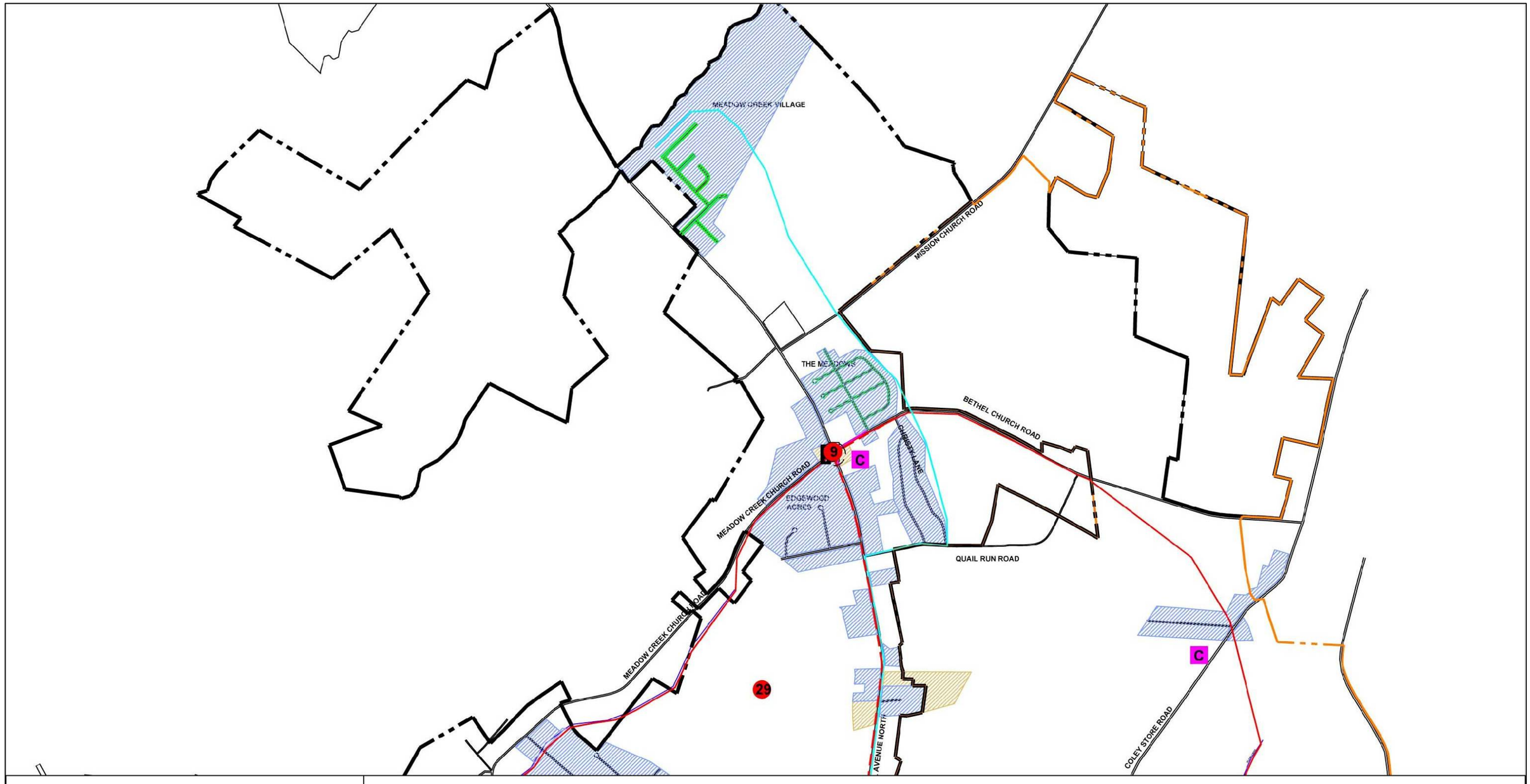


What are your major concerns about walking in Locust?



What source of funding should be used to build or improve pedestrian facilities in Locust?





CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 6
Steering Committee
Workshop Results

Workshop Results

- 1 — Problem area identified by Steering Committee Member. Keyed to Table x.xx, Page xx
- Steering Committee Group 1 Sidewalk/Greenway Needs
- Steering Committee Group 2 Sidewalk/Greenway Needs
- Steering Committee Group 3 Sidewalk/Greenway Needs
- Steering Committee Group 4 Sidewalk/Greenway Needs

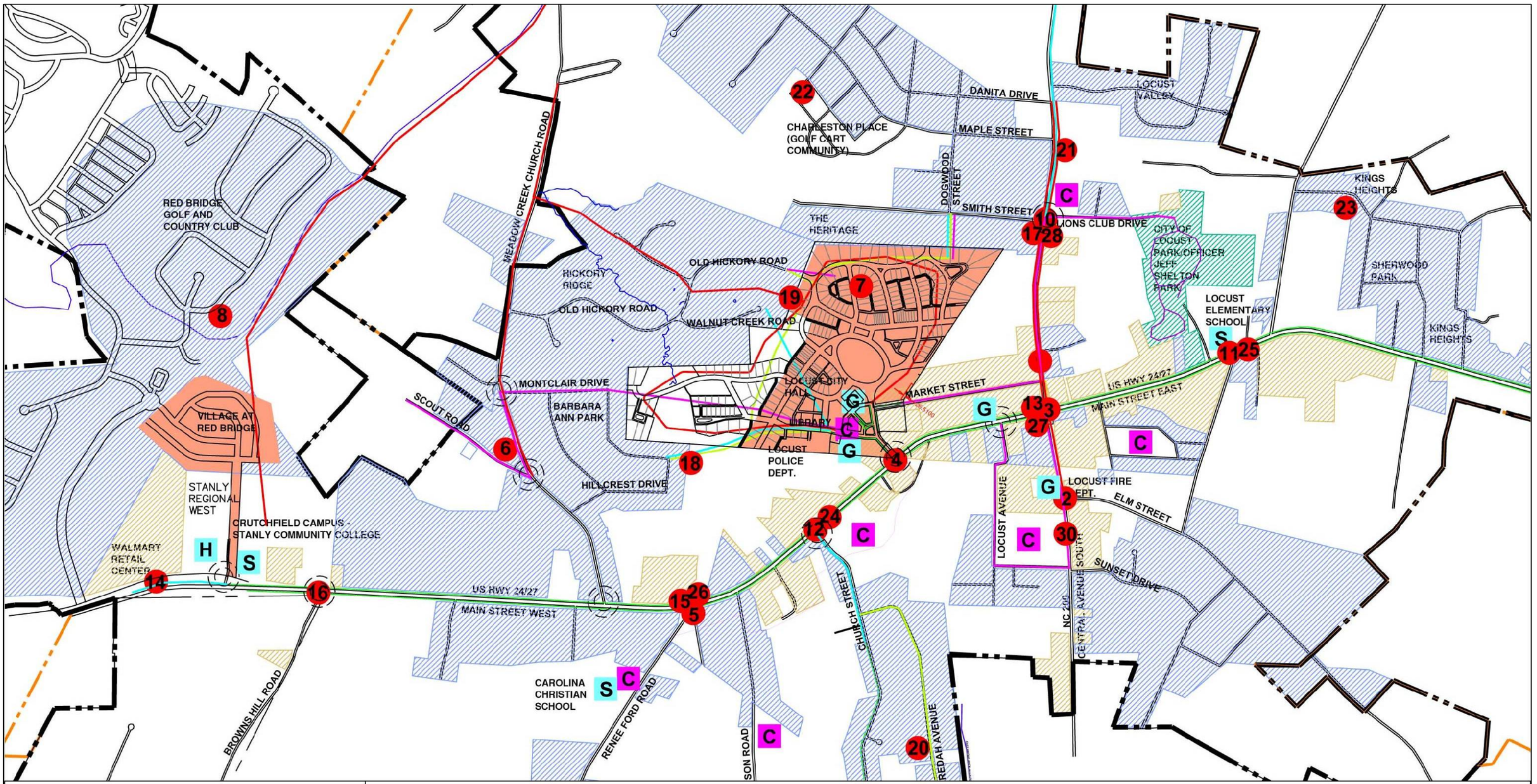
Existing Facilites

- Existing trail
- Existing Sidewalk Poor Condition
- Existing Sidewalk Fair Condition
- Existing Sidewalk Good Condition

- C — Church
- S — School
- G — Government Facility
- Residential
- Commercial/Retail
- Park

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Traffic Signal

BAR SCALE 1" = 1000'
0 1000' 2000' 3000'
W E S



CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 5
Steering Committee
Workshop Results

Workshop Results

- Problem area identified by Steering Committee Member. Keyed to Table x.xx, Page xx
- Steering Committee Group 1 Sidewalk/Greenway Needs
- Steering Committee Group 2 Sidewalk/Greenway Needs
- Steering Committee Group 3 Sidewalk/Greenway Needs
- Steering Committee Group 4 Sidewalk/Greenway Needs

Existing Facilites

- Existing trail
- Existing Sidewalk Poor Condition
- Existing Sidewalk Fair Condition
- Existing Sidewalk Good Condition

- C — Church
- S — School
- G — Government Facility
- Residential
- Commercial/Retail
- Park

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Traffic Signal

BAR SCALE 1" = 1000'
0 1000' 2000' 3000'
W E S

2.3 Assessment Of The Pedestrian Compatibility Of The Local Transportation System

Pedestrian System Access

The pedestrian system in the City of Locust has been, until recently, non-existent. The first sidewalks installed in the City were installed by NCDOT when the NC Highway 24/27 was recently widened to five lanes. These new sidewalks are 4' in width and have a 2' wide planting strip between the sidewalk and the curb. Sidewalks meet this new route only at one intersection - that of NC Highway 200 North - for one block. An extension of this sidewalk is planned down the east side of the street from Market Street to Lion's Club Drive.

The City has embarked upon the ambitious goal of creating a new central business district that is very pedestrian friendly. The new Town Center is part of a Neo-Traditional Design by the renowned firm of Duany/Plater-Zyberk. The central business district has wide sidewalks, street trees, landscaping, and places for pedestrians to gather and rest. The second stories of the buildings are suitable for either business or residential purposes. The planned residential community that will surround the business district will have sidewalks that connect to the downtown, providing direct pedestrian access to services and amenities.

One-block stretch of sidewalk and landscaping in Town Center

The Locust Land Development Ordinances, adopted in 1997, reflect the forward thinking needed for today's growing communities. All new developments are required to build sidewalks down both sides of the street. Sidewalks are to be 5' wide and have a 5' wide planting strip between the sidewalk and the curb. Street trees are required down both sides of the street, providing shade for pedestrians and helping to slow down traffic. Required on-street parking will further slow traffic in high density build areas.

Walking Trip Characteristics

Most pedestrian trips in Locust have to be taken either on the street or on the verge of the street. The new sidewalk along the length of NC Highway 24/27 has greatly increased the pedestrian traffic seen along this road.

Areas of high pedestrian activity are:

- North Highway 200 (average daily vehicle count of 6,500)
- South Highway 200 (average daily vehicle count of 7,700)
- Children walk to school along Vella Drive south of NC 24/27. There, they have to cross five lanes of traffic (average daily vehicle count of 15,000) to access the elementary school.

The only marked crosswalks in Locust are located at NC Highway 24/27 and NC Highway 200, and at NC Highway 24/27 and Renee Ford Road. Until the fall of 2010, there were no pedestrian signals at either location. Since NC Highway 24/27 effectively divides the City in half, these are the only two signaled locations for pedestrians to cross this very busy highway. (It should be noted that more NCDOT-mandated signals could precipitate additional crosswalks.)

Potential generators of pedestrian traffic in Locust include the City of Locust Park, Locust Elementary School, Town Center, businesses along NC Highway 24/27 and NC Highway 200, the hospital and community college. A new shopping center is being built near the community college on NC 24/27 which will probably generate trips between the two. No sidewalk exists along that section of the highway at this time.

Town Center generates pedestrian traffic for shopping, library, entertainment, and government services

An obvious gap in the existing sidewalk system is between the sidewalks on NC Highway 24/27 and the sidewalks of Town Center. Along the entrance to Town Center, the sidewalk on the west side of the block stops short of NC Highway 24/27 by approximately 30'. This gap may be a barrier to those pedestrians in wheel chairs or pushing a stroller that wish to access Town Center. There is no sidewalk on the east side of the entrance block.

Walking trips are typically broken down into two main categories; walking for recreation and walking to destinations. Many of those who are walking for recreation and/or physical activity, use the trail at the City of Locust Park/Officer Jeff Shelton Park. One (1) sidewalk along NC 24/27 accesses this park, as well.

The development of the pedestrian system in Locust is in its infancy. Development requirements for sidewalks will help this system to grow, but it will be necessary for the City to provide the vital connectors between neighborhood systems to create the walkable city they envision.

2.4 Inventory And Assessment Of Existing Pedestrian Facilities

There are few existing safe pedestrian corridors within the City of Locust. Recent work done along the length of NC Highway 24/27 through the City has included the construction of sidewalks and curb ramps along both sides of the highway. No marked pedestrian paths intersect with this new system except for one short block north of NC Highway 24/27. This same block contains the only sidewalks along US Highway 200, the major north/south route through Locust. The City is planning to install sidewalks along the east side of North US Highway 200 from the existing walk to Lions Club Drive.

The only other areas of the City that have sidewalks are the new Locust Town Center and several residential areas, including - The Meadows Subdivision, Meadow Creek Village, and along the southern portion of Church Street. Sidewalks are planned for the Locust Valley development.

Parks are common destinations for area pedestrians

The main destinations for pedestrians in Locust are Locust City Park, Locust School, Locust Town Center, houses of worship, and the businesses along NC Highway 24/27 and US Highway 200. These major destinations are for the most part, not served by the existing pedestrian system.

The City of Locust is committed to improving the opportunities for pedestrian transportation. The current pedestrian system in Locust consists primarily of sidewalks that have been installed within the past five years. The City of Locust Steering Committee and McGill Associates underwent a process of creating a pedestrian facility inventory. This inventory delineates not only the location of existing sidewalks but also the condition of the facilities, as shown on *MAP A: Existing Conditions* can be found at the end of section two. This inventory includes the condition of sidewalks, crosswalk needs, dangerous intersections, and problem areas for safe pedestrian use. The inventory was used to identify needed linkages that would improve connectivity and to assess both the condition of facilities and whether they are ADA compliant.

Sidewalks

Main Street / NC Highway 24/27

The major sidewalk corridor in the City of Locust is along Main Street / NC Highway 24/27. This newly-installed sidewalk runs along both sides of the five-lane highway that has a traffic count ranging from an average of 12,000 to 19,000 vehicles per day. The sidewalk runs along West Main / NC Highway 24/27 from Crutchfield Education Center (a satellite of Stanly Community College) to NC Highway 200. The sidewalk continues down East Main Street / NC Highway 24/27 to the eastern city limits. The sidewalk is 4' wide and there is a 2' wide grass planting strip separating the sidewalk from the curb and extending the length of the sidewalk. The sidewalk curves around the corners at every intersection, but there is no existing connectivity to a pedestrian system. There is an existing sidewalk system in the Locust Town Center, but there is a gap of about 30' between the Main Street sidewalk and the Locust Town Center sidewalk on the west side of the street, which is in excellent condition. There is no existing sidewalk on the east side of the block.

NC Highway 24/27

There are curb ramps at each of the intersections along this road. The curb ramps meet NCDOT specifications, but there is no texture or color change on the face of the ramp to distinguish it from the body of the sidewalk.

The Meadows

Excellent sidewalks at The Meadows

The Meadows is a subdivision located along Bethel Church Road, near NC Highway 200/North Central Avenue. New homes are still being built in this fairly new neighborhood. The streets that have been built out have 5' wide concrete sidewalks on both sides of the street with a 5' wide grass strip between the pavement and the curb. The sidewalks are in excellent condition.

Locust Valley

Sidewalks are planned for this development along both sides of the residential streets.

Church Street

Recently built houses and new construction line both sides of the road on the southern end of Church Street. The first subdivision (built out) has sidewalks down one side of the street. The sidewalks are new and are in excellent condition.

The subdivision further south on the street is still undergoing construction. Sidewalks are being installed in front of finished houses as they are built. The houses are not being built in a sequential order; therefore, gaps are being left in the pedestrian system. Because this is a cul-de-sac with many vacant lots, this should not pose a problem as people can walk in the streets if they are careful of the construction vehicles.

Locust Town Center

The sidewalks in the Locust Town Center are all of new construction. The sidewalks are at least 7' wide and often wider, depending upon location. They are in excellent condition. There are curb ramps, but no marked crosswalks. The curb ramps do not have textured areas or a color change as recommended by the ADA. Street trees and street lamps are placed near the curb and are out of the main traffic lane. Benches are available for sitting in some areas as are seat walls and mini plazas. Trash cans, ash containers, and benches are moved back against the buildings and out of the pedestrian pathway. Residents indicated that more of these types of amenities would promote further utilization of the newly-developed area.

Locust Town Center

Town Center connects to NC Highway 24/27 along Ray Kennedy Drive. The sidewalk along the west side of Ray Kennedy Drive stops short of the sidewalk lining NC Highway 24/27 by about 30'. The east side along this entrance block has no sidewalk at all.

Site of Red Bridge Golf & Country Club

Villages at Red Bridge Golf and Country Club Community

The entrance to this planned community is located on NC Highway 24/27, just west of the Stanly Regional West campus. A shopping center is under construction at the intersection. The plans for the gated development include ten (10) different "villages", a club house, and an 18-hole private golf club. The retail center will be available to the general public and is being anchored by a Wal*Mart store. A walking trail and jogging/walking track are also planned for the village community.

Meadow Creek Village

Sidewalks are provided along both sides of the street in this residential neighborhood. The sidewalks are new and in excellent condition. The sidewalks are 5' wide and have a 5' grass planting strip between them and the curb. Street trees have been planted in this strip.

Pedestrian Intersections

Crosswalk and signal needs are also shown on map A at the end of this section. There are many intersections that require pedestrian signals, crosswalks, areas of refuge, or a combination of these needs. The following are intersection and/or corridor crosswalks that lack pedestrian facilities or are in need of improvements. (Since this writing, some crossings have been signalized.)

Crosswalks

- West Main Street/NC Highway 24/27 and Ray Kennedy Drive (average daily vehicle count of 19,000)
- West Main Street and Meadow Creek Church Road (average daily vehicle count of 18,000)
- West Main Street and Church Street (average daily vehicle count of 19,000)
- East Main Street and Park Drive (average daily vehicle count of 15,000)
- East Main Street and School Road (average daily vehicle count of 15,000)
- North Central Road/NC Highway 200 and Lions Club Drive (average daily vehicle count of 6,500)
- North Central Road and Bethel Church Road (traffic count not available)
- South Central Road and Elm Street (average daily vehicle count of 7,700)

Barriers


Narrow planting strip discourages pedestrian sense of safety

In addition to the sidewalks and curb ramps, the inventory delineates noncompliant sidewalks and sidewalk obstacles. Barriers consist of objects located on sidewalks which prevent a safe lateral clearance. Typical manmade barriers consist of utility poles, traffic signs, and fire hydrants. On Main Street/NC Highway 24/27, the sidewalks are new; and. as a consequence, they are free of barriers at this time. However the City must avoid placing temporary barriers, such as trash containers, hydrants, etc., on the sidewalk. There is room to accommodate barriers such as these in the grass strip along the edge of the road.

The most prominent barrier in the existing pedestrian system of Locust is the five-lane corridor, NC Highway 24/27. This road creates a physical barrier within the City of Locust - dividing the City in half. There are only two (2) traffic lights along this six and one-half mile (6.5) stretch of highway. Though there are marked crosswalks at these two (2) crossings, there are *no* pedestrian signals. Without adequate, safe crossing sites, the highway effectively closes off destinations such as the elementary school, the City Park, and Town Center to pedestrians living in the southern portions of the City.

Inventory Map

The following inventory map depicts existing pedestrian conditions in the City of Locust. For a closer view of this information please see Maps 1, 2, and 3 in the Appendix.

- END OF SECTION (After map)

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -A
Pedestrian Inventory Plan
Existing Conditions

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk Fair Condition
- Existing trail
- Existing Sidewalk Good Condition
- Dangerous Intersection
- Problem Area
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Existing Traffic Signal
- Park
- Future Development

SECTION 3 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 Locust. 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 made for the City. The following are key documents and studies, which should be reviewed in their entirety.

3.1 Local, Regional, and State Plans / Guidelines

Transportation Plans

City of Locust received NCDOT DBPT grant in 2008

The Bicycle and Pedestrian Planning Grant Initiative

The Division of Bicycle and Pedestrian Transportation (DBPT) has coordinated its planning efforts with the Transportation Improvement Program. DBPT developed *The Bicycle and Pedestrian Planning Grant Initiative* in 2004 as a means of providing financial assistance to local municipalities in developing comprehensive bicycle and pedestrian transportation. In 2008, the City of Locust was awarded a grant by NCDOT to develop a Comprehensive Pedestrian Plan. This grant program was developed by the DBPT and the Statewide Planning Branch (SWP) as a means of encouraging the development of comprehensive bicycle and pedestrian plans.

Greenway Plans

Carolina Thread Trail

The Catawba Lands Conservancy is a non-profit organization that works to preserve land for the citizens of six North Carolina counties. Currently the Conservancy is working to develop a greenway/trail system that will encompass

15 counties in North and South Carolina. Called the *Carolina Thread Trail*, this system will serve as a means of connecting county and municipal trail systems and destinations together into a region-wide system of trails and preserved lands. Currently, the Thread Trail runs through Locust from the Rocky River down NC Highway 24/27 and eventually south to Stanfield. Currently, the Thread Trail runs through Locust from the Rocky River down NC Highway 24/27 and eventually south to Stanfield. The City's goal is to connect the Red Bridge development, the Town Center, Officer Jeff Shelton Park/Locust Athletic Field, and Locust School to the Trail – eventually following along the railroad and continuing eastward.

Morrow Mountain State Park in Albemarle is probable connector to Carolina Thread Trail

Community Development Plans

1996 Community Master Plan – City of Locust

In 1996, the Locust City Council began the development of a new Community Master Plan. The initiative was fueled by the growth of the nearby City of Charlotte. The Locust City Council recognized that Charlotte's growth would soon affect the growth of Locust. The purpose of the new Master Plan was to ensure that Locust could support growth without destroying its local character and rural heritage. A major portion of the new Master Plan resulted from the formation of a new zoning ordinance.

Despite growth, residents want local flavor

Locust Town Center

Designed by the renowned firm of Duany, Plater-Zyberk, and Company, Locust Town Center is designed to provide the City of Locust with a new downtown area, replacing what was bull-dozed for the widening of NC Highway 24/27. The design is based on the historic downtown districts of small southern towns. This neo-traditional type of design promotes walking as a form of transportation for residents,

Neo-traditional design attracts walkers to Town Center

workers, and visitors. A mix of residences and businesses are planned, as well as the Government offices in the City. Businesses already occupy several spaces in the new downtown district, and more buildings are planned for construction in the future.

A wide range of residential housing will connect to the new Town Center via both vehicular and pedestrian facilities.

Design Guidelines

City of Locust Street Guidelines

The following guidelines for streets in the City of Locust were taken from Section 5 of the 1997 Zoning Ordinances. The Land Development Ordinances were developed as a part of a new Community Master Plan for the City of Locust in order to prepare for the results of the expansion of the Charlotte metro area into Stanly County. The ordinances were designed to help Locust develop a small scale urban character while retaining its rural heritage.

The following street design guidelines were developed utilizing a Citizens' Committee, City staff, and a City Planning Consultant.

City Staff assisted with design guidelines

Boulevards

- 82' Right-of-way
- 62' Road pavement
- 5' Planting strip
- 5' sidewalk
- 15' to Build line from sidewalk

US Highway 24/27

- 80' Right-of-way
- 64' Road pavement
- 13' Planting strip
- 5' Sidewalks should be constructed 13' from the back side of the curb.
- 10' to Build line from sidewalk

Neighborhood Center/Minor Town Center Street

- 60' Right-of-way
- 36' Road pavement
- 5' Planting strip
- 7' Sidewalk to Build line

Residential City Street
- 56’ Right-of-way
- 36’ Road pavement
- 5’ Planting strip
- 5’ Sidewalk
- 25’ to Build line from sidewalk

Neighborhood Street Type I
- 46’ Right-of-way
- 26’ Road pavement
- 5’ Planting strip
- 5’ Sidewalk
- 15’ to Build line from sidewalk

Neighborhood Parkway
- 41’ Right-of-way
- 26’ Road pavement
- 5’ Planting strip
- 5’ Sidewalk
- 15’ to Build line from sidewalk

Neighborhood Street Type II
- 38’ Right-of-way
- 18’ Road pavement
- 5’ Planting strip
- 5’ Sidewalk
- 15’ to Build line from sidewalk

Rural Lane
- 32’ Right-of-way
- 18’ Road pavement
- 7’ Swale
- 10’ Planting strip
- 25’ to Build line from sidewalk

All of the streets are designed to include a minimum 5’ wide sidewalk, separated from the street by a minimum 5' wide planting strip. The different street types are designed to create streets in human scale, making them much more comfortable to pedestrians.

ADA Design Guidelines

The Americans with Disabilities 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 suitable
- Curb ramps provide entry and exit to sidewalks
- Ramps also provide alternate routes around staircases

Curb ramp shows areas that are uneven, root-laden

- Cuts in medians at crosswalks allow travel across divided roadways
- Slopes must be realistic for traveling (ASSHTO standards allow maximums of 5% for sidewalks, 2 % for cross-slopes, and 8.3% for curb ramps)
- 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

3.2 Plans and Initiatives Currently Underway or Planned

Transportation Plans

Projects within 2006-2015 NCDOT

The North Carolina Department of Transportation (NCDOT) Division of Bicycle and Pedestrian Transportation (DBPT) encourages comprehensive pedestrian planning by counties and municipalities statewide. DBPT coordinates its planning efforts with the Transportation Improvement Program (TIP), which is a state program that serves as a guide in establishing long-range goals for improving pedestrian transportation.

Transportation Improvement Program (TIP)

It is important to evaluate other existing initiatives of the Pedestrian Plan in order to appropriately incorporate current proposed improvements into the pedestrian plan. NCDOT has established priorities, which are addressed in the 2006-2012 Traffic Improvements Program (TIP). The Transportation Improvement Program (TIP) is a statewide program used as a guide for NCDOT in establishing long range goals for improving the entire pedestrian transportation network. Numerous transportation, bridge, and

enhancement projects are being partially funded by TIP. 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.

- NC Highway 200 from US Highway 601 to US Highway 74 Bypass

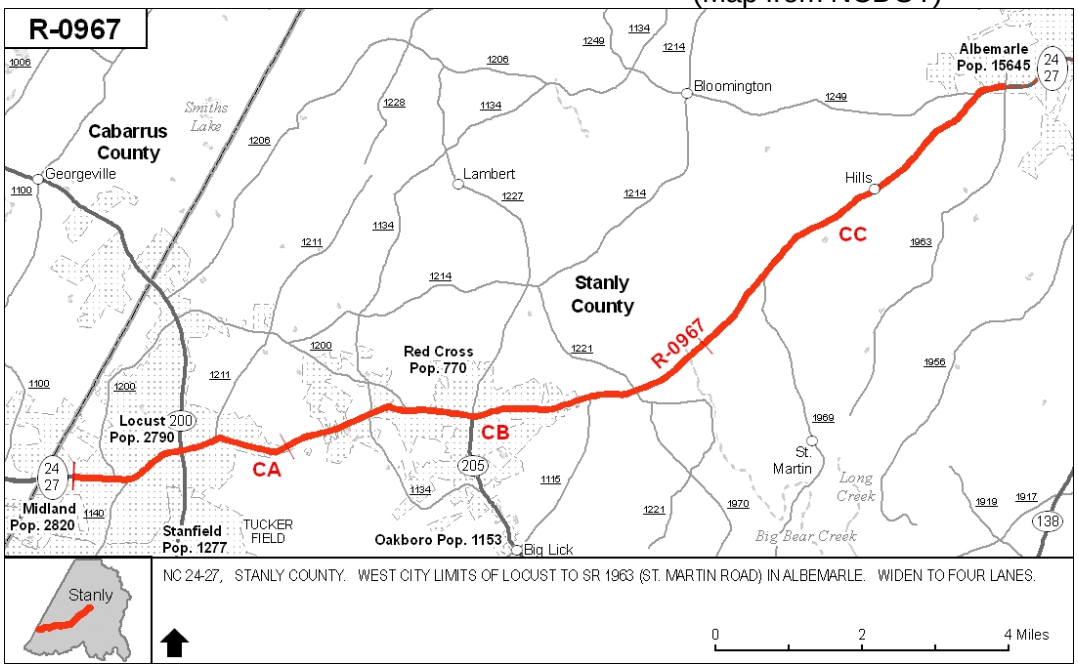
  TIP Project: No number assigned to date
  Description: From 601 to 74 bypass widen to a four lane divided highway. (A section) of Highway 24-27 to Cabarrus Lane widen to a four lane and include sidewalks.
  Notes: This project is listed as number 11 on the project priorities list for the Rocky River RPO. It has yet to receive a TIP Project number from NCDOT. The project was recommended in the 2004 Locust and Stanfield Comprehensive Transportation Plan. If built as recommended in the plan, this project will widen the roadway to four lanes with a 24'-30' grass median, and sidewalks down either side of the road through the municipalities.

- Multi-use asphalt path (Locust)
  ID Number: EB-4717
  Description: Bike/Pedestrian Trail along City Sewer Easements
  Notes: **In Progress**


New trail proposed

- NC Highway 24/27 from West City Limits to Albemarle (Recently completed and illustrated below)
  TIP Project ID Number: R-0967
  Status: **Under Construction**

(Map from NCDOT)



Safe Routes to School (SRTS) Program

Safe Routes to School is a national and international movement to enable and encourage children to walk and bicycle to school. SRTS programs look at ways to make walking and biking to school safer and more appealing through road improvements, traffic reduction, and education.

The City of Locust has applied for Division 10 Sidewalk Money through the NCDOT's Safe Routes to School Program. The funds will be used to provide updated sidewalks to Locust Elementary School. The City's resolution supporting this project was backed by a resolution from the Rocky River RPO.

Locust and Stanfield Comprehensive Transportation Plan

CTP includes safe, cost-effective transportation modes

The City of Locust has recognized the inevitability of growth as the population of Charlotte grows in areas east of its City Limits – particularly along the US Highway 24//27 corridor. To help prepare for this, in 2000, the City of Locust, along with the City of Stanfield, with the assistance of the Transportation Planning Branch (TPB) of the North Carolina Department of Transportation, has requested a Comprehensive Transportation Plan (CTP) to guide in the development of a transportation network. The resulting 2004 Locust and Stanfield Comprehensive Transportation Plan, which was the *first* mutually adopted CTP was intended to provide transportation guidance through the year 2030.

NC General Statute 136-66.2 requires each municipality (Metropolitan Planning Organization or MPO), with the cooperation of the NCDOT, to develop a CTP, which serves both present and anticipated travel demand "in and around" the municipality. The plan is based on the best information available, which includes – but is not limited to – population growth, economic conditions and prospects, and patterns of land development. The study of the basic infrastructure includes the existing roadway system, rail lines, water features, and other significant features in the area – including county boundary lines, schools, parks, planning boundaries, and surrounding cities/towns. The plan also provides for the safe and effective use of the transportation network.

The major CTP recommendation for Locust and Stanfield is the renovation of NC Highway 200 to create a "boulevard". The recommended boulevard would have two lanes traveling north and two lanes traveling south divided by a grass median, 24' to 30' wide. Five-foot sidewalks would be built on each side of the highway with a 2' wide grass strip separating them from the curb.

New routes also included:

Commercial areas abound by Browns Hill Road

- The extension of Browns Hill Road to connect Meadow Creek Church Road
- Connectivity between existing and new developments – especially Town Center.
- Several roads were also recommended for widening to 12' lanes with 2' paved shoulders.

It was also recommended that before any roads were widened that the NCDOT Division of Bicycle and Pedestrian Transportation be consulted about appropriate cross-sections.

Complete Streets Policy

NCDOT has adopted a Complete Streets Policy in early July of 2009. This policy represents an increased commitment to providing bicycle and pedestrian facilities with new NCDOT construction projects, including road repavings, widenings, and bridge replacements. While NCDOT had previously adopted several policies to support the provision of bicycle and pedestrian facilities, the new policy goes further in its recommendations to routinely provide for all users of the roads - bicyclists and pedestrians, public transportation users, and drivers of all abilities and ages. The new Complete Streets Policy:

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

A member of the NCDOT Board of Transportation, Nina Szlosberg, introduced the policy, and Tom Norman, Manager of the Bicycle and Pedestrian Division

guided the policy through a staff development process. The National Complete Streets Coalition has applauded NCDOT for this important step. The policy is available at: https://apps.dot.state.nc.us/pio/releases/details.aspx?r=2777.

3.3 Statutes and Ordinances

Local Zoning Ordinances

The current Zoning Ordinances for the City of Locust were enacted in 1997. Several of the ordinances deal with the pedestrian system:

1. ARTICLE 5 (STREETS) - Design and Regulations

- "Street trees and sidewalks are required on both sides of streets except rural roads, lanes, alleys and the undeveloped edge of neighborhood parkways."
- The planting area for street trees should be at least 5' wide
- Sidewalks must be at least 5' wide. In business districts, sidewalks should be widened to 7' or more.
- "…streets shall be designed as the prevalent public space of the city and thus, scaled to the pedestrian."
- "Streets in Locust are to be inviting public space and integral components of community design. A hierarchical street network should have a rich variety of types, including bicycle, pedestrian and transit routes. All streets should connect to help create a comprehensive network of public areas to allow free movement of automobiles, bicyclists and pedestrians. In order for this street network to be safe for motorists and pedestrians, all design elements must consistently be applied to calm automobile traffic."

Streets should form a comprehensive network

2. ARTICLE 6 (OFF-STREET PARKING) – Design and Landscaping

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

- "To maintain pedestrian comfort and calm the speed of entering traffic, driveways to parking areas should be no wider than 24 feet. Driveways connecting to state roads shall meet NCDOT requirements."
- "Screening shall be provided by installing along the perimeter of the parking lot evergreen shrubs, maximum separation 6' on center (minimum height 3' at installation, expected height at maturity at least 6') and or a masonry wall 3' to 6' in height."
- As an alternative screening treatment for parking lot edge(s) which, abut street rights-of-way, a 3' masonry wall to provide casual seating may be installed in place of the opaque screen . . ."

Screening requirements should take into consideration the safety of pedestrians whom must pass by tall hedges or walls in the dark. Perceptions of danger may keep pedestrians from using such walkways. Tall screenings can also provide cover for criminal behavior within a parking lot.

3. SUBDIVISIONS

- **8.140 Curb and Gutter** "Standard curb and gutter must be constructed on all arterial and commercial streets and on City streets or portions of City streets which serve primarily urban functions, such as that of the workplace or the shopping district. Standard curb and gutter is recommended for curb and gutter installations on all street types. Valley curb and gutter may be used on collector streets, on City streets that serve less urban purposes such as residential neighborhood streets. Curb and gutter are not required on alleys or lanes.

- **8.150 Sidewalks** "Sidewalks are required on both sides of new or existing collector streets, on both sides of city streets except lanes, alleys and on the undeveloped edge of neighborhoods. Installation of sidewalks is the responsibility of the developer."

  "Sidewalks are required on both sides of new or existing arterial streets with installation by developer to meet the pedestrian access requirements of the development. Sidewalk construction may be waived by the City Council when accessibility by pedestrians does not now exist and is not expected to exist in the future."

  "Except in unusual circumstances, sidewalks may not be located less than 5 feet, but preferably 7-10 feet, from the back of the curb or edge of pavement when no curb and gutter is required."

  "Sidewalks must be a minimum of 5' in width. On streets which serve as main business streets, sidewalks should be a minimum of 7' in width."

- **8.170 Street Lights** "Street lighting will be installed in each new subdivision pursuant to a street lighting plan which shall be submitted to the City Manager for approvals. This shall be the responsibility of the developer. Street lights compatible in height and scale with the streetscape are strongly recommended"

3.4 Policies and Institutional Framework

Interagency Partnerships

Rocky River Rural Planning Organization

The City of Locust is a member of the Rocky River Rural Planning Organization (RPO). The Rocky River RPO assists counties and municipalities with planning and coordinating the development of transportation plans for Anson, Stanly, and Union Counties and the municipalities contained therein.

3.5 Relevant Pedestrian Statues and Ordinances

State of North Carolina

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 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.*

Mobility-challenged persons have same pedestrian rights

These laws, in more detail, are available to the public in the NCDOT booklet, *A Guide to North Carolina Bicycle and Pedestrian Laws*.

- END OF SECTION -

SECTION 4 PEDESTRIAN PLAN NETWORK

4.1 Overview

Based on the objectives established in Section 1, the evaluation of the existing conditions and community input in Section two and the review of existing plans and documents in Section three, McGill Associates has prepared recommendations for a Pedestrian Plan for the City of Locust. Section four describes these recommendations and proposals to expand and create a cohesive, safe and usable pedestrian network.

This section is separated into individual components including types of recommended facilities, specific recommendations, and users of the pedestrian facilities. The methodology used to develop the recommendations is described in Section 1.4 Scope and Purpose of Plan.

Section four and the following sections will include recommendations, the establishment of priorities and implementation guidelines for the proposed pedestrian facilities. Section four outlines the proposed pedestrian network and identifies areas of need and areas of opportunity. Section five demonstrates guidelines for specific areas of concern in regards to pedestrian facilities while Section six outlines programs and policy proposals. Section seven delineates priorities for development, timelines for the implementation of proposals and recommendations.

4.2 Pedestrian Network Methodology

As mentioned in previous sections of the Pedestrian Plan, the City of Locust 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 Locust, 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 or bike 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 Locust. 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 input, and field work were also an integral part of the plan development.

Locust Pedestrian Plan Input

- *Input from community workshop*
- *Input and recommendations from Steering Committee*
- *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 and existing conditions, several goals and objectives were established as a guide for recommendations. The following are the predominate themes that guided the development of the proposals:

- *Increase connectivity from residential to destination areas*
- *Improve existing conditions and expansion of the pedestrian system into City Center.*
- *Improve and repair existing non-compliant ADA pedestrian facilities*
- *Implement safe conditions for pedestrians at dangerous conditions*
- *Future development should be taken into consideration in regards to pedestrian facilities*
- *Connectivity of pedestrian facilities where gaps and barriers exist*

4.3 Recommended Pedestrian Facilities

Crosswalks
Pedestrian signals
Sidewalks
Greenway
Landscaping along NC Highway 24/27
Traffic signals
Raised and planted medians on NC Highway 24/27

Numerous methods are involved in developing recommendations and proposals for the Locust Pedestrian Plan. The process can be broken down into basic tasks, as follows:

- 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. Numerous meetings and site visits were conducted to better understand 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 Locust.

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

The Pedestrian Plan proposes a basic network of non-vehicular corridors. These corridors may provide users with the opportunity for alternative transportation means. The network will consist of both existing corridors and new corridors. Pedestrian facilities within the City are in need of improvement and expansion. The City has made some recent improvements to the system including the new crossing signal at NC 24/27, and the construction of sidewalks at the new City Center. However, the ability of pedestrians to walk to common destinations in Locust is currently still lacking. Map 1 (North), Map 2 (West), and 3 (East) –

Existing Pedestrian Facilities, which delineate the existing conditions, can be found in the Appendix.

Pedestrian Crossing Projects

There are numerous unsuitable pedestrian crossings that have been identified in Locust. Currently pedestrians are faced with numerous barriers and gaps in several areas of the City. The improvements, which are needed, range anywhere from the striping of crosswalks at traffic intersections to pedestrian signals being installed at high-volume traffic areas. Correcting dangerous intersections will not only encourage pedestrians to use the facilities but also reduce potential injures. Several intersections have been identified as spot improvements which are areas needing repair or additional upgrades. These areas were developed though field observation, public input, and steering committee input. The following list is of intersection areas in need of improvement or spot repair. Intersection improvements are areas that consist of major improvements which may include pedestrian signals, traffic signalization, or intersection reconfiguration. Spot Improvements include minor improvements that may consist of crosswalk striping, sidewalk repair, removal of barriers or the installation of an accessible ramp. Please refer to the proposed improvements map located at the end of this section. For a more close up view of the proposed improvements, please see maps 7, 8, and 9 in the Appendix.

Intersection Improvements
NC 24/27 and Office Jeff Shelton Drive (Locust Elementary)
NC 24/27 and Renee Ford Road
NC 24/27 and Ray Kennedy Drive (City Center entrance)
NC 24/27 and Stanly Parkway
NC 24/27 and Vella Drive
Hwy 200N and Bethel Church Rd/Meadow Creek Church Rd.
NC 24/27 and Browns Hill Rd.

Spot Improvements
NC 24/27 and Church St.
NC 24/27 and NC Hwy 200
NC Hwy 200 N and Lions Club Drive
Scout Road and Meadow Creek Church Road
Scout Road and Reed Mine Road
Montclair Drive and Meadow Creek Church Road

Intersection Improvements

NC Highway 24/27 and Ray Kennedy Drive (City Center entrance)

This growing center for business and government in Locust currently sees a lot of traffic from both cars and pedestrians entering onto Ray Kennedy Drive from NC 24/27. However, no traffic signal is currently installed at this key intersection. As the City Center continues to evolve and grow - the need for a traffic signal will become self evident. Therefore, it is recommended that with the signalization of this intersection, so should a pedestrian countdown signal be installed. Additional improvements that would help to ensure the safety of the pedestrians at this dangerous intersection include: a legal-marked crosswalk of concrete brick stamp, *thermoplast* or other similar material, raised and planted medians, as well as pedestrian signage. The City will need to work closely with NCDOT to determine how the raised median can be best configured to minimize vehicular/pedestrian conflicts.

NC 24/27 and Park Drive (Locust Elementary School)

Pedestrians trying to get to the Locust Elementary School, Officer Jeff Shelton Park, and the Locust City Park Athletic Complex are currently crossing NC 24/27 at an un-signalized intersection. As NC 24/27 is a major transportation route, this is a very dangerous situation for pedestrians. Recommended improvements to this intersection include: Traffic signalization, pedestrian signalization with audible warning and marked crosswalk, traffic calming, and a raised planted median on the approach to Officer Jeff Shelton Drive from NC 24/27. The City will need to work closely with NCDOT to determine how the raised median can be best configured to minimize vehicular/pedestrian conflicts.

NC Highway 200 N and Bethel Church Road / Meadow Creek Church Road

The intersection of Highway 200 North and Bethel Church Road is a busy junction for nearby residents. Two gas stations are located on opposite corners from each other and recent residential development in the surrounding area has increased the volume of vehicular and pedestrian traffic. Also, Bethel Church Road and Meadow Creek Church Road form a very important east/west link though Locust. Pedestrian amenities are lacking at this intersection and should be addressed. Possible remedies include: replacing the existing flashing signal with a timed traffic signal, installing a signalized pedestrian crossing with painted crosswalks, and/or installing pedestrian warning signage.

NC Highway 24/27 and Stanly Parkway

The community has expressed the need for improvements at the intersection listed above. With the Stanly Community College and Medical Center located

here, this area is a high volume traffic generator; thus, a potentially major generator of pedestrian traffic. Establishing pedestrian warning signals at this intersection would improve safety by directing the attention of drivers to the possibility of pedestrians in the intersection. No traffic signal is currently installed at this important intersection. As the Stanly Community College and Stanly Medical Center evolves and increases the volume of both vehicular and pedestrian traffic the need for a traffic signal will become self evident. Therefore, it is recommended that with the signalization of this intersection so should a signalized pedestrian crossing be installed. It is also recommended that a raised and planted median be installed at this intersection to serve as a traffic calming device and to provide possible pedestrian refuge. Additional improvements would include a flashing pedestrian warning sign which would accommodate pedestrian traffic crossing NC 24/27 to access the Red Bridge development and Meadow Creek Business Park. (It should be noted that a left "in only" lane has been constructed for both Stanly Parkway and Commercial Boulevard since the inception of this Pedestrian Plan.)

NC Highway 24/27 and Vella Drive

As the 24/27 corridor continues to develop the need for pedestrian safety will increase as the pedestrian volumes are high at the intersection of NC 24/27 and Vella Drive (non-signalized intersection) - headed from the southeast going towards the Locust City Park and Locust School. Major improvements are needed at this intersection including: traffic calming, a raised planted median on NC 24/27 as a pedestrian refuge, and a flashing pedestrian warning sign. The City will need to work closely with NCDOT to determine how the raised median can be best configured to minimize vehicular/pedestrian conflicts.

NC Highway 24/27 and Browns Hill Road

There is a strong possibility of increased development along and near Browns Hill Road. Pedestrian access to NC 24/27 sidewalks will be important. The sidewalk along NC 24/27 has curb ramps and tactile warning devices to connect to any future sidewalk on Brown Hill Road. No traffic signal is currently installed at this intersection. As development occurs and traffic increases the need for a traffic signal will become self evident. Therefore, it is recommended that with the signalization of this intersection so should a signalized pedestrian crossing be installed.

Spot Improvements

NC Highway 24/27 and NC Highway 200

This intersection serves as a "gateway" for two (2) major routes through the City of Locust and receives a high volume of traffic. It is also a barrier for pedestrians trying to go from the South of Locust to the North where the major public parks

exist. In order to create a cohesive pedestrian network, it will be necessary to make improvements to this intersection to ensure the safety of pedestrians. Recent improvements to this intersection include the provision of sidewalks, curb ramps, and pedestrian signalization; however, further improvements are needed, such as overhead Cobra lighting (the arms exist but the light heads are missing), audible warning for crossing, and raised islands for pedestrian refuge. Other opportunities for calming traffic and increasing safety at this key intersection include gateway signage, landscaping, and other aesthetics.

NC Highway 200 N and Lions Club Drive

A main entrance to the Locust City Park and Athletic Complex exists here. There is no sidewalk along NC Hwy 200 from NC 24/27 to get pedestrians to this important entrance. Sidewalk from the dense residential areas to the north of this intersection are lacking as well. Locust City Park is a very important destination for residents of the community. Crossing NC Hwy 200 at an unmarked crossing creates a safety hazard. A marked crosswalk alone will not ensure pedestrian safety along this major vehicular artery though. It is recommended that in addition to a marked crosswalk that improved night lighting, landscaping for traffic calming along NC Hwy 200, and a flashing pedestrian warning sign be installed.

NC Highway 24/27 and Church Street

Many pedestrians access NC 24/27 sidewalks via Church Street. Church Street links NC 24/27 with a dense residential area. While the sidewalk along NC 24/27 has curb ramps and tactile warning devices no sidewalk exists along Church Street to connect to these. It is recommended that sidewalk be installed along Church Street from the residential areas to the NC 24/27 sidewalk. It is also recommended that a pedestrian crosswalk be installed to cross Church Street.

Scout Road and Meadow Creek Church Road

With the construction of a segment of the proposed Locust Greenway along Scout Road to Meadow Creek Church Road, the increase in pedestrian traffic will result in the need for a pedestrian crossing. It is recommended that pedestrian crossing signage be installed at this intersection along with a marked cross walk and pedestrian crossing signage. It is also recommended that bollards and landscaping be installed at this greenway crossing to increase vehicular drivers' awareness of this pedestrian crossing.

Reed Mine Road

Again, the proposed construction of the Locust Greenway segment along Scout Road to Reed Mine Road, will prompt the need for a pedestrian greenway entrance at this location. As above, it is once again recommended that a

pedestrian crossing signage be installed at this intersection along with a marked cross walk and pedestrian crossing signage. It is also recommended that bollards and landscaping be installed at this greenway entrance to increase vehicular driver's awareness of pedestrians entering the Locust Greenway.

Reed Gold Mine

Montclair Drive and Meadow Creek Church Road

With the construction of a segment of the proposed Locust Greenway along Montclair Drive to Meadow Creek Church Road the need for a pedestrian crossing at arises. It is recommended that a flashing pedestrian signal be installed at this intersection along with a marked cross-walk and crossing signage. It is also recommended that bollards and landscaping be installed at this greenway crossing to increase vehicular driver's awareness of this pedestrian crossing.

Sidewalk Projects

Suggested sidewalk projects, range from the mere replacement of unsuitable facilities to the actual implementation of new sidewalks for connectivity to destinations or existing sidewalks. In some cases sidewalks may only be necessary on one side of the road. By implementing these recommendations, the City of Locust 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. Please see the project priority chart in section 7 for more detailed information.

All sidewalks, whether existing or proposed, should have marked crosswalks and curb ramps at intersections and driveways (where pedestrians are encouraged to cross). Intersections where there is a high volume of vehicular traffic should possess pedestrian crossing signals especially if there is significant pedestrian activity and/or a crash history. These facility improvements should also be evaluated as future widening and roadways projects are constructed. Sidewalk projects should include:

- *Minimum of 5' in width*
- *ADA compliant curb cuts and ramps at all driveways and intersections*
- *Pedestrian crosswalks, where need has been established*
- *Pedestrian crossing signals at high volume traffic intersections*
- *Sidewalks on at least one side of street*

The current on/off-road pedestrian corridors in Locust cover a limited area of the City. The proposed corridors connect these existing corridors and extend into new areas to help create a cohesive pedestrian network for the City. The plan calls for both the expansion of the existing network and the renovation of the portions needing upgrades.

Proposed Sidewalk Projects

NC 200 N at NC 24/27 to Bethel Church Road
NC 200 S at NC 24/27 to E. Sunset Dr.
Market Street from City Center to 200 N
Bethel Church Road at Christy Lane to 200 N
Smith Street to 200 N
Lions Club Drive from 200 N to Locust City Park
Meadow Creek Church Road at 24/27 to Old Hickory Road
Stanly Parkway at NC 24/27 to Wal-Mart Retail Center
Redah Drive
Church Street
Browns Hill Road at Nance Road to NC 24/27

Greenway Pedestrian Projects

Greenway Corridor Projects include off-road pedestrian facilities, typically taking advantage of 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, 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 to businesses located near them. Where popular trails exist, the opportunity for increased lodging may need to be developed.

Greenway construction should include the following pedestrian facilities:

- *Minimum of 10' in width paved asphalt multi-purpose trail*
- *ADA compliant curb cuts and ramps at all intersections and crosswalks*
- *Marked crosswalks at all intersections*
- *Pedestrian signage (flashing or high-visibility) at high volume traffic Intersections*
- *Bollards and Landscaping at all traffic intersections*

Proposed Greenway Link Projects

Scout Road to Meadow Creek Church Road
Scout Road to Reed Mine Road
From Locust City Center to proposed Locust Greenway Loop
Corner of Dogwood/Smith to proposed Locust Greenway Loop
Old Hickory Road to proposed Locust Greenway Loop
Walnut Creek Road to proposed Locust Greenway Loop
Montclair Drive to proposed Locust Greenway Loop

For residents, investment in trails and greenways can increase property values and improve the overall livability of a community. The following describes the benefits that can be generated from 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, 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*

Proposed Locust Greenway

For Locust, the focus of the greenway corridor will be to provide access to and connectivity between, residential, governmental, and commercial areas. The Proposed Locust Greenway will become an important corridor connecting a number of existing residential areas and public parks to Locust City Center and to the 24/27 corridor. This multi-use corridor will not only allow for pedestrians to walk and bike to Locust City Center and other nearby destinations but will also allow for other alternative transportation methods like electric golf carts to be utilized along the greenway to access Locust City Center. Please see the project priority charts in section 7 for more details.

The proposed route for the Locust Greenway would include a link from Reed Mine Road across the Red Bridge development to Scout Road and then to Meadow Creek Church Road. The path would then head north on Meadow Creek Church Road to Montclair Drive. At the end of Montclair Drive a link would connect to sidewalks within the proposed development to the north and east of

Locust City Center. Links from area residential roads would provide additional Greenway connections to Locust City Center. The following residential areas will be directly linked to the greenway: Red Bridge, Heritage, Hickory Ridge, Barbara Ann Park and other separate, rural residences north and east of Locust City Center. The links from these residential areas and from Locust City Center will serve as important pedestrian links that will improve connectivity throughout the entire area. With the Smith Street and Lions Club Drive sidewalk connections to NC 200 N, a connection will be made to the Locust City Park and Locust Elementary School. With the Meadow Creek Church/Old Hickory Road sidewalk a link to 24/27 is created. The southern portion of the Locust Greenway would connect properties and available utility easements from NC 24/27 Green way Entrance across from the Locust City Center to sidewalk on Browns Hill Road that connect back to NC 24/27. It is clear to see that the proposed Locust Greenway will be a very important corridor within the overall Locust pedestrian system. Future Locust Greenway links could be made from Old Hickory Road and Meadow Creek Church Road north along Meadow Creek Church Road to Bethel Church Road. The Greenway could go along Bethel Church Road to Running Creek Elementary School and eventually south on Bethel Church Road to NC 24/27.

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.

4.4 Special Focus Areas

Many different users groups will make use of Locust's pedestrian facilities. A segment of this population will be visitors while the vast majority will be seniors, retirees and families with children that live and work in the City. 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 with senior populations

Senior Citizens

Senior adults are special populations that need particular consideration in pedestrian projects. Independent and assisted living residences are

among several future plans for seniors in the City of Locust. Seniors make up the largest population group in Locust. As the number of retirees in the Locust population continues to increase, the need for ADA compliant facilities will be even more imperative. In addition, senior adults typically have more time to walk after retirement. With the promotion of healthy lifestyles, this population will need safe pedestrian facilities offered by the City. Special attention is needed to ensure a community where this segment of the population can safely traverse the streets.

Children

Children also require special safety procedures with regards 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 as *Safe Routes to School* 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 also be user-friendly.

Proposed Pedestrian Amenities Map

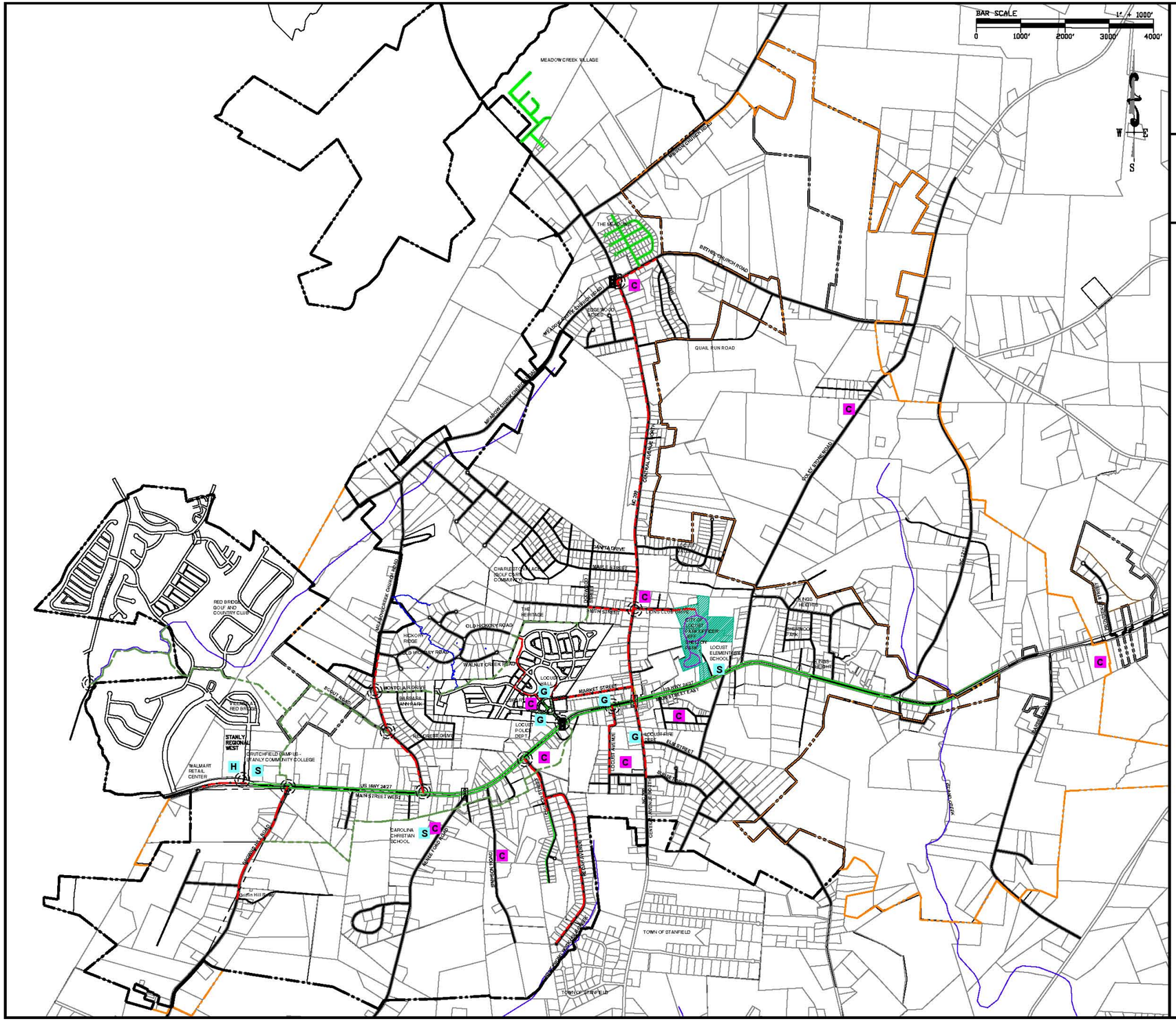
The following map combine public comments and input from the steering committee with findings from the inventory to show proposed pedestrian amenities that would improve the safety and continuity of the City of Locust Pedestrian network.

- END OF SECTION (After map) -

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -B
Proposed Pedestrian Amenities



SECTION 5 DESIGN GUIDELINES

5.1 Overview

The guidelines in the Pedestrian Plan were developed through assessment and documentation of existing practices that were observed or informed through site observation, community input and 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 directly influenced the formation of these guidelines. If any discrepancies occur between the design guidelines and 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 Locust should seek a current cost estimate for any proposed work from a qualified landscape architect 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.

5.2 Pedestrian Facility Elements

Sidewalks and Walkways

Sidewalks are most important pedestrian network component

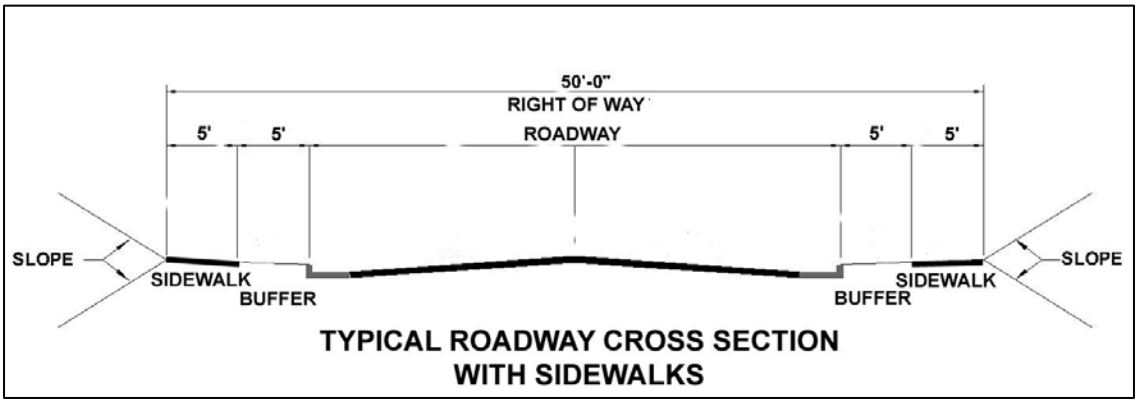
Sidewalks make up the majority of pedestrian facilities and are the most important component of a pedestrian network. The number of pedestrians using a particular facility will determine which type of sidewalk should be implemented. Sidewalks are the primary connectors for residential areas, shopping 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 Locust will be five feet in width, providing an ample pathway for pedestrians to walk to their destinations. Where adequate right-of-way

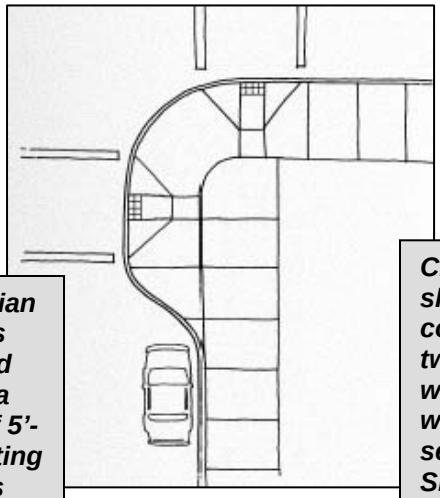
is available, a buffer can be utilized in order to separate the sidewalk from the roadway. Sidewalk areas within and leading to Locust City Center's merchant district should be wider to allow for a denser population, street furniture, and other amenities.

Sidewalks shall be constructed within the street right-of-way in accordance with 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 Locust. Sidewalks shall be installed at the time of roadway construction or widening unless otherwise approved by the City. The City may allow the developer a fee (in lieu of) constructing the sidewalk in appropriate locations. 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 as required in the Subdivision Ordinance.

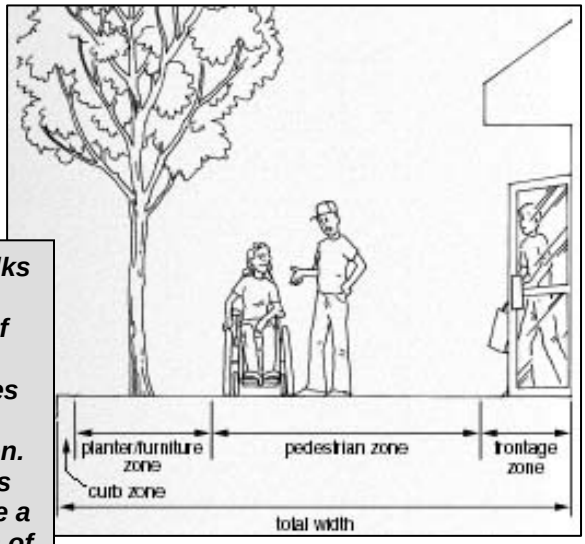
The following cross-sections exemplify the different standards that should be applied for the various applications.



TYPICAL ROADWAY CROSS SECTION WITH SIDEWALKS



Pedestrian zones should have a width of 5'-8'. Planting strips should be a minimum of 5' in width.



Crosswalks should consist of two 12" white lines with 6' separation. Sidewalks should be a minimum of 5' in width.

All sidewalks shall be constructed in accordance with the standard detail found in the NCDOT Construction Manual. The following design guidelines for sidewalk construction are contained therein.

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.

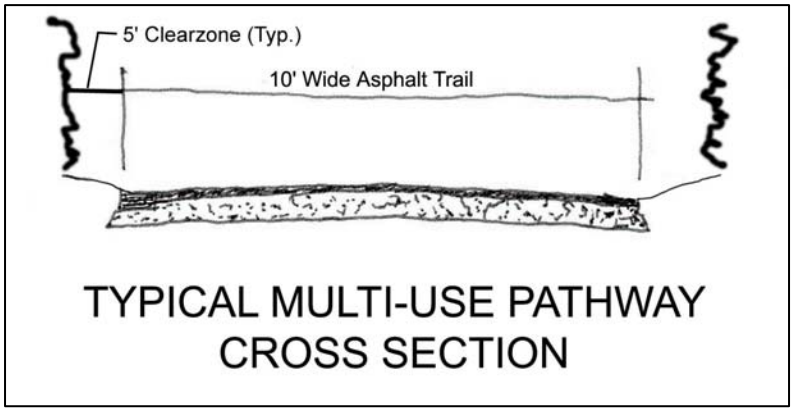
- All marked pedestrian traffic crossings must be approved by the City or NCDOT Traffic Engineer prior to installation.

- 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.

Sidewalks/Walkways 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.

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, are different 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 following cross-section identifies standards that should be implemented for each application.


Greenways are multi-functional

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 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 compared to concrete.

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 for 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 $400,000/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: 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: 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.

Marked Crosswalks

Pedestrians need to be able to traverse the local transportation system as easily and safely as those who are traveling in vehicles. Providing marked crosswalks is just one of the many ways to facilitate the safe crossing of streets and parking lots by pedestrians. A marked crosswalk is defined as *any crosswalk which is delineated by white painted markings placed on the pavement*. Crosswalks may consist of textured, colored, or otherwise contrasting materials; however, they are considered to be 'unmarked' crosswalks unless "white" paint is also present. A (white) crosswalk may be marked with special paint, thermoplastic materials, plastic tape, or other approved materials.

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 the meaning of all traffic control devices, they

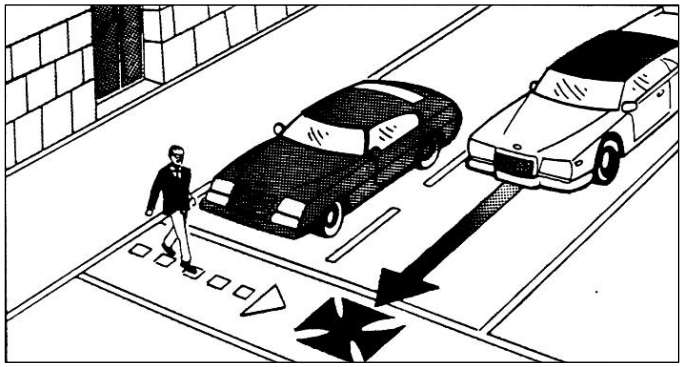
A change of materials is not always sufficient to clearly mark a crosswalk (above). The white border makes the crosswalk much more visible to drivers (left).

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.

Crosswalks are not a guarantee of pedestrian safety. While state laws require a motorist to yield to pedestrians in a marked crosswalk, 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.

Another safety concern on multi-lane roads is when the driver nearest the curb stops for a pedestrian, but the driver in the next lane cannot see them and continues through the crosswalk, striking the pedestrian. (This common dilemma is illustrated in the figure below) Crosswalks should be considered primarily as a means to assist and direct pedestrians along the safest route, rather than as a way to stop traffic.

Crosswalk with multi-lane traffic



Crosswalks should be marked at intersections where there is substantial conflict between vehicle and pedestrian movements, where significant pedestrian concentrations occur, where pedestrians could not otherwise recognize 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

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.
- The MUTCD requires that the width of crosswalks be at least six feet wide. In areas of high vehicle and pedestrian traffic, the crosswalks should be at least ten 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.
- 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 Locust. 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.

Ladder pattern crosswalk

Many factors must be analyzed before deciding on the location and type of crosswalk to be installed. Some of the issues to be examined 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

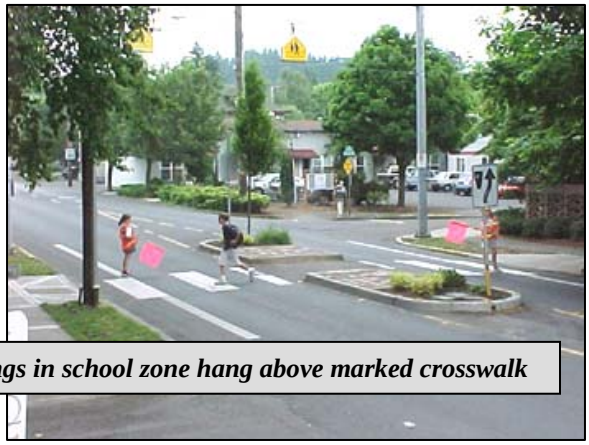
Typical Crosswalks Costs:

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.



Pedestrian warnings in school zone hang above marked crosswalk

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 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

Advance Stop Bar Cost:

Signage: $50-$150 plus installation

No additional cost if new line is installed in new paving

Curb Ramps

Curb ramp is ADA requirement

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 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 to 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.

Truncated domes serve as detectable warning surface for the visually impaired

The curb is the most reliable cue that people with vision impairments use 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 detectability 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 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 doesn't 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 Ramps Costs:

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

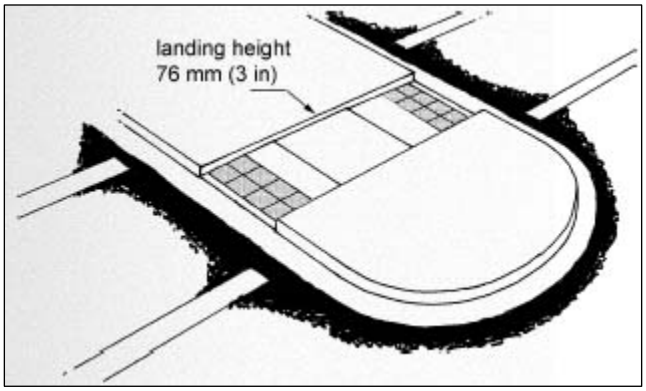
Raised Medians

Raised median with cut-through

Medians (also known as refuge islands) are the portion of a divided roadway that separates traffic flows heading 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.

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

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



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

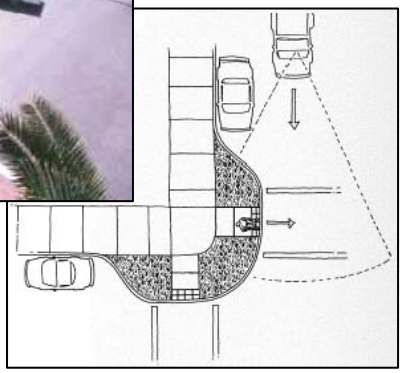


Photo and diagram illustrate features of pedestrian bulb-outs

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

Curb Extensions/Bulb-outs Costs:

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

Roundabouts

Roundabouts require vehicles to circulate counterclockwise around a center island. Roundabouts may eliminate the need for traffic signals for motorists. Unlike many other forms of traffic calming, roundabout benefits are aimed primarily at motorists. The installation of roundabouts prioritizes improving traffic flow, maximizing vehicular capacity and eliminating the need for stop signs and traffic signals. When designed correctly, roundabouts include raised splitter islands to channel incoming traffic approaching from the right. Although roundabouts are gaining popularity in the United States, they can be problematic in pedestrian areas until designs can include cues needed by pedestrians with vision impairments and cognitive disabilities.

Roundabouts sometimes eliminate the need for traffic signals for motorists

Negative Impact on Pedestrian Access

Roundabouts significantly complicate travel for people with vision and cognitive impairments. For example:

- Motorists exiting the roundabout are often not required to yield to pedestrians. This is a particular problem at designs where exiting design speed is increased.

- If properly designed, the crosswalk locations are set back from the intersection, to enhance pedestrian visibility and to prevent drivers from stopping at the entrance of the roundabout. This design has safety benefits for most pedestrians at the entering leg because vehicles are required to yield to vehicles in the roundabout. Pedestrians crossing the existing leg may be at a greater disadvantage because exiting speeds are usually increased. Setback crosswalks are difficult for people with vision impairments to identify because they are not at the roundabout itself.

- Busy roundabouts provide very few gaps long enough to cross. This can be especially problematic and unsafe for pedestrians such as children, elderly with mobility and cognitive impairments and people with vision impairments.

- Pedestrians with vision impairments experience difficulty seizing the right-of-way from exiting drivers due to the lack of pedestrian to driver eye contact.

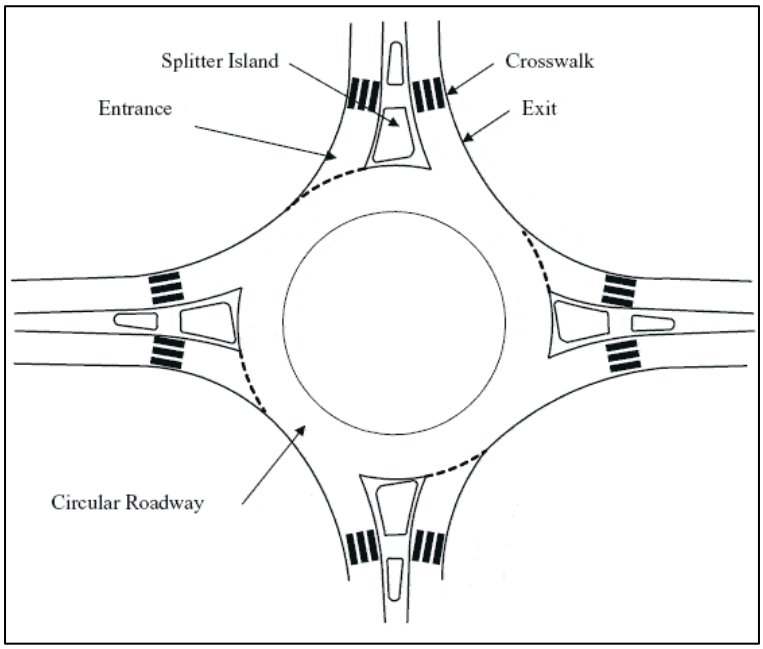
- For persons with vision impairments, vehicles exiting the circle sound the same as motorists continuing around the circle.

- Due to the wide turning radii at the corner, pedestrians with vision impairments may fail to identify the intersection.

- Roundabouts are confusing for people with cognitive impairments due to the irregular design of the intersection. People with cognitive impairments may not be able to travel independently if these intersections exist in routes that are traveled in order to conduct daily functions and activities.

- When a crosswalk is setback from the intersection, pedestrians have to walk longer distances out of their way to cross the street.

Design Recommendations for Roundabouts



Designing roundabouts for people with vision impairments is a topic that warrants significant future research. Some smaller roundabouts may prove to pose few problems for people with vision impairments, but that depends on how busy or quiet it is. Smaller roundabouts in quiet or isolated environments may prove to pose fewer problems for people with vision impairments. However, other roundabouts, in busy and noisy environments, may be identified as unusable by people with vision impairments regardless of the additional treatments used. The following recommendations could potentially improve conditions for pedestrians at roundabouts:

Roundabout Guidelines:

- Install setback, highly-visible crosswalks with detectable warnings and tactile indicators to identify the crossing for pedestrians with vision impairments and accessible pedestrian signals (including locator tones) to enable pedestrians to have sufficient crossing time. An accessible pedestrian signal can be provided to initiate the crossing phase.

- Install single lane roundabouts with single entry lanes, rather than multi-lane roundabouts, to shorten the crossing distance and enhance pedestrian visibility at the entry and exiting lanes.

- Add accessible medians and splitter islands to reduce crossing distances and allow pedestrians to negotiate one direction of traffic at a time.

- Add rumble strips or some other noise-generating device to increase the sound of cars making them more detectable and reduce the speed of cars as they exit the roundabout. Use slip resistant material for bicyclists.

Roundabout Costs:

The costs for landscaped roundabouts vary widely and can range from $60,000 to $250,000 for neighborhood intersections and up to $350,000 for arterial street intersections (not including additional right-of-way acquisition). However, once constructed, roundabouts have *lower* ongoing maintenance costs than traffic signals.

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 and DON'T WALK pedestrian signal indicators at signal locations are important in many cases including: 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 wide streets where pedestrian clearance information is considered helpful. In addition, countdown signals offer an additional safety measure by informing the pedestrian the amount of time remaining to safely cross at a pedestrian crossing.

The international symbol, pedestrian signal head is preferable and is recommended in the MUTCD; the "WALK" and "DON'T WALK" word message is an allowable alternate. Pedestrian signal heads should be clearly visible to the pedestrian at all times when in the crosswalk or waiting on the far side of the street. Larger pedestrian signal heads can be beneficial in some circumstances. Signals may be supplemented with audible messages to assist trained visually impaired pedestrians. These should be used judiciously, because they can become a noise problem.

Guidelines for Pedestrian and Countdown Signals:

- Pedestrian signals should be placed in locations that are clearly visible to all pedestrians.

- Larger pedestrian signals should be utilized on wider roadways, to ensure readability.
- Pedestrian signal pushbuttons should be well-signed and visible.
- Pedestrian signal pushbuttons should clearly indicate which crossing direction they control.
- Pedestrian signal pushbuttons should be 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.

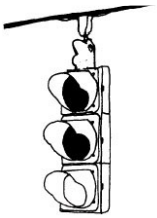
Pedestrian Signal Costs:

The cost ranges from $20,000 to $40,000.

Pedestrian Signal Timing Costs:

The cost ranges from $20,000 to $40,000.

Traffic Signals



Traffic signals create gaps in traffic flow allowing pedestrians to cross the street. They 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 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, a park or recreational path for example, there will be a new demand and the signal should be installed in conjunction with the new facility, based on projected crossing demand. There

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

In the City areas signals are often closely spaced, sometimes 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.

Pedestrian Signal Costs:

The cost ranges from $5,000

Landscaping/Enhancement

A network of safe, comfortable, and yet esthetically 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. Safety, beauty and connectivity all play important roles in a comprehensive

Landscaping provides street buffer; Tree island forms biorentention pond

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 an urban City. 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 landscaping requirements typically fall on the local municipality, though there are some instances were community groups assist with installation and funding for 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, height, spread and root systems should all be considered to avoid overhead wires and the buckling of sidewalks and streets.

Guidelines for Landscaping:

- Buffer zone plantings should be maintained at no higher than three feet to allow sight distance for motorists and pedestrians.
- Trees with large canopies planted between the sidewalk and street should generally be trimmed to keep branches at least seven feet above the sidewalk.
- Plants and trees should be chosen to match the character of the area.
- Landscape irrigation should be planned for and should be 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.

Decorative streetlight

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.

In many cases, street lighting can be implemented along roadways to light the roadway and the sidewalk allowing for adequate lighting for the motorist and pedestrian. In urban areas such as the downtown areas, low level lighting can be implemented through decorative streetlights which offer pedestrian-scale lighting. This type of lighting should be placed for aesthetics where there are high pedestrian volumes. 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 will be 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 placement and wattage for 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 key intersections.
- Install lighting on both sides of the street in commercial areas.
- Use uniform lighting levels.

Roadway Lighting Improvements Costs:

The cost 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, 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.

Street has good sight line and is unobstructed

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 and 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

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 stop has convenient access, provides shelter

Bus stops should be located at intervals that are convenient for passengers. The stops should be designed to provide safe and convenient access and should be comfortable places for people to wait. Adequate bus stop signing, lighting, and a bus shelter with seating and trash receptacles are also desirable features. Bus stops should be placed in highly visible locations where people can reach them easily on foot. Convenient crossings are also important.

Proper placement of bus stops is a key to 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' view of pedestrians. Approaching motorists may be unable to stop in time when a pedestrian steps out into traffic from behind 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. Currently there are no "prescription routes" to larger municipalities, such as Charlotte, Concord, or Albemarle; but, efforts to pursue these routes could be utilized in the future.

Guidelines for Transit Stop Facilities:

- Ensure access to and from stops is provided for 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
- Provide the opportunity for pedestrians to purchase "subscription routes" to accommodate their routine, repetitive outings

Transit Stop Facilities Costs:

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

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 vehicle and pedestrian signs. Care should be taken to avoid an overreliance 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 specific signing and marking policy needs. Colors for signs and markings should conform to the color schedule recommended by the MUTCD. This 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 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 to 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 continue to serve a purpose.

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, two 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 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 pedestrians and bicyclists.

Regulatory Signs

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 conditions when "no turn on red" may be considered, three of which are directly related to pedestrians or signal timing for pedestrians.

Regulatory signs are enforceable by law

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 persons with disabilities. Pedestrian volume should not be the only criterion for prohibiting right turns on red.

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

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

Some regulatory signs are specifically intended for pedestrians

- 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. The signs have most applicability in front of 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 which street the button is for (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 of reflective material or illuminated. Overuse of warning signs breeds disrespect and should be avoided.

Advance Pedestrian Crossing signage

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.

Where there are multiple crossing locations, a supplemental distance plate may be used (NEXT XXX FEET). The advance pedestrian crossing signs should not be mounted with another warning sign (except for a supplemental distance sign or an advisory speed plate) or regulatory sign (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.

Downward arrow

The <u>Pedestrian Crossing Sign</u> 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 used on local or residential streets. 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 XX, where the speed limit is illuminated during school hours.

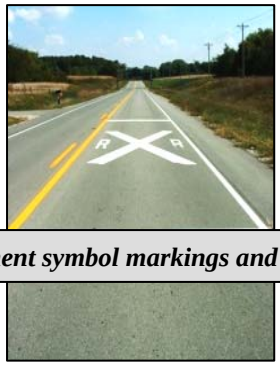
Flashing lights, warning signs, and posted speed limit give motorists plenty of advance warning of the crossing ahead.

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 general criteria for the design of warning signs. Their use should be minimized to retain effectiveness and should be based on informed judgment.

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. Use distances meaningful to pedestrians, such as the number of blocks or average walking time.

Pavement Word and Symbol Markings



Pavement symbol markings and words

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 minimal to retain effectiveness.

- END OF SECTION -

Section 6 Program and Policy Recommendations

This section outlines a variety of programs and facilities designed to increase walking and promote pedestrian safety in the City of Locust. It recommends policies for 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 overall goals which include the following:

- To promote pedestrian safety
- To encourage healthy lifestyles through walking
- To create a pedestrian network that connects destinations throughout the City
- To provide a convenient, alternate mode of transportation
- To create an attractive pedestrian atmosphere that enhances the City's image
- To promote efficient and cost effective measures in developing the network
- To provide a variety of pedestrian pathways
- To assure accessibility to all physically challenged, economic and ethnic populations

Walking contributes to overall fitness

6.1 Ancillary Facilities And Programs

Spot Improvement Programs

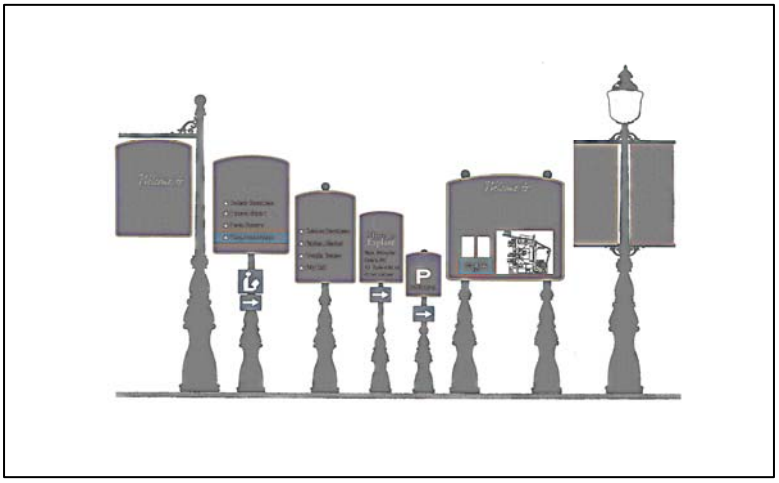
The City of Locust will be responsible for most of the spot improvements within the City. NCDOT's *Spot Safety Improvement Program* also has funds available for spot improvements that are less than $250,000. *Spot improvements* are *small projects such as the maintenance of accessible ramps, the repair of damaged sidewalks, and the removal of debris.* These improvements should be performed on a case by case basis with special consideration give to hazardous areas. The City should inventory and inspect areas requiring spot improvements annually, prioritize these locations and proceed with the proper implementations. It will be important for the City to make sure that all curb ramps have ADA compliant, detectable warning features. At the current time, there are several curb ramps in City Center that do not have these features.

Maintenance

Safety consideration 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. Currently, there are numerous areas within the City that have no crosswalk signage; therefore, they are not ADA compliant. With an aging population, it is imperative that accessibility and user needs be addressed in these areas. In order to affectively 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 that have occurred recently.

Signage

Maps of existing facilities in the City of Locust can be found at the end of Section 2. The maps of the City are divided into three sections. Not only do the maps delineate the conditions of existing pedestrian facilities, they also address barriers, crosswalk needs, and the lack of accessible ramps. Major destination areas such as business districts, schools and parks are featured in order to better understand the relationship of existing pedestrian facilities to their uses. Various types of wayfinding signage are illustrated below:



Proper signage is an important part of any transportation system whether it is pedestrian or vehicular in nature. Signs, in schools zones, parking areas, et cetera, 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.

Pedestrian facilities should have a clear and concise system of signage to direct users to various destinations such as City Center, Locust Elementary School and Locust Park. This will assist pedestrians in walking to particular destinations and encourage and promote walking in the community. This Pedestrian Plan will be implemented into the NCDOT Traffic Improvements Program. NCDOT has taken a proactive approach in promoting safe bicycle and pedestrian routes across the state. This approach consists of user friendly methods of signage informing pedestrians of safety and wayfinding information. These wayfinding techniques are not standard traffic control signage typical for MUTCD, but an additional attractive and usable signage system.

Schools need signage

Traffic Calming Initiatives

The major pedestrian corridor where vehicle speed is a serious problem is the NC Highway 24/27. Designed to move traffic efficiently, the road poses a major hazard to pedestrian walking along the sidewalk or trying to cross the road. Though the speed limit is only 35 mph, the sparsity of traffic limit signs, the width of the street and limited number of traffic lights, encourage drivers to travel at a much higher speed. But pedestrians want to be in secure areas where they feel comfortable and vehicular traffic is under control.

Reminders to drivers that pedestrians may be present are one way to help slow traffic. As crosswalks are installed, it may be possible to install traffic islands in the center turning lane. Pedestrian crossing warning signs and flashing lights will also help to slow drivers down. Making the road seem visually narrower will also help to reduce high traffic speeds. The planting of street trees can make the street seem narrower and more intimate. But the trees must be chosen to fit the scale of the street. Small ornamental trees will have little impact along NC Highway 24/27; instead larger shade trees should be planted along the right-of-way. Flowering ornamentals could then be planted in between the shade trees to give seasonal color.

The other corridor where speed could be a problem is along NC 200. When NCDOT widens the road, they will also be constructing a grassy median between the opposing traffic lanes. This grassy median will be an excellent place to

provide safe crossing amenities for pedestrians and landscaping, including street trees.

As residential neighborhoods are built in Locust, it will be important to make sure that traffic calming methods are used along any main corridors within the developments and at any connections to the existing transportation network. 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 slow their 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. (Photographs and diagrams of traffic calming devices were illustrated in Section 5.)

Transit Interface

The Stanly County Transportation Authority operates a bus under the auspices of the Stanly County Umbrella Services (SCUSA) Transportation, which is extremely important for many residents in the City. SCUSA provides community transportation services responsive to the current and changing needs of Stanly County residents. Transportation includes trips to and from agencies, employment sites, businesses, medical centers (in and out of county), community college, Senior Center, nutrition sites, YMCA for the after school program, dialysis, nursing homes, daycare's, etc. Services are provided utilizing vans and buses through subscription and demand response routes. Vehicles are available to better serve the disabled population.

The bus currently runs an on-call route between Locust and Oakboro, Monday through Friday. There is also a route to Albemarle on Mondays. As the system continues to evolve, it will be necessary to provide a pedestrian network that integrates with existing and proposed transit stops. The City should continue to work with SCUSA to provide adequate facilities, add new bus stops, and promote mass transit transportation.

Identify Countermeasures

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. Many 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.* This document serves as an educational tool for pedestrians, drivers and the general public.

Statistically, less than ten percent of 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. Over one-fourth of pedestrian accidents occurred at mid-block. This type of accident is typically associated with a pedestrian *darting* across the road. Prior to establishing a marked mid-block crossing, proper evaluation will ensure the safety of the public.

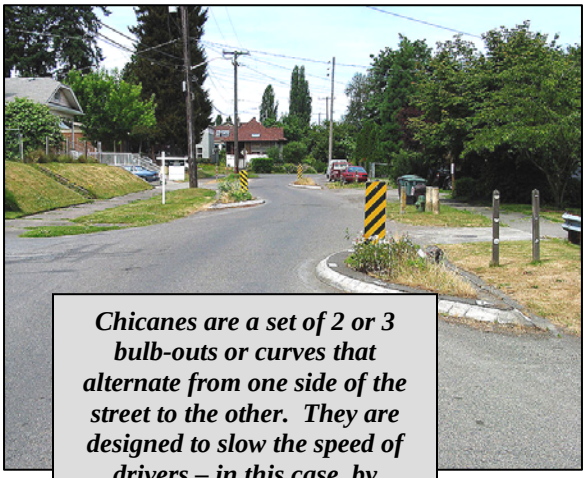
The two noted types of pedestrian accidents represent over 65% of pedestrian fatalities in the nation. Over the past several years, countermeasures have been developed to mitigate pedestrian accidents. Countermeasures are generally "site-specific" improvements, which hopefully provide immediate solutions. The most effective countermeasures include roadway design, intersection design, traffic calming, traffic management, signals and 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 Locust.

Roadway Design

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

Traffic Calming

Curb Extensions
Chokers
Crossing Islands
Chicanes
Speed Tables
Raised Intersections
Raised Pedestrian Crossings
Gateways
Landscaping
Specific Paving Treatments
Serpentine Design



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.

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

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 Locust and the surrounding community. 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 Locust.

City staff and the Steering Committee also recognize other important issues. Traffic and safety are of utmost importance to the City of Locust. 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.

Land Use

As part of the Locust Pedestrian Plan, the City should continue to promote pedestrian facilities, particularly with new construction. 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 would continually enhance and promote the pedestrian network established by the City.

This pedestrian plan also recommends regulations that require sidewalk facilities for new construction, renovations and additions to existing structures. As urban 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 developmental projects continue, they will enhance pedestrian connectivity and reduce costs for the City.

Developers should incorporate sidewalks in all future plans

Alternatives may be offered to developers by the City due to anticipated improvements to thoroughfares. The City of Locust can offer the developer the opportunity of paying a fee in lieu of the actual construction of pedestrian facilities. This allows the City to have control over current and future construction/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 should be flexible with development opportunities, it must require the developer to provide right-of-ways or easements for pedestrian facilities. All development approved by the City must include the accommodation of pedestrians by the developer(s).

Access, Connectivity, and Barriers

Most of the pedestrian facilities are located along existing roads. These areas are typically more accessible than off-road, multi-purpose trails and are primarily used for transportation. Therefore, these types of facilities will require the most safety considerations due to the proximity of vehicular traffic. The sidewalks along NC

24/27 are the primary pedestrian corridor in Locust. The sidewalks within City Center have some deficiencies such as lack of ADA-compliant curb ramps and unmarked street crossings. As development and redevelopment occur in these areas, City policies could require ADA compliance and safety updates of these facilities.

Greenways are popular pedestrian connectors

The proposed Locust Greenway will be used for both recreation and an alternate transportation route through city. The Greenway will serve as a link from the western residential neighborhoods to Locust City Park, the City Center area, and the NC 24/27 corridor. Future expansions of the Greenway could connect east to Bethel Church Road and South to NC 24/27. The connectivity of this greenway with destination points will create an important linkage. It will allow the users to access destinations without the use of motorized vehicle. However, some accommodations may be made for use of electric golf carts.

Predominate barriers within the pedestrian system in the City of Locust vary. Limited right-of way, DOT roads without marked crosswalks, and the current state of the economy will limit the options for the system. The purchasing of property and/or easements can be expensive and there can be difficulty in establishing agreements with landowners. Therefore, the City will need to prioritize these items and determine priorities in the connecting of facilities. The major manmade barrier to pedestrian facilities is NC Hwy. 24/27 that currently blocks north/south pedestrian transportation. As development and construction occur, efforts should be made to improve pedestrian access.

The following have been identified as major safety hazards within the pedestrian network:

- NC Highway 24/27 and NC Highway 200
- NC Highway 24/27 at Meadow Creek Road
- NC Highway 200 from NC Highway 24/27 to Lions Club Drive
- NC Highway 200 from Mission Church Road towards Bethel Church Road

POLICY RECOMMENDATIONS AND ACTION ITEMS

PEDESTRIAN NETWORKING

Create and maintain a pedestrian route network that strengthens the local communities of Locust by connecting to existing and future parks, shopping centers, government offices and businesses.

Recommendation #1 - *The pedestrian transportation plan shall require sidewalks on one side of all residential streets and all thoroughfares and collector roads within walking distance of parks, shopping centers, or similar facilities. Please note that, typically, all sidewalk requirements must be substantiated by existing City ordinances and/or updates. Exceptions to the placement of sidewalks may be considered on a case by case basis due to such considerations as difficult terrain, inadequate width, or exponential costs.*

Recommendation #2 - *Update City Ordinances to reflect pedestrian plan proposals and recommendations.*

Recommendation #3 - *Provide connectivity along proposed thoroughfares such as NC 24/27 and Hwy 200. Developers (creating new developments) should be required to provide connecting streets at established "between" distances and all neighborhoods should have more than one access point to major thoroughfares. Developers should also – in as much as possible – provide connectivity to local businesses, where feasible.*

Recommendation #4 - *Maintain and repair existing sidewalks ensuring that facilities are safe and free of obstacles and debris. This should reflect City ordinances, which annually identify needs and the proper method(s) for addressing them. The need for aesthetic items such as planting strips, lighting, and seating should also be included in the yearly inventory. There should be a line item in the CIP for these expenses.*

Recommendation #5 - *Repair all noncompliant pedestrian facilities and fill in necessary gaps to ensure that all new facilities provide ADA accessibility to the maximum extent possible by ensuring that City ordinances and CIP line items address these annual expenses.*

Facilities must be ADA compliant

Recommendation #6 - *Coordinate planning efforts with local and surrounding jurisdictions to provide regional pedestrian facility connectivity.*

Safety

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

Recommendation #7 - *Provide pedestrian scale lighting at intervals where there is pedestrian-oriented activity (such as busy intersections) or where light is needed in remote and/or dangerous pedestrian areas.*

Recommendation #8 - *Ensure that new construction projects meet all design requirements in terms of local ordinances as well as sate and federal mandates.*

Recommendation #9 - *Partnerships should be formed with the local school systems to initiate and implement school safety programs for school children.*

Coordinate efforts with Stanly County School System

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 #10 - *Install marked crosswalks at pedestrian-oriented intersections or at intersections where pedestrians are otherwise at risk.*

Recommendation #11 – *Include an annual pedestrian safety evaluation that would allow for the policy requirement of implementing lower speed limits, speed bumps, traffic calming, etc., where there is a high collision rate with and high volume of pedestrian activity. Also evaluate signalized intersections to see if audio and/or visual pedestrian signals should be installed and regulated according to pedestrian needs.*

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

TRAFFIC SIGNALS

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

Recommendation #12 - *Install pedestrian signals at all major intersections which are significantly pedestrian-oriented or at those which are known to be at risk for pedestrians – as former crash data indicates.*

Typical countdown signal

Recommendation #13 - *Seek funding opportunities which help with design assistance and implementation of traffic and pedestrian signals.*

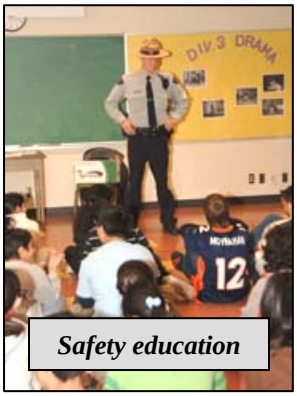
COMMUNITY STRENGTHENING
Provide amenities and elements that enhance the pedestrian environments and create a desirable place to live and work.

Recommendation #14 - *Evaluate the downtown streetscape regularly to ensure that aesthetic improvements in design elements are included, such as: pedestrian scale lighting, decorative paving, street trees, and furniture.*

6.3 Program Recommendations

Education, encouragement, and enforcement programs should be in place to teach and promote safety and ensure the success of Locust's pedestrian network for the future. The recommended programs will be successful in serving the City's need to support pedestrian activity. The following programs were suggested by members of the Steering Committee and by the NCDOT Division of Bicycle and Pedestrian Transportation.

Safety Education Programs



Safety education

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 pedestrian facilities, whether walking to school or to the bus stop. The local police departments typically provide these programs. Police officials go to the schools and educate children on the proper use of sidewalks and street crossings; in particular, crossing streets safely and interacting with vehicle traffic.

Encouragement and Promotion

There are many initiatives that can be implemented by the City of Locust 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.

Special events also help promote walking. These activities, which typically bring the community together, are usually in the form of annual festivals or celebrations.

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

- Publish and distribute a Locust walking guide brochure that covers the area's history, 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 days and weeks
- Work with the County to develop a historic walking tour

Stanly Regional Medical Center

The Stanly Regional Medical Center has Wellness Programs designed to improve the health of the County's population. The following programs are available for implementation in the City of Locust and participation should be encouraged.

Healthy FUNdamentals Program

This program is designed to be implemented through local daycare centers. It addresses nutrition and physical activity for both children and day care workers.

Passport to Fitness

This program is handled through the local Stanly County Schools and is presented to 4th graders. Each month a lesson is presented in either nutrition or healthy physical activity, including walking.

Girls on the Run

Designed for girls in 3rd through 8th grades, this program seeks to instill a lifelong habit of healthy living. Running is combined with self-esteem exercises to address all aspects of girls' development.

Working to be Well

This program allows businesses to create an employee program focusing on their mental, spiritual and physical health. The program includes the development of wellness incentives for the employees, lifestyle appraisals, health screenings and health promotion programs.

Enforcement Programs

One of the more prominent issues that the City of Locust has with *vehicular* verses *pedestrian* traffic is with enforcement of the laws. For many 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. The enforcement of speed limits is another important issue related to pedestrian safety. Studies have proven that motorists' speeds are directly proportional to the number of pedestrian deaths that occur. Reduced speeds provide more opportunity for pedestrians to see and react in a timely manner. Pedestrians will feel unsafe and will be reluctant to use sidewalks in areas where traffic laws are not enforced.

- END OF SECTION -

SECTION 7 IMPLEMENTATION PLAN

7.1 Overview

Section 4 of the Locust Pedestrian Plan provided a vision for a comprehensive pedestrian system for the City of Locust. Section 7 of the Plan provides a blueprint for the City of Locust to assist them in implementing that vision. Section 7 identifies opportunities and 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. Non-construction projects are also listed, along with staff responsibilities. This section closes with ideas and sources for funding the projects.

7.2 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 Locust in attaining the goals set out in this Plan, is the already existing network of pedestrian facilities. The existing facilities consist of a small network of sidewalks and destination points which are already attracting pedestrian traffic. The fact that people are already using these limited facilities available makes it easier to promote the expansion of the network into a comprehensive, connected and safe pedestrian system.

A strongly committed group of individuals interested in the development of a pedestrian network for the City of Locust provides another opportunity or favorable condition for attaining the stated goals of this plan. Members of the steering committee, City employees and users of the existing pedestrian network provide Locust with a core group of advocates who can promote the plan and recruit needed volunteers and supporters.

Pedestrians want connectivity to existing facilities

By embracing these initiatives and working with local, county, and state organizations, the City can find alternate funding sources, connect to regional pedestrian and greenway systems and increase community support.

7.3 Action Steps

In order to implement the Locust Comprehensive Pedestrian Plan, the following steps need to be taken.

- Adoption of the Plan. The first step in implementing the Pedestrian Plan is the adoption of the plan by the City of Locust Council. Adoption of the plan will allow the City of Locust to effectively influence regional decisions so that they coincide 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.

Locust City Hall

- Create an Oversight Committee. An Oversight Committee consisting of City Staff, interested citizens and representatives from interested organizations (such as Stanly County and the local historical society) 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 10 year period. Opportunities are listed below:

    1. *The capital improvement program 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.*

    3. *Actively pursue the addition of roads within the City to 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 7.8 Funding Opportunities.*

    6. *Consider issuing a local municipal bond with monies allocated towards the pedestrian system.*

- Begin work on the projects listed as High Priority in Section 7.4

- Develop education and awareness programs. These programs will help to inform the public about and increase support for the proposed projects.

- Develop a plan for acquiring the land and easements necessary for the Locust Greenway.

- Work with other government agencies such as Stanly County, and the State of North Carolina to integrate Locust's Pedestrian Plan with other transportation, land use, economic development, parks and recreation, environmental and community planning efforts.

Locust should work with Stanly County

- Modify the City of Locust's Zoning Ordinances to contain strong, well thought out policies and goals that will promote the development of pedestrian facilities as part of any new development or redevelopment.

- Scheduled road or utility work should include improvements and additions to the adjacent pedestrian network where possible.

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

  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 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. At the beginning of 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 can feasibly commit to implementing.

7.4 Prioritization of the Proposed Pedestrian Network

The Proposed Facility Priority List can be found below. The list suggests priorities for the construction of pedestrian facilities located within the City limits. In addition to prioritization, the list delineates the location, length, cost and potential funding means for each project. As mentioned earlier in this section, sidewalk improvements make up the majority of project costs for the proposed improvements. The priorities established are based primarily on need and demand.

The City of Locust 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 Locust 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 different categories of priorities: high, medium and low.

High Priorities

Safety is the main reason for placing most projects into the High Priority category. Some of the issues faced are:

- The absence of sidewalk or missing segments of sidewalk that forces pedestrians out onto roads with a high volume of traffic traveling at 45 mph or more.

- A lack of crosswalks at busy intersections that are commonly traversed by pedestrians.

Planned NCDOT projects in the City of Locust were also taken into consideration when developing the priorities lists.

High priority projects need to be addressed within the first five years of the plan. The following chart lists the projects and their locations for each category of high priority.

High Priority Projects

Location	Project Description
Intersection Improvement - US 24/27 and Stanly Parkway	Install signalized crosswalk
Intersection Improvement - US 24/27 and Renee Ford Road	Install signalized crosswalk
Intersection Improvement - US 24/27 and Ray Kennedy Drive	Install signalized crosswalk
Intersection Improvement - US 24/27 and Park Drive	Install signalized crosswalk
Spot Improvement - US 24/27 and NC Highway 200	Gateway entrance treatments, improved lighting and traffic calming.
Spot Improvement - NC Highway 200 N. and Lions Club Drive	Install pedestrian crosswalk and flashing pedestrian warning signal.
5' Sidewalk – Lions Club Drive	Installation of 1245 linear feet of sidewalk from NC 200 to Locust City Park.
5' Sidewalk – NC 200 S.	Installation of 1750 linear feet of sidewalk from US 24/27 to E Sunset Drive.
5' Sidewalk – Market Street	Installation of 1840 linear feet of sidewalk from Town Center to NC 200 N.

Moderate Priorities

Moderate priority projects are designed to create a cohesive pedestrian network from the existing system. Some of the projects fill in missing gaps in the network, while others address additional safety issues that arise from the expansion of the network. Existing high use pedestrian areas such as Stanly Parkway were added to this category because there are no pedestrian-dedicated facilities along this popular walking route.

Moderate priority projects need to be addressed within the first ten years of the plan. The following chart lists the projects and their locations for each category of moderate priority.

Moderate Priority Projects

Location	Project Description
Intersection Improvement - US 24/27 and Brown's Hill Road	Install signalized crosswalk
Spot Improvement - US 24/27 and Browns Hill Road across Browns Hill Road	Install crosswalk
5' Sidewalk – US 24/27	Installation of 1020 linear feet of sidewalk from Stanly Parkway to Wal-Mart Retail Center.
5' Sidewalk – NC 200 N.	Installation of 1730 linear feet of sidewalk from US 24/27 to Lions Club Drive.
5' Sidewalk – NC 200 N.	Installation of 7575 linear feet of sidewalk from Lions Club Drive to Bethel Church Road.
5' Sidewalk – Browns Hill Road	Installation of 2820 linear feet of sidewalk from Griffin Hill Road to US 24/27.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 6900 linear feet of trail from End of Scout Road to Reed Mine Road.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 1600 linear feet of trail from End of Scout Road to Meadow Creek Church Road.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 2100 linear feet of trail from Smith Street to Old Hickory Road.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 2025 linear feet of trail from Scout Road. Red Bridge Area to US 24/27.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 2350 linear feet of trail from Old Hickory Road to Montclair Drive.
10' Multi-Purpose Trail – N. Locust Greenway	Installation of 1135 linear feet of trail from Montclair Drive to Meadow Creek Church Road.

Low Priorities

The final category is the low priority areas. These areas are important to the City but due to economic factors, it is not feasible to implement the facilities within a 10-year time period. These facilities are located primarily in or close to 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 Locust develop, priorities may change in the coming years. The following chart lists the projects and their locations for each category of low priority.

Low Priority Projects

Location	Project Description
US 24/27 and Vella Drive	Traffic Calming/Flashing Pedestrian Signal
US 24/27 and Church Street	Installation of Crosswalk
Scout Road and Meadow Creek Church Road	Crosswalk/Flashing Pedestrian Sign
Montclair Drive and Meadow Creek Church Road	Crosswalk/Flashing Pedestrian Sign
Scout Road and Reed Mine Road	Crosswalk/Flashing Pedestrian Sign
5' Sidewalk – Bethel Church Road	Installation of 1025 linear feet of sidewalk from Christy Lane to NC 200 N.
5' Sidewalk – Smith Street	Installation of 1010 linear feet of sidewalk from end of Smith Street to NC 200 N.
5' Sidewalk – Church Street	Installation of 1330 linear feet of sidewalk from end of Smith Street to NC 200 N.
5' Sidewalk – Redah Avenue	Installation of 4000 linear feet of sidewalk from Church Street to end of Redah Avenue.
5' Sidewalk – Meadow Creek Church Road	Installation of 3475 linear feet of sidewalk from US 24/27 to Old Hickory Road.
10' Multi-Purpose Trail – S. Locust Greenway	Installation of 5425 linear feet of trail from Browns Hill Road to Renee Ford Road.
10' Multi-Purpose Trail – S. Locust Greenway	Installation of 1050 linear feet of trail from Renee Ford Road to Simpson Road.
10' Multi-Purpose Trail – S. Locust Greenway	Installation of 1480 linear feet of trail from Simpson Road to Church Street.
10' Multi-Purpose Trail – S. Locust Greenway	Installation of 1555 linear feet of trail from Church Street to US 24/27 and NC 200

The proposed improvements incorporate planning initiatives of other agencies that affect the City of Locust. NCDOT will play a vital role in seeing these priorities come to fruition. It will be essential to continue cooperation with NCDOT and other entities that can enhance the pedestrian network within the City of Locust 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 Locust Pedestrian Plan proposes numerous pedestrian projects composed mainly of sidewalks, multi-purpose trails and spot improvements. In order to develop a manageable action plan, the recommendations have to be separated into multiple 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. This will be an important component in the completion of the identified projects.

Sidewalk Projects

The majority of the proposed improvements for the Locust Pedestrian Plan consist of the repair or construction of concrete sidewalks. These are considered to be *on-road construction projects*. A priority list identifying sidewalks can be found in the Appendix. 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 Locust will need to receive an approval for all permitting and construction documents for this work *prior* to construction.

The Locust Greenway

Multi-purpose trails such as the proposed Locust Greenway 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 sidewalks. This pedestrian plan proposes a new greenway trail that travels from Reed Mine Road to Town Center and then to Locust City Park.

The approximate cost for construction of the proposed Locust Greenway is $2,583,000. This is a significant amount of money; but this popular amenity can come to fruition by partnering with other agencies and investigating creative funding strategies.

7.5 Ancillary Facilities and Programs

There are many ancillary facilities and programs that Locust 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 Stanly County Transportation Authority, and other civic groups and health-based companies will allow promotional programming and transit interface programs.

Expanded Transportation Options

The City of Locust needs to work with the Stanly County Transportation Authority to expand the existing network of bus stops and bus routes to better serve the citizens of the City. The current bus route provides many opportunities for increasing the number and location of bus stops. This increase in the bus network would help to relieve pedestrian pressure on the pedestrian network.

Education Programs

Several state and national program guidelines are available for educating the public about pedestrian safety. These programs are aimed at law enforcement, pedestrians, and drivers. The City of Locust should work with the Stanly County School System and the Locust Police Department to provide safety programs related to walking for the children and adults of Locust. 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 program combines safety, community building, healthy exercise, and fun to help educate children and adults on pedestrian safety.

Walking school bus is national trend

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

Healthy Communities Program

The City of Locust, the Stanly County Health Department and the Stanly Memorial Hospital should join to develop and promote a Healthy Communities Program. 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.

Stanly Regional Medical Center

Wayfinding

As pedestrian facilities are completed they need to be incorporated into the Wayfinding System for Locust. 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 is most likely to be the responsibility of the City of Locust Maintenance Department. The Department needs to develop a regular schedule of inspection and repair to the various elements of the pedestrian network. In addition, the Department 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:

- Repairing/installing small areas of sidewalk or multi-purpose trail
- Repair of retaining walls
- Install, repair or replace signage
- Remove or supervise removal of litter
- Maintain landscaping

7.6 Staffing

The City Administrator, Planning Director, and supporting staff will serve as the major leaders for the development of Locust's pedestrian system. This department will guide the City in the planning, design, construction, and funding of pedestrian facilities. The City Administrator's office will also facilitate cooperation between the various agencies as mentioned in Section 7.5.

The City Maintenance 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 Locust City Council will also 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, publicity and simple maintenance tasks such as litter removal. Maintenance issues and problems can often be addressed through this committee and it can assist the City with complaints from local residents and visitors.

Locust Police Department

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

7.7 Funding

Funding for the implementation of proposed projects can be overwhelming with rising construction costs. Therefore, prioritization will aid in the completion of the proposed tasks. The probable construction cost estimates for all the proposed projects is projected at $5,205,500. A listing of the projects, their priority status and probable costs is listed in Priorities and Cost Estimates, found in the Appendix. With a very talented and capable City Staff, Locust has the ability to accomplish many of the proposed improvements with their own manpower. 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 this work is $2,358,100. for all sidewalk improvements with an additional $255,000. for crosswalk and pedestrian signal improvements.

Some of the repairs can be done by City Staff

Probable costs for the Locust Pedestrian Plan projects are broken down herein:

Cost Estimates for Proposed Pedestrian Plan

Priority	Intersection Improvements	Spot Improvements	Sidewalk Projects	Proposed Greenway Trail
High	$160,000	$18,000	$397,300	$0
Moderate	$48,000	$3,200	$1,077,100	$1,620,000
Low	$8,000	$27,200	$883,700	$963,000
Total	$216,000	$48,400	$2,358,100	$2,583,000

Funding will be a large component in the process of developing Locust's pedestrian facilities. The City will need to be aggressive in applying for funding every year for individual projects. This 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.

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 particular objective such as schools, education, recreation or safety.

A variety of funding opportunities are available to Locust as the City prepares for future improvement/development of its pedestrian system. Following is a list of 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

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.

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 multi-purpose trails within a greenway.

Grants

State and federal agencies offer numerous *grants* to assist municipalities in the financing of their pedestrian projects. This source of funding should definitely be investigated and pursued by the City of Locust for present and future improvements.

State Agencies

Traffic Improvement Program (TIP)

NCDOT has established priorities that are addressed in the 2006-2015 Transportation Improvements Program (TIP). The projects are identified within the "Region D" thoroughfare plan, which includes Stanly 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 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 Transportation Improvement Program (TIP) - Independent projects:

$6 million is appropriated annually for the construction of pedestrian and bicycle improvements that are independent of scheduled highway projects in communities throughout the state. 80% of these

funds are derived from the Surface Transportation Program (STP) - Enhancement Funds, while state funds make up the remaining 20%. Currently, $1.4 million is appropriated annually for pedestrian hazard elimination projects in the NCDOT highway divisions. $200,000 is allocated for the Division of Bicycle and Pedestrian Transportation for projects such as training workshops, pedestrian safety and research projects, and other pedestrian needs statewide.

NCDOT Transportation Improvement Program (TIP) - Incidental projects:


Dedicated bike lane

Bicycle accommodations, such as bike lanes, widened shoulders and safety-designed bridges are frequently included as incidental features of highway construction projects. In addition, bicycle-safe drainage grates are a standard feature of all highway construction. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects and funded with a combination of federal and state roadway construction funds.

Governor's Highway Safety Program (GHSP)

GHSP funding is provided through an annual program, upon approval of specific project requests, 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 from 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.

Powell Bill Funding

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.

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.

Eat Smart, Move More – North Carolina

'Eat Smart, Move More' is a statewide initiative that promotes increased opportunities for physical activity and healthy eating through policy and environmental change. The program advocates public awareness of the need for changing lifestyles in today's culture. This program assists in funding for projects such as walking facilities, interpretative trails, educational amenities and master planning.

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.

Federal Transportation Enhancement

Though a Federal Government program, this grant is administered through the North Carolina Department of Transportation Enhancement Unit. This fund is meant to strengthen the cultural, aesthetic and environmental aspects of the intermodal transportation system in the United States. Projects must benefit the

traveling public and help communities increase transportation choices and access, enhance the built or natural environment and create a sense of place. Projects promoting pedestrian and bicycle systems and safety are eligible for this grant.

Federal Agencies

Vision 2020

In an effort to increase the physical activity of North Carolina residents (thereby improving medical problems induced by nutritional habits), the Center for Disease Control and Prevention has initiated the 'Start with your Heart' program. This program has the support of the Appalachian District Health Department and the NCDOT.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2004 (SAFETEA)

The Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2004 (SAFETEA), approved by the federal government in 2004, is a primary source for financing bicycle, pedestrian and greenway projects throughout the country at both the local and state levels. Providing as much as 80% for development and construction costs, this grant is earmarked for facilities such as sidewalks, rail-trails, bike-lanes and greenways. Primarily, municipalities use the Enhancement Program (a section of SAFETEA), since this section focuses on bicycle and pedestrian corridors, environmental mitigation, historic preservation and scenic byways. Applicants are required to provide a 20% match of requested funds. Prior to applying for this grant, a through engineering assessment should be performed to determine construction costs.

Community Development Block Grant (CDBG)

The CDBG is an extremely flexible grant program that provides communities with funding resources to address a wide range of unique community development needs. The program is administered through the United States Department of Housing and Urban

Community Development Block Grant

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 improvements to assist in revitalization and job retention within communities.

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. This includes investments that expand and upgrade infrastructure to attract new industry, support technology-led development, redevelop brownfield sites and provide Eco-industrial development.

Rivers, Trails and Conservation Assistance (RTCA)

RTCA preserves natural resources

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, to preserve open space, and to develop trails/greenways. No fixed amount is established for these services. Participating parties must demonstrate a commitment for cost-sharing, which may include donations of time, cash and services. NPS Rivers and Trails has played a major role in community conservation/recreation through citizen-led, partnership approaches to river protection, trail development and land conservation.

Land and Water Conservation Fund (LWCF)

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 city parks, tennis courts, bike trails, outdoor swimming pools and support facilities (roads, water supply, et cetera). Facility design must be basic in nature (as opposed to elaborate) and must remain accessible to

LWCF supplements park projects

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. The federal government has proposed no funding for this program for the fiscal year 2006.

Recreation Trails Program

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, to develop and maintain 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.)

Watershed Protection and Flood Protection

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) assists state and local governments in their operation and maintenance of watersheds, whose areas are less than 250,000 square acres. The NRCS provides both financial and technical assistance for eligible projects for the improvement of watershed protection, flood prevention, sedimentation control, public water-based fish and wildlife enhancements and recreation planning. The NRCS requires a 50% local match for public recreation and fish/wildlife projects.

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 Locust 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 Community Foundation of Western North Carolina, are often used as a means of accepting and administering private gifts to a public entity.

Foundations

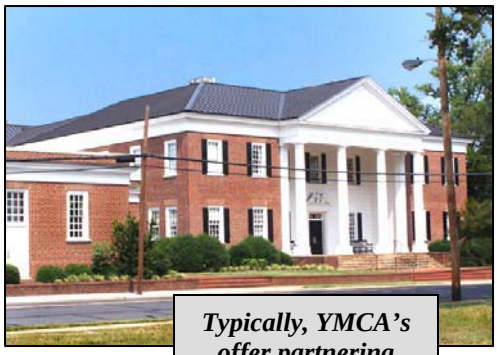
Foundations are another source of financing that allows direct contributions to be made within communities, states or the nation. These types of funds are usually described as special program foundations, general-purpose foundations or

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, Locust 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 City. 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:



Typically, YMCA's offer partnering opportunities

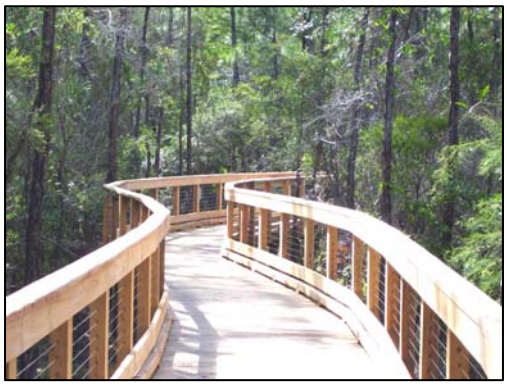
- Programming partnerships to co-sponsor events and facilities or to allow qualified outside agencies to conduct activities on properties, which are municipally-owned.
- Operational partnerships to share the responsibility for providing public access and use of facilities.
- Development partnerships 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.

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 Locust for the pedestrian system expansion and/or future development. Due to the land costs, as well as land 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 and developing multi-purpose trails.



City should prioritize land purchases for multi-purpose 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. This often (untapped) source of obtaining funds requires the contacting of potential donors such as individuals, institutions, foundations, service clubs, et cetera.

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 can 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.

Identification of 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 the 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.

General Obligation Bonds require successful voter referendum campaigns

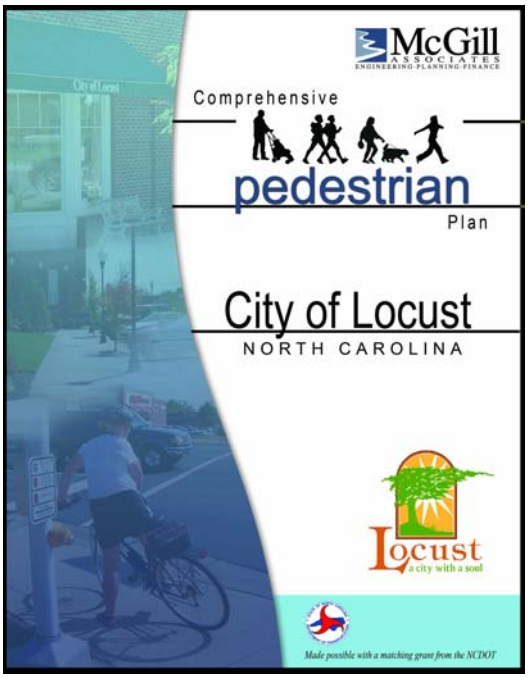
It will be important to incorporate the future facilities with incidental highway projects. This document will be used by NCDOT to determine areas where pedestrian improvements should be incorporated into the proposed roadway improvements. Major construction projects may require more than grants. Although 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.

7.8 The City of Locust Comprehensive Pedestrian Plan

Although a significant amount of planning was performed in developing this plan, it is only a guide for the future. As new development and growth occurs in Locust, 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 -

APPENDICES

Appendix A
Community Survey

Appendix B
Community Survey Results

Appendix C
Pedestrian Inventory Plan - Existing Condition Maps

Appendix D
Community Workshop Map

Appendix E
Community Meeting Agenda/Minutes

Appendix F
Steering Committee Map Exercise Results

Appendix G
Steering Committee Workshop Results Maps

Appendix H
Proposed Pedestrian Amenities Maps

Appendix I
Preliminary Cost Estimates

Appendix J
Pedestrian Crash Information

Appendix K
Department of Transportation Pedestrian Policy Guidelines

Appendix A
Community Survey

The **City of Locust** 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. If you need additional copies for your household, they can be found on our web page at www.locustnc.com or by calling (704) 888-5260. **You are invited to participate in our Locust Pedestrian Plan Community Workshop being held during the SCC Car Show at 8 a.m. - noon at the Stanly Community College Crutchfield Campus on October 3rd, 2009.**

Thank you for your time and your interest in contributing to this survey.

1. What is your age:

   ____ 18 or under ____ 19 – 24 ____ 25 – 34 ____ 25 – 44
   ____ 45 – 54 ____ 55 – 64 ___ 65 and over

2. Gender: ____ Male ____Female

3. How many times per month do you walk for recreation or leisure?

   ___ 0 times ___ 1-2 times ____ 3-5 times ____ 6-10 times ___ 11 or more times

4. How many times per month do you walk to work?

   ___ 0 times ___ 1-2 times ____ 3-5 times ____ 6-10 times ___ 11 or more times

5. How many times per month do you or your children walk to school?

   ___ 0 times ___ 1-2 times ____ 3-5 times ____ 6-10 times ___ 11 or more times

6. How many times per month do you walk to attend an event or social gathering?

   ___ 0 times ___ 1-2 times ____ 3-5 times ____ 6-10 times ___ 11 or more times

7. How many times per month do you walk to go shopping or run an errand?

   ___ 0 times ___ 1-2 times ____ 3-5 times ____ 6-10 times ___ 11 or more times

8. The reasons I walk now or will walk in the future are (check as many as apply):

   ____ Walking the dog ____ Exercise/fresh air
   ____ Transportation ____ Lack of an automobile
   ____ Save money (price of gas) ____ Walking with friends/spouse

9. The reason I don't walk more is (check as many as apply):

   ____ Lack of sidewalks and trails ____ Danger from traffic
   ____ Dangerous intersections ____ Not enough light
   ____ Unpleasant views or atmosphere ____ No nearby destinations
   ____ I'm not interested in walking ____ Fear of crime

10. What destinations would you be likely to walk to (check as many as apply):

    ____ work ____ school
    ____ shopping ____ restaurant
    ____ place of worship ____ park, trail or greenway
    ____ downtown ____ library or museum

List specific destinations that you might walk to (such as Town Center):

_____
_____
_____
_____

11. Which of the choices below would encourage you to walk more? (check as many as apply):

____ Healthy walking programs ____ Improved/increased sidewalks

____ Off-road walking trails ____ Clean, safe-appearing environment

____ Pedestrian-safe street intersections ____ Landscaping including street trees

____ Sidewalks in my neighborhood ____ Special walking events

12. Do you have school aged children? _____Yes _____No

If yes, do they walk or bike to school? _____Yes _____No

13. Please mark whether you think the following are important or unimportant for walking.

Important	Unimportant	
_____	_____	Availability of sidewalks
_____	_____	Availability of places to sit
_____	_____	Shady streets and sidewalks
_____	_____	Nearby destinations
_____	_____	Sidewalk set back from curb 4 or more feet
_____	_____	Marked crosswalks
_____	_____	Signs or signals to make drivers aware of pedestrians
_____	_____	Traffic signals on busy streets
_____	_____	Lack of utility poles/signs in the sidewalk
_____	_____	Availability of aesthetically pleasing route
_____	_____	Recreational/exercise walking program

14. What locations need marked crosswalks? Be specific.

_____
_____
_____
_____
_____

15. Rank the following priorities with 1 being the most important:

____Pedestrian safety ____Complete missing sidewalk sections

____New sidewalks where none exist ____Sidewalk system throughout City

16. What are your major concerns about walking in Locust (check all that apply):

____ Lack of landscaping along sidewalks ____ Uneven or broken surfaces

____ Sidewalks too close to traffic ____ Insufficient lighting

____ Need more marked crosswalks ____ Sidewalks too narrow

____ Roads without sidewalks ____ Landscaping overgrows sidewalk

17. What source of funding should be used to build or improve pedestrian facilities in Locust?

____ Local bond or other financing strategy ____ Existing local taxes

____ New local taxes ____ State or Federal Grants

____ Mix of the above ____ Other _____

<u>October 10th, 2009</u>, is the deadline for returning this survey by <u>mail</u> to: P.O. Box 190 Locust, NC 28097.

<u>Optional</u>

Name:_____Phone:_____

Address:_____E-mail Address: _____

Appendix B

Community Survey Results

Pedestrian Survey Results

To further solicit input from the public about the pedestrian system in Locust, the public survey was made available on the Locust web page, at the public library, and city planning office. The survey (See Appendix) was designed to solicit opinions upon both general and specific pedestrian concerns in the City of Locust. The results help to inform decisions regarding existing pedestrian routes, areas of safety concern, and ideas for new sidewalks.

Survey Results

The majority of survey respondents were adults of age 45 and over. 56% of respondents were male and 45% were female. The survey participants were asked various questions pertaining to their current and future pedestrian needs and walking habits. The questions and responses provided were as follows:

How many times a month do you walk for recreation or leisure?

33% survey respondents reported walking for recreation 0-2 times a month. 28% of survey respondents reported recreational walking 11 or more times a month. Survey respondents reporting that they walk 3-5 times a month made up 23% of the total responses. Only 16% reported walking for leisure.

How many times per month do you walk to work?

When the respondents were asked the number of times per month they walked to work: 98% reported 0 -2 times. Only 2% of survey participants reported walking 6 -10 times a month.

How many times per month do you or your children walk to school?

95% of survey respondents reported that they or their children only walked to school 0-2 times a month. 2.5% walked to school 3-5 times a month and 2.5% of people reported walking to school 6-10 times a month.

Most students travel to school by bus or automobile

How many times per month do you walk to go shopping or run an errand?

88% of survey respondents reported walking 0-2 times a month for shopping or errand running. 21% of respondents reported walking 3-5 times a month and 5% reported walking 6-10 times a month on shopping related trips. 7% of survey participants reported walking 11 or more times a month to go shopping or run errands.

The reasons I walk now or will walk in the future are (check as many as apply):

When asked what the reasons for survey respondents walking were 40% reported walking for exercise or for getting fresh air. 25% of respondents reported walking with friends or a spouse. 17% walked to take their dogs out, 12% walked as a way of saving gasoline, 6% walked just a means of transportation, and 1% reported walking because they didn't have an automobile.

The reasons I don't walk more is (check as many as apply):

Interestingly, when asked for the reasons why survey participants did not walk 21% of people said because there were no nearby destinations, 17% of respondents were not interested in walking, while 16% reported that the intersections were too dangerous. Another 16% of survey respondents reported that there was not enough light for them to walk. 10 % of survey respondents reported a fear of crime as a reason for not walking more. 7% of respondents report the lack of trails and sidewalks as a reason for not walking more. Only 6% of survey respondents reported not walking more because of danger from traffic.

What destinations would you be likely to walk to (check as many as apply):

20% of survey participants reported a positive interest in walking downtown. Another 20% of respondents said that they would be likely to walk to a park, trail or greenway. 17% of people would walk to restaurants and 15% would walk to go shopping. 14% of people reported being likely to walk to a place of worship. Survey respondents that would be willing to walk to a library or museum made up 11% of the total number of responses. 1% of survey respondents reported a likeliness to walk to work and another 1% reported being likely to walk to school.

Some respondents wanted to walk to church

Which of the choices below would encourage you to walk more?

When asked what would make the survey responses walk more 16% of respondents would like more off-road walking trails while 15% reported a desire for healthy walking programs. Another 16% of survey respondents would like sidewalks in their neighborhoods. 14% of people surveyed would walk more if sidewalks were improved or increased. Landscaping and street trees along paths would encourage 12% of survey respondents to walk more. Another 12% would be encouraged to walk if intersections were made pedestrian-safe. 8% of survey participants reported having a clean, safe-appearing environment would encourage them to walk more while another 8% sited a desire for special walking events.

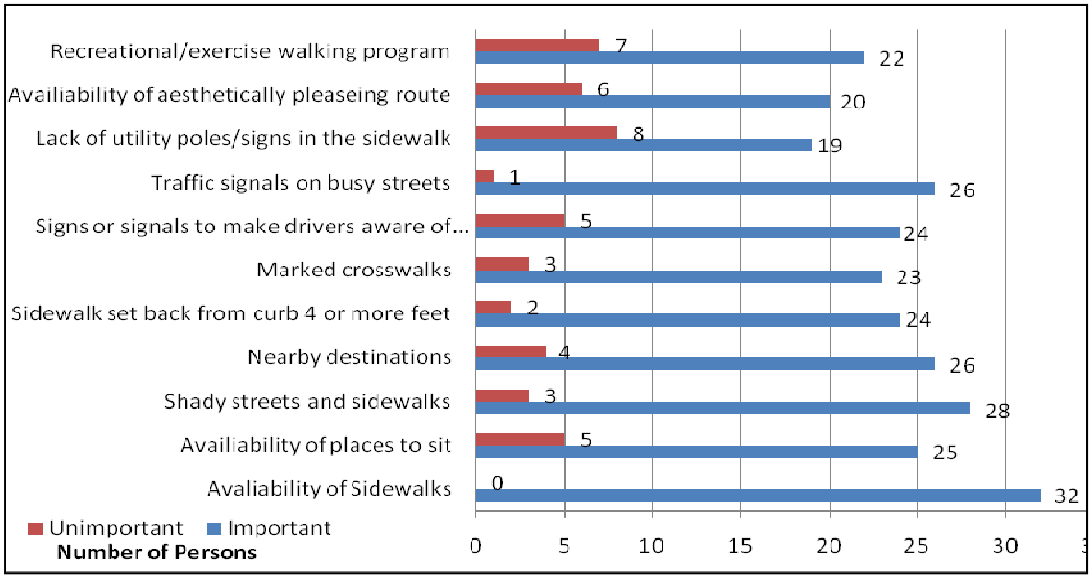
Do you have school aged children?

Survey respondents with school aged children made up 65% of the total number of respondents. When asked if these children walked or biked to school, 80% reported "no".

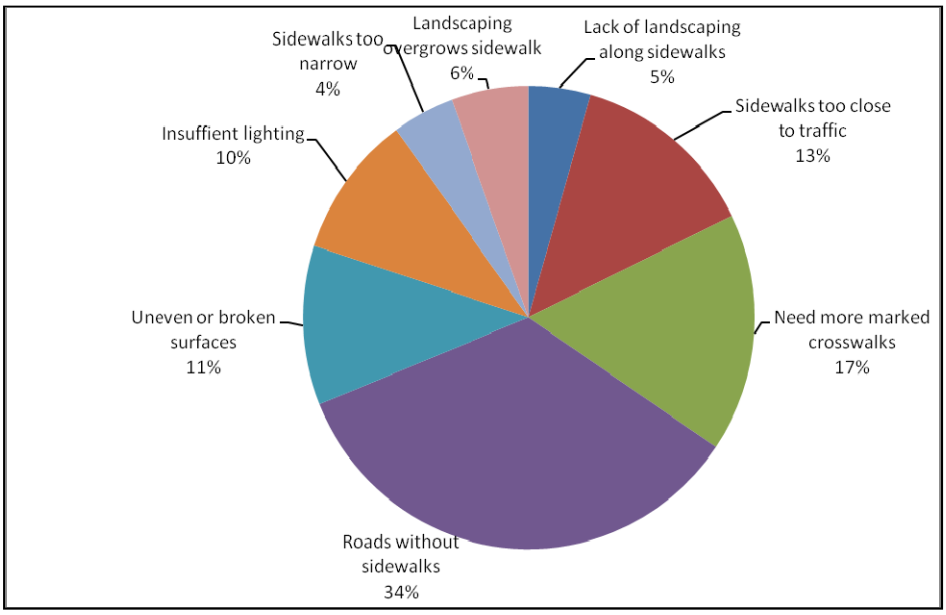
Please mark whether you think the following are important or unimportant for walking.

An overwhelming majority of survey respondents reported that the availability of sidewalks, places to sit, shade, lack of sidewalk obstructions and marked crosswalks were important for walking. An overwhelming majority of survey respondents also rated as important the need for nearby destinations, sidewalks set back four or more feet from street curbs, pedestrian warning signals on streets, aesthetically pleasing routes and recreational/exercise walking programs.

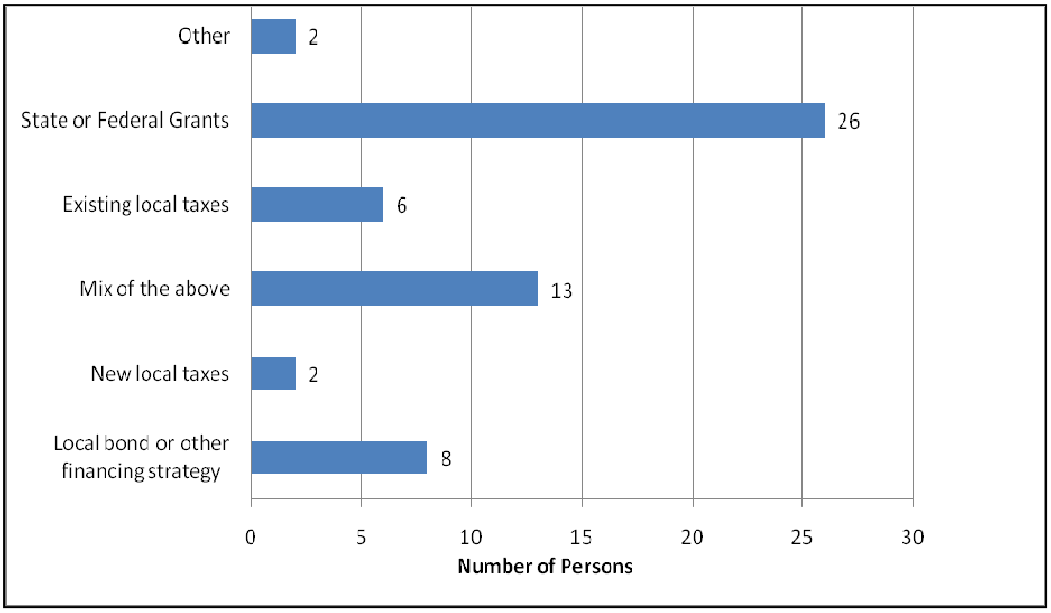
Please mark whether you think the following are important or unimportant:



What are your major concerns about walking in Locust?



What source of funding should be used to build or improve pedestrian facilities in Locust?



Appendix C

Pedestrian Inventory Plan
Existing Condition Maps

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -1
Pedestrian Inventory Plan
Existing Conditions - North

MEADOW CREEK VILLAGE
MISSION CHURCH ROAD
THE MEADOWS
BETHEL CHURCH ROAD
CHRISTY LANE
MEADOW CREEK CHURCH ROAD
EDGEWOOD ACRES
QUAIL RUN ROAD
AVENUE NORTH
COLEY STORE ROAD
C
C

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk Fair Condition
- Existing trail
- Existing Sidewalk Good Condition
- Dangerous Intersection
- Problem Area
- C Church/Cultural
- S School
- G Government Facility
- H Hospital
- Existing Traffic Signal
- Park
- Residential
- Commercial/Retail

N
W E
S

BAR SCALE 1" = 1000'

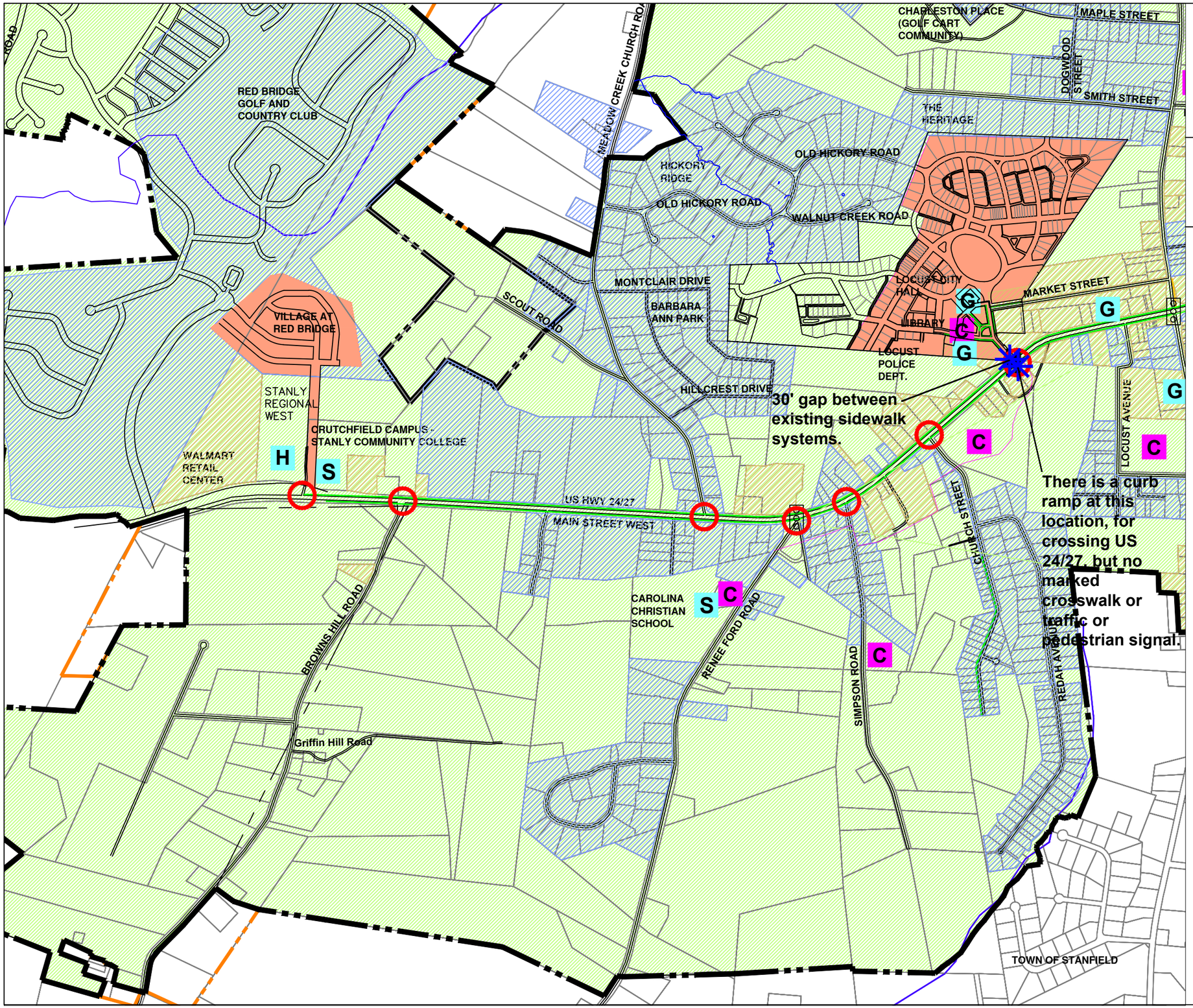
0 1000' 2000' 3000'

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -2
Pedestrian Inventory Plan
Existing Conditions - West



Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk Fair Condition
- Existing trail
- Existing Sidewalk Good Condition
- Dangerous Intersection
- Problem Area
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Existing Traffic Signal
- Park
- Residential
- Commercial/Retail
- Future Development

N
W E
S

BAR SCALE 1″ = 1000′

0 1000′ 2000′ 3000′

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -3
Pedestrian Inventory Plan
Existing Conditions - East

High pedestrian traffic area with no sidewalks.

Existing curb ramp is cracked and broken

High pedestrian traffic area with no sidewalks.

NC 200
CENTRAL AVENUE
COLEY STC
LOCUST VALLEY
KINGS HEIGHTS
NC 1213
PROVIDENCE STREET
LIONS CLUB DRIVE
CITY OF LOCUST PARK/OFFICER JEFF SHELTON PARK
LOCUST ELEMENTARY SCHOOL
SHERWOOD PARK
KINGS HEIGHTS
US HWY 24/27
MAIN STREET EAST
BARBEE ROAD
LOCUST FIRE DEPT.
ELM STREET
SUNSET DRIVE
CENTRAL AVENUE SOUTH
NC 200

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk Fair Condition
- Existing trail
- Existing Sidewalk Good Condition
- Dangerous Intersection
- Problem Area
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Existing Traffic Signal
- Park
- Residential
- Commercial/Retail

W E S

BAR SCALE 1″ = 1000′

0 1000′ 2000′ 3000′

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

Appendix D

Community Workshop Map

City of Locust

Comprehensive Pedestrian Plan
Community Workshop

Map - 4

BAR SCALE 1" = 1000'
0 1000' 2000' 3000' 4000'

N W E S

MEADOW CREEK VILLAGE
MISSION CHURCH ROAD
THE MEADOWS
BETHEL CHURCH ROAD
EDGEWOOD ACRES
QUAIL RUN ROAD
MEADOW CREEK CHURCH ROAD
TO REED GOLD MINE
NC 200 CENTRAL AVENUE NORTH
COLEY STORE ROAD
DANITA DRIVE
MAPLE STREET
LOCUST VALLEY
NC 1213
KINGS HEIGHTS
THE HERITAGE
SMITH STREET
LIONS CLUB DRIVE
CITY OF LOCUST PARK/OFFICER JEFF SHELTON PARK
LOCUST FIRE DEPT.
LOCUST ELEMENTARY SCHOOL
SHERWOOD PARK
KINGS HEIGHTS
PROVIDENCE STREET
HICKORY RIDGE
BARBARA ANN PARK
US HWY 24/27 MAIN STREET EAST
BARBEE ROAD
VILLAGE AT RED BRIDGE
WALMART RETAIL CENTER
STANLY REGIONAL WEST
CRUTCHFIELD CAMPUS - STANLY COMMUNITY COLLEGE
US SWY 24/27 MAIN STREET WEST
LOCUST AVENUE
ELM STREET
NC 200 CENTRAL AVENUE SOUTH
CHURCH STREET
REDAH AVE
CAROLINA CHRISTIAN SCHOOL
BROWNS MILL ROAD
RENEE FORD ROAD
SIMPSON ROAD
TOWN OF STANFIELD

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- C Church/Cultural
- S School
- G Government Facility
- H Hospital
- Future Development

Please place a numbered dot on the map to mark the following concerns and needs.

1. Existing Sidewalk Poor Condition
2. Dangerous Intersection
3. Handicap Ramp Needed
4. Problem Area
5. Pedestrian Crosswalk Needed
6. Pedestrian or Traffic Signal Needed
7. Dangerous volume or speed of traffic
8. Heavily Used Pedestrian Pathway
9. Point of Interest

Respondant Comments About "Problem Areas"

3 "Are the utility easements here Duke or REA or Union Power?"

4 "The existing sidewalk is incomplete"

4 "There is a need for a pedesrian lane"

4 "The signs here are difficult to read"

4 "Church St. is too narrow, needs widening"

4 "DOT Signalization at light may be off here"

5 "This intersection will continue to see growth in the future"

8 "There should be sidewalk from 24/27 to NC200 on Meadow Creek Church Road"

9 "If a greenway goes to the Rocky River Vineyard there could be a lot of people going there"

9 "Extend the greenway to here"

Appendix E

Community Meeting Agenda/Minutes

Locust Pedestrian Plan

Community Meeting

February 16, 2010 6:30 - 8:00 pm

Those in attendance:

Locust citizens

Mike Norris – McGill Assoc.

Jim Ford – McGill Assoc.

Mandy Vari - Locust Planner

McGill Associates gave a brief introduction of the NCDOT Pedestrian Planning Grant Program and summarized the work to date that had been performed. A PowerPoint presentation was then shown addressing the planning process, which summarized the Plan Inventory and proposed draft recommendations. The presentation included specific areas of improvement within the City that was addressed from City Staff and the public from previous meetings. These areas were followed with a proposed recommendation for method of improvement. After the presentation was completed, a brief question/answer session followed.

Group Questions:

The group was offered the opportunity to ask questions regarding the Pedestrian Plan, and proposed recommendations. Some of the questions asked included:

- Would golf carts be allowed on the proposed Greenway?
- How do you get NCDOT to approve crosswalks on US 24/27?
- Is it possible to get a sidewalk on Mallard Creek Church Road from US 24/27 to NC 200?
- Does the plan provide a connection from the Park to Town Center?
- Does the plan provide a connection from Town Center to the Red Bridge Development?
- Will planting strips be required for new sidewalk construction?

Group Map exercises:

Once the question/answer session was complete, the attendees were divided into smaller groups and given maps of the City to review proposals and give additional input and comment. These groups were asked to identify common/important destinations, existing and desired pedestrian routes, and to list any concerns or ideas they had to improve the

pedestrian system within Locust. Each group was asked to present their ideas to the entire group. Important items listed included:

- The possibility of developing a trial at the Bojangles on US 24/27
- Getting a traffic light at Browns Hill Road
- There is a need for a sidewalk in front of Wal-Mart
- Locating available Greenway trail on accessible utility easements
- The possible need for safety call boxes along Greenways.
- Added a sidewalk that would connect NC 200 and Mallard Creek Road.
- Add a greenway trail that would parallel Hwy 24/27 and connect neighborhoods
- Add a sidewalk along Redah Road.

Pedestrian Survey:

The group was encouraged to participate in the Community Survey. Surveys were given out to everyone. Most meeting participants filled out the surveys which were collected at the end of the meeting.

Next Steering Committee Meeting

A date will need to be set for the last Steering Committee Meeting.

City of Locust

Comprehensive Pedestrian Plan

Kick-Off Meeting Agenda

May 4, 2009

1. Introduction (10 minutes)

2. Role of the Steering Committee (5 minutes)
    - Develop the Vision, Goals and Objectives for the Project
    - Work with City staff to define a final scope for the project
    - Serve as liaisons between the public and the consultants and City staff
        - Get information about the plan out to the public
        - Pass public concerns and issues to the consultants and City staff
    - Provide input to the consultants about the existing pedestrian network
        - Map exercise
        - Public survey
        - Individual interviews
    - Assist with public workshops as needed
    - Work with City staff and consultants to ensure that the pedestrian plan process is inclusive, open and reaches a broad cross section of the Locust community
    - Attend Steering Committee Meetings to guide and direct consultants
    - Ensure that project objectives are being met by reviewing progress and draft documents

3. Development of Project Vision, Goals and Objectives (15 minutes)
    - Define physical Scope of Project
    - Visioning exercise
    - Review of Vision Statement samples
    - Produce draft Vision Statement
    - Review of Goals and Objectives samples
    - Produce draft Goals and Objectives

4. Public Survey (10 minutes)
    - Explain survey process and distribute to committee members
    - Review survey questions in light of project vision, goals and objectives
    - Solicit additions/deletions/approval of survey form

5. Map Exercise (20 minutes)

City of Locust

2009 Pedestrian Plan

Steering Committee Kick-off Meeting

May 4, 2009

In attendance:

Michael Haigler
Tim Flieger
Dan Sullivan
Nancy Sasser
Ronny Russell
Wilson Barbee
Jason Martin, DSS
Jean Friedman
Tim Fesperman
James Inman
Helen Chaney, NCDOT
Janet Bean, McGill Assoc.
James Ford, McGill Assoc.

Introduction:

Helen Chaney introduced the NCDOT Bicycle and Pedestrian Planning Program and explained that Locust was initiating a Pedestrian Plan. She gave the background information for the program and explained NCDOT's role.

James Ford, then introduced himself and Janet Bean from McGill Associates, the consultants hired to direct and produce the Pedestrian Plan. Everyone was asked to introduce themselves. Mr. Ford then gave a brief overview of the pedestrian planning process, the roles of the steering committee and an outline of the meetings procedures.

Pedestrian Surveys:

Draft copies of the proposed community survey were passed out. Committee members were asked to review the surveys and suggest any needed changes or additions. Comments to be turned into Tim Fesperman.

Vision and Goals:

James Ford introduced an exercise for developing a Vision Statement and the Goal and Objectives of the City of Locust Pedestrian Plan. Committee members were asked to imagine what their pedestrian network would look like in 20 years and what goals would have to be met to create that network. Ideas were recorded and will be sent out to committee members shortly.

Map Exercise:

Those in attendance divided into four groups, each with a map of the City of Locust. Various land use types, such as residential, commercial, government/service and cultural areas, were all marked on the maps. Participants were asked to check for errors on the maps, and to mark existing problems and future solutions on the maps. Such items included dangerous intersections, high volumes of pedestrian traffic, needed crosswalks and traffic signals, needed pedestrian pathways.

Closing:

The next meeting was set for 7 p.m., on Monday, June 1, 2009. Tim Fesperman thanked everyone for their participation and dismissed the meeting.

Locust Pedestrian Plan
Steering Committee – Meeting 2
June 1, 2009

I. Review map exercise results from Meeting 1

II. Review Existing Network Maps

III. Review Sections 1-3 of Master Plan

IV. Discuss Pedestrian Survey – solicit ideas about distribution and collection

V. Discuss Community Workshop
    - Location
    - Date
    - Publicity

Locust Pedestrian Plan

Steering Committee Meeting

June 1, 2009

Those in attendance:

Nancy Sasser

Wilson Barbee

Larry Baucom

Tim Fesperman

Janet Bean – McGill Assoc.

Jim Ford – McGill Assoc.

Review of Map Exercise:

The group reviewed the results of the map exercise conducted at the kick-off meeting in May. A few more issues were noted and will be added to the maps.

- Post Office needs connection to Market St.
- Drainage issues complicate sidewalk extending from college to WalMart

Existing Network Maps:

The group reviewed the maps prepared by McGill Associates, showing the existing pedestrian network in Locust. These maps are the result of visual surveys undertaken by McGill Associates and will be included in the final document.

Review of Sections 1-3 of Locust Pedestrian Plan

The group found a few things to be addressed in the Plan.

- Sec. 2, page 1 – add Community College to list of focal points
- Sec. 2, page (18 of 14) – Merchant St. should be Market st.
- Nutrition Route runs 5 days a week and is not a part of SCUSA, but a part of Senior Services
- Community Building is located in Officer Jeff Shelton Park
- Decided spelling should be Town Center for this document to match other existing documents.

Pedestrian Survey

Ideas for distributing and collecting the surveys were discussed. The surveys will be available on the City's webpage, be mailed out with the sewer bill and be made available at various locations such as the library and stores. The Steering Committee is encouraged to solicit participation from groups/organizations to which they belong (church, fraternal organizations, etc.). The Steering Committee and City will be responsible for collecting the surveys and tallying the responses for use in the Pedestrian Plan document. Publicity will be via the newspaper and word-of-mouth.

Public Workshop

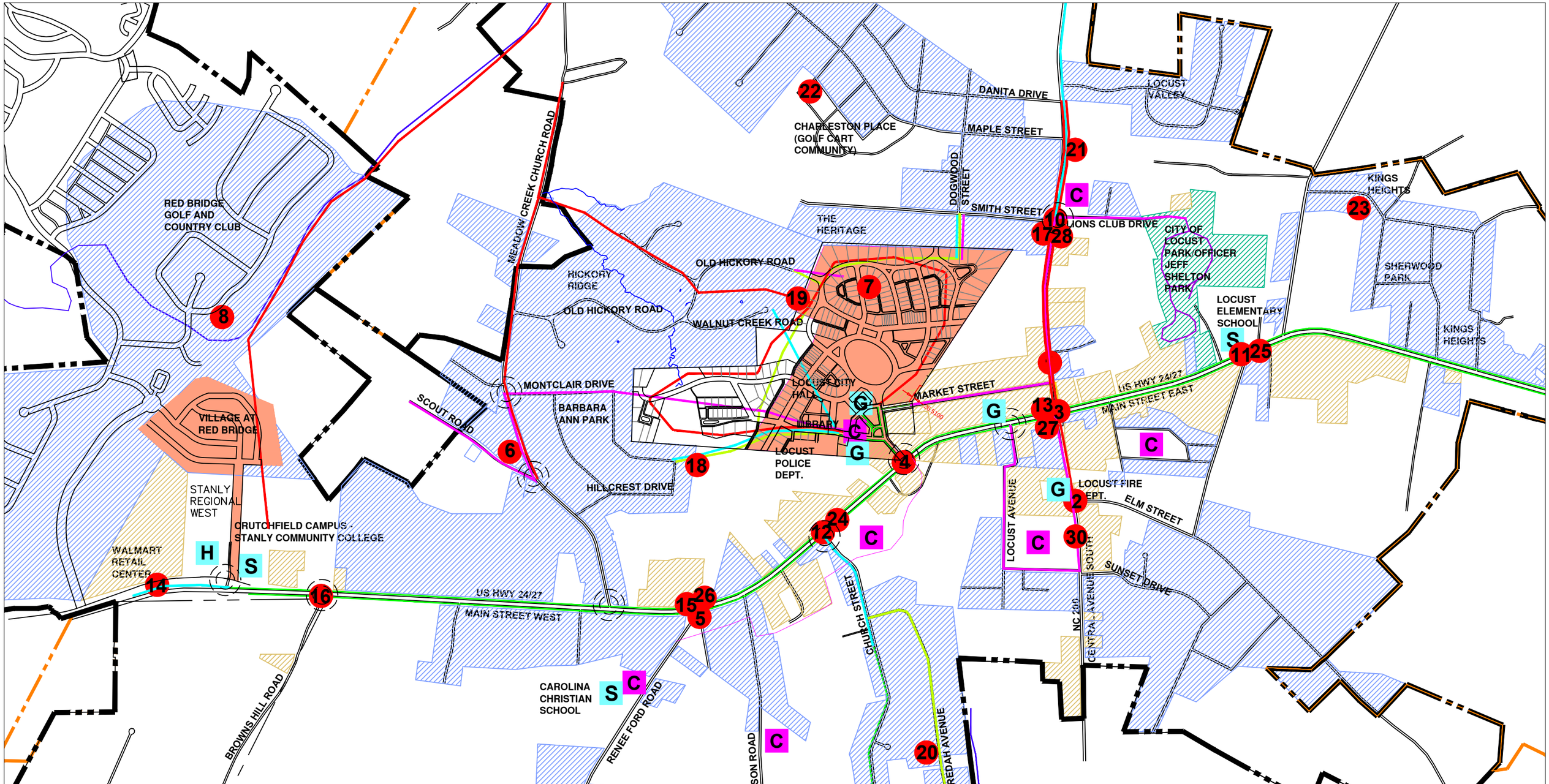
Discussion was centered on the best date and location for holding a 1 to 2 hour community workshop. It was decided to try and hold the workshop the last week in July or the first week in August depending upon the availability of a meeting room at Crutchfield Community College. Tim Fesperman will contact the college and arrange to use a meeting room during that time period. Time will probably be in the evening, beginning at 7 p.m. Publicity will be via the newspaper, the pedestrian survey and word-of-mouth.

Next Steering Committee Meeting

The next Steering Committee Meeting will be after the pedestrian survey and community workshop have been held.

Appendix F

Steering Committee Map Exercise Results



CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 5
Steering Committee
Workshop Results

Workshop Results

- Problem area identified by Steering Committee Member. Keyed to Table A (SEE APPENDIX)
- Steering Committee Group 1 Sidewalk/Greenway Needs
- Steering Committee Group 2 Sidewalk/Greenway Needs
- Steering Committee Group 3 Sidewalk/Greenway Needs
- Steering Committee Group 4 Sidewalk/Greenway Needs

Existing Facilites

- Existing trail
- Existing Sidewalk Poor Condition
- Existing Sidewalk Fair Condition
- Existing Sidewalk Good Condition

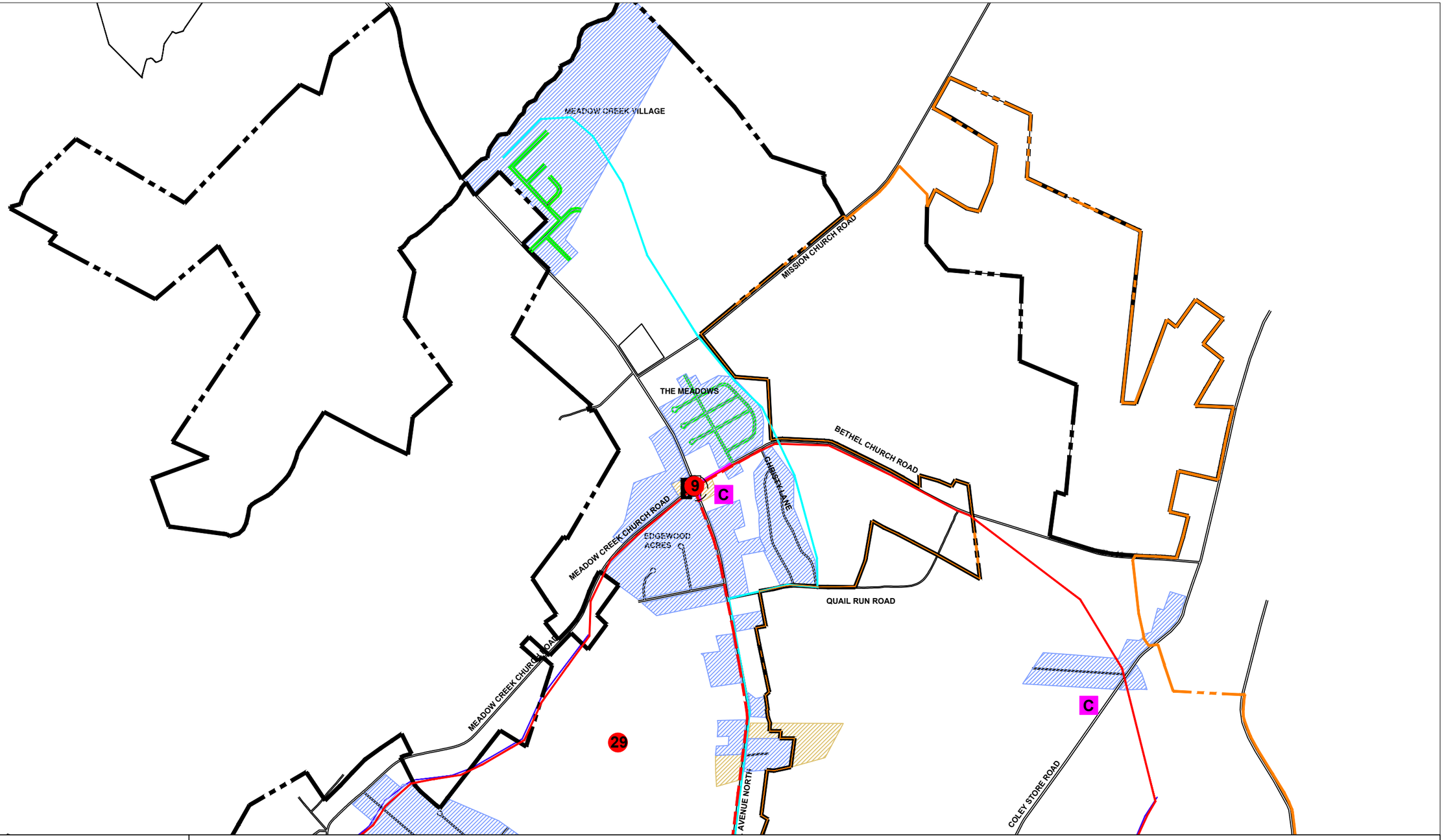
- C Church
- S School
- G Government Facility
- Residential
- Commercial/Retail
- Park

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Traffic Signal

BAR SCALE 1" = 1000'
0 1000' 2000' 3000'
W E S

Appendix G

Steering Committee Workshop
Results Maps



CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 6
Steering Committee
Workshop Results

Workshop Results

1 Problem area identified by Steering Committee Member. Keyed to Table A (SEE APPENDIX)

- Steering Committee Group 1 Sidewalk/Greenway Needs
- Steering Committee Group 2 Sidewalk/Greenway Needs
- Steering Committee Group 3 Sidewalk/Greenway Needs
- Steering Committee Group 4 Sidewalk/Greenway Needs

Existing Facilites

- Existing trail
- Existing Sidewalk Poor Condition
- Existing Sidewalk Fair Condition
- Existing Sidewalk Good Condition

- C Church
- S School
- G Government Facility
- Residential
- Commercial/Retail
- Park

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Traffic Signal

BAR SCALE 1" = 1000'
0 1000' 2000' 3000'

N W E S

Appendix H

Proposed Pedestrian Amenities Maps

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map -7
Proposed Pedestrian Amenities - North

MEADOW CREEK VILLAGE
THE MEADOWS
EDGEWOOD ACRES
MISSION CHURCH ROAD
BETHEL CHURCH ROAD
CHRISTY LANE
MEADOW CREEK CHURCH ROAD
QUAIL RUN ROAD
AVENUE NORTH
COLEY STORE ROAD
C
C
C

Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk
- C Church/Cultural
- S School
- G Government Facility
- H Hospital
- Existing Traffic Signal
- Proposed Sidewalk
- Proposed Multi-Purpose/Greenway Trail
- Proposed Traffic Signal
- Proposed Crosswalk

N
W E
S

BAR SCALE 1" = 1000'

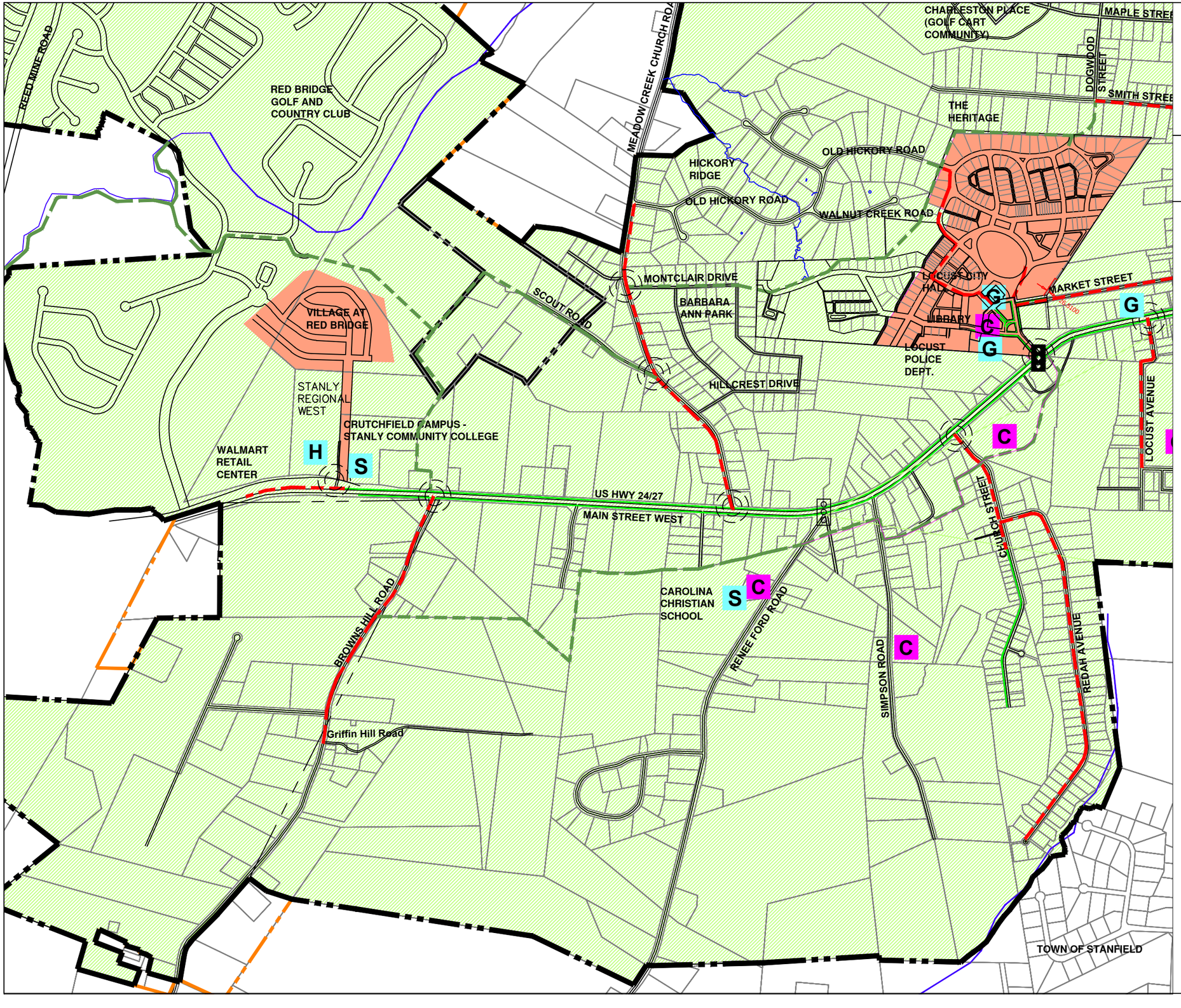
0 1000' 2000' 3000'

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 8
Proposed Pedestrian Amenities - West



Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Existing Traffic Signal
- Proposed Sidewalk
- Proposed Multi-Purpose/Greenway Trail
- Proposed Traffic Signal
- Proposed Crosswalk
- Future Development

N
W E
S

BAR SCALE 1″ = 1000′

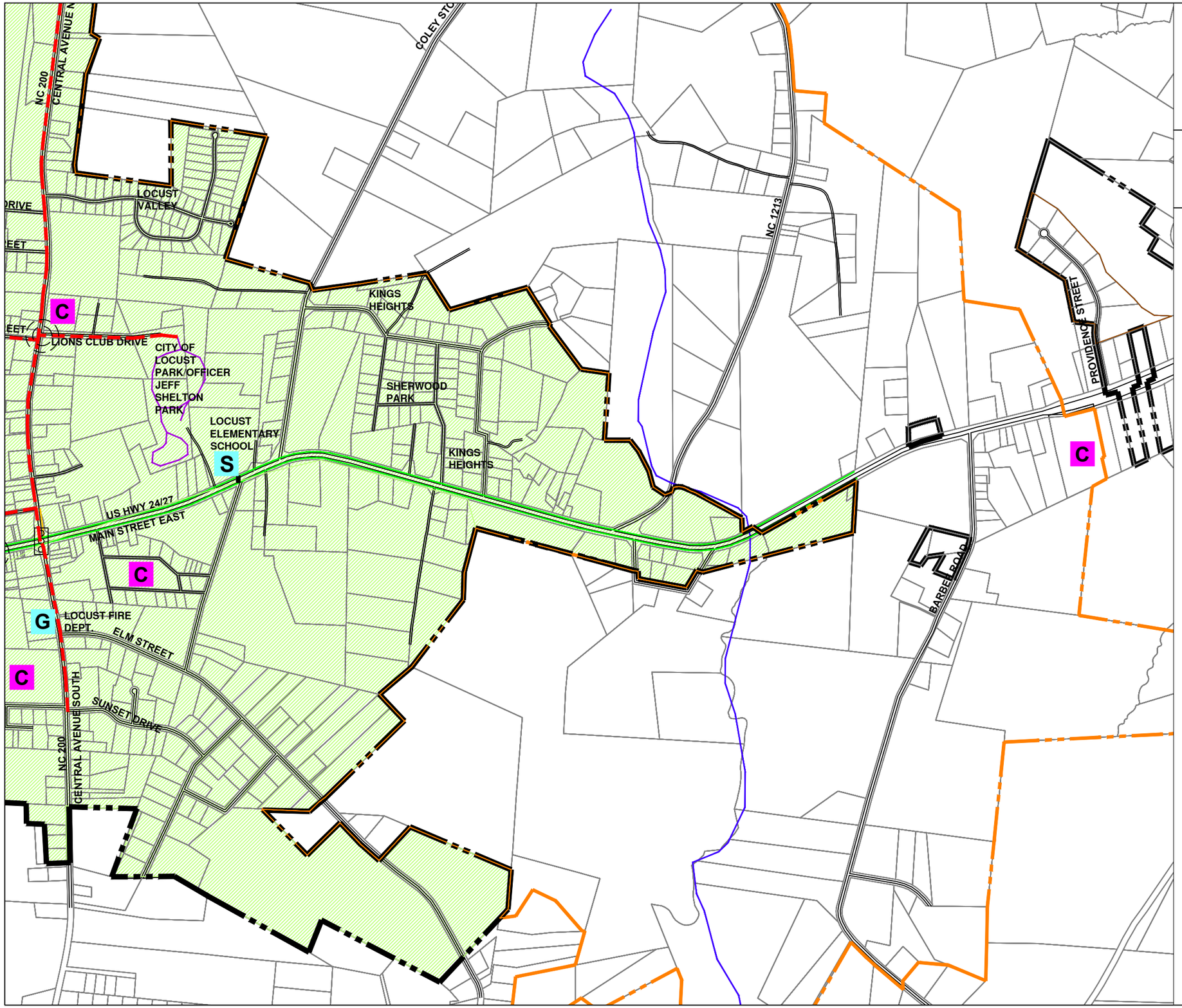
0 1000′ 2000′ 3000′

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

CITY OF LOCUST

COMPREHENSIVE PEDESTRIAN PLAN

Map - 9
Proposed Pedestrian Amenities - East



Legend

- Locust Town Limits
- Locust Extra Territorial Jurisdiction
- Streets
- Existing Sidewalk
- C — Church/Cultural
- S — School
- G — Government Facility
- H — Hospital
- Existing Traffic Signal
- Proposed Sidewalk
- Proposed Multi-Purpose/Greenway Trail
- Proposed Traffic Signal
- Proposed Crosswalk

N
W E
S

BAR SCALE 1″ = 1000′

0 1000′ 2000′ 3000′

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
1236 19TH ST. LANE NW HICKORY, NC PH. (828) 328-2024

Appendix I

Preliminary Cost Estimates

Item	Description of Improvement	Priority	Roadway/ Improvement Location	From	To	Distance in Linear Feet	5' Sidewalk $50 per lf	Curb and Gutter $30 per lf	10' Multi-purpose $100 per lf	Number of Curb Ramps	Curb Ramps $1,500 ea.	Number of Crosswalks	Crosswalks $200 ea.	Number of Traffic Signals	Traffic Signals $40,000 ea.	Number of Pedestrian Signals	Pedestrian Signals $2,400 ea.	Probable Cost Estimate
			INTERSECTION IMPROVEMENTS															
1	Signalized Crosswalk	High	US 24/27 and Stanly Parkway	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
2	Signalized Crosswalk	High	US 24/27 and Renee Ford Road	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
3	Signalized Crosswalk	High	US 24/27 and Ray Kennedy Drive	N/A	N/A					2	$ 3,000.00	1	$ 200.00	1	$ 40,000.00	2	$ 4,800.00	$ 48,000
4	Signalized Crosswalk	High	US 24/27 and Park Drive	N/A	N/A					2	$ 3,000.00	1	$ 200.00	1	$ 40,000.00	2	$ 4,800.00	$ 48,000
5	Signalized Crosswalk	High	Hwy 200N and Bethel Church Rd/Meadow Creek Church Rd.	N/A	N/A					2	$ 3,000.00	1	$ 200.00	1	$ 40,000.00	2	$ 4,800.00	$ 48,000
6	Signalized Crosswalk	Moderate	US 24/27 and Browns Hill Road	N/A	N/A					2	$ 3,000.00	1	$ 200.00	1	$ 40,000.00	2	$ 4,800.00	$ 48,000
7	TrafficCalming/ Flashing Ped Sign	Low	US 24/27 and Vella Drive	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
	SUBTOTAL																	**$ 216,000**
			SPOT IMPROVEMENTS															
8	Lighting, Traffic Calming, Gateway	High	US 24/27 and NC Hwy 200	N/A	N/A													*$ 10,000*
9	Crosswalk, Flashing Ped Sign	High	NC Hwy 200 N and Lions Club Drive	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
10	Crosswalk	Moderate	US 24/27 and Browns Hill Rd. across Browns Hill Road	N/A	N/A					2	$ 3,000.00	1	$ 200.00					$ 3,200
11	Crosswalk	Low	US 24/27 and Church St. across Church Street	N/A	N/A					2	$ 3,000.00	1	$ 200.00					$ 3,200
12	Crosswalk/Flashing Ped Sign	Low	Scout Road and Meadow Creek Church Road	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
13	Crosswalk/Flashing Ped Sign	Low	Montclair Drive and Meadow Creek Church Road	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
14	Crosswalk/Flashing Ped Sign	Low	Reed Mine Road and Greenway	N/A	N/A					2	$ 3,000.00	1	$ 200.00			2	$ 4,800.00	$ 8,000
	SUBTOTAL																	**$ 48,400**
			PROPOSED SIDEWALK															
15	5' Sidewalk	High	Lions Club Drive	200 North	Locust City Park	1245	$ 62,250.00	$ 37,350.00		2	$ 3,000.00							$ 102,600
16	5' Sidewalk	High	NC 200 S	US 24/27	E. Sunset Drive	1750	$ 87,500.00	$ 52,500.00		3	$ 4,500.00							$ 144,500
17	5' Sidewalk	High	Market Street	Town Center	200 North	1840	$ 92,000.00	$ 55,200.00		2	$ 3,000.00							$ 150,200
18	5' Sidewalk	Moderate	US 24/27	Stanly Parkway	Wal-Mart Retail Center	1020	$ 51,000.00	$ 30,600.00		3	$ 4,500.00							$ 86,100
19	5' Sidewalk	Moderate	NC 200 N	US 24/27	Lions Club Drive	1730	$ 86,500.00	$ 51,900.00		5	$ 7,500.00							$ 145,900
20	5' Sidewalk	Moderate	NC 200 N	Lions Club Drive	Bethel Church Road	7575	$ 378,750.00	$ 227,250.00		5	$ 7,500.00							$ 613,500
21	5' Sidewalk	Moderate	Browns Hill Road	Griffin Hill Road	US 24/27	2820	$ 141,000.00	$ 84,600.00		4	$ 6,000.00							$ 231,600
22	5' Sidewalk	Low	Bethel Church Road	Christy Lane	NC 200 North	1025	$ 51,250.00	$ 30,750.00		2	$ 3,000.00							$ 85,000
23	5' Sidewalk	Low	Smith Street	End of Road	NC 200 North	1010	$ 50,500.00	$ 30,300.00		2	$ 3,000.00							$ 83,800
24	5' Sidewalk	Low	Church Street	End of Existing Sidewalk	US 24/27	1330	$ 66,500.00	$ 39,900.00		1	$ 1,500.00							$ 107,900
25	5' Sidewalk	Low	Redah Avenue	Church Street	End of Road	4000	$ 200,000.00	$ 120,000.00		1	$ 1,500.00							$ 321,500
26	5' Sidewalk	Low	Meadow Creek Church Road	US 24/27	Old Hickory Road	3475	$ 173,750.00	$ 104,250.00		5	$ 7,500.00							$ 285,500
	SUBTOTAL																	**$ 2,358,100**
			PROPOSED GREENWAY TRAIL															
26	10' Multi-Purpose Trail	Moderate	North Locust Greenway	End of Scout Road	Reed Mine Road	6900			$ 690,000.00	4	$ 6,000.00							$ 696,000
27	10' Multi-Purpose Trail	Moderate	North Locust Greenway	End of Scout Road	Meadow Creek Church Road	1600			$ 160,000.00									$ 160,000
28	10' Multi-Purpose Trail	Moderate	North Locust Greenway	Smith Street	Old Hickory Road	2100			$ 210,000.00	1	$ 1,500.00							$ 211,500
29	10' Multi-Purpose Trail	Moderate	North Locust Greenway	Scout Rd./Red Bridge area	US 24/27	2025			$ 202,500.00	1	$ 1,500.00							$ 204,000
30	10' Multi-Purpose Trail	Moderate	North Locust Greenway	Old Hickory Road	Montclair Drive	2350			$ 235,000.00									$ 235,000
31	10' Multi-Purpose Trail	Moderate	North Locust Greenway	Montclair Drive	Meadow Creek Church Road	1135			$ 113,500.00									$ 113,500
32	10' Multi-Purpose Trail	Low	South Locust Greenway	Brownshill Road	Renee Ford Road	5425			$ 542,500.00	2	$ 3,000.00							$ 545,500
33	10' Multi-Purpose Trail	Low	South Locust Greenway	Renee Ford Road	Simpson Road	1050			$ 105,000.00	2	$ 3,000.00							$ 108,000
34	10' Multi-Purpose Trail	Low	South Locust Greenway	Simpson Road	Church Street	1480			$ 148,000.00	2	$ 3,000.00							$ 151,000
35	10' Multi-Purpose Trail	Low	South Locust Greenway	Church Street	US 24/27 and NC 200	1555			$ 155,500.00	2	$ 3,000.00							$ 158,500
	SUBTOTAL																	**$ 2,583,000**
	TOTAL																	***$ 5,205,500***

Appendix J
Pedestrian Crash Information

Reported Pedalcyclist and Pedestrian Crashes in the City of Locust, North Carolina

For the Reporting Period of January 1, 1990 to September 30, 2008

On Road	*Miles*	*Dir*	*From Road*	*Toward Road*	*Crash Severity*	*Date of the Crash*	*Time of the Crash*	*Crash Type*
NC 24	0		MEADOW CREEK RD		C-Injury (Possible)	6/19/1990	3:20 PM	Pedestrian
MAPLE ST	0		SUMMIT ST	DOGWOOD ST	C-Injury (Possible)	4/5/1992	5:29 PM	Pedalcyclist
NC 200	0	N	DIXON ST		C-Injury (Possible)	1/26/2001	6:51 AM	Pedestrian
NC 200	0		MISSION CHURCH RD	BETHEL CHURCH RD	C-Injury (Possible)	4/12/2002	2:08 PM	Pedestrian

Appendix K

Department of Transportation Pedestrian Policy Guidelines

DEPARTMENT OF TRANSPORTATION PEDESTRIAN POLICY GUIDELINES

REQUIREMENTS:

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

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

2. Written notification must be received by the **Project Final Field Inspection (FFI) date**.Notification should be sent to the Deputy Highway Administrator - Preconstruction with a copy to the Project Engineer and the Agreements Section of the Program Development Branch. Requests received after the project FFI date will be incorporated into the TIP project, if feasible, and only if the requesting party commits by agreement to pay 100% of the cost of the facility.

3. The Department will review the feasibility of including the facility in our project and will try to accommodate all requests where the Department has acquired appropriate right of way on curb and gutter sections and the facility can be installed in the current project berm width. The standard project section is a 10-ft berm (3.0-meter) that accommodates a 5-ft sidewalk. In accordance with AASHTO standards, the Department will construct 5-ft sidewalks with wheelchair ramps. Betterment cost (ie: decorative pavers) will be a Municipal responsibility.

4. If the facility is not contained within the project berm width, the Municipality is responsible for providing the right of way and/or construction easements as well as utility relocations, at no cost to the Department. This provision is applicable to all pedestrian facilities including multi-use trails and greenways.

5. A cost sharing approach is used to demonstrate the Department's and the municipality's/county's commitment to pedestrian transportation (sidewalks, multi-use trails and greenways). The matching share is a sliding scale based on population as follows:

MUNICIPAL	DOT	LOCAL

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

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

6. For bridges on streets with curb and gutter approaches, the Department will fund and construct sidewalks on both sides of the bridge facility if the bridge is less than 200 feet in length. If the bridge is greater than 200 feet in length, the Department will fund and construct a sidewalk on one side of the bridge structure. The bridge will also be studied to determine the costs and benefits of constructing sidewalks on both sides of the structure. If in the judgement of the Department sidewalks are justified, funding will be provided for installation. The above provision is also applicable to dual bridge structures. For dual bridges greater than 200 ft in length, a sidewalk will be constructed on the outside of one bridge structure. The bridges will also be studied to determine if sidewalks on the outside of both structures are justified.

7. FUNDING CAPS are no longer applicable.

8. This policy does not commit the Department to the installation of facilities in the Department's TIP projects where the pedestrian facility causes an unpractical design modification, is not in accordance with AASHTO standards, creates an unsafe situation, or in the judgement of the Department is not practical to program.

INDEPENDENT PROJECTS

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