



# KINGS MOUNTAIN COMPREHENSIVE PEDESTRIAN PLAN



May 2014







### Funding

North Carolina Department of Transportation  
Division of Bicycle & Pedestrian Transportation  
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Raleigh, North Carolina 27601



### Planning & Development

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### Municipality

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## Acknowledgements

The **Kings Mountain Comprehensive Pedestrian Plan** was developed with the assistance and participation of city and state officials, municipal staff and interested citizens. Their participation and review of the findings and materials developed as part of this plan were essential to the process.

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- |                   |                   |
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# TABLE OF CONTENTS

	PAGE		PAGE
<b>EXECUTIVE SUMMARY</b>	7	<b>5. PROPOSED SYSTEM PLAN</b>	65
<b>1. INTRODUCTION</b>	13	• Origins & Destinations	65
• Realizing the Vision		• Routes & Corridors	65
A Walkable Kings Mountain	13	• Focus Areas	73
Making the Community Walkable	13	<b>6. SYSTEM MAPS &amp; PROJECT DESCRIPTIONS</b>	85
Past Efforts	14	• Analysis of Existing Conditions	86
Current Planning Initiative	15	• Project Recommendations	104
Project Purpose	16	• Project Tables	110
Project Goals	16	• Funding Strategies	116
Project Scope	17	<b>7. FACILITY STANDARDS &amp; GUIDELINES</b>	117
Project Methodology	17	• References	117
• The Benefits of Walking	21	• Sidewalks	118
<b>2. CURRENT CONDITIONS</b>	23	• Alleyways	119
• The People: Demographics	23	• Crosswalks & Intersections	120
• The Place: Physical Characteristics	24	• Midblock Crossings	122
• Current System Usage	26	• Signage, Signals & Striping	124
<b>3. CURRENT POLICIES, PLANS &amp; PROGRAMS</b>	33	• Traffic Calming Devices	129
• Policies & Ordinance		• Road Diets	130
Federal & State Laws	33	• Streetscape Improvements	132
City Zoning & Subdivision Ordinance	33	• Bridges & Underpasses	136
• Local Plans & Guidelines	43	• Off-Road Paths & Trails	137
• Projects, Programs & Initiatives	50	<b>8. IMPLEMENTATION</b>	147
<b>4. GENERAL RECOMENDATIONS</b>	53	• Sample Cost Estimates	147
• Recommended Actions	53	• Key Action Steps	149
• Recommended Policy Changes	60	• Funding Strategies	150
• Recommended Programs	63	• Maintenance Programs	163
		• Plan Adoption & Approval	165
		• Performance Measures	165
		<b>9. APPENDICES</b>	167



## EXECUTIVE SUMMARY

### I. PURPOSE OF THE PLAN

How this plan should be utilized in order to achieve the stated pedestrian vision for the City:



**POLICY REVISION** - A clear blueprint for revising local ordinances and supporting policies that guide development in accordance with the City's pedestrian goals.

**IMPLEMENTATION TOOL** - A comprehensive and prioritized guide for building or improving local pedestrian routes and amenities.

**FINANCIAL ASSISTANCE** - A firm basis for seeking financial assistance in the form of grants and other support from various outside sources in order to implement the plan.

**PROMOTION** - A compelling tool for promoting City's pedestrian vision.

**EDUCATION** - An effective source for conveying the values and methods of creating and maintaining a pedestrian-friendly community with decision makers and the general public.



### II. CURRENT PEDESTRIAN CONCERNS

- Formidable physical barriers such as highways, railroad lines, and busy internal streets, along much of the City's length, present real challenges for pedestrians. Significant barriers include: The Norfolk-Southern Railroad line, I-85, US 74 (bypass), Battleground, York Road, and Kings Street (US 74 Business).
- Traffic volumes and speeds: Kings Street (most direct path), manufacturing areas, schools during commuting hours
- Narrow rights-of-way along critical connecting road corridors
- Gaps in the existing sidewalk network
- Insufficient street lighting in some areas



### III. PROJECT GOALS

- Improve pedestrian connections from downtown to neighborhoods and other prominent destinations.
- Promote current programs and events the City offers. Such as the hospital, museum, historic trail, arts and various downtown activities.
- Increase the level of safety of the current sidewalk system. For example, employ planting strips to separate the pedestrian way from moving vehicles in the road, wider sidewalks, etc.
- Concentrate improvements in focused centers of activity and corridors of higher density and economic potential, that include a mix of uses, and prominent destinations. Identified corridors include:

1. King Street
2. York Road/Cleveland Avenue
3. Shelby Road
4. Kings Mountain Boulevard
5. Battleground Road (Downtown to Gateway)
6. Beason Creek from West End to Phifer Road





#### IV. RECOMMENDED ACTIONS

##### 1. Form a PAC! (Pedestrian Access Committee)

The purpose of this stakeholder based committee is to ensure that the Pedestrian Plan is implemented through ordinance changes, grant opportunities, and as development occurs in the private and public sectors. The PAC should also help ensure that the Pedestrian Plan is updated as needed to reflect changing conditions and pedestrian needs. The PAC can be an important avenue for integrating pedestrian needs with other planning processes. The PAC should also ensure that citizens are alerted of planning efforts, changes in facilities, and upcoming construction. Members should represent a wide variety of pedestrian interests and populations in the City. An existing committee may already be in place to take on this function.

##### 2. Address street crossing safety concerns



Crosswalks should be located strategically where high pedestrian activity encounters the greatest potential conflict with vehicular traffic. Properly designed crosswalks facilitate safer street crossing opportunities for pedestrians, and help calm traffic.

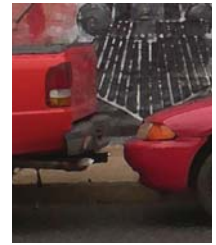
##### 3. Enhance Conditions and Accessibility of Existing Sidewalk System.

Segments of existing sidewalks throughout the City are in sub-standard condition and/or inaccessible to handicapped users. These may include sidewalks that are partially obstructed by utility poles and other objects that can impede the travel path. Accessible

ramps are needed for curbs at intersections. Crosswalk striping at some intersections has faded. Some curbs have given way due stress from heavy vehicles.

##### 4. Implement existing development policy.

Much of the City's current policy complements the Pedestrian Plan goals and can work in tandem with its recommendations.



##### 5. Advance the Main Street economic development strategy.

As the City's pedestrian hub, downtown livelihood is critical to the pedestrian vision of Kings Mountain. In order to attract and sustain pedestrian activity, the downtown should offer a mix of thriving businesses, civic uses, and residences amidst a setting of attractive buildings and streets.



##### 6. Initiate recommended programs.

Pedestrian programs can help raise community awareness, and encourage healthy and safe activity.

##### 7. Expand, fill gaps, and remove barriers in the current sidewalk and crosswalk system.

The City enjoys an extensive sidewalk system, with facilities in place along many of its downtown streets and in newer pockets of development. But critical gaps in the system prevent its full use, particularly for accessing Downtown. These isolated segments need to be connected in order to form a more complete pedestrian transportation system.

##### 8. Develop a safe and inviting trail and greenway system to increase pedestrian connectivity and recreational opportunities throughout the area.

In addition to an improved sidewalk system, the Pedestrian Plan outlines an interconnected system of trails that link primary destinations, neighborhoods, existing and planned municipal greenways systems, outlying areas of

the City including satellite annexations, adjacent municipalities, and the proposed regional Carolina Thread Trail. This proposed greenway network is designed to complement and extend both the existing greenways in Kings Mountain and its planned system.

**9. Improve existing street lighting in selected neighborhoods.**

Street lighting is a primary concern for pedestrian safety in terms of preventing accidents and deterring crime. Particular neighborhoods in Kings Mountain have been cited as in need of enhanced lighting. Maintenance and improvement of existing fixtures and/or installation of additional street lights is recommended.



**10. Engage in community planning for infill of under-developed parcels in and around the City.**

As part of the land use planning process, serious discussions at the community level should guide the desired character infill development on large parcels, and how much street connectivity and pedestrian-friendly actions should be promoted in that development. These discussions should occur sooner rather than later, before these properties are developed, so that pedestrian facilities can be included in planning (as it is usually much more costly and difficult to successfully retrofit). As a part of these discussions, current zoning restrictions for these properties should be evaluated in terms of pedestrian-friendliness. A higher density and broader mix of uses, along with sidewalks and street trees, could support walking as a desirable means of transportation. Mixed-use zones would allow a variety of destination to closely exist in these areas – restaurants, stores and offices, for instance – providing citizens more opportunities to walk in their daily routine and work near their homes. Widely spaced and dispersed uses tend to discourage walking as a form of transportation between them.

**11. Highlight Historic and Cultural Landmarks.**

Reinforce the unique identity of Kings Mountain through

further promotion and coordination of activities involving its national registered historic districts.

**12. Provide multi-modal transit opportunities.**

To serve those in Kings Mountain who daily or weekly travel to Charlotte for employment and other purposes, exploring a variety of opportunities for shared rides makes sense. Public transportation reduces or eliminates the amount of time spent in traffic jams; provides a much needed service for elderly and disabled by giving them the freedom to leave their homes if necessary; promotes independence for those who need public transportation to get to work; and improves road conditions and the environment by reducing the number of cars on the highways. Communities with good public-transit options offer more convenience for residents. And studies indicate that cities with good transit options recover faster from recession. Lack of access to public transportation can be a major barrier keeping out-of-work people, especially those in lower-income groups, from finding jobs.

**13. Update the Kings Mountain Zoning and Subdivision Ordinances.**

Specific revisions to these ordinances could help in achieving the expressed pedestrian vision of the City and positively impact the community’s pedestrian quality. New sidewalks, trails and associated pedestrian facilities will become available to the community through the development process, with minimal public expense.





## V. RECOMMENDED ORDINANCE MODIFICATIONS

Arranged below by issue are brief descriptions of how local ordinances can be improved to better serve the City's pedestrian vision.



### 1. Mixed Land Use

- Implement the recommendations described in the City's Land Development Plan, 2020.
- As a means to better implement the land development plan, consider the adoption of a form-based code. Review examples of form-based codes and the communities that have adopted them at: <http://www.formbasedcodes.org/samplecodes>

### 2. Street Connectivity

Develop quantified standards for topographic and accessibility hardships (such as maximum slopes, width of floodplain to cross, etc.) and include those in an amended KMSO Section 3.5 7) b.

### 3. Crosswalks

- Amend the KMSO to require crosswalks along principal streets within subdivisions where block lengths exceed 500 feet, or at blocks to public destinations that generate substantial amounts of pedestrian traffic (i.e., schools, library, etc.).

- Include a step regarding the responsibility to reference relevant adopted plans for the location of additional strategic crosswalks required.
- Provide design standards for crosswalks.

### 4. Sidewalks

- Require a continuous system of sidewalks be installed along all primary streets within the subdivision, connecting to all entrances and all common area destinations within the subdivision.
- Make reference to relevant adopted plans for the location of additional strategic sidewalks required.
- Provide design standards for sidewalks
- Revise the reference to a Thoroughfare Plan (Section 3.10.1) to read: Comprehensive Transportation Plan (CTP).



### 5. Greenways, Multi-use Trails & Open Space

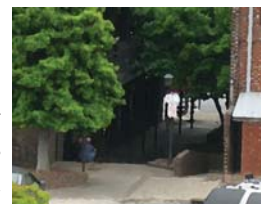
- Amend Article III of the Subdivision Design Standards (KMSO), Section 3.10, to include language that requires the inclusion of greenways and trails in subdivision plans where they are indicated in the most currently adopted plans by the City which include pedestrian related amenities (e.g pedestrian plan, parks plan, etc.)
- Implement the recommendations described in the City's Land Development Plan, 2020.

### 6. Street Trees

- As part of required sidewalk policy, include requirements for street trees in all City zoning districts at a level appropriate for each zone.
- Provide certain specifications for street trees, such as a requirement for hardy deciduous species.
- Implement the recommendations of the City's Land Development Plan, 2020.

### 7. Streetscapes

Implement the recommendations described in the City's Land Development Plan, 2020.



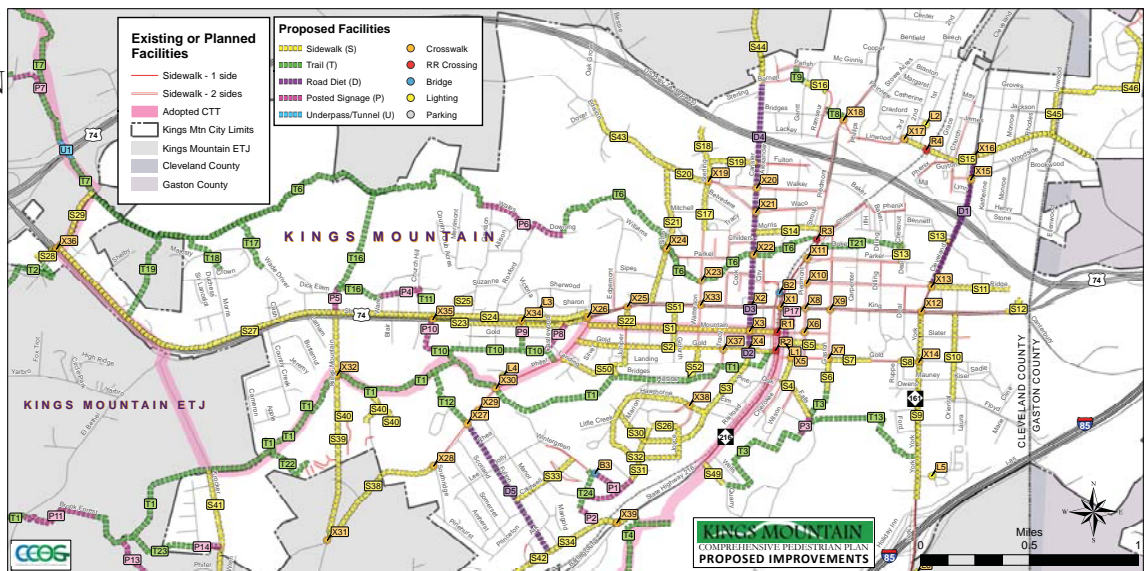
### VI. HIGH PRIORITY PROJECTS

RECOMMENDED FACILITIES	LOCATION					IMPROVEMENTS						COSTS						
	Street/Project Name	Proj. No.	From	To	Side	Existing Conditions		Recommendations				Distance feet mile	Unit Cost \$/LF	Construction \$ Estimate	Annual Upkeep			
						Along majority of segment		Demo	Swalk	Strip	Trees					Mid	C&G	
<b>SIDEWALK PROJECTS</b>	Mountain	S1	Railroad	Phifer	both	narrow sidewalk		2	2	2	2			4,533	0.86	288	\$1,307,317	\$859
	W. Gold	S2	Railroad	Phifer	both	narrow sidewalk		2	2	2	2			4,803	0.91	288	\$1,385,185	\$910
	Historic Walk	S5	Battleground	Gold	mid	mixed		1			1	1		1,056	0.20	144	\$152,064	\$100
	York	S9	King	exist'g (near I-85)	both	mixed			2	2	2			4,518	0.86	278	\$1,257,811	\$856
	Linwood	S15	Eastend	Fairview	both	lawn & curb			2	2	2	2		4,927	0.93	308	\$1,519,487	\$933
	N. Sims	S21	Waco	King	E	lawn			1	1	1	1		3,384	0.64	154	\$521,813	\$320
	Shelby	S24	Country Club	Afton	N	lawn, multi-lane			1	1	1	1		3,835	0.73	154	\$591,357	\$363
	Joyce, Hillside	S32	Crescent (South)	Meadowbrook	inside	lawn & curb			1	1				2,892	0.55	135	\$390,998	\$137
	Kings Mountain Blvd.	S39	Shelby	Phifer	both	undeveloped			2	2	2	1		5,247	0.99	293	\$1,539,470	\$994

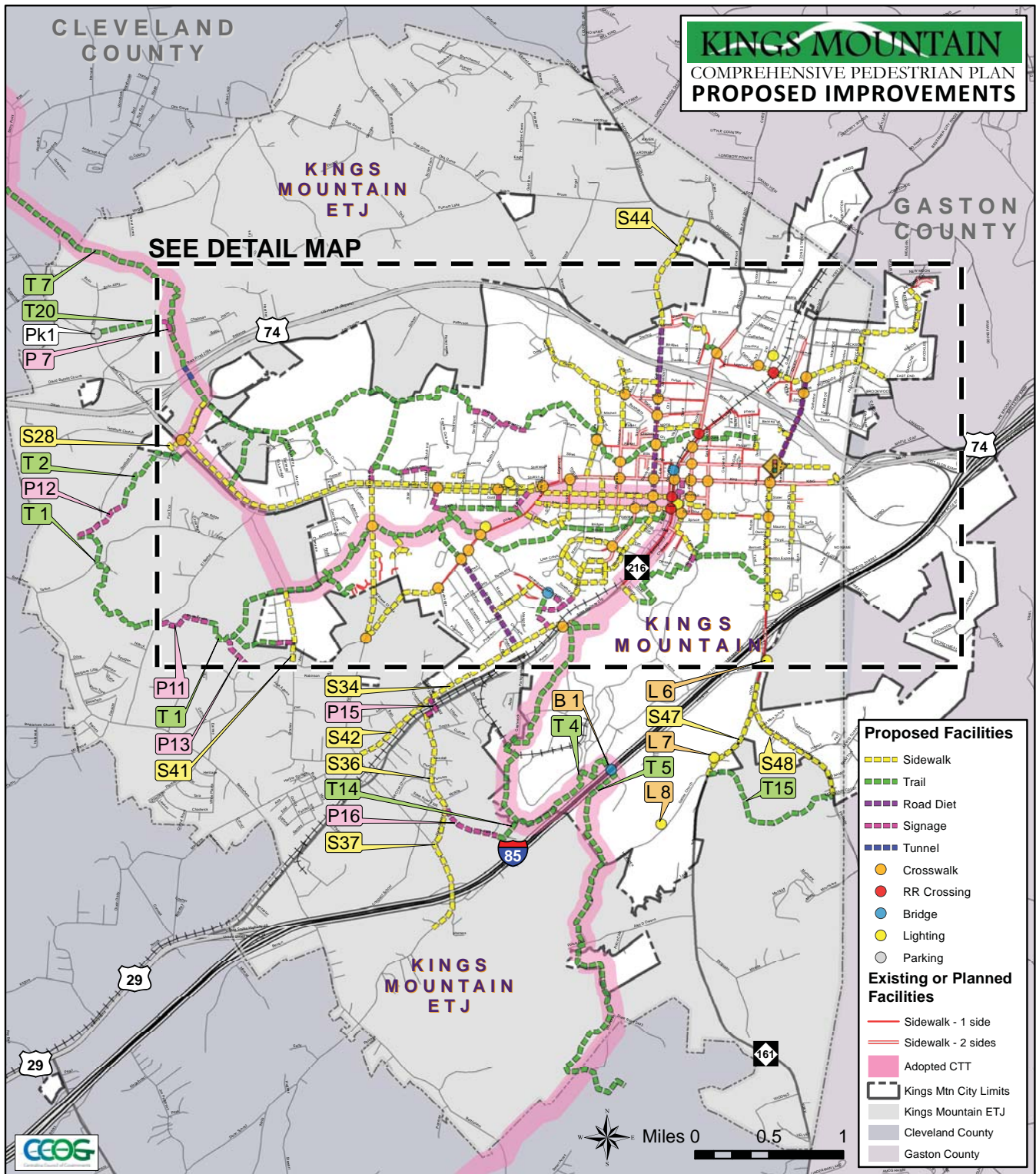
RECOMMENDED FACILITIES	LOCATION					IMPROVEMENTS						COSTS						
	Street/Project Name	Proj. No.	From	To	Alignment	Existing Conditions		Recommendations				Distance feet miles	Const'n Unit Cost \$ per foot	Construction \$ Estimate	Annual Upkeep			
						Along majority of segment		Clear Asphalt	Gravel	Sign	Strip					C&G		
<b>TRAILS</b>	Beason Creek	T1	Patriots Park	Beason Ck. Rd	TBD	wooded floodplain		1	1		1			27,494	5.21	141	\$3,876,654	\$27,077
	Gateway Connector	T3	Gaston	Gateway T-head	TBD	wooded		1	1		1			4,440	0.84	141	\$626,040	\$4,373
	Potts Creek Trail (a)	T6	Art Center	Countryside	TBD	wooded floodplain		1	1		1			19,715	3.73	141	\$2,779,815	\$19,416
<b>SIGNAGE</b>	Alley & Cherokee	P17	Alley (S5)	King	alley	paved alley					1			958	0.18	1	\$958	\$36

RECOMMENDED FACILITIES	LOCATION		IMPROVEMENTS										COSTS				
	Proj. No.	Intersection of and	Purpose	Existing Conditions	Recommendations (side of intersection N,E,S,W)										Installation Cost Estimate		
					Goal served or link made	striping (sides)	signs	flash	count	motion	audible	radius reduction	curb	textured pavement		ped refuge island	
<b>CROSSWALKS</b>	X11	E. Parker	N. Piedmont/Bground	Focus area	traffic light, acute		4		4		4			4			\$162,000
	X12	King	York	Focus area	traffic light, acute		4		4		4			4	1 (NE)		\$177,000
	X13	E. Ridge	Cleveland	Focus area	acute	2 (NS)	4		4		4			2	2 (EW)	1 (N)	\$188,000
	X16	Linwood	Cleveland	Focus area	Xwalk, acute, C&G (S)		4		4		4			4	1 (S)		\$177,000
<b>RAILROAD X-INGS</b>	R1	Mountain		Downtown/CTT		3	4							2 (EW)	2 (EW)		TBD
	R2	Gold		Downtown		4	4							2 (EW)	2 (EW)		TBD
<b>LIGHTING</b>	L1	Alley btwn. Battleground & Cherokee		Downtown													TBD

### VII. DOWNTOWN AREA PROPOSED PROJECT MAP



VIII. CITY & ETJ AREA PROPOSED PROJECT MAP



072513



### 1. REALIZING THE VISION

1. A Walkable Kings Mountain
2. Making the Community Walkable
3. Past Efforts
4. Current Planning Initiative
5. Project Purpose
6. Project Goals
7. Project Scope
8. Project Methodology

### 2. THE BENEFITS OF WALKING

1. Providing Transportation Options
2. Improving Safety
3. Encouraging Healthier Lifestyles
4. Serving Youth and the Elderly
5. Serving Disabled Populations
6. Improving the Environment
7. Reducing Crime and Providing Better Emergency Access
8. Contributing to Local Community Life
9. Strengthening the Local Economy
10. The Value of Sidewalks

### 1. REALIZING THE VISION

#### 1. A WALKABLE KINGS MOUNTAIN

- Economic resurgence and increased vibrancy, particularly in the downtown
- Improved health and prevention of obesity
- Increased safety through lower rates of accidents and crime
- A friendlier and more cohesive community through increased pedestrian interaction
- Increased neighborhood pride and care and responsibility by citizens for the public realm
- Greater opportunities for family recreation
- Encouragement of denser and more mixed development in the downtown area
- Preservation of the natural scenic beauty

#### 2. MAKING THE COMMUNITY WALKABLE

The City of Kings Mountain has many features that help create a very inviting and walkable community. The historic downtown area includes shops and restaurants, schools and public parks, civic buildings and residences, all nestled within a tight-knit grid of sidewalk-lined streets. Gridded residential neighborhoods and business centers are clustered about the City core, connected by tree-lined streets, and offering the scenic beauty of the nearby pasture lands and mountains.

However, despite the presence of many elements commonly found in the most walkable places, the City faces discernable challenges to its pedestrian character:

- Formidable physical barriers such as highways, railroad lines, and busy internal streets, along much of the City's length, present real challenges for pedestrians. Significant barriers include: The Norfolk-Southern Railroad line, I-85, US 74 (bypass), Battleground, York Road, and Kings Street (US 74 Business).

- Traffic volumes and speeds: Kings Street (most direct path), manufacturing areas, schools during commuting hours
- Narrow rights-of-way along critical connecting road corridors
- Gaps in the existing sidewalk network
- Insufficient street lighting in some areas

Each of these conditions requires specific actions that will produce tangible results. Such actions are most effective when they flow from a broad, cohesive strategy that the community supports and can realistically implement. Rather than simply reacting to the problems in a piecemeal manner as they occur, this comprehensive plan for pedestrian transportation and recreation improvements provides a systematic approach to the City for taking on these challenges and others that threaten the walkability of the community, and to do so with a coordinated effort.

### 3. PAST EFFORTS

The City has been engaged in a number of efforts through recent years that have each contributed to greater walkability in Kings Mountain. Some efforts have increased the awareness of pedestrian needs. Others have led to changes in land development policy with effects that are now visible with recent development. The City spent \$4,800 in sidewalk-related work this past fiscal year. In addition, independent efforts have been tremendously successful in providing walking facilities. Policy and projects are detailed later in this plan, but a brief overview of some of the most noteworthy efforts includes:

#### **Kings Mountain Subdivision Ordinance**

The KMSO was updated in 1996 to require sidewalk installation as part of the development of subdivisions. Newer developments reflect this change in policy, such as Pennington Place or the new CVS store at the corner of Shelby Road and Country Club Road.

#### **Kings Mountain Overlay Districts**

Established in 1996, the majority of these districts are designed to improve pedestrian conditions along major

corridors, with multimodal requirements that include pedestrian sidewalks and trails.

#### **Kings Mountain Land Development Plan 2020**

Currently under review, the LDP includes recommendations over a wide range of pedestrian concerns that will help the City develop into a more walkable community.

#### **Kings Mountain Comprehensive Greenway, Bike-way and Pedestrian Improvement Plan**

Adopted in 2002, this Plan highlights the City's strategic location in the region as a gateway to major parks and makes recommendations regarding pedestrian linkage within the City.

#### **Kings Mountain Gateway Trail**

Through a consolidated effort by the City working with the surrounding park authorities, and later through the work of Kings Mountain Gateway Trails, Inc., the recently constructed Gateway Trail, with its trailhead building on Battleground Avenue is designed to connect the City to area state parks including Crowders Mountain State Park, Kings Mountain State Park, Kings Mountain National Military Park, the Overmountain Victory Trail and the Appalachian Trail, and the Carolina Thread Trail. Popular support for this facility is evident through its daily use.

#### **Carolina Thread Trail**

The Carolina Thread Trail Master Plan for Cleveland County Communities was adopted January 2010, linking downtown Kings Mountain via segments R & S, respectively, to a planned regional network of trails that will extend throughout 15 neighboring counties. The City signed a resolution of support at the outset of this effort and was involved throughout the process, through public meetings and at committee tables. City staff and private citizens of Kings Mountain served on both the Steering Committee and the Technical Advisory Team.

#### **North Carolina Department of Transportation**

Three TEA-21 Enhancement construction projects have been completed in recent years that include sidewalk seg-

ments on Gold Street, Cansler Street, King Street and Phifer Road. In 2010, an additional sidewalk segment was completed on South Battleground Avenue establishing a critical link from Downtown to the Gateway Trail. The City also installed its first crosswalk signal as part of a TEA-21 project.

### Mountaineer Partnership, Inc.

The Partnership is a local, non-profit group actively involved in the downtown revitalization of Kings Mountain. Their focus project of 2011 is the redevelopment of the Downtown alleyway behind Battleground Avenue.

The Kings Mountain community has repeatedly expressed its determination to be a walkable city through its adoption, support, and participation in the formation of pedestrian-oriented policies, ordinances and projects.

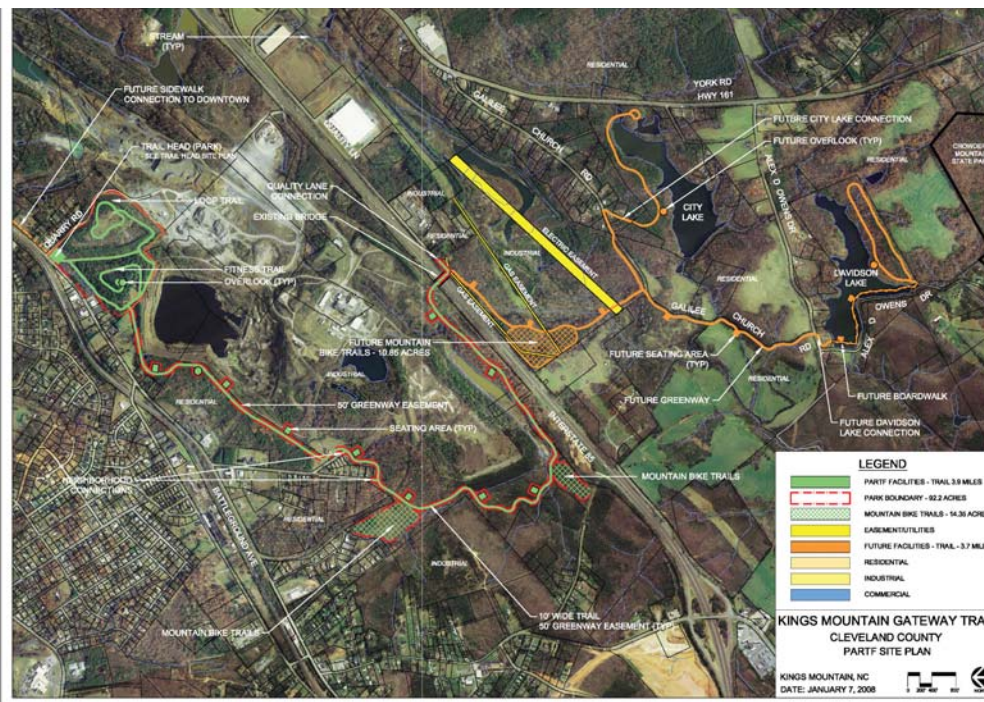
On March 28, 2012, the Gaston Gazette reported that \$23,000 of Cleveland County funds was used for a bridge along the Gateway Trail.

### 4. CURRENT PLANNING INITIATIVE

In 2011, the City of Kings Mountain was awarded a \$45,000 matching Pedestrian Planning Grant by the North Carolina Department of Transportation (NC-DOT) Division of Bicycle and Pedestrian Transportation (DPBT) for the creation of a comprehensive pedestrian plan. The City then selected Centralina Council of Governments to develop the plan. Working with Steve Killian, Director of Planning & Economic Development, and Marcie Campbell, City Planner, Centralina guided the City through a thorough, public-input driven planning process, involving a steering committee to oversee the elements of the plan. The steering committee members represented a variety of local interests including:



- Real Estate Development
- Public Schools
- City Police Department
- City Planning Board
- Residents of specific neighborhoods: West End
- Senior Center
- County Health Dept.
- Public Works
- City Special Events Director
- Children's Library
- City Historical Museum Board of Directors
- National Military Park
- Business owners
- Architecture/land development
- City Hospital
- KM Woman's Club/DAR
- City Codes Administration
- Personal running and walking

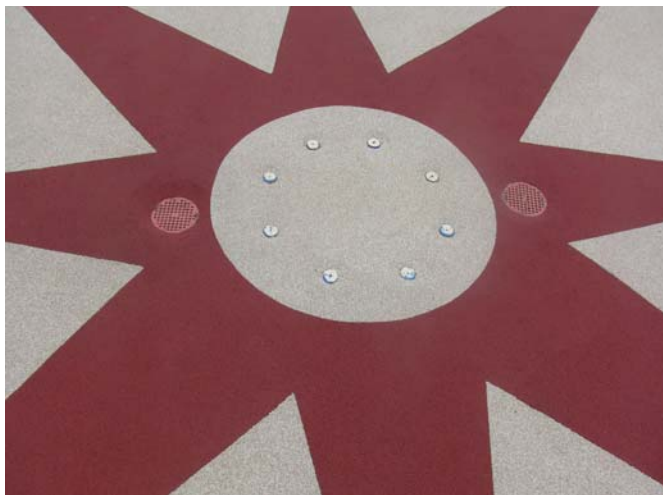


Gateway Trail Plan, 2009

## 5. PROJECT PURPOSE

This Comprehensive Pedestrian Plan is intended to serve the City as:

- A compelling tool to promote the City's pedestrian vision
- An effective source for the education of decision makers and the general public about the value and methods of making Kings Mountain a pedestrian-friendly community
- A clear blueprint for the revision of City policies and ordinances that address development in order that all will support the same unified goals
- A comprehensive guide to the implementation and improvement of pedestrian facilities
- A firm basis for seeking financial assistance in the form of grants and other support from various outside sources in furthering the Plan's implementation.



**Patriots Park fountain**

## 6. PROJECT GOALS

As the Plan is embraced and utilized in the ways described, the City's Vision for a pedestrian-friendly environment can be realized. This process will occur both through solving immediate concerns and achieving the City's expressed long-term goals:

- Improve pedestrian connections from downtown to neighborhoods and other prominent destinations.
- Promote current programs and events the City offers. Such as the hospital, museum, historic trail, arts and various downtown activities.
- Increase the level of safety of the current sidewalk system. For example, employ planting strips to separate the pedestrian way from moving vehicles in the road, wider sidewalks, etc.
- Concentrate improvements in focused centers of activity and corridors of higher density and economic potential, that include a mix of uses, and prominent destinations. Identified corridors include:
  1. King Street
  2. York Road/Cleveland Avenue
  3. Shelby Road
  4. Kings Mountain Boulevard
  5. Battleground Road (Downtown to Gateway)
  6. Beason Creek from West End to Phifer Road



**North Piedmont Avenue**

### 7. PROJECT SCOPE

The area addressed in this pedestrian plan includes the incorporated area of Kings Mountain City, and its Extra-Territorial Jurisdiction at the time of the Plan’s final approval by the Project Steering Committee..

In order to meet these goals for this area, the Pedestrian Plan examines a broad range of on-road and off-road pedestrian-related issues and recommends actions that address them in a comprehensive manner, including:

1. Policy and ordinance revision
2. Participation programs and initiatives
3. Comprehensive system planning
4. Facility standards and guidelines
5. Project identification and prioritization
6. Project specific planning and development process
7. Cost estimation
8. Funding and local budget recommendations
9. Project implementation and construction
10. Maintenance
11. Project evaluation process



Storefronts on Railroad Avenue at Gold Street

### 8. PROJECT METHODOLOGY

#### Task 1: Base Data Collection

Centralina’s Pedestrian Planner worked with the City to gather all available relevant documents related to pedestrian concerns, such as: previous pedestrian plans or studies, adopted future land use plans, citizen or consultant surveys or studies, ordinances and other relevant written documents, and base GIS and/or CAD layers such as current land use and zoning, street layer, inventory of existing sidewalks, crosswalks and, if available, rights of way.

#### Task 2: Initial Meeting with City Staff

Centralina will meet with the City’s designated project manager, and the City’s public works and recreation director, along with the NCDOT project administrator for general project orientation. Outputs include:

- Finalization of scope and time lines
- Discussion of City roles, responsibilities, and point of contact
- Identification of stakeholder groups, Steering Committee members, and target meeting dates

Note: The Steering Committee must be preselected and approved by NCDOT before the project can begin. Centralina will assist the City to identify potential members of the Pedestrian Plan Steering Committee based on NCDOT recommendations. The City Council or Manager shall appoint and notify the final Steering Committee.

#### Task 3: Field Reconnaissance

Following the meeting with the City staff, Centralina will conduct an initial field survey of the project area (the City and its ETJ) to gain familiarity with the street system, typical street conditions, areas of development, perceived “hot spots” for pedestrian activity, potential off-road connectivity, etc. City staff will be encouraged to facilitate this survey in order to point out and provide commentary on conditions from a community standpoint. Centralina will document areas of interest identified through the field survey and conduct additional reconnaissance as needed.

**Task 4: Existing Conditions Map and Inventory**

Centralina will compile data gathered through the initial and subsequent field surveys, recent bicycle planning work with the City, as well as additional data gathered from the City, NCDOT, and other sources, to develop a composite map of existing conditions. Data on this map will include: all streets (State, City, and privately-maintained), location of all existing pedestrian facilities, streets, trails, and other pertinent items, existing zoning, right-of-way ownership, posted speed limit, traffic counts, crash data, trip generators and destination points, regional context, utility easement mapping (if available), etc. Centralina will provide this draft map to the City staff for review. Centralina will produce a final Existing Conditions Map incorporating input from City and Steering Committee review.

Project Inventory shall include:

- Origins and destination points, trip generators
- Population and Demographics
- Existing pedestrian facilities in terms of location, condition, accessibility, adherence to standards, clearance, barriers, gaps, hazards, connectivity, capacity, and function
- Signage and markings, amenities
- Intersection and midblock pedestrian crossing conditions
- Interface with other forms of transit
- Current statutes, ordinances, policies, plans, programs, related staffing, agencies, committees, advocacy groups, partnerships and funding

Ultimately, where pedestrian facilities are recommended, the Existing Conditions Map and/or Inventory will additionally include width of the road, as well as any general observations that may affect the provision of pedestrian facilities.

**Task 5: Steering Committee Meeting I**

The City shall arrange the meeting date and location and notify all Committee members. The City will provide all necessary Committee contact information to Centralina. Centralina will facilitate the meeting, with an agenda that includes:

- Review and comment on the initial field survey findings
- Review of the existing conditions map(s) and inventory
- Identification and analysis of risk areas and populations
- Identification of Steering Committee member issues related to pedestrian planning
- Identification of any additional stakeholder groups (law enforcement, health, transportation, parks and recreation, planning, etc.) who should be interviewed to ensure that their needs are addressed in the planning process.

**Task 6: Stakeholder Interviews**

Centralina staff will conduct stakeholder interviews with key individuals or organizations identified by the Steering Committee or City staff as having critical inputs to the process.

**Phase I Open House Meeting****Task 7: Public Input, Phase I**

Centralina will solicit public input through a combination of public meetings, social media, and an online survey.

Centralina will plan and conduct the first of two Open House public input meetings early in the project schedule. In this initial meeting, attendees will be given opportunity to review and corroborate the existing conditions data, identify additional significant destinations, and learn more about the pedestrian planning process and the options and concerns in making their community more walkable. They will be also be led through a series of exercises designed to garner their vision and goals for the community, voice their concerns about local issues affecting walkability, indicate locations where existing conditions are problematic and where pedestrian facilities are needed or desired. The City will be responsible for advertising for and securing a location for the meeting.

Prior to this public meeting, Centralina will create an online public survey to gather further public input. Centralina will also create a Facebook site to gather input and keep the public informed on the planning process. The City will be responsible for advertising the survey and Facebook site, posting a link on the City website and/or other appropriate website(s).

#### **Task 8: Steering Committee Meeting II**

Centralina will conduct a second Steering Committee meeting to review the public meeting results with the Committee. The meeting will be structured to provide direction for preparation of a draft plan.

#### **Task 9: Preparation of Draft Comprehensive Pedestrian Plan**

Centralina will draft the plan, based upon Steering Committee direction. The Plan will reflect NCDOT's municipal pedestrian plan template, addressing the following items:

- Vision, Goals and Scope (immediate concerns and long term aspirations)
- An explanation of the benefits of a walkable communities
- General Description of Existing Facilities, Current Conditions, Trends, Policies, Projects, and Programs
- Existing Conditions Map depicting the entire project area in terms of current pedestrian facilities, streets, trails, origin/destination points, areas of focus, water

bodies, topography, zoning, and other pertinent information.

- Identification of Target Populations, Unique Opportunities and Relevant Issues
- Overall Project Recommendations and Strategies, to include coordination with existing related plans, regulations, ordinances, and State and Federal guidelines
- Recommended Policies, Ordinance Modifications and Programs, including those related to enforcement, community awareness, incentives and safety
- Recommended Implementation Strategies including potential partnering agencies and organizations
- Specific Proposed Project Identification and Priority List with project cost estimates
- Comprehensive System Map clearly showing each proposed project according to location and type, proposed public transit routes and facilities, and other pertinent information.
- Facility Standards and Guidelines for sidewalks, off-road multi-use paths, and other pedestrian improvements, signage, signalization, etc.
- Funding strategies and recommendations for implementation and maintenance, including but not limited to grant information, local budget recommendations, pertinent funding legislation, maintenance programs, staffing, committee formation, and ongoing evaluation
- Specific references to additional existing documents that may aid Plan implementation.
- A guide to the State, regional, and local adoption and approval process for the Plan

#### **Task 10: Public Input, Phase II**

The City shall advertise and secure a location for a second Open House meeting at which Centralina will present a project plan for review by the public. Using multi-media materials, Centralina will convey to attendees how public input previously gathered through the online survey, Facebook site, interviews, and other means, has shaped the plan, and will elicit reaction from the participants to the plan and its recommended projects. Attendees will also have opportunity to weigh in on project priorities. As with the first Open House, this meeting will be interactive and oriented to achieve maximum citizen input.



### Steering Committee Meeting III

#### Task 11: Steering Committee Meeting III

Centralina will conduct a third Steering Committee meeting to review the second Open House meeting results and the draft plan with the Committee. The meeting will be structured to provide direction for making any changes deemed necessary in the draft plan.

#### Task 12: Review of Draft Pedestrian Plan

Centralina will submit the draft plan for review and comment to the Steering Committee, NCDOT Division 12, the NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the NCDOT Transportation Planning Branch, and the Lake Norman RPO. If significant revisions to the Plan are recommended, a fourth Steering Committee meeting may be required for final recommendation.

Centralina will periodically apprise the reviewing agencies of the project as it progresses. Centralina will make the plan draft available for public review and comment, on the web through its FTP site, throughout the development of the project.

#### Task 13: Plan Revision and Final Assembly

Centralina will make revisions to the Plan based upon Steering Committee and agency comments. Centralina will then resubmit the draft to the DBPT for final review, and to the City Planning Board. Centralina will attend the review meeting of the Planning Board, answer questions, and make necessary revisions to the Plan per Planning Board recommendations.

#### Task 14: Plan Adoption

Centralina will attend a meeting of the City Council public hearing in order to present the Plan, answer questions, and otherwise assist the City staff with the Plan. Centralina will revise the Plan per recommendations by the City Council. Additionally, Centralina will submit the Plan to the Lake Norman RPO for endorsement. The City will be responsible for advertising the public hearing.

#### Task 15: Final Delivery

Upon adoption of the Plan by the City Council, with any revisions approved by the DBPT, Centralina will furnish the City with the following:

- 15 printed copies of the final bound document with reduced (11"x17") maps and Executive Summary
- One complete Plan in PDF format
- All original electronic files used to generate the PDF file in editable Microsoft Office programs with full access rights
- One print ready original
- All ArcGIS files used to create the maps in ArcGIS 10.0 format.

Centralina will also furnish NCDOT with five printed copies, one digital copy of the final Plan, and all ArcGIS files used to create the maps. All meeting handouts and minutes will be provided to NCDOT following each meeting.



Gateway Trail, Kings Mountain

## 2. THE BENEFITS OF WALKING

Throughout the country and only a few decades ago, streets and sidewalks served as the center of neighborhood life, where people of all ages walked, biked, shopped, ate, played, and met their neighbors. But today, streets with this kind of activity are the exception rather than the rule. New developments are full of barriers that discourage walking and often make a pedestrian feel like an outcast in a world designed primarily for cars. Overcoming these barriers requires more than simply constructing more sidewalks or trails. Land use and transportation planning, ordinance revision, and economic and community programs all play important roles toward creating an environment that makes walking practical, safe and convenient, and brings vitality back to the streets.

Walkable communities present numerous advantages to their citizens and provide many perks that attract visitors. They offer valuable incentives to prospective residents and businesses. Investments in a community through pedestrian-oriented improvements can, in just a few short years, show visible and economic results. Though Kings Mountain may already possess many pedestrian-friendly qualities, those attributes can be improved upon in substantial ways. Such improvements would help make the community healthier, more vibrant and a more attractive place to live, visit, work and own a business.

Some direct benefits of the pedestrian lifestyle can be summarized in the following statements:

### 1. Providing Transportation Options

Pedestrian-friendly communities make full use of the most affordable and efficient transportation system available: walking. As various concentrated centers of development occur throughout Kings Mountain, these locations will provide further transit options in the future. Such transportation hubs will allow citizens, commuters and non-commuters alike, to access work, shopping and recreational opportunities without need of a car.

### 2. Improving Safety

Drivers familiar with a community learn which streets are generally more populated with pedestrian traffic. The more pedestrians likely to be encountered, the more cautious most drivers are apt to be. In this way, pedestrian activity is self-protective. The more pedestrians using a street, the safer that street becomes for pedestrians.

### 3. Encouraging Healthier Lifestyles

A key concern in all aspects of community planning and design is the health, safety and welfare of citizens. There is growing recognition of how the built environment influences health-related behavior. Decisions about zoning, transportation, land use and community design influence the distances people travel by foot and by car, and the general safety and attractiveness of neighborhoods for walking. Fitness experts agree that regular daily activity is the key to good health. Walking is the most affordable and convenient way for most people to stay active. Whenever walking becomes a reasonable alternative to driving, many people will choose to walk rather than drive. As walking becomes an even more significant part of daily life in Bessemer City, this will yield healthier lifestyles and ultimately impact community health care costs in a positive manner.

### 4. Serving Youth and the Elderly

When communities are pedestrian-friendly, the elderly retain greater independence and freedom, and young people are free to rely less on parents to drive them to school and other activities. As young people become ac-

customed to walking and biking, they are also less likely to depend on automobiles for short trips as they grow older. With a more complete system of sidewalks, trails, and other pedestrian amenities helping to connect a mix of significant destinations within close proximity of each other, walking becomes a safer and more reasonable option, particularly to those who need it most.

### 5. **Serving Disabled Populations**

For those with physical disabilities, pedestrian friendliness means independence. For those who cannot drive independently, mobility is severely limited in communities designed around the car. Walkable communities maximize the independence and mobility for disabled persons, in ways that auto-dependent communities cannot.

### 6. **Improving the Environment**

Street trees and other forms of landscaping are an integral part of pedestrian friendly communities. Street trees not only make pedestrians more comfortable and increase the likelihood that people will choose to walk, they also moderate temperatures, reduce storm water runoff, and contribute to cleaner air. A pedestrian-friendly environment will also contribute positively to air quality by reducing unneeded vehicular trips.

### 7. **Reducing Crime and Providing Better Emergency Access**

Streets that draw more pedestrians and encourage social interaction tend to have lower crime rates and other social problems than those that are isolated and unpopulated. Furthermore, streets that are connected for pedestrian-friendliness are also much more accessible to emergency vehicles such as EMS and fire, as they have more than one way to reach an emergency location. Encouraging increased connectivity in future developments in Bessemer City will help the current system of streets function best for both pedestrians and vehicles.

### 8. **Contributing to Local Community Life**

Cities that feature interesting streets and public spaces with active pedestrian life become vibrant cultural and economic centers that draw visitors from the surrounding region.

### 9. **Strengthening the Local Economy**

Retail and commercial developers have learned that walkable context sells. Pedestrian-oriented streets encourage shoppers to linger and enjoy the setting. Furthermore, works such as Richard Florida's *Rise of the Creative Class* indicate that the population segments most likely to contribute to thriving economic conditions are attracted by amenities such as walkability, street trees, linkages to outdoor activities, etc. In short, pedestrian-oriented communities are more likely to attract as new residents the type of people most likely to help stimulate the local economy.

A surprising number of people, when asked to recall or identify venues that make them feel comfortable or in which they would like to live, work, and play, will identify tree-lined streets with sidewalks, and pedestrians of all ages using them. While "pedestrian friendliness" is not a cure-all for every economic, social, or political ill that modern society experiences, it is also true that the creation of more livable public spaces and the de-isolation of citizens by allowing them greater freedom from their cars, is an important part of the remedy.

### 10. **The Value of Sidewalks**

Along with the benefits of walking, the presence of sidewalks serve another important function for a community, as noted in a recent *Liveability Essential* article from *Preservation in Pink*, January 27, 2012.

<http://preservationinpink.wordpress.com/2012/01/27/livability-essentials-sidewalks/>

Sidewalks are a transition zone between private property and the public road; within this transition zone, people can stop and talk if they'd like. It is almost like the "third place" – a meeting place – (almost) in the street. Sidewalks create neater looking neighborhoods and in general, aesthetically pleasing corridors improve sense of place and quality of life. Additionally, sidewalks signal a residential setting, which then causes slower traffic; sidewalks can be traffic calming devices.



1. THE PEOPLE: DEMOGRAPHICS
2. THE PLACE: PHYSICAL CHARACTERISTICS
  1. Geographic Context
  2. The Terrain
  3. Hydrology
  4. Land Use
  5. Transportation Network
3. CURRENT SYSTEM USAGE
  1. Origins and Destinations
  2. Overlay Districts
  3. Commuting
  4. Existing Sidewalk Extents
  5. Specific Pedestrian Barriers and Hazards
  6. Bridges, Underpasses and Culverts

## 1. THE PEOPLE

### POPULATION CHARACTERISTICS

According to the US Census, the 2010 population of Kings Mountain was 10,296. Compared to the 2000 population of 9,693, this represents a 6.2% rate of growth over the decade, compared to an 18.5% growth rate in the state overall. Those residents under 18 years of age represent 24.7% of that total. Those 65 years and older make up 17.3% of the City's populace, compared to 12.9% for that age group in the state. By race and ethnicity, 73% of Kings Mountain's population reports itself as white, 22.5% as black, 1.6% Asian, 1.7% as mixed, and only 2.6% as Hispanic compared to a state Hispanic population percentage of 8.4%. The percentage of those who report not speaking English in the home was reported as only 1.3%, compared to the state average of 10.4%.

Of the 4,323 households in Kings Mountain, the City's median household income from 2006 to 2010 was estimated at \$38,418, compared to the state median of \$45,570. Persons below the poverty level was estimated at 18.9%, higher than the state average of 15.5%.



South Battleground Avenue

## 2. THE PLACE

### 1. GEOGRAPHIC CONTEXT

The City of Kings Mountain is located in the southeast corner Cleveland County, but nudges further eastward into Gaston County to abut Gastonia and Bessemer City. Much of the city's area lies wedged between I-85 to the south and NC 74 on the north. Kings Mountain is located 11 miles east of Shelby, and 28 miles west of Charlotte.

As of 2010, the total incorporated area measured 12.32 square miles, with a density of 835.6 persons per square mile. **See the maps in Section 6** for the basic features referred to in the following physical description.

The City's Extra-Territorial Jurisdiction stretches of over 40 square miles, extending from the interchange of I-85 with US 74 and US 29, in Cleveland County, westward approximately seven miles to almost one mile past the US 74/Shelby Road interchange. The ETJ stretches about 7.5 miles from its northern extent by Ike Brooks and Goforth Roads, to Bethlehem Road and York Road less than a mile from the South Carolina border.

### 2. THE TERRAIN

The City rests in the shadow of the Kings Mountain ridge, one of a string of Carolina piedmont monadnocks that rises roughly 800 feet above the surrounding countryside. The ridge runs in a northeast-southwest direction to the southeast of the City. The City's highest elevations reach 1170' above sea level where its borders creep up towards Kings Pinnacle (elevation 1705). The City of Kings Mountain rests primarily upon a gentler ridge extending from the north that runs parallel to Kings Mountain. It is followed by the Norfolk Southern Railway and NC 216 through the length of the City and its ETJ. This ridge creates a high point of about 1020' in the center of downtown as it intersects Ridge Street between Piedmont Avenue and Gaston Street. Most of the downtown area rests at elevations between 900' and 1000'. I-85 follows the valley between this lower ridge and the Kings

Mountain ridge. US 74 Business follows a shallow cross ridge, between Beason Creek and Potts Creek, which drops significantly as King Street meets Shelby Road, and then gradually descends westward. The lowest elevations within the City are found in the quarry of the Kings Mountain Mica Company, which reaches a depth of about 600' above sea level.

### 3. HYDROLOGY

The urban area is drained primarily by two major creeks that flow in a westerly direction. Potts Creek drains the area north of the City between US 74 Bypass and Business. Its tributaries reach as far east as the Norfolk Southern Railway where it is crossed by NC 216, close to the Art Center. The Creek crosses under US 74 Bypass through a large culvert structure, about 1/3 mile from Stony Point Road. From there, Potts Creek is joined by another of its tributaries from the east and continues in a northwest direction toward John H. Moss Reservoir (Moss Lake). However, before it can reach the Lake, Potts Creek is intercepted by Muddy Fork, just north of Buffalo Creek and less than 1/2 mile north of US 74. Within Kings Mountain, much of the area to the north of Potts Creek is wooded, with a loose arrangement of neighborhoods to the south that connect to other parts of the community only by Shelby Road (US 74 Business). Within the City, Potts Creek occupies a floodplain usually measuring from between 250 to 600 feet in width.

South of Shelby Road and north of Battleground Road, Beason Creek drains the southwest wedge of the City. This creek begins in the West End neighborhood, crosses under Phifer Road, flows along the northern edge of the City's major school complex, then passes under Kings Mountain Boulevard and Crocker Road before leaving the City. The creek continues westward under El Bethel Road and Yarbrow Road before passing out of the ETJ. The creek eventually merges with Buffalo Creek, about 3/4 miles north of NC 226. Beason Creek does not form a floodplain of significant width until crossing Phifer Road, where the width measures anywhere between 200 and 600 feet within the City.

South of I-85, the incorporated area drains partly to the

southwest into Kings Creek, and to the northeast by way of Crowders Creek. Kings Creek drains a series of water bodies, including those north of I-85 created by the quarry, and scenic lakes south of I-85 including Lake Montonia, City Lake and Davidson Lake. Davidson Lake and its associated 300'-500' floodplain continue southwestward, crossing under Bethlehem Road before passing out of the ETJ. Bethlehem Road is crossed about 6/10 of a mile northward by the Dixon Branch which drains the Martin Marietta Company Lake, just north of I-85.

North of the City, but still within the ETJ, Little Persimmon Creek begins on the north side of Schism Road near Angle Road, and follows Oak Grove Road westward, crossing under Rolling Brook Road and Brook Road before exiting the ETJ to the north toward Muddy Fork. The northeast end of town is drained by Abernathy Creek and McGill Creek. Both creeks, with their associated floodplains, flow eastward into Gaston County. McGill Creek crosses both US 74 and I-85 before passing out of city limits.

These floodways are designated by the U.S. Federal Emergency Management Agency (FEMA). They are also protected by City ordinance through an overlay district known as the Flood Damage Prevention District.

#### 4. LAND USE

Though Kings Mountain is often characterized as a suburban city, it has a notable degree of industry and business. The mining industry dominates the north side of the I-85 corridor, with other industry occupying the southern side. Additional industry follows US 74 Business, clustering about the Shelby/Stony Point Road and Oak Grove Road interchanges. Another concentration of industry is located in the northeast corner of town along J. E. Herndon Access Road.

The nexus of commercial properties in the City is the intersection of US 74 Business (King Street) and NC 161 (York Road and Cleveland Avenue). Businesses are clustered in these corridors from US 74 Bypass to I-85, and from the county line through downtown to the medical

center. Shopping centers dot the US 74 Business (Shelby Road) corridor near Phifer Road, Garrison Drive and Commerce Boulevard, south of US 74 Bypass. Additional minor commercial areas can be found scattered about the City.

Aside from government and other institutional uses that are primarily clustered in the downtown, the medical center near the juncture of King Street and Shelby Road, most of the remaining area is low density residential land typical of rural settings. **See the General Zoning Map in Section 6, Map 6.11.**

#### 5. TRANSPORTATION NETWORK

As of 2006, there were nearly 95 miles of roads within Kings Mountain's corporate limits. Of this count, about 56 miles are locally maintained while the remaining 31 miles are maintained by NCDOT. The streets in Kings Mountain are primarily public. The subdivision ordinance requires public streets in all new subdivisions. Included in these counts are almost four miles of US 74 By-Pass and four miles of Interstate 85 that are state maintained. State Roads in or adjacent to Kings Mountain include I-85, US 74, NC 161 and NC 216. Highways I-85, US 74, US 29 and NC 161 intersect in Kings Mountain and connect the City to the region.

#### Local Streets

Kings Mountain's downtown grid street pattern is typical of many historic communities in America. This rectilinear network runs parallel to King Street (US 74 Bus.) and the Norfolk Southern Railroad. The Railroad corridor bisects the City between Battleground Avenue and Railroad Avenue. The grid begins to loosen further away from the core of downtown but still retains a highly connective nature with relatively few dead ends. The network degrades with the more newly developed subdivisions within the City which exhibit the low connectivity typical of their era. Development along Crocker Road north of Phifer Road provides one example, where cul-de-sacs dominate, leaving fewer choices of route for both drivers and pedestrians.

### 3. CURRENT SYSTEM USAGE

#### 1. ORIGINS & DESTINATIONS

Trip origins are identified here with respect to where people live: neighborhoods and places where residences are concentrated. Residential land use dominates most of the study area contained within the city limits and ETJ. However, there are distinctly recognized neighborhoods identified within the City that include: Northwood, Phoenix Mill, Davidson School, Country Club, West End and Margrace. **See the Neighborhoods & Destinations Maps in Section 6, Map 6.5 and 6.6.**

#### Downtown

Kings Mountain has a very recognizable downtown area, characterized by its rectilinear grid of streets, a plethora of civic and commercial destinations, display of public art, and its overall historic character. For purposes of this plan, the area referred to as “Downtown” roughly coincides with the area defined by the Downtown Overlay District shown **in the Overlay Districts Map, Section 6, Map 6.12.** The Downtown Focus Area node is defined in the Pedestrian Node Diagram in **Section 5.3** as a circle that encompasses nearly that same area.

Within this historic core urban area, many of the City’s most significant and popular destinations are conveniently clustered to create a walkable concentration of activity.

#### Civic and Cultural Buildings

Many of the City’s most significant civic buildings are located centrally in the downtown area, including:

- U.S. Post Office
- Kings Mountain Historical Museum
- Mauney Library
- Patriots Park
- Kings Mountain Government Center
- The Southern Arts Society Art Center
- Mountain Rest Cemetery

Just outside of downtown:

- The Senior Center is situated at the very east end of

US 74 Bus. near the junction of US 74 Bypass. East Ridge Street and Canterbury Road also meet here.

- Kings Mountain Hospital abuts the Kings Mountain Country Club golf course to the west. Associated medical office buildings are located eastward along King Street as far as North Watterson Street.
- White Oak Manor senior facilities lie adjacent to the north of the hospital complex, across Sipes Street.

#### Schools

Kings Mountain is home to eight public schools, three of which are located directly downtown.

- Central School is located at East Ridge and North Gaston Streets.
- West Elementary School on Mountain Street at South Watterson Street
- Davidson School is also located on Watterson at West Parker Street.
- Just outside of downtown, the Kings Mountain Intermediate, Middle and High School complex is located along Phifer Road and Kings Mountain Boulevard. The three schools are clustered around shared ball fields and other sports facilities. The Beason Creek corridor borders the north side of the complex.

Two additional schools are located north of US 74 Bypass:

- North Elementary School faces Ramseur Street near North Piedmont Ave. Expansive fields and a large stand of trees lie to the north.
- East Elementary School is located on NC 161 (Cleveland Ave.) just north of US 74 Bus. at Lynn Street.

#### Recreational Areas & Facilities

While the City is recognized as a gateway to a number of state and regional parks, it also offers many recreational centers of its own.

- Gateway Trail Head
- YMCA & Deal Park
- Davidson Park (formerly Sims Park) is located on North Sims Street, north of the medical complex, south of Waco Road, and just one block of wooded

land west of Davidson School.

- Kings Mountain Country Club lies just north of where King Street and Shelby Road meet. It is the terminus of Country Club Road, which itself is an extension of Phifer Road. The Potts Creek corridor flows just to the north through the golf course.
- The Citizens Service Center (Public Works)
- City Lake
- Davidson Camp is a Boy Scout Camp located along NC 161 adjacent to Davidson Lake, about three miles south of downtown.
- John H. Moss Reservoir (Moss Lake) is a man-made reservoir of about 1500 acres and over 50 miles of shoreline. Its nearest point lies about seven miles northwest of downtown. While the Lake area lies outside of the Kings Mountain ETJ, it is owned by the City. The area features camp sites and camping facilities including a bathhouse and showers.
- Kings Mountain National Battlefield Park and South Carolina State Park
- Crowders Mountain State Park continues along the ridge to the northeast. Its 2,364 acres include more hiking trails, shelters, camping sites, and breathtaking views from Kings Pinnacle and the peak of Crowders Mountain.
- Kings Mountain Travel Center
- Kings Mountain National Military Park, at over 4,000 acres, is the nation's third largest military park. It is located approximately five miles south of the City.
- Kings Mountain State Park lies adjacent to the Military Park. With over 6,000 acres, it offers camp sites, shelters, lake swimming, and hiking trails.

### Commercial

- The Kings Mountain Little Theatre (Joy Performance Center) is one of the anchor establishments of the west side of the City's primary downtown corridor, situated on South Railroad Ave. at West Mountain Street.
- Kings Mountain Plaza is a large, largely vacant shopping center. The buildings face the eastern end of Shelby Road at an angle, behind a substantially-sized

parking lot.

- Westgate Plaza is a similar style shopping center that also faces Shelby Road, 1/2 mile to the west, and 1/2 mile east of Kings Mopuntain Boulevard.
- Ingles Grocery is a newer version of the other two shopping centers, but features a similar layout. It is located at the western extent of Shelby Road just before it intersects US 74 Bypass.
- King Street/York Road Ingles Shopping Center
- Mac's Grocery (currently closed)
- Linwood Produce

### Employment

Many of the employment centers in Kings Mountain are industries located along the north and south sides of the I-85 corridor. Other concentrations of industries are located along US 74 Bypass at Shelby Road (US 74 Bus.) and at Waco Road, and at points along the railroad including the Herndon Access area to the north in Gaston County, at US 74 between Linwood Road and Baker Street, and along Railroad Avenue south of Gold Street. Additional business corridors in the City include King Street and Shelby Road (Bus. 74), and York Road from King Street to I-85. The core downtown area stretches east-west from Gaston Street to Cansler Street, and north-south from King Street to Gold Street.

### 2. OVERLAY DISTRICTS

The concentration of land uses, such as businesses, within certain corridors and quadrants within Kings Mountain is recognized and supported by Overlay Districts. The purpose of these districts is to "protect and enhance the economic and aesthetic appeal and orderly development of properties adjacent to and within the vicinity of certain major thoroughfare corridors in the City, while at the same time maintaining traffic efficiency and safety." (Section 6.16 (3)a).

Land development is restricted within these overlay district policies in ways to encourage the viability of these uses and support

See **Section 3.1** for pertinent Overlay District policy de-

scriptions and the **Overlay Districts Map, Section 6, Map 6.12.** for district locations.

### 3. COMMUTING

The 2010 Census reported 4,473 workers above 16 years old in Kings Mountain. 3,971 of them drove alone to work, another 374 of them carpooled. 60 worked at home. None reported using public transportation in their commute, and 57 walking to their jobs (1.3%). The average commuting time to work was 22.7 minutes, slightly below the state average.

In 2010, Kings Mountain had 1,262 elementary students attending school, and 603 high school students.

#### Vehicle Ownership

The 2009 American Community Survey estimates show that over 11% of households in Kings Mountain do not own a vehicle (compared to the national average of 8.8%). Another 31% of households in the City have only one vehicle. These numbers have not changed significantly in Kings Mountain since the 2000 U.S. Census.

### 4. EXISTING SIDEWALK SYSTEM EXTENTS

While some scattered islands of sidewalks exists in various parts of the City - associated often with newer development - most of the municipality's sidewalk system is tightly clustered about the Downtown. This central network stretches roughly two miles from east to west, and about one mile from north to south. Many of the longer east-west segments lack the same level of connectedness in a north-south direction. The entire layout is shown on the map in the **Existing Pedestrian Facilities Map, Section 6: Map 6.7.**

Some outlying neighborhoods offer a limited network of sidewalks internally, but have no connection to the main network or to adjacent neighborhoods. North of US 74 Bypass, sidewalks within Northwood, Phenix Mill and the multi-family complex located off Barnette Drive, form no connection to each other or to Downtown.

Examples of isolated sidewalk segments can be found in

various parts of the City, both new and old, in pristine shape to advanced stages of deterioration.

### 5. SPECIFIC PEDESTRIAN BARRIERS & HAZARDS

Barriers to walkability can exist in the form of natural features such as surface water or steep terrain, or man-made features, including cul-de-sacs, limited access roadways, and inaccessible land development. While some barriers present a complete physical or legal impasse, others may be semi-permeable in that, while they can be physically crossed, they impose a significant hazard or psychological deterrent.

Pedestrians must negotiate some significant barriers in Kings Mountain. The following is a list of those most challenging and pervasive barriers to walking in and around the City.

**US 74 & US 74 Bypass** forms a northern boundary across the City, 200 feet wide and traversed by a minimum of four lanes handling over 34,000 vehicles on average per day. The highway divides a significant part of the community from the Downtown. There are only seven paved crossings along its length of nearly eight miles through the City and its ETJ. Most of those are currently unfit for safe pedestrian passage.



US 74 Bypass in Kings Mountain

**Interstate 85 Corridor** effectively forms a southeastern barrier for pedestrians through the City and its ETJ nearly seven miles long, with only four open bridges along this length. Running parallel to the highway's four lanes, local frontage roads serve adjacent industries that line this corridor. In Kings Mountain, I-85 currently handles a traffic volume of 43,000 vehicles.

**Shelby Road** provides a major east-west vehicular connection through the City as part of US 74 Business, from the terminus of Kings Street at Phifer Road, to US 74 Bypass. This 4-lane divided highway, however, offers no pedestrian facilities and presents a formidable barrier along its nearly 3-mile length.



**Pedestrian at North Piedmont Avenue railroad crossing**

### Norfolk Southern Railway

Like many older towns in the Carolinas, Kings Mountain grew up along a railroad line. The Norfolk Southern Railway was built in 1872. Today, that railroad corridor divides the City into east and west with the division running through the center of Downtown. Trains pass routinely through the City on a daily basis. Opportunities to cross the tracks when a train is passing are limited. Of the streets that cross the railroad, only King Street and adjacent South Railway Bridge do so above grade in the downtown area. Dixon School Road and Bethlehem Road provide two additional above-grade crossings approximately three miles south of downtown. These roads provide the sole physical connection across the tracks when a train is

passing. The number of at-grade crossings may decline as Norfolk Southern decides to close them one at a time.

**The Kings Mountain Mica Company Quarry** and other industrial properties occupy a substantial area within the City, stretching from York Road to Tin Mine Road - a length of nearly three miles - between I-85 and Battleground Avenue. Although this area is presently off-limits to pedestrians, the Gateway Trail Plan proposes trail facilities to provide a connection across this mile-wide swath. **See Appendix A.1.2 for Gateway Trail map.**

**Beason Creek** originates at the center of Kings Mountain in Patriots Park and flows westward, dividing the West End neighborhood from Crescent Hill. The creek

also creates a barrier between the City's school complex from residences north. Along one of its tributaries, the Crescent Hill and Margrace back up to one another with cul-de-sacs that are as little as 230 feet apart, but permit no vehicular or pedestrian connection between the adjoining neighborhoods. For a sample analysis of the significance these barriers pose for pedestrian connectivity, see **Appendix A.3.8.**

**Potts Creek** runs parallel to Beason Creek on the north side of US 74 Business. While it too begins in the heart of the City (near the Art Center), it poses a lesser barrier to pedestrians due to the relative lack of residential development west of Watterson Street, north of the creek.

Most of these barriers described pose significant challenges to pedestrians due in part to their formidable extent, both within and around the City. Existing or potential opportunities to provide pedestrian-safe crossings of these barriers should be given high priority in the planning and implementation of pedestrian facilities. With this in mind, a detailed description is provided of ways over and under these barriers.



Cleveland Avenue crossing under US 74 Bypass



Canterbury Bridge over I-85

## 6. BRIDGES, UNDERPASSES & CULVERTS

The significant pedestrian barriers presented by US 74 Bypass and I-85 offer some potential pedestrian crossing opportunities by way of existing vehicular bridges that can readily accommodate pedestrian-safe modifications.

A brief analysis of each of these bridges, in terms of their existing facilities and potential for pedestrian-safe retrofit, follows.

### US 74 Bypass Overpasses:

1. **Cleveland Ave. (NC 161) underpass**
  - five lanes
  - sidewalk along west side
  - 2-foot separation from adjacent traffic.
2. **N. Piedmont Ave. (NC 216) overpass**
  - five lanes
  - sidewalk along both sides
  - ADA compliant aluminum railings
  - no separation from adjacent traffic
3. **Cansler Street underpass**
  - four lanes with
  - no sidewalks
  - severe grades

### 4. Oak Grove Road overpass

- three lanes
- no sidewalks
- sufficient width to accommodate sidewalks
- ADA noncompliant Jersey barriers

### 5. Patterson Road overpass

- two lanes
- no sidewalks
- sufficient width to accommodate sidewalks
- ADA noncompliant Jersey barriers

### 6. Shelby Road/Stoney Point Road overpass

- five lanes
- no sidewalks
- sufficient width to accommodate sidewalks
- ADA noncompliant Jersey barriers

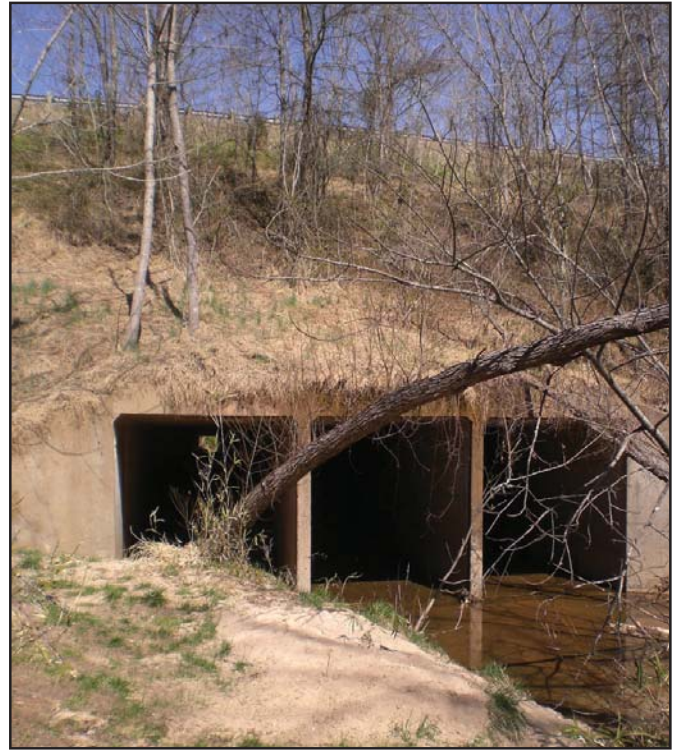




**Mining Bridge over I-85**

### I-85 Overpasses:

1. **Canterbury Road overpass**
  - two lanes
  - no sidewalks
  - insufficient width to accommodate sidewalks (26')
  - ADA noncompliant concrete railings
2. **York Road (NC 161) overpass**
  - five lanes
  - sidewalks on both sides
  - ADA compliant aluminum railings
3. **Mining Bridge**
  - structure is currently under renovation as part of the Carolina Thread Trail S segment (Gateway Trail)
  - single wide lane (17' +/-)
  - high-fenced
4. **Dixon School Road overpass**
  - two lanes
  - paved shoulders to accommodate bicycles



**Potts Creek Culvert under US 74 Bypass**

- no sidewalks
  - ADA noncompliant concrete railings
5. **Bethlehem Road overpass**
    - two lanes
    - paved shoulders to accommodate bicycles
    - no sidewalks
    - ADA noncompliant concrete railings

An additional opportunity for crossing US 74 Bypass may merit consideration. Roughly 2,000 feet east of the Shelby Road interchange, a concrete, three-part box culvert conveys Potts Creek from south to north beneath the highway. Each box measures nine feet wide by ten feet tall. The tunnels are roughly 950 feet in length.



## Norfolk-Southern Railway

While the highways hem the City in from the north and south, the railway cuts directly through the City, dividing east from west. From one end of the ETJ to the other - a length of over seven miles - the railway currently permits only 13 identifiable crossings. Streets crossing the railway at-grade include:

1. Herndon Access Road
2. Linwood Road
3. Baker Street
4. N. Piedmont Ave.
5. Mountain St.
6. Gold St.
7. Oak St.
8. Margrace Road
9. Bethlehem Road



None of these at-grade crossings currently include any improvements designed to permit a safe walk across the tracks. Pedestrians must share the road with automobiles.

Safety conditions for pedestrians crossing above grade are not much better. Of the three opportunities that exist, only the three-lane King Street bridge provides sidewalks. The Southern Railway Bridge, located a mere 260 feet north, is an 18-foot wide vehicular lane with railing and no pedestrian refuge. The remaining above grade crossing is the Dixon School Road bridge. Its 42 feet of paved surface includes 3-lanes for traffic, and 3 feet wide paved shoulders for non-vehicular use. Its Jersey barrier railings are ADA incompliant.



One last crossing opportunity of the railway can be found by way of an underpass, located on a short, un-named road segment between Urban Drive and Dixon School Road. This single-lane, 30 foot long tunnel road is approximately twelve feet wide.



**N. Piedmont Ave. crossing  
just north of the Art Center**



**Gold Street crossing in Downtown**



**Railroad Bridge over State Road 2352  
Google image**



1. POLICIES & ORDINANCE

- Federal & State Laws
- City Zoning & Subdivision Ordinances
- Issues:
  - 1.) Mixed-Use Concentrated Development
  - 2.) Street Connectivity
  - 3.) Crosswalks
  - 4.) Sidewalks
  - 5.) Greenways, Trails & Open Space
  - 6.) Street Trees
  - 7.) Streetscapes
- Other Local Ordinances
- Land Development Guidelines

2. LOCAL PLANS & GUIDELINES

3. PROJECTS, PROGRAMS & INITIATIVES

1. POLICIES & ORDINANCES

FEDERAL & STATE LAWS

A number of Federal and State guidelines have direct applicability to pedestrian planning. For a complete list of relevant policy, refer to **Appendix A.3.1**.

CITY ZONING & SUBDIVISION ORDINANCE

While existing physical conditions have the most obvious impact upon the City’s current pedestrian conditions, the City’s land development policies will ultimately exert the greatest influence as they guide the form and character of the City’s growth. City land development policy is examined here in terms of how well it supports the pedestrian-friendly goals recorded in this Plan. Those goals in summary are:

- Improve pedestrian connections from downtown to neighborhoods and other prominent destinations.
- Promote current programs and events the City offers.
- Increase the level of safety of the current sidewalk system.
- Concentrate pedestrian improvements in focused centers of activity and corridors of higher density and economic potential, that include a mix of uses, and prominent destinations.

The various land development policy documents are examined with respect to the issues that most directly affect and pertain to conditions of walkability. These issues include:

1. Mixed Use Concentrated Development
2. Street Connectivity
3. Crosswalks
4. Sidewalks
5. Greenways, Trails and Open Space
6. Street Trees
7. Streetscapes

A brief explanation of each issue and how it affects walkable conditions is provided in this section as each subject is explored within adopted City ordinances, including the Kings Mountain Zoning Ordinance and the Kings Mountain Subdivision Ordinance. The same issues are also examined in the City's existing plans in the following section. Specific recommendations for revisions to current policy to better support the goals stated above are provided in Section 4.5: Policy Recommendations.

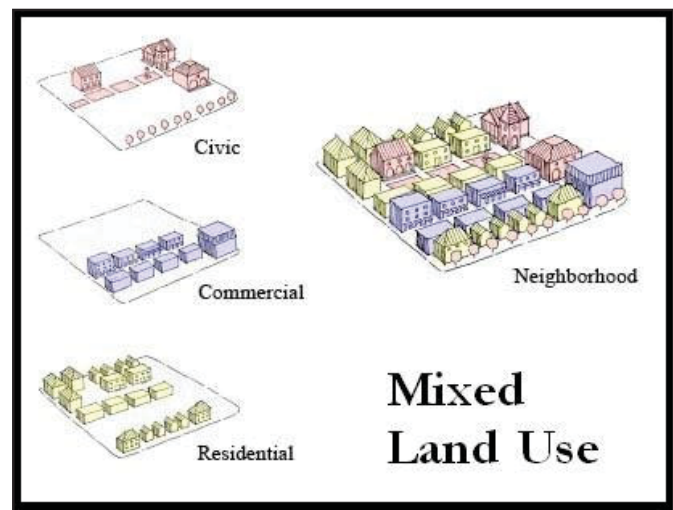
Kings Mountain Zoning Ordinance (KMZO) was adopted in 1996 and last amended December 11, 2012. The Ordinance provides descriptions of fourteen zoning districts and nine overlay districts. The KMZO standard district regulations primarily impact the City's pedestrian environment through rules that govern land-use, building setbacks, and development densities. The overlay districts, however, contain additional provisions pertinent to walkability. In addition to an Historic District (HD) and a Flood Damage Prevention District, seven corridor districts are specified. These districts are intended to "protect and enhance the economic and aesthetic appeal and orderly development of properties adjacent to and within the vicinity of certain major thoroughfare corridors in the City, while at the same time maintaining traffic efficiency and safety." (Section 6.16 (3)a). The corridor overlay districts include:

1. Kings Mountain Downtown Protection, Preservation & Enhancement District (KMDPPED)
2. US 74 Shelby Road Divided Highway Overlay District (74 SRDHOD)
3. US 74 Business King Street Gateway Protection Overlay District (74 KGSPOD) East
4. US 74 Business King Street Gateway Protection Overlay District (74 KGSPOD) West
5. NC 161 York-Cleveland Business Overlay District (161 YCBOD)
6. York Road Gateway Protection Overlay District (YRGPOD)
7. Waco Road & US 74 Intersection Inclusive Overlay Protection District (WRUS74IOD)

For a map of these districts, see the zoning maps provided in the **Overlay Districts Map, Section 6, Map 6.12.**

Kings Mountain Subdivision Ordinance (KMSO) was adopted in 1996. The KMSO provides comprehensive guidance for new residential subdivisions in the City.

#### POLICY ISSUES:



Mix of Land Uses at a Walkable Scale

### Issue 1: Mix-Use Concentrated Development

When land uses of various kinds - such as residences, commercial establishments and civic buildings - are clustered together in close proximity, a greater variety of destinations can be reached on foot without reliance upon automobiles. Conversely, lower-density, linear patterns of development of single use development - such as commercial strips - are built for cars, and tend to discourage walking as a means of transportation.

Fourteen Zoning districts are specified within the current Kings Mountain Zoning Ordinance (KMZO). Each of

these districts is briefly described in the KMZO Article V, Establishment of Zoning Districts, Section 5.2. The Table of Permitted and Conditional Uses in Article VII (Section 7.1), provides a lists various uses and indicates which zones the use is permitted by right or by condition. The possible use classifications are based on 1987 SIC descriptions, which lists uses in alphabetical order and indicates which zoning districts allow that use.

The KMZO has a variety of districts that facilitate mixed-use, including commercial and office districts with housing components. The latter may be used for transitions from commercial uses and industrials uses into conventional housing uses. There are also provisions for mixed use developments under PUD special requirements; however, these provisions are cited only within the context of the YRGPOD:

**Section 6.16 Overlay Districts**

(3) Thoroughfare Protection District (TP)

(e). Applicability of Standards

(v) York Road Gateway Protection Overlay District

(viii)(xiii) Residential Development

Development shall be proposed as a PUD and meet all PUD requirements excepting the developments in which the applicant does not have sufficient acreage to qualify as a PUD. A site plan in accordance with SR 8 Planned Unit Development (PUD) shall be the basis for development approval.



**Street Patterns near Atlanta, Georgia with very low connectivity**

### Issue 2: Street Connectivity

Connectivity is a measure of how well a road or trail network provides route alternatives between origins and destinations. Good connectivity means there are a variety of convenient ways to get from point A to point B. The traditional grid-style street layout of older towns, exemplified by Kings Mountain, provides an excellent degree of connectivity. Streets are highly interlinked, intersections are closely spaced between short blocks, and there are few dead-ends. Communities with high connectivity are usually more walkable because destinations are within easier reach with more choices of routes. A connected network of streets also gives drivers more choices of vehicular routes, decreasing vehicular congestion by dispersing traffic. When more streets interconnect, local vehicular traffic can take shorter routes and avoid busy arterial roads, as can pedestrians.



**Downtown 2 story buildings on Gold Street with vertical mixed-use potential**

Street connectivity can be compromised both by limiting access points into and out of subdivisions, and by limiting the number of opportunities that streets intersect within them. Longer blocks and cul-de-sacs lead to fewer street intersections and thus lower connectivity. Historically, cul-de-sacs were used to avoid extreme terrain that would prohibit streets from connecting. However, development practices over the years have relied upon more and longer cul-de-sacs, even on flat land, as a way of discouraging vehicular traffic, or keeping out residents of adjacent neighborhoods. This practice turns public throughways into semi-private drives that dead-end into semi-private courts. While this arrangement does reduce non-residents cutting through the neighborhood, it also gives residents very limited options. Traffic can back up into the neighborhood during rush hour, as local resident commuters attempt to exit by the same street onto busy arterial roads. Emergency vehicle access and efficiency is also severely limited. Kids going to school, events, or just wanting to visit friends in neighboring subdivisions must walk (or bike) much greater distances - often along busy main thoroughfares - or be driven by an adult.

Street Connectivity is encouraged in the KMZO in its description of the corridor overlay districts. Each of the districts calls for increased street connectivity (with the sole exception of the KMDPPED which is already a grid network) using the following language:

#### Public Street Connectivity

Proposed public streets shall be extended to the boundary of developments for connection to existing streets on the boundary of adjoining property or for future connection. Cul-de-sacs shall not be used to avoid connection to adjoining property. In general cul-de-sacs shall not be used to deny access to development on the boundary of property except where necessitated by topography or to provide separation of unlike or incompatible uses.

The KMSO Executive Summary, in its description of Article III on page 5, states:

“New streets are to be planned to extend both existing and projected streets KMSO that good functional streets are created. They must positively impact on the City’s existing system (3.5). To that end the streets must conform with the Thoroughfare Plan and also with other streets in the subdivision and nearby. ... Cul-de-sacs are permitted if necessary, but not encouraged.”

Block lengths are addressed in Section 3.3 (p.13):

“Blocks shall not be less than 400 feet and not more than 1,320 feet in length.”

However, the KMSO Executive Summary, as it refers to Section 3.3, sets the maximum block length at 1,200 feet. Both sections of the KMSO require blocks to be wide enough for two tiers of lots.

Section 3.5 of the KMSO prescribes Streets and Street Improvements. This section contains a number of requirements intended to promote connectivity. Specifically (on pp.14f):

#### Section 3.5 Streets and Street Improvements

##### 3) Conformance with Adjoining Street System

The planned street layout of a proposed subdivision shall be compatible with existing or proposed streets and their classifications on adjoining or nearby tracts.

##### 4) Access to Adjoining Property

Where in the opinion of the City Council it is desirable to provide for street access to adjoining property, proposed streets shall be extended to the boundary of such property.

##### 5) Reserve Strips, Half Streets and Private Streets

Reserve strips and non-access easements adjoining street rights-of-way for the purpose of preventing access to or from adjacent property, (except those required to prevent access to Thoroughfares) and

half-streets shall not be permitted under any condition. Private streets shall be permitted only in specific developments as may be permitted by the Zoning Ordinance.

7) Cul-de-sacs

- a. Cul-de-sacs should not be used to avoid connection with the existing Street, to avoid the extension of a thoroughfare or collector street, or to avoid connection to adjoining property.
- b. Cul-de-sacs should not extend for significant lengths unless necessitated by such factors as topography, property shape, property accessibility and/or land use relationships



Typical crosswalk facilities

### Issue 3: Crosswalks

Intersection and mid-block crosswalks are an effective way of safely channeling pedestrian traffic along major traffic arteries. Crosswalks also offer a secondary pedestrian benefit of calming traffic. The KMZO and KMSO do not address the issue of crosswalks.

For additional information on crosswalks, see **Section 7.3 Facility Standards and Guidelines**.



Tree-lined sidewalk with planting strip

### Issue 4: Sidewalks

Sidewalks form the backbone of a pedestrian system in urban and suburban environments. They can provide highly visible, accessible and practical pedestrian connections to common destinations points. They can also serve as vital public space in themselves, particularly in front of retail shops, restaurants, and civic buildings. For many pedestrians, sidewalks provide the most common opportunity for public interaction.

In addition to strategic placement within the community and proper construction standards, critical design features for sidewalks include:

- width of pavement
- pavement material
- width of offset from street, known as the planting strip or street yard.

For additional sidewalk information, see **Section 7.1 Facility Standards and Guidelines**.

The KMSO includes the following provisions for sidewalks.

ARTICLE III. SUBDIVISION DESIGN STANDARDS;  
REQUIRED IMPROVEMENT

### Section 3.10 Sidewalk Improvements

The subdivider shall install a sidewalk within the street right-of-way, constructed in accordance with city standards, in the following situations:

- 1) In any case where a subdivision adjoins and has legal access to, or will have legal access to, an existing or proposed major or minor Thoroughfare as shown on the Thoroughfare Plan, the subdivider shall construct a sidewalk along the frontage of such Thoroughfare where the Thoroughfare adjoins the subdivision.
- 2) In any case where a subdivision adjoins a street, or will adjoin an extension of a street, which has sidewalk on one or both sides within five-hundred (500) feet of the boundary of the land to be subdivided, the subdivider shall construct a sidewalk along the frontage of such Street where the street adjoins the subdivision in such a way that the existing sidewalk pattern will be extended.
- 3) In any case where a residential subdivision creates new public streets, the subdivider shall construct a system of sidewalks in an amount equal to one (1) linear foot of sidewalk for each one (1) feet of length of public street within the subdivision. Provided, however, where a subdivision is not required to provide curb and gutter streets in accordance with Note (5) of Appendix II, Minimum Public street standards, sidewalks shall not be required on such streets whether curb and gutter streets are provided or not.

The KMZO imposes additional sidewalk requirements in the overlay districts for new development, or 50% or greater expansion of existing development. Section 6.16 Overlay Districts applies the following sidewalk standards to all corridor overlays (with the sole exception of the KMDPPED which prescribes streetscape improvements in greater detail).

Sidewalks shall be constructed in accordance with

City standards as required by the Subdivision Ordinance on any new public streets constructed in the Thoroughfare Protection District and on existing public streets where the development has frontage and sidewalks are required by the Subdivision Ordinance. Notwithstanding the requirements of the Subdivision Ordinance, sidewalks shall be constructed on Kings Mountain Boulevard where the development has frontage within the primary corporate limits of the City of Kings Mountain. Sidewalks shall be constructed whenever a use is established and there was none in existence prior, a use or structure is established and there was no primary-use structure before, a use is established, changed or continued and either the square footage of the primary structure or ancillary structure or parking facility is enlarged by fifty percent (50%) in terms of either parking spaces or surface area. Sidewalks shall be required for all parcels being developed individually or parcels being proposed for development either under a residential subdivision plan or a site plan. All sidewalks shall be a minimum of five (5) feet in width.

In the case of the Shelby Road Divided Highway Overlay District, the following allowance is made:

#### Section 6.16(3)e.(i)(b)v.)

In any case where topographic features or man-made objects make it impossible to install sidewalks within the existing right-of-way of the thoroughfare (Shelby Road) as determined by the City, alternative sidewalks on proposed or reserved right-of way or easement may be permitted through the site plan review process.

The KMZO also provides direction regarding landscaped street yards:

**Section 11.4 Landscaped Street Yard Requirement**  
Any non-residential use located in either the R-O, O, N-B, G-B, L-I, or H-I Districts shall provide a landscaped street yard as described herein. The

requirement for the landscaped street yard shall be initiated by the requirements as set forth in section 11.2. In such case the full landscaped street yard shall be provided.

The landscaped street yard is a landscaped area parallel to the public street and to the side and rear property line boundaries designed to provide continuity of vegetation along the right-of-way and a pleasing view from the road and adjoining properties. The landscaped area shall be penetrated only by driveways and crosswalks. The minimum width of the street yard shall be five feet measured from and parallel to the public street right-of-way and property line boundaries. It shall be landscaped and maintained with a vegetative cover and shall be planted with small and/or medium shrubs at a rate of 15 per 100 linear feet of street yard not counting driveway and crosswalk area.



Mountain Street



Greenway Path, Boiling Springs, NC

### Issue 5: Greenways, Multi-use Trails & Open Space

Greenways and trails can help meet a broad range of goals. They provide practical alternative connections to destinations as well as scenic and recreation opportunities. Greenways can increase adjacent property values and attract new business. They can serve as locations for civic events, and provide a transportation infrastructure at a fraction of the cost of roadways.

While the KMSO requires sidewalk installation as part of new subdivisions (Section 3.10), it does so only along street frontage within the street right of way to extend the existing sidewalk pattern. It contains no additional requirements for internal non-vehicular circulation improvements (sidewalks or multi-use paths).

The KMZO includes no related requirements as part of its standard zones; however, the overlay districts descriptions call for sidewalks, street trees, and increased street connectivity – features that directly favor pedestrian usage. The NC 161 Overlay (described in Section 6.16) provides for trails (where applicable). It requires that these be designed in accordance with NCDOT standards and installed accordingly as part of the development.

For additional trail-related information, see **Section 7.10 Facility Standards and Guidelines.**



Street Trees on Tryon Street, Charlotte

## Issue 6: Street Trees

Properly selected, planted and maintained street trees make streets more walkable. They offer pedestrians shade, provide a physical buffer to traffic, and bring a human scale to an otherwise car-oriented landscape. Street trees can make the difference in how a pedestrian experiences a street and whether they will want to walk it or not.

Trees also provide a host of other environmental and economic assets to communities. They stabilize the soil and control water pollution by preventing soil erosion and flooding, reduce air pollution, provide oxygen, yield advantageous microclimatic effects, soften noise, and provide a natural habitat for wildlife. Unusual, large and old trees have unique aesthetic and historic values.

Street trees should provide a canopy of shade in summer months but permit adequate visibility of area businesses. Deciduous trees are highly recommended in order to permit maximum sunlight during winter months. Street trees and their accutrimments should not be allowed to obstruct pedestrian passage. For narrow sidewalks, at-grade tree grates should be used rather than raised planters.

The KMZO does not address street trees or trees located in the public right-of-way in its standard zoning districts, specifically. Article XI. Landscaping (Section 11.4) requires street yards to be landscaped, but does not require trees as an element of that landscaping. Section 11.3 requires canopy trees in parking lots.

The KMZO requires street trees in all corridor overlay districts (with the sole exception of the KMDPPED, which instead makes a broad requirement of landscaping, and where a number of streets currently feature street trees), using the following language:

Street trees shall be planted at the right-of-way of the thoroughfare as part of each development that has frontage on the thoroughfare. Such street tree planting shall be done in accordance with the concepts in the "Kings Mountain Street Tree Plan" which has been developed by the City of Kings Mountain and which has been adopted and referenced in this Ordinance. The burden of such street tree planting requirement shall in all cases be equitably distributed insofar as possible based upon the amount of frontage that a development has on the thoroughfare, although the number and type of trees may vary from one location to another.

For additional information related to street trees, see **Section 7.8 Facility Standards and Guidelines**.





South Battleground Avenue, Downtown

## Issue 7: Streetscapes

Streets that invite active pedestrian life involve many parts working together. Along with the other features of pedestrian-friendly environments treated in this section, walkable streetscapes feature:

- active businesses directly fronting the sidewalk,
- uninterrupted facades featuring ample doors and windows at street level, and other visual interest,
- adequate and attractive lighting
- Sufficiently wide sidewalks to permit unobstructed pedestrian passage and be conducive to adjacent retail activity, as it allows periodic opportunities for uses such as outdoor dining.
- some protection from the elements in the form of awnings, arcades, street trees,
- attractive street furnishings such as seating and trash cans etc.

Such streets are where people gather and neighborhood bonds are formed. Cars are welcome, but traffic is in-

tended to be slow and unthreatening to pedestrians. Various modes of transportation are encouraged through coordinated placement of infrastructure including sidewalks, bike facilities and multiuse trails.

An essential element in walkable streetscapes is the relationship of building facades to the street. Excessive building setbacks are disadvantageous and even detrimental to successful streets for reasons of safety, economic vitality, and general pedestrian friendliness. With no regulations to establish maximum setbacks (or “build-to” lines), retailers may create front yards deep enough to accommodate their off-street parking, if they are otherwise permitted to do so. Although off-street parking lots provide a convenience to motorists, they can significantly diminish the pedestrian quality of a community. Such strip-development arrangement deteriorates street definition, creating a hot, barren car-dominated landscape that is unsafe, uncomfortable, and impractical for pedestrian use. Property owners with expansive impervious areas also incur substantial maintenance costs to maintain valuable land that is yielding a less-than-profitable use. Parking lots (like other impervious surfaces) also negatively impact the local environment, particularly with respect to local heat island effects and storm water run-off. See Section 5 for information regarding off-street and on-street parking.

On the other hand, minimal setbacks provide a number of advantages:

1. **Safety.** Buildings set close to the street do not require visitors on foot to navigate significant distances through parked cars (and moving ones!) in parking lots to reach their desired destination point – an often unsafe experience for pedestrians.
2. **Good business.** Buildings in a central business district are ideally built with little or no front yard setback. Businesses built close to the street offer pedestrians opportunity to “window-shop” or walk into a business immediately from the sidewalk.
3. **Comfort.** Streets with minimum setbacks are usually more inviting to walk along. This phenomenon is

largely due to a sense of enclosure that buildings can impart to a street, along with the lack of large, hot expanses of asphalt. Buildings set close to the street help make the street viable and interesting public space rather than the vast, open no-man's land often found with strip development.

Kings Mountain has established overlay districts in its downtown and along a number of its primary corridors. The City Zoning Ordinance (Section 6.16(3)) states that the Thoroughfare Protection Districts (TPs) are in place to “protect and enhance the economic and aesthetic appeal and orderly development of properties ... while at the same time maintaining traffic efficiency and safety of travel.”

Both the York-Cleveland Business Overlay District (YC-BOD) and the York Road Gateway Protection Overlay (YRGPOD) (Section 6.16(3) e. (iv.) & (v.)) include provisions for multi-modal use:

#### Multimodal Provisions.

Development shall be designed and shall provide for alternative means of transportation including pedestrian sidewalks and trails (where applicable) and bike facilities at the right-of-way. These shall be designed in accordance with NCDOT standards and installed accordingly as part of the development.

The Downtown Overlay District (KMDPPED) includes this statement of goals for its creation:

The Downtown Kings Mountain overlay district was adopted in order to meet the following goals:

Goal 1: Preserve the small-town, unique character of Downtown Kings Mountain

Goal 2: Complement the existing historic architecture

Goal 3: Encourage streetscape design that is inviting and on a human scale

Goal 4: Communicate the community's vision for the downtown area

The boundaries of the overlay district follow the

borders of the Kings Mountain Municipal Service District.

Guidelines are intended to convey desirable elements. They are recommendations and not requirements, unless public financing is involved in the construction or rehabilitation of the building. Standards identified are requirements and enforced through the City's Zoning Administration Department.

The Downtown Overlay District includes specific guidelines for street treatment that favor walking:

#### Streetscape Design

**Objective:** The streetscape should be uniform so that it acts to provide continuity throughout the downtown.

**Guideline:** When making improvements to private property, including the addition of benches, trash receptacles, fencing, bike racks, or trash enclosures, owners should match the surrounding styles.

**Standard:** When a redevelopment project disturbs existing streetscape elements those items must be replaced with approved Downtown Kings Mountain streetscape elements.

#### Lighting

**Objective:** Lighting in the downtown should serve to illuminate facades, entrances and signage and provide an adequate level of personal safety while enhancing the aesthetic appeal of the buildings.

**Guideline:** Avoid colored lighting schemes in order to achieve continuity in building lighting within the downtown.

**Standard:** Building and signage lighting must be indirect, with the light source(s) hidden from direct pedestrian and motorist view. For exterior sign illumination, shaded gooseneck lamps are encouraged. Historic lighting should be left intact if at all possible.

Additionally, zero setbacks are required in the Central Business District, and no offstreet parking is required.

For additional streetscape information, see **Section 7.8 Facility Standards and Guidelines**.

## 2. LOCAL PLANS & GUIDELINES

### KINGS MOUNTAIN

#### LAND DEVELOPMENT PLAN 2020

The Kings Mountain Land Development Plan (LDP), known as the 2020 Plan, is currently under development. The LDP covers issues directly influencing the pedestrian environment, particularly in its sections on transportation and downtown development. There are many stated goals and strategies that could directly improve walkability in the community. These are broken out by topic similarly to the previous ordinance review.

#### Issue 1: Mix-Use Concentrated Development

The objectives described in the LDP promote mixed-use concentrated development:

Use best development practices to ensure good community development, not sprawl, the achievement of public purposes, but not at the expense of market considerations.

The LDP strongly supports mixed-use development, stating in Section VII (p. 58):

Zoning in the downtown area should promote a good mix of commercial, office and service uses to the public. Mixed uses within a particular building should also be allowed, such as residential uses above ground-floor retail space. But the zoning Ordinance should also protect the integrity and character of established single-family areas surrounding the retail core.

LDP Downtown Development Recommendations specifically advocate concentrated mixed-use development:

- Promote a convenient and economically viable central business district which provides a good mix of commercial, office, and service needs to the public.

- Revise the Zoning Ordinance to allow mixed uses in the downtown area, where residential units could be allowed above ground-level retail or office uses.
- Develop and implement measures to control and manage growth so that it contributes to the economic vitality of the city without ruining its historic character and small town feel. Measures might include; zoning that limits sprawl, performance zoning to ensure higher quality development and impact fees for new development.
- Use this Strategy Plan to market infill sites to developers for housing and or mixed-use developments.
- Mixed use and residential can be accommodated in infill sites and areas for new development. Residential should be developed in upper floors above existing businesses.

And in Section VII addressing transportation, p.48:

- Concentrate commercial development in compact centers or districts to reduce transportation miles and make the development more accessible by alternative transportation modes.

A number of the LDP's Key Issues (Section IV) concern higher density, mixed use land planning:

- Mixed uses are not planned.
- There is a general lack of green space and park sites preserved for future use as such; both of which could be developed together with adjoining residential, commercial or industrial development.
- The City lacks a plan to deal with the redevelopment of empty commercial large boxes.

#### Issue 2: Street Connectivity

Along with specific new road recommendations (p.48), the LDP Transportation Section (VII) makes many general recommendations to increase connectivity (p.46),

including:

Require subdivisions to have at least two means of ingress and egress. Every subdivision must allow access from/to the adjoining property to make connectivity better and cut down on the amount of driveways and roads connecting to the larger collector road. Access right-of-ways can be offered for dedication and then used in the future when property is developed.

The section recommends some related best development practices:

- Practice 1: Design the street network with multiple connections and relatively direct routes.
- Practice 2: Space through-streets no more than a half mile apart, or the equivalent route density in a curvilinear network.”

Other specific recommendations include (p.48):

- Develop a “connector” road plan that would allow for the connection of large collectors and arterials in an incremental fashion as development in those areas progresses.
- Widen Phifer Road and improve its alignment between the school areas and the Kings Mountain Boulevard and include bike lanes and sidewalks

### Issue 3: Crosswalks

While the Executive Summary of the KMSO includes a paragraph in Article III which states that publicly maintained roads are to be built to NCDOT standards, this document, as well as the KMZO, include no explicit requirements for crosswalks.

### Issue 4: Sidewalks

IV. KEY ISSUES: WEAKNESSES SORTED INTO CATEGORIES -  
TRANSPORTATION:

- The City lacks sidewalks and bike facilities that give alternate transportation opportunities and make the citizens more active.

HEALTH AND SAFETY:

- The City lacks sidewalks and bike facilities that give alternative transportation opportunities and make the citizens more active.

DOWNTOWN DEVELOPMENT  
RECOMMENDATIONS

- Improve sidewalks to adequately meet American Disability Act standards.

### Issue 5: Greenways, Multi-use Trails & Open Space

The LDP encourages the development of greenways for transportation uses and many other benefits (pp. 47f):

Use greenways to provide safe and efficient alternative transportation linkages between recreational sites, open spaces, residential areas, employment centers, educational and cultural facilities and other activity centers while at the same time encouraging citizen wellness, protecting environmental assets, maintaining a contiguous urban forest ecosystem, controlling storm water runoff, protecting cultural and historical resources, protecting open spaces, woodlands and wetlands and finally enhancing the beauty of the area to encourage tourism, economic development and improving the living environment of the citizens.

Update the Comprehensive Greenway, Bikeway and Pedestrian Improvement Plan to include the revised locations of the Gateway trail system. Implement the plan to expand the existing sidewalk system from 12 miles to 19.5 miles and bike lanes from 8 miles to 16.5 miles and trails and greenways from 1 mile to 21.9 miles.

DOWNTOWN DEVELOPMENT  
RECOMMENDATIONS

- Create an attractive, safe, well signed connection for both pedestrians and bicyclists from downtown to the trailhead of the Gateway Trail.

### RECREATION & OPEN SPACE

#### RECOMMENDATIONS:

- Utilize existing sewer easements to construct walking trails/bike paths, such as along Beason Creek, Potts Creek and from the Old McGill Plant to the Pilot Creek Treatment Plant.
- Implement the Comprehensive Greenway, Bike-way and Pedestrian Improvement Plan.

### Issue 6: Street Trees

#### COMMUNITY APPEARANCE

##### RECOMMENDATIONS:

- Budget annual funds for the landscaping of public areas (parking lots, parks, etc.). This would include purchasing and planting additional street trees in the Downtown area to continue the street tree planting program, and to replace diseased or dying trees.
- Maintain as many existing trees as possible along major and minor thoroughfares.

#### DOWNTOWN DEVELOPMENT

##### RECOMMENDATIONS:

- Budget annual funds for the landscaping of public areas (parking lots, parks, etc.). This would include purchasing and planting additional street trees in the Downtown area to continue the street tree planting program, and to replace diseased or dying trees.
- Expand the planter area for the street trees to create a better environment for the trees and to increase the plantings in downtown by surrounding the trees with groundcover.

### Issue 7: Walkable Streetscapes

#### COMMUNITY APPEARANCE

Unfortunately, in Kings Mountain, several thoroughfares contain negative streetscape and gateway images. Considerable opportunities exist, however,

for creating more positive appealing streetscapes. Where development is well established in older areas, the task of improving corridors will not be easy; however, it should be vehemently pursued to strengthen neighborhoods and the general economic stability of retail and employment uses along each of the gateway entrances

#### DOWNTOWN DEVELOPMENT

Most people have a mental picture of a “traditional” downtown: a main street lined with two- or three-story buildings with ground-floor retail or office uses. The buildings frame the street, which is in turn lined by sidewalks, on-street parking, and sometimes amenities such as shade trees and benches. It is a familiar, reassuring image, assuming that the downtown economy is healthy and the storefronts are occupied.

##### RECOMMENDATIONS:

- Consider issuing General Obligation Bonds to finance and provide downtown revitalization projects supported by the Main Street Program design committee (such as improvements to street lighting, streets, sidewalks, sidewalk canopies, and on – or off-street parking facilities).
- Implement the Main Street Program in the Downtown area with equal application of its Design, Economic Restructuring, Organization, and Promotion approaches.

#### DESIGN

- Revise the overlay zoning ordinance to require buildings within the district to be located close to or on the street typical of an urban condition and the parking to be located to the side or back of the building.
- City personnel need to administer the overlay ordinance as it was written in order to protect the integrity of downtown and to fairly and consistently administer the ordinance for all projects.
- Add additional pedestrian lighting on Battle-

ground Avenue and Railroad Avenue.

- Create a palette of high quality streetscape homogeneous furnishings and use those consistently throughout downtown.
- Use the existing Christmas lights throughout the year to animate the streetscape of the downtown.
- Create a wayfinding system throughout downtown that includes the central parking area and other key destinations downtown. There is an opportunity to create a gateway feature for downtown at the intersection of Kings Street and Battleground Avenue.
- Allow developers to appropriately renovate existing buildings to retain their historic character. Encourage creative renovation of non-historic buildings to include materials and detailing that are appropriate for the downtown setting.
- Incorporate lighting schemes in the renovations that highlight the unique characteristics of the buildings.
- Encourage merchants to light their store windows at night when the stores are closed to encourage window shopping.
- Redesign the alleys to create more attractive connections between the streetscapes and the central parking area.
- Give the alley additional functions such as outdoor dining areas or as places to display art.
- Name each alley to reinforce their individual sense of place such as the Gold Street Court.
- Add signage to clearly direct motorist to the parking lot.
- Work with the business owners to clean-up the rear facades facing central parking area. Add planting to the rear facades when there is adequate space.
- Add pedestrian lighting along the building rear facades.

**General Multi-modal Provisions** (Includes Issue 4: Lane and shoulder width) The commitment of Kings Mountain to a bicycle-friendly environment is clearly spelled out in the goals of the LDP. Among them:

The City of Kings Mountain will promote an efficient and safe comprehensive transportation system that includes alternative transportation modes such as bike facilities, pedestrian improvements and trails to move people and goods through a well-coordinated transportation network in an environmentally sensitive manner.

In order to accomplish this, the LDP recommends:

Review all development proposals with design standards in mind that promote the public's safety. Such standards need to cover lighting, visibility, shoppers, children, elderly, other pedestrians, and bicyclists.

LDP Section VII includes many provisions for multi-modal transportation helpful to bicyclists (pp. 46f). Best development practices listed include:

- Practice 9: Provide networks for pedestrians and bicyclists as good as the network for motorists.
- Practice 10: Provide pedestrians and bicyclists with shortcuts and alternatives to travel along high-volume streets.
- Practice 11: Incorporate transit-oriented design features.
- Practice 12: Establish Transportation Development Management programs at employment centers.

In addition, LDP Section VII recommends the following (p. 47):

- Create and implement streetscape plans on major arterial roads and other significant entrances to the city. Examples include York Road, Cleveland Avenue, Kings Street, Shelby Road, Battleground Avenue, North Piedmont Avenue, Sims Street and Cansler Street.
- Update the Comprehensive Greenway, Bikeway and Pedestrian Improvement Plan to include the revised locations of the Gateway trail sys-

tem. Implement the plan to expand the existing ... bike lanes from 8 miles to 16.5 miles.

- Improve the use of the transportation systems by installing appropriate way finding signs.
- Add demarcated bike lanes along NC 161.
- Develop incentives for the use of Traditional Neighborhood Development Street Design Guidelines promulgated by NCDOT for subdivisions to encourage and accommodate alternate transportation modes, make for safer movement and reduce vehicle miles traveled. This may mean also changing ordinance to accommodate and mandate trails, alleys, and lanes in new developments.
- Demarcate bike lanes where ever feasible and likely to contribute to a bike facility that connects a significant portion of transportation area.

In addition to the County’s Animal Control Policy, under which the City currently operates, recommendations in the Environmental Quality and General Planning portion of the LDP (p.90) include:

- Create a vicious or dangerous dog ordinance to protect pedestrians and bicyclists, thereby making it safer and more likely this type of transportation alternative will be successful.

Included among the specific road project recommendations in the LDP is found:

- (2) Widen Phifer Road and improve its alignment between the school areas and the Kings Mountain Boulevard and include bike lanes and sidewalks

The LDP recommends access management strategies to improve safety.

- Minimize curb-cuts on major traffic arteries to reduce traffic congestion and accidents.

### CONCEPT PLAN FOR REVITALIZATION OF DOWNTOWN KINGS MOUNTAIN, NC

This 30-page presentation study was prepared by Arnett Muldrow and Associates et al. 2007. It addressed many downtown issues and made a number of recommendations affecting the bicycle environment, including:

- A “road diet” for Battleground Avenue with reduced lane widths
- Improving street lighting
- Improving connections across the railroad corridor
- Providing a greenway or bike lane link from downtown to the Gateway Trail on Battleground Avenue

### KINGS MOUNTAIN

#### LAND DEVELOPMENT PLAN (1995)

This Plan was developed by Centralina Council of Governments. It was initiated by City Council in 1992 as an update to the City’s Land Development and Community Facilities Plan, originally adopted by City Council in 1965, and updated in 1974 and again in 1977. The guiding vision for the Plan of the City was that of a “bedroom community with a balance of retail, industrial and residential development.” Some of the needs cited that most directly affect the development of pedestrian facilities (including multi-use trails) include:

- bikeways and trails
- historic preservation and historic districts
- natural buffers of farm land around the City
- balanced land use pattern
- revise zoning and subdivision ordinance
- support local small business in the Downtown area
- foster restaurant diversity and more shopping opportunities
- improve community recreational facilities
- protect small animal habitat
- extend public sewer system to John H. Moss Reservoir area

## KINGS MOUNTAIN COMPREHENSIVE GREENWAY, BIKEWAY AND PEDESTRIAN IMPROVEMENT PLANS

This Plan was initiated as a result of the Kings Mountain Gateway Community Project which envisioned the City as the “gateway” to a number of prominent regional attractions, such as the Kings Mountain State Park, the National Military Park, and Crowders Mountain State Park. The intent was to preserve open space, promote bikeways and walkways, enhance the quality of life, and attract business and industry. Its recommended pedestrian improvements are intended to provide for both recreation and transportation needs, linking key “focal points throughout the city that ultimately connect to the parks to the south and eventually to regional sites.” Among the Plan’s stated goals are:

- Make travel safer for pedestrians and bicyclists.
- Extend existing sidewalks and greenway / trail system.
- Create design standards and construction specifications.
- Link downtown to the parks and their trails.
- Link the neighborhoods to downtown.

The Plan includes guidelines for pedestrian facilities, recommending widths for multi-use trails. Strongly suggested among its measures for implementation, is the inventory of utility easements for possible shared use as a trail. It further recommends making changes to the zoning and subdivision ordinances in order to increase connectivity and provide safe transportation alternatives.



### KINGS MOUNTAIN GATEWAY TRAIL

The City of Kings Mountain, Kings Mountain National Battlefield Park, the Crowders Mountain State Park, and the South Carolina Kings Mountain State Park initiated the Gateway

Community effort with the River Trails Conservancy through the National Park Service. Out of this effort,

trails connecting the City of Kings Mountain (downtown) to the parks were identified. Their effort was taken over by the Kings Mountain Gateway Trails Inc. when it was formed in 2005.

Plans for a 5.29 mile extension are underway to continue the current facility to I-85. It is intended that the Kings Mountain Gateway Trail eventually connect the City of Kings Mountain to Crowders Mountain State Park, Kings Mountain State Park, Kings Mountain National Military Park, the Overmountain Victory Trail and the Appalachian Trail. According to the Kings Mountain Gateway Trail website (<http://www.kmgatewaytrails.org/>) the greenway will ultimately reach 8 to 10 miles, and become part of the Carolina Thread Trail. The facility will include a paved trail, soft-packed gravel trail and single-track mountain biking trails. It is intended that the Gateway Trail provide recreational opportunities to people in the surrounding region, enhance economic development for the local community, and provide a venue for citizens to link to one another and the rich history and natural wonder of the region. It will provide a venue for nature exploration, education in science and history and for community events.

### CAROLINA THREAD TRAIL

The Carolina Thread Trail (CTT) is a proposed regional network of multi-purpose greenways, serving 15 counties and over 2 million people. This greenway system will eventually link communities and attractions throughout the region by connecting smaller trail systems throughout its bi-state area. The Trail will help preserve natural areas and be a place for exploration of nature, culture, science and history. The City of Kings Mountain is located on the proposed Carolina Thread Trail alignment in the approved Greenway Master Plans for both Gaston County and Cleveland County. See **Appendices A.1.1.**



The City of Kings Mountain and its Gateway Trail are cited in the Carolina Thread Trail Master Plan for Cleve-

land County Communities as one of seven regional destinations in the County connected by the proposed CTT. The Master Plan was adopted by the City of Kings Mountain in December, 2009. Two CTT segments in Cleveland County meet within Kings Mountain. Segment “R” comes from the direction of John H. Moss Reservoir and follows Potts Creek into the City, then follows Country-side, Shelby, and Crocker Roads to join Beason Creek. It reaches downtown by way of Phifer and Mountain, then turns south on Battleground until joining up with the Gateway Trail, which is designated as CTT Segment “S” in the Cleveland County Plan. The proposed Segment “S” crosses I-85 and continues on to the Ridgeline Trail.

The Carolina Thread Trail Master Plan for Gaston County Communities was adopted in March 2009, and was most recently updated in February 2011. The Plan includes connections to Crowders Mountain State Park as well as nearby Bessemer City. It also recommends a route that reaches the Kings Mountain area by way of a utility corridor running parallel and south of I-85. The route crosses Canterbury Road and continues potentially on to York Road.

### KEEP IT MOVIN’ GASTON 2035 LONG RANGE TRANSPORTATION PLAN (LRTP)

The Gaston Urban Area Metropolitan Planning Organization (MPO) adopted this comprehensive plan on March 23, 2010. While the City of Kings Mountain is not a member of the MPO, LRTP recommendations will nonetheless influence subsequent planning and construction in the immediate area of Kings Mountain.

The LRTP includes greenway facility recommendations. Section 7.2.3 Bicycle Facilities includes a map of recommended bicycle routes for Gaston County. This Bike Route Network map (Fig. 7-17), adopted in the September 2001 TAC meeting, indicates connections to Crowders Mountain from the east and north. Section (8.1) of the LRTP recommends route connections to the Carolina Thread Trail to the northeast of Kings Mountain. The Thread Trail connects with a proposed multi-

purpose trail along the southwest side of Bessemer City, which crosses into the Kings Mountain ETJ. This trail is part of a network of multi-purpose paths proposed in the 2010 adopted Bessemer City Pedestrian Plan.



**Bessemer City Pedestrian Plan**

### BESSEMER CITY PEDESTRIAN PLAN

Bessemer City adopted its pedestrian plan in April, 2010. This Plan, by Centralina Council of Governments, includes a network of multi-purpose paths which encircle and intersect downtown Bessemer City. One such proposed path named - the “Furnace Trail”, named for the historic furnace on Long Creek Road - runs along the southwest side of the City and briefly crosses into the Kings Mountain ETJ at Bessemer City Kings Mountain Highway (NC 161). The Furnace Trail (designated as project “T-23”) intersects the Carolina Thread Trail at Crowders Mountain Road and Whitesides Dairy Road.



### 3. PROJECTS, PROGRAMS & INITIATIVES

#### PROJECTS

Transportation Projects scheduled in the North Carolina Transportation Improvement Plan (TIP) for Kings Mountain included Kings Mountain Boulevard, which serves as a north-south connector from US 74 Business, at Dick Elam Road (SR 2031) to I-85 at Dixon School Road. This project was completed in 2006. Another TIP project, the automatic railroad warning devices at Hawthorne Road on the Southern Railroad Crossing was removed from the TIP list because the crossing was done away with because of liability issues for the City. York Road from King St. to I-85 is still on the TIP.

#### PROGRAMS

##### **Kings Mountain Gateway Trails, Inc.**

A vision of Kings Mountain as a “gateway community” began in 2000 with a collection of local government officials, city staff, and park superintendents. Area stakeholders, including residents, local businesses, and the Chamber of Commerce were led by the River and Trails Conservancy staff. In 2005, Kings Mountain Gateway Trails Inc. was formed. The group orchestrated a feasibility study in 2006 for connecting downtown to area parks by a trail system. Conservation easement documents were signed the following year by area mining companies, Chemetall Foote and Martin Marietta, and by the Weir and Consortium Properties. This provided property for the trail head and Phase I of the project, and an additional four miles of trail and a bridge crossing I-85 for Phase II to be completed in the future. Three grants were received for the project in 2008, including a PARTF for \$500,000, AAT for \$5,000, and an RTP grant for \$75,000. These were accompanied by gifts of materials, labor and monetary donations. Construction of the current facility commenced in 2009. Two additional miles of the trail are scheduled for completion in 2014.

Kings Mountain Gateway Trails, Inc. is a local non-profit organization organized for the sole purpose of building this greenway. Their website (<http://www.kmgateway-trails.org>) describes the phased construction of the Trail:

##### **Kings Mountain Gateway Trail Phase 2:**

###### **Gateway Trail**

The second phase of the trail will include approximately 3.9 miles of greenway and nature trails. The trail will extend south from Quality Lane until it reaches Davidson Lake. An additional loop trail will provide a connection to City Lake as well.

###### **Nature Trails**

Two nature trails will be located along the gateway trail. One nature trail will be located on the north side of City Lake while the other nature trail will be located on the west and south sides of Davidson Lake. The majority of each nature trail will be 6' in width and consist of a soft surface. The reduced trail width will give a more intimate and natural experience compared to the other trails.

###### **Park Connections**

Phase Two will provide connections to both City and Davidson Lakes. Nature trails are planned for these park-like areas. Fishing piers and wetland boardwalks have been mentioned as possibilities at one or both lakes. Future funding will determine the feasibility of the piers and wetland boardwalks.

###### **Boardwalk at Davidson Lake**

Property constraints around Davidson Lake require a boardwalk, less than ½ mile in length, on the western edge of the lake. The boardwalk will be 10' in width and give users magnificent views across the lake. Seating Areas Seven seating areas are planned to be located along the Gateway Trail in the second phase. Each seating area will contain at least one bench and trash receptacle.

### Overlooks

One overlook will be located at each lake. Seating areas at these overlooks will allow visitors to relax and take in the beauty of their surroundings.

### Kings Mountain Gateway Trail Phase 3:

#### Crowders Mountain Connection

A connection to Crowders Mountain State Park is the primary objective of the future phase. The park's northern boundary is approximately ¼ mile from the phase two trail ending point. Planning and negotiations to connect to the park have already started.

#### Carolina Thread Trail Connection

Though still in the planning and fundraising phase, the Carolina Thread Trail promises to be a great asset to the region. The Kings Mountain Gateway Trail hopes to be a part of this "thread" and connect to other greenways in the region. In March 2008, the Carolina Thread Trail received a \$1 million donation for the planning, design and development of Cleveland County's section of the trail project.

#### State and National Park Connections

Connections into Kings Mountain State Park and Kings Mountain National Military Park are also a top priority of future phases. Once connected to the National Military Park, Gateway Trail users can access the Appalachian Trail via the Over the Mountain Victory Trail. Representatives from all three parks, the Carolina Thread Trail and the Over The Mountain Victory Trail have expressed their support throughout the entire planning process.

#### Land Acquisition (already in hand)

#### Trail Head (Park)

Martin Marietta, a local aggregate company, donated a one acre parcel to Kings Mountain Gateway Trail Inc. The site is located at the corner of Battleground Avenue and Quarry Road. This site is where the trail head (park) will be located.

### Trails

#### Chemetall Foote Property

Chemetall Foote Corporation, a local manufacturer, has donated land and granted easements along the edge of their property. A large portion of the trail itself will be located on the outer perimeter of Chemetall property. Chemetall is also allowing the trail to cross I-85 via the company's vehicle maintenance bridge.

#### Consortium Property

A few places along Chemetall's property boundary are too steep for a trail to be constructed. Easements along the Consortium property help solve this problem. A small section of the trail moves from Chemetall property to the Consortium property to avoid these steep inclines.

#### Weir Property

Easements through two parcels of Weir property complete the needed land to make this trail a reality."

Financial contributors to the Gateway project include:

- Chemetall Foote Corporation
- Martin-Marietta, Inc.
- City of Kings Mountain
- Cleveland County
- NC Parks & Recreation Trust Fund
- Adopt-A-Trail Grant
- NC Recreational Trail Planning Grant
- Kings Mountain Tourism Development Authority
- Dover Foundation
- Neisler Foundation
- Consortium Property
- Weir Family Property





### Lake Norman Rural Planning Organization

At the outset of this planning process, the City of Kings Mountain was a member government of the LNRPO, through which it participated in transportation planning initiatives for the region, and enjoyed the benefits and resources available through the LNRPO. One of those benefits was assistance in applying for the NCDOT Bicycle Planning Grant that funded the development of this Plan. During this process, the jurisdictional lines of MPOs and RPOs in the region have changed. Kings Mountain is now a member of the tri-county transportation planning organization that includes Gaston, Cleveland and Lincoln Counties.

### GASTON-CLEVELAND-LINCOLN



### Metropolitan Planning Organization

#### Gaston County and Municipal Planners

GCaMP was formed in November 2002 as a cooperative group of planners, school officials, health department representatives and law enforcement officers from 15 jurisdictions within the County. They meet monthly, together and with other stakeholders, to coordinate planning efforts and discuss emerging issues. Kings Mountain's participation in GCaMP means they are part of a support system that shares best planning practices and information for more informed decisions at the local level.

#### Over the Mountain Triathlon

Over the Mountain celebrated its 14th year in 2013 with a 30 mile bike ride from John H. Moss Reservoir to Patriots Park in downtown Kings Mountain. Endurance Magazine selected Over the Mountain as the "Best Olympic Triathlon Event" in the state. The course is described as



#### "Press on Toward the Prize"

John Hargis, 2001

both challenging and beautiful. It is the largest one-day sporting event in Cleveland County, with over 500 participants, bringing significant economic impact to Kings Mountain. For additional information, see: <http://www.shelbystar.com/articles/mountain-51800-triathlon-kings.html>



#### Historic Park and Trail System

The Kings Mountain Historical Walking Tour and Trail system was established in 2005. It includes a Main Loop (1.05 miles), a Downtown Loop (0.46 Miles), and a Central School Historic Loop (0.4 miles).



## 1. RECOMMENDED ACTIONS

In this section, systematic improvements to pedestrian conditions are put forth for both the short and long term. Recommendations may address whole systems within the pedestrian realm, such as the sidewalk or greenway system, while others may focus on land use issues or programmatic strategies that can directly influence walkability.

## 2. RECOMMENDED POLICY CHANGES

Each of the seven issues concerning pedestrian conditions, described in Section 3.1, are addressed here. Specific revisions are recommended to local ordinances with the intent that the revised policy will help to shape future development in a way that more closely meets the expressed walkable community goals.

## 3. RECOMMENDED PROGRAMS

Creating a physical environment conducive to walking is only half the challenge. A walkable community also requires a prevailing attitude that walking matters. This mindset can be fostered through programs that encourage walking, enforce laws that protect pedestrians, and educate both pedestrians and drivers on related concerns.

## 1. RECOMMENDED ACTIONS

### Guiding Principles

A community cannot effectively implement plans to achieve a vision without guiding principles in place. These principles are codified into a body of policy, which gives direction to the community as it determines the most effective and appropriate strategies for implementing projects. Policy also guides the selection of programs and spending priorities.

With the adoption of its Comprehensive Pedestrian Plan, the City of Kings Mountain has official policy that specifically identifies the location of proposed on-road and off-road pedestrian facilities. The Plan specifies where these improvements are to be placed, how they are to be designed, and the publicly-driven priority for when they are to be installed. This Plan and other related policy should be consistently referenced when making larger transportation and land use decisions.

The Plan is based upon the following guiding principles. These same principles should guide how the Plan is implemented:

- A. Make walking a viable transportation option by providing pedestrian facilities that connect important destinations to neighborhood and regional destinations, routes, greenways and multiple-purpose paths.
- B. Adopt land use practices that support mixed residential/non-residential zoning, connectivity between adjacent land use and neighborhoods, and infill development to give pedestrians of all ages a realistic opportunity to walk as a viable means of transportation.
- C. Encourage the addition of amenities that make walking safe, practical and pleasurable such as planting strips, street trees and other landscaping, traffic calming, public restrooms, and recreational facilities.

- D. Create an atmosphere where motorists are made more aware of pedestrians, and where the physical obstacles that pedestrians currently face are corrected.
- E. Promote awareness of the wide-ranging benefits of walking throughout the community.
- F. Designate, design and modify appropriate streets to accommodate automobiles and pedestrians together. Collector roads may require sidewalks and other design modifications, whereas lower speed and volume roads may not require any modifications.
- G. Consider the provision of pedestrian facilities as a legitimate element on all new and existing streets before resurfacing, street widening or construction projects are undertaken.
- H. Set aside land for paths/trails in new development.
- I. Revise City ordinance to reflect the above principles in the manner appropriate for the community.

With a view to these guidelines and in order to achieve the stated community vision and goals which form the basis of this Plan, the following actions are recommended.

### 1. Form a PAC! (Pedestrian Access Committee)

This stakeholder based committee can represent a wide variety of pedestrian interests and populations in the City. An existing committee may already be in place to take on this function. Members should include representatives of the business community, long-time residents, and residents of newer residential developments. Various areas of expertise represented by the PAC should include:

Transportation	Education
Commerce	Aesthetics
Industry	Environment
Health and Fitness	Engineering and Design
Recreation	Public outreach
Safety and crime prevention	

The purpose of the PAC is to ensure that the Pedestrian Plan stays in the forefront of public awareness, that it is implemented through ordinance changes, grant opportunities, and as development occurs in the private and public sectors. The PAC should also help ensure that the Pedestrian Plan is updated as needed to reflect changing conditions and pedestrian needs. The PAC can be an important avenue for integrating pedestrian needs with other planning processes. The group can serve as advocate, monitor, facilitator, and educator, and see that emerging public needs are addressed in the planning process. The PAC should also ensure that citizens are alerted of planning efforts, changes in facilities, and upcoming construction.

### Implementation Strategies:

- a. The Mayor and City Council shall appoint the PAC members, or recognize an existing committee, and invest them with the training, authority and charge to pursue the Pedestrian Plan strategies. City staff can recommend a list of candidates. It is recommended that the PAC include a City elected official.
- b. Evaluate current City staffing needs. Implementation of the Pedestrian Plan may require some additional staff responsibilities to coordinate individual improvement projects and work with the Pedestrian Access Committee.
- c. Utilize the City website to foster a walking-friendly community. The website can be a great place to announce pedestrian workshops and meetings, and promote community activities and programs that get people connected and walking.

### 2. Address street crossing safety concerns.

Crosswalks should be located strategically where high pedestrian activity encounters the greatest potential conflict with vehicular traffic. Properly designed crosswalks not only facilitate safer street crossing opportunities for pedestrians, they also offer a secondary pedestrian benefit of calming traffic.



**Faded crosswalk at intersection of Cherokee & Gold Streets**

**Implementation Strategy:**

- a. Contact NCDOT Division 12 and formally request a site visit to existing crosswalks and other crossing points recommended in this Plan as needing particular attention.
- b. Request that consideration be given to the need for crosswalk signalization, pedestrian activation mechanisms, signage and striping in locations listed in **Table 6.20c, Proposed Project Data & Ranking.**

**3. Enhance Conditions and Accessibility of Existing Sidewalk System.**

Segments of existing sidewalks throughout the City are in sub-standard condition and/or inaccessible to handicapped users. These may include sidewalks that are partially obstructed by utility poles and other objects that can impede the travel path. Accessible ramps are needed for curbs at intersections. Crosswalk striping at some intersections has faded. Some curbs have given way due stress from heavy vehicles.

**Implementation Strategy:**

- a. The City’s sidewalk maintenance schedule may require revision to keep up with the community’s pedestrian infrastructure requirements. Review the dedicated

fund referenced by the schedule along with the funding sources provided in **Section 8.3: Funding Strategies** to see if additional funding sources could be tapped to increase maintenance.

- b. Perform spot improvements to existing sidewalks in accordance with the plan’s priorities. Sidewalk conditions to be considered for improvements may include:
  - i. Pavement condition and type
  - ii. ADA compliance
  - iii. Path width
  - iv. Drainage
  - v. Removal of obstructions
  - vi. Lighting
  - vii. Planter islands
  - viii. Landscaping



- ix. Pedestrian furniture - trash cans, benches, etc.
- c. Handicapped pedestrians are particularly sensitive to sidewalk maintenance and accessibility needs. Contact these users directly, or through local organizations that work with the physically challenged, and develop a volunteer reporting system that helps these users record and report maintenance and accessibility problem spots.
- d. Develop a maintenance reporting system for City staff that travel local streets weekly. Maintenance needs can be reported by cell phone or radio to a central dispatch within the City’s Public Works Department, or be recorded on a laminated map with grease pencil, or by using an adapted GPS system. For more information, call PinPoint Geotech at (864) 643-0344, or visit: [www.PinPointGeoTech.com](http://www.PinPointGeoTech.com).
- e. Review pedestrian warning signage of current facilities. Repair, replace and augment signs where necessary for increased safety and clarity.
- f. Examine and improve landscaping conditions associated with pedestrian facilities, particularly planting strips that provide a buffer between sidewalks and street automobile traffic. Ensure existing landscaping is properly maintained to provide pedestrian clearance. Provide shade trees for sidewalks where conditions permit. See **Section 8.4 Maintenance Programs.**
- g. Consider replacing existing downtown evergreen street

trees and raised brick planters with canopy deciduous trees and at-grade tree grates to provide unobstructed pedestrian passage, seasonal shade and greater visibility of businesses.

#### 4. Implement existing development policy.

Much of the City's current policy complements the Pedestrian Plan goals and can work in tandem with its recommendations.

##### Implementation Strategies:

- a. Review adopted policies, particularly those cited in the Pedestrian Plan. Resolve any conflicts that may exist between these documents.
- b. Identify the complementary goals, any common funding strategies, and potential private partners. Discuss priorities, strategies and responsibilities with all pertinent municipal staff, planning board and local, area, and county officials.
- c. Resolve local roadblocks to development projects that would improve local pedestrian conditions.
- d. Establish and strengthen partnerships with local businesses, citizen action groups, and regional public organizations, such as downtown municipal service district businesses.
- e. Target specific projects for funding and implementation efforts.
- f. Engage the public and development community with education campaigns and open house events.

#### 5. Advance the downtown economic development strategy based on the Main Street Model.

As the City's pedestrian hub, downtown livelyhood is critical to the pedestrian vision of Kings Mountain. In order to attract and sustain pedestrian activity, the downtown should offer a mix of thriving businesses, civic uses, and residences amidst a setting of attractive buildings and streets.

##### Implementation Strategy:

- a. Review goals for the downtown area and affirm these goals with elected officials, staff and the community.

- b. Conduct market feasibility analysis to measures potential development costs including land, relocation, demolition, public improvement and site work. It will also compare those costs with potential project revenue including what the developer should be able to pay for land, grants, tax increment, business development tax and other revenues.
- c. Prepare a refined concept plan with a development program vetted by City decision makers.
- d. Select an experienced developer and confirm clear expectations of the scope of work consistent with the main Street Model.

#### 6. Initiate recommended programs.

Pedestrian programs can help raise community awareness, and encourage healthy and safe activity.

##### Implementation Strategies:

- a. The PAC and City staff shall work with stakeholders to determine what programs might work best in Kings Mountain. For some initial ideas, see **Section 4.3: Recommended Programs**.
- b. Involve stakeholder groups such as the Police Department, health experts, fitness enthusiasts, school officials, town historians, et al. These volunteer advocates can manage programs, distribute materials, and encourage participation.

#### 7. Expand, fill gaps, and remove barriers in the current sidewalk and crosswalk system.

The City enjoys an extensive sidewalk system, with facilities in place along many of its downtown streets and in newer pockets of development. But critical gaps in the system prevent its full use, particularly for accessing Downtown. These isolated segments should be connected in order to form a more complete sidewalk system.

##### Implementation Strategies:

- a. Utilize the Pedestrian Plan to help locate, design and construct sidewalk and associated facilities.
- b. Closely monitor the schedule of improvements to existing roads and new construction. Many of the Pedestrian Plan's recommended sidewalk projects are

to be constructed as road improvements are implemented by NCDOT.

- c. Ensure that all new development respect planned or proposed sidewalk alignments and follow development ordinance regarding sidewalks.
- d. Utilize existing undeveloped City-owned street right-of-way for sidewalk and trail development.
- e. Identify and remove barriers to pedestrian passage where possible.
- f. Apply for recommended funding and enact revisions to the local budget. Refer to **Section 8.3, Funding Strategies** for various options of land acquisition and public-private partnerships.
- g. Initiate right-of-way agreements for sidewalks and associated improvements. All pedestrian projects should be coordinated with the appropriate right-of-way owners, including NCDOT Division 12, local utility companies, and individual parcel owners to be identified. Coordinate with neighboring municipalities and/or Cleveland and Gaston County where trails leave the City limits and ETJ.

**8. Develop a safe and inviting trail and greenway system to increase pedestrian connectivity and recreational opportunities throughout the area.**

In addition to an improved sidewalk system, the Pedestrian Plan outlines an interconnected system of trails that link primary destinations, neighborhoods, existing and planned municipal greenways systems, outlying areas of the City including satellite annexations, adjacent municipalities, and the proposed regional Carolina Thread Trail. This proposed greenway network is designed to complement and extend both the existing greenways in Kings Mountain and its planned system.

It should be noted that the term “trail” refers to a path other than a sidewalk that links destination points (and thus is useful for transportation) as well as paths that are utilized primarily for recreation. A trail may (or may not) be part of a greenway. The Carolina Thread Trail organization defines greenways as:

“Linear natural spaces, often containing trails that link parks, nature reserves, cultural features or historic sites

with each other, for recreation, transportation and conservation purposes.”

**Implementation Strategy:**

- a. Locate, design, and construct trails and their supporting facilities (including associated parking areas) according to the alignments and standards suggested in the Pedestrian Plan. Refer to **Section 7: System Maps & Project Descriptions**, and **Section 8: Facility Standards and Guidelines**.
- b. Establish conservation easements for farmland that incorporates planned greenways.
- c. Initiate right-of-way agreements for trails and associated improvements. All pedestrian projects should be coordinated with the appropriate right-of-way owners, including NCDOT Division 12, local utility companies, and individual parcel owners to be identified. Coordinate with neighboring municipalities and/or Cleveland and Gaston Counties where trails leave local municipal limits and ETJ.
- d. Ensure that all new developments respect planned or proposed corridors for greenways. New trail easements may be acquired through a subdivision process, or through various other means including:
  - i. Donation of right-of-way or easements by public or private landowners
  - ii. Public purchase of right-of-way or easements
  - iii. Public/private partnerships
- e. Explore opportunities to utilize creek lands and floodways, utility rights-of-way, and existing parks.
- f. Utilize existing undeveloped City-owned street right-of-way for sidewalk and trail development.
- g. Coordinate greenway planning with the Cleveland County and Gaston County Public Works.
- h. Apply for funding and enact revisions to the local budget. See **Section 8.3, Funding Strategies**.
- i. All projects must meet all local ordinance buffer requirements and state wetlands requirements.
- j. Coordinate patrol of the Gateway Trail Phase II with Cleveland County government. The services of a full-time park ranger is recommended for this and other expansions of the City’s greenway system.

### 9. Improve existing street lighting in selected neighborhoods.

Street lighting is a primary concern for pedestrian safety for preventing accidents and deterring crime. Particular neighborhoods in Kings Mountain have been cited as in need of enhanced lighting. Maintenance and improvement of existing fixtures and/or installation of additional street lights is recommended.

#### Implementation Strategy:

- a. See **KMZ Section 4.22** on Outdoor Lighting.
- b. Review the lighting projects listed and prioritized in **Section 6, Map 6.18 and 6.19.** and schedule the projects with Public Works
- c. Consider the lighting standards described in **Section 7: Facility Standards & Guidelines.**
- d. Selected locations:

#### Project #

- L1 Alley between S. Battleground Ave. and Cherokee Street
- L2 Phenix Mill between RR and Piedmont
- L3 Castlewood area north of Shelby Road
- L4 Phifer at Beason Creek & High School
- L5 York Road at Charles
- L6 York Road at Woodlake Pkwy.
- L7 York Road at Galilee Church Road
- L8 Galilee Church Road

### 10. Engage in community planning for infill of under-developed parcels in and around the City.

As part of the land use planning process, serious discussions at the community level should guide the desired character infill development on large parcels, and how much street connectivity and pedestrian-friendly actions should be promoted in that development. These discussions should occur sooner rather than later, before these properties are developed, so that pedestrian facilities can be included in planning (as it is usually much more costly and difficult to successfully retrofit). As a part of these discussions, current zoning restrictions for these properties should be evaluated in terms of pedestrian-friendli-



The Art Center on North Battleground Avenue

ness. A higher density and broader mix of uses, along with sidewalks and street trees, could support walking as a desirable means of transportation. Mixed-use zones would allow a variety of destination to closely exist in these areas – restaurants, stores and offices, for instance – providing citizens more opportunities to walk in their daily routine and work near their homes. Widely spaced and dispersed uses tend to discourage walking as a form of transportation between them.

#### Implementation Strategy:

The City planning staff, the Planning Board and the PAC should evaluate public input and present recommendations for adoption by the City Council.

### 11. Highlight Historic and Cultural Landmarks.

Reinforce the unique identity of Kings Mountain through promotion and coordination of activities involving its historic and cultural landmarks.

#### Implementation Strategies:

- a. Continue appropriate development of historic and cultural landmark areas already established, such as the Historic Trail, the proposed Historic Park and the memorial at Patriots Park.
- b. Develop the Art Center on North Battleground Avenue as an arts and crafts center with workshops, lodgings for visiting artists, display buildings, a pottery shed, prominent locations for public art display

and art sales, etc.

- c. Identify and catalog additional historic landmark elements that express the City’s unique heritage.
- d. Develop a local way-finding system.

**12. Provide multi-modal transit opportunities.**

To serve those in Kings Mountain who daily or weekly travel to Charlotte for employment and other purposes, exploring a variety of opportunities for shared rides makes sense. Public transportation provides an important alternative to improve transportation efficiency. Public transportation reduces or eliminates the amount of time spent in traffic jams; provides a much needed service for elderly and disabled by giving them the freedom to leave their homes if necessary; promotes independence for those who need public transportation to get to work; and improves road conditions and the environment by reducing the number of cars on the highways (for every bus full of passengers 40 cars are removed from traffic). Communities with good public-transit options offer more convenience for residents. And studies indicate that cities with good transit options recover faster from recession. Lack of access to public transportation can be a major barrier keeping out-of-work people, especially those in lower-income groups, from finding jobs.

**Implementation Strategy:**

- a. Solicit Charlotte DOT to extend bus line service to Kings Mountain.
- b. Promote the Charlotte Area Transit System (CATS) van pool to make more people aware of this service.
- c. Develop local car pools. Get started with the help of NCDOT’s Share the Ride website at [sharetheridenc.org/public/home.aspx](http://sharetheridenc.org/public/home.aspx).

**13. Update the Kings Mountain Zoning and Subdivision Ordinances.**

Specific revisions to these ordinances could help in achieving the expressed pedestrian vision of the City and positively impact the community’s pedestrian quality. New sidewalks, trails and associated pedestrian facilities will become available to the community through the de-

velopment process, with minimal public expense.

Although the Kings Mountain Zoning Ordinance was updated as recently as December, 2012, its format still largely reflects the original type-written document adopted in 1996. An updated, more user-friendly ordinance can be part of a strategy to better communicate zoning regulations to the development community, design professionals, citizens, and business owners, and make the ordinance easier to administer.

**Implementation Strategies:**

- a. Review the City’s current land development ordinances to ensure they support City objectives, specifically the summary of pedestrian-related policy in **Section 3.2**. Consider the specific revisions suggested in the Recommended Policy Changes in **Section 4.2**.
- b. Revise these land development ordinance document to make them easier to use. Begin with converting the current scanned page files to a word-search friendly PDF format by running a character analysis through Adobe Acrobat software. Interactive, user-friendly ordinances can also include color graphics, navigation tabs, and hyperlinks.
- c. Revise the City’s website to make the online zoning ordinance easier to use. This should include providing a name or explanation for each of the Zoning Ordinance sections next to the Article number.
- d. Include additional and updated discussion of City goals and objectives within the zoning ordinance.
- e. Consider creation of a Unified Development Ordinance for the City and its ETJ.
- f. Review zoning approval processes and procedures including the level at which action is taken on zoning applications to ensure the process is commensurate with the impact of the proposal and the amount of discretion available.
- g. Update development standards, definitions, findings, and administrative provisions.



## 2. RECOMMENDED POLICY CHANGES

### Local Ordinances

The various local ordinances that govern land development are examined in **Section 3.1** in terms of how they support critical pedestrian-friendly goals. Arranged below by issue are brief descriptions of how these policies can be improved to better serve the City's pedestrian vision.

### 1. Mixed Land Use

#### CURRENT REGULATION:

The KMZO is a zone-by-use code, but includes districts that allow housing components within commercial and office districts, as well as provisions for mixed use developments under PUD special requirements.

#### CONCERNS:

While zone-by-use codes can be useful in discouraging the juxtaposition of incompatible land uses, they do not readily encourage the development of walkable environments. Zone-by-use districts are still based upon the separation of uses as the organizing principle for building patterns and focus on the micromanagement and segregation of land uses, and the control of development intensity through parameters such as floor-area ratios, dwellings per acre, and setbacks.

Form-based codes are not based upon land use, but instead, guide development through regulating plans, public space standards, and building form standards designed to work together in a coordinated fashion, and encourage a mix of land uses.

The Regulating Plan designates where different building form standards apply, based on clear community intentions regarding the physical character of the area being coded.

Public Space Standards include specifications for the ele-

ments within the public realm (e.g., sidewalks, travel lanes, on-street parking, street trees, street furniture, etc.).

Building Form Standards are regulations controlling the configuration, features, and functions of buildings that define and shape the public realm.

Form-based codes foster predictable built results and a high-quality public realm by using physical form as the organizing principle for the code.

#### RECOMMENDED REVISIONS:

- a. Consider the adoption of a form-based code. Review examples of form-based codes and the communities that have adopted them at: <http://www.formbased-codes.org/samplecodes>
- b. Implement the recommendations described in the City's Land Development Plan, 2020.

### 2. Street Connectivity

#### CURRENT REGULATION:

KMSO Section 3.5 7) b. states that Cul-de-sacs should not extend for significant lengths unless necessitated by such factors as topography, property shape, property accessibility and/or land use relationships. Corridor overlay language is only slightly more stringent, mentioning only by topography and separation of unlike or incompatible uses.

#### CONCERN:

As its name conveys, the City of Kings Mountain (and moreso its ETJ) occupies a landscape where topographic challenges are not uncommon. Any hill or stream may be considered an impractical encumbrance that "necessitates" a cul-de-sac. With no site-specific criteria provided in the Ordinance, the City has no consistent basis on which to require developers to build road connections that cross stream valleys or engage slopes. Or developers may pursue a lawsuit if the City, on an indiscriminate basis, requires them to build the road as a condition for

subdivision approval.

**RECOMMENDED REVISION:**

Develop quantified standards for topographic and accessibility hardships (such as maximum slopes, width of floodplain to cross, etc.) and include those in an amended KMSO Section 3.5 7) b.

### 3. Crosswalks

**CURRENT REGULATION:**

The KMZO and KMSO include no language requiring or regulating crosswalks.

**CONCERN:**

The City’s land use codes do not include any requirements or guidelines plan for the location of crosswalks, nor do they site or put forth any design standards for crosswalks, or associated warning signage, signalization or striping.

**RECOMMENDED REVISIONS:**

- a. Amend the KMSO to require crosswalks along principal streets within subdivisions where block lengths exceed 500 feet, or at blocks to public destinations that generate substantial amounts of pedestrian traffic (i.e., schools, library, etc.).
- b. Include a step regarding the responsibility to reference relevant adopted plans for the location of additional strategic crosswalks required.
- c. Provide design standards for crosswalks.

### 4. Sidewalks

**CURRENT REGULATION:**

The requirements for the installation of sidewalks in the development of subdivisions, found in Section 3.10 of the KMSO, establish pedestrian links to adjacent thoroughfares, adjacent sidewalks, and within the subdivision itself.

**CONCERN:**

The rule for internal sidewalks for subdivisions is given only in terms of required length. This length is directly proportional to the total length of public streets within the subdivision. The arrangement of the sidewalks is left solely to the developer. Any particular street may have sidewalks on both sides, one side only, or none, as long as the total length requirement for the development as a whole is met. There are no requirements stated for maintaining a continuity of the “system” or ensuring accessibility to common destinations within the subdivision (such as parks).

**RECOMMENDED REVISIONS:**

- a. Require a continuous system of sidewalks be installed along all primary streets within the subdivision, connecting to all entrances and all common area destinations within the subdivision.
- b. Include a step regarding the responsibility to reference relevant adopted plans for the location of additional strategic sidewalks required.
- c. Provide design standards for sidewalks
- d. Revise the reference to a Thoroughfare Plan (Section 3.10.1) to read: Comprehensive Transportation Plan (CTP).

### 5. Greenways, Multi-use Trails & Open Space

**CURRENT REGULATION:**  
KMSO Article III, (3.10)

**CONCERN:**

No reference is made in the City’s land use codes to plans or policies that take into account destinations, current or future land use issues, or transportation or recreation master plans. The City has no mechanism in place to secure right-of-way for off-road pedestrian corridors or destination points within municipal or ETJ limits, or to connect to destinations just outside of those. There are also no references to design standards for greenways.



**RECOMMENDED REVISION:**

- a. Amend Article III of the Subdivision Design Standards (KMSO), Section 3.10, to include language that requires the inclusion of greenways and trails in subdivision plans where they are indicated in the most currently adopted plans by the City which include pedestrian related amenities (e.g pedestrian plan, parks plan, etc.)
- b. Implement the recommendations described in the City's Land Development Plan, 2020.

**6. Street Trees****CURRENT REGULATION:**

Concerning the landscaping associated with new sidewalks, the KMSO Section 11.4 requires only that street yards (planting strips) be planted with "small and/or medium shrubs". Street trees are required only in high-way overlay zones.

**CONCERNS:**

Though shrubbery can help to create a more inviting environment for walking aesthetically and by providing a sense of separation from automobile traffic, shrubs do not provide shade for pedestrians.

No specifications are provided for trees to be located on prominent streets where businesses are located and pedestrian usage is a significant factor.

**RECOMMENDED REVISION:**

- a. As part of required sidewalk policy, include requirements for street trees in all City zoning districts at a level appropriate for each zone.
- b. Provide certain specifications for street trees, such as a requirement for hardy deciduous species.
- c. Implement the recommendations described in the City's Land Development Plan, 2020.

**7. Streetscapes****CURRENT REGULATION:**

KMZO Downtown Overlay Districts address a number of streetscape design concerns, including the overall geometry of streets, uniformity in street furniture and other streetscape elements, lighting, and signage.

**CONCERN:**

The KMZO does not include streetscape elements are included only in the Downtown Overlay District (KM-DPPED) and not as part of any standard zoning district. However, the Overlay does not set standards for some key elements of walkable streetscapes. It does not address fenestration, publicly oriented doorways, or other facade elements, such as awnings or arcades, or address the unique alleyways located downtown.

**RECOMMENDED REVISION:**

Implement the recommendations described in the City's Land Development Plan, 2020.



**Battleground Avenue**

### 3. RECOMMENDED PROGRAMS

Pedestrian facilities, old or new, will receive greater use if certain programs are in place to promote and encourage pedestrian activity, especially for people who are not accustomed to walking much. Many such programs are already in existence throughout the country. The following existing programs are recommended for the City of Kings Mountain.

#### **The Heart Walk**

An annual American Heart Association Start! Heart Walk for Heart Disease can feature many events, including 10K and 8K runs, a 5K walk, a Tot Trot, a 1 mile “Fun Run” or even a half or full marathon. These popular events are sponsored by various businesses and can be organized by an independent contractor. Find out more by visiting: [www.heart.org/presenter.jhtml?identifier=3053039](http://www.heart.org/presenter.jhtml?identifier=3053039)  
To talk to an experienced consultant about beginning a program, contact the First Health Center for Health & Fitness at [www.firsthealth.org/](http://www.firsthealth.org/)

#### **Walk a Kid to School event**

On special days each year, non-profit organizations, teaming up with area restaurants, could provide school children breakfast before leading them on a community group walk to school. Programs like these help children, parents and all participating adults see for themselves the benefits and viability of children walking to and from school. NCDOT has more information about this type of initiative and related ones at: [www.ncdot.org/transit/bicycle/safety/programs\\_initiatives/walk2school\\_intro.html](http://www.ncdot.org/transit/bicycle/safety/programs_initiatives/walk2school_intro.html)

#### **Walking School Bus**

The walking school bus idea encourages students to walk together with supervision of one or more adults, depending on the size of the group. Adults can take turns walking with students by having assigned days of duty. The group follows a planned route, similar to the traditional school bus, on their commute to and from school. Chil-

dren can be met by the group at their homes or at supervised “bus stops”. The bus participants can have fun with the idea by wearing a specific color, use a wagon for the backpacks, or hold a rope linking them all together. Adults can use the opportunity to teach pedestrian safety skills to students while walking to school as well. Special days can be designated, like “Walking Wednesdays”, on a weekly or monthly basis to encourage participation. Classes that have the greatest percentage of students participating can be recognized and rewarded.

#### **Crossing Guards**

The City currently employs crossing guards for key times and locations in the City. A team of volunteers from the community can also work with the local school system to provide additional safe crossings for school children at key crossing areas.



Crossing guards help guide students safely across busy streets and provide additional supervision for children. They also serve as visual cues to drivers to slow down.

Students can also serve as safety patrol volunteers. The AAA School Safety Patrol program has helped reduce injuries and deaths among younger students most at risk for pedestrian injury. The AAA program also instills students with a sense of responsibility and leadership, as each day they protect classmates going to and from school. Visit AAA at: [www.aaapublicaffairs.com/Main/Default.asp?CategoryID=7&SubCategoryID=25&ContentID=71](http://www.aaapublicaffairs.com/Main/Default.asp?CategoryID=7&SubCategoryID=25&ContentID=71)

#### **Pedestrian Safety Roadshow**

In an effort to reduce pedestrian injuries and fatalities in North Carolina, the Division of Bicycle and Pedestrian Transportation (DBPT) hosts this special program to train facilitators who could help communities identify and solve problems that affect pedestrian safety and walkability. The Federal Highway Administration (FHWA) developed this program in conjunction with the National

Highway Traffic Safety Administration (NHTSA).

The objectives of the Pedestrian Safety Roadshow are:

- Increase awareness of pedestrian safety and walkability concerns
- Provide participants with information about the elements that make a community safe and walkable
- Channel community concerns into a plan of action for addressing pedestrian issues.

Led by a trained facilitator, the Roadshow brings together community officials, concerned citizens, and local business leaders for an educational workshop about pedestrian issues. An accompanying slide show illustrates both problems and solutions to help pedestrians. The Roadshow also addresses health, environmental, and quality of life concerns that impact a community. After the classroom portion of the Roadshow, participants are asked to visit a particular street, neighborhood, or area of their community to identify pedestrian concerns and then to discuss possible solutions. The participants are then challenged to follow up on the Roadshow with a plan of action to develop and implement appropriate solutions. To request a Pedestrian Safety Roadshow for Waxhaw, contact the DBPT at (919) 707-2600 or [bikeped\\_transportation@dot.state.nc.us](mailto:bikeped_transportation@dot.state.nc.us).

#### **Adopt a Sidewalk/Trail Program**

The Adopt-a-Road program is very successful in gathering volunteer groups to regularly clean a particular stretch of road. Adopting a trail or sidewalk section can be just as effective. Any interested individual or organization can care for their “own” section of trail. They may adopt a favorite site or a Beautification Committee can suggest a trail or sidewalk section most in need. Volunteers pick up litter four times annually, or more if necessary. They also serve as an extra set of eyes to watch for downed trees and branches or report other maintenance issues. Adopt-a-Trail or Adopt-a-Sidewalk signs are placed on the trails to recognize those volunteers who have taken their valuable time to keep the trails clean and help preserve these valuable assets for the community.

#### **Wireless Internet (Wifi) and trail webcam coverage.**

Wifi allows people to enjoy a mobile workplace. Anyone working on a laptop computer can choose to work inside or outside, wirelessly, anywhere within the Wifi range.



Wireless broadband access can be set up in areas where people are likely to want to gather outside, such as existing parks, area restaurants, or open spaces provided within new communities. Wireless webcams can also work off of the same system and be incorporated into greenway trails. These “trailcams” would enhance public safety and provide promotion for greater trail use. Additionally, 911 call buttons could also be stationed along various parts of each trail.

#### **Education and Enforcement Programs**

It is important to educate not only pedestrians and motorists, but also local law enforcement about pedestrian laws. Under North Carolina law, pedestrians have the right of way at all intersections and driveways. However, pedestrians must act responsibly, using pedestrian signals where they are available. When crossing the road at any other point than a marked or unmarked crosswalk or when walking along or upon a highway, a pedestrian has a statutory duty to yield the right of way to all vehicles on the roadway. It is the duty of pedestrians to look before starting across a highway, and in the exercise of reasonable care for their own safety, to keep a timely lookout for approaching motor vehicle traffic. On roadways where there is no sidewalk, pedestrians should always walk facing traffic.

NCDOT has a number of related resources available. See more about pedestrian law in North Carolina at: [www.ncdot.gov/bikeped/lawspolicies/laws/](http://www.ncdot.gov/bikeped/lawspolicies/laws/)



## 1. ORIGINS & DESTINATIONS

Neighborhood locations and primary destination points largely determine the key corridors and areas that merit the greatest attention in planning.

## 2. ROUTES & CORRIDORS

The four routes featured in this plan are configured to serve multiple focus areas and major origin-destination points, while also providing recreational value. Some of the routes include key pedestrian corridors. These particular streets and off-road paths are described in detail, owing to the prominent role they play and their potential to take on a greater significance in the pedestrian life of the City. Key corridors serve not only as transportation or recreational facilities, they also provide a way for pedestrians and drivers alike to orient themselves and navigate the urban geography around them.

## 3. FOCUS AREAS

Ten centers of pedestrian activity have been identified in Kings Mountain. Each of them currently include a number of prominent destinations within their quarter-mile radius, and each area has the potential to become a focal point of the City's pedestrian life.

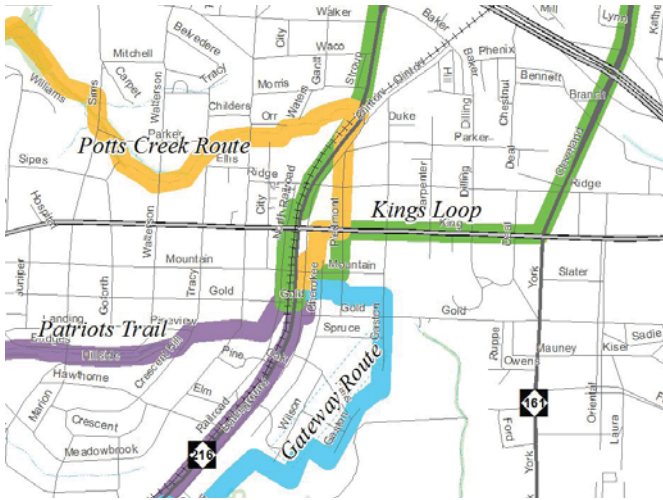
## 1. ORIGINS & DESTINATIONS

A coordinated pedestrian system designed to serve both transportation and recreational functions starts with the location of desired destinations and areas where pedestrian trips most often originate. The geographic arrangement of these points and areas largely determines which routes of travel are the most significant, and provides a way to strategically identify areas where improvements should be concentrated and prioritized.

“Origins” and “destinations” can be somewhat ambiguous terms depending upon the direction of travel and purpose of a trip. In this plan, origins are usually equated with prominent neighborhoods. Kings Mountain neighborhoods have been identified by local stakeholders as well as the general public. Destinations considered most prominent were identified through the same process. Major destinations and origins are described in **Section 2.3.1**, and located on **Maps 6.5** and **6.6**.

## 2. ROUTES & CORRIDORS

While all full-access streets and trails should ideally offer a safe, walkable path of travel through and around the City, certain routes serve as the primary collectors for pedestrians. These routes and their component corridors are usually favored for the convenient access they provide to popular destinations, such as a downtown businesses. A designated route is made up of a continuous chain of facilities designed to serve pedestrians by forming an easily recognizable connection along a series of destinations and recreational or scenic areas. Signage, special paving, and other features can play a key role in identifying the route. Routes may consist of a series of greenways, trails, sidewalks, and associated facilities, in any combination. They also feature improvements designed to enhance safety at street crossing streets and other potentially hazardous areas. The Carolina Thread Trail (see **Section 3.2 and Appendix A.1.1**) may be considered a route through Kings Mountain as it incorporates both greenway and sidewalk facilities.



### Proposed Pedestrian Routes

Four designated pedestrian routes are proposed in this plan: the Potts Creek Route, the Patriots Trail, the Gateway Route, and the Kings Loop. Each route is designed to serve the municipal area and its ETJ, and strengthen connections to the downtown and the region. They all begin at the intersection of the alleys. The exact origin lies at the east end of the central alley/courtyard that connects Battleground Avenue to the alley that runs between Battleground and Cherokee Street. The courtyard is located midway between Mountain and Gold Streets. To mark the origin of the four routes at this historic core of the City, a landmark is proposed. This sculptural piece will further serve as a focal point in the large central courtyard of block and mark the cross-axis created by the intersection of the pedestrian routes. Ideally, the piece will frame the entrance into the alley way that connects to Battleground Avenue, and direct visitors toward the historic structures one block to the east on South Piedmont Avenue. It is recommended that the parking configuration in this court be realigned to form two bays parallel to Cherokee to more generously accommodate the sculpture area without losing parking capacity.

For a description of prominent alleys, see **Section 7.2**.



### Prominent midblock alley in Downtown connecting Battleground Avenue to Cherokee Street

All routes described here are shown in **Section 6, Maps 6.16 & 6.17**. Each route includes a number of featured corridors and focus areas that are described in subsequent sections in greater detail. All component projects of these routes are described in **Section 6, Tables 6.20a-c Proposed Project Data & Ranking Tables**.

### Recommendations

The four proposed routes are designed to improve the City's pedestrian transportation needs, while enhancing its recreational opportunities and cultural assets. To complement these efforts, a system of wayfinding signage is recommended to draw attention to these routes and orient those using the system. As part of the wayfinding system, other existing and new cultural landmarks can be incorporated into the routes. These landmarks can be identified and interpreted on brochure maps that specifically feature the routes.

What follows is a detailed description of each of the four routes, complete with descriptions of the corridors and destinations along them, and conditions that affect the pedestrian experience.



Potts Creek at Watterson Street

### 1. POTTS CREEK ROUTE

This route functions primarily as an east-west connector, providing a link under the US-74 Bypass to connect the center of downtown Kings Mountain to the outer edge of the city's ETJ in the vicinity of Moss Creek. Its approximately 6.9 mile length is primarily made up of proposed trail, including a portion of the adopted Carolina Thread Trail alignment, but also incorporates existing on-street and alleyway sidewalks, proposed parallel-to-street and off-street trails, signed routes on existing low-volume roads, and a below-grade culvert.

From the origin point, the Potts Creek Route follows the alley north to the **Senior Citizens Park** at Mountain Street. The Route and the alley continue across Mountain Street into the **Arts Courtyard**. From there, the Route follows the Cherokee Street alleyway north and turns east on King Street to the Mauney Library where it intersects with the King's Loop. It crosses King and continues along N. Piedmont Ave. to the **Arts Center** complex. At the north end of the complex, the Route utilizes a proposed asphalt trail running parallel to the road to traverse the eastern edge of the railroad staging area until crossing the tracks. At this point, existing sidewalk continues north along North Piedmont Avenue, but the Potts Creek Route diverges from the road here and descends into a wooded area south of Morris Street onto proposed greenway at the beginnings of Potts Creek. The creek flows

westward to cross under North Cansler Street south of Orr Terrace. The Potts Creek Route crosses Cansler midblock on grade, 500 feet north of Ellis Street. The Route continues to run along the south side of the creek until it crosses over on an existing footbridge at Mt. Zion Baptist Church, or continues along the south side - space permitting - to meet the **Thombs Walking Track**. Crossing North Watterson Street midblock, ongrade, the Route follows the south side of the creek. It crosses North Sims Street ongrade at the West Parker Street intersection and follows the southwest edge of **Davidson Park**. The Route follows the south side of Potts Creek through wooded area of the Country Club, until it the creek runs adjacent to Downing Court. Signage marks the Route along this low volume road and as it turns onto Wales Road. The Route once again becomes asphalt trail at the western terminus of Wales, turning north to cross Potts Creek by sharing the existing cart bridge. The Route continues along the north side of the creek until crossing on a proposed footbridge near the southern corner of the **NVR** parking lot. From there it continues northward to join an existing path that extends to Countryside Road. Crossing Countryside, it follows the existing path to the culvert that crosses under US 74 Bypass. The Potts Creek Route utilizes this proposed below-grade crossing to continue north along an existing utility corridor running parallel and to the west of the creek. The Route crosses the creek where there is opportunity and eventually joins the existing path along the north side of the creek to its terminus at Stony Point Road.

### 2. PATRIOTS TRAIL

The Patriots Trail runs approximately 7.9 miles along existing on-street and alleyway sidewalks, proposed parallel-to-street and off-street trails, and signed routes on existing low-volume roads.

The Patriots Trail connects the Gateway Trailhead to Downtown utilizing the new sidewalk along the east side of Battleground Avenue. When it crosses Gold Street, it splits into two parallel routes. One continues north on Battleground, while the other bears right on Gold,

then turns north at the alley. Reaching the origin point, it heads westward through the downtown **central courtyard** back to Battleground Avenue. Patriots Trail then turns north on Battleground, and then west on Mountain Street to cross the railway. On Railroad Avenue, at the **Joy Theatre**, Patriots Trail heads back south to **Patriots Park**. From there, the Trail follows the north side of Beason Creek. The Trail can cross the Creek on a proposed footbridge to be located at the southeast corner of Bridges Drive. From there, it follows the south side of the Creek, crossing Phifer Road on-grade and intersecting the existing sidewalk, then continues along the south side to the **Kings Mountain school complex**. Continuing along the creek, the route crosses Kings Mountain Boulevard on-grade and stays to the south of the creek. After the the **Life Enrichment Center Adult Day Care Center**, the route crosses to the north of Beason Creek and follows existing trail. Crossing Crocker Road on-grade, it continues along the north side of the creek. Approximately 1/4 mile west of the Crocker Road, the route crosses the creek and leaves Beason Creek and its floodplain to follow the parcel line south, then southwest, to the north end of the pond that fronts on Phifer Road near Phifer Circle. Heading west and north again, along the parcel line, the Patriots Trail then joins Brook Forest Drive by way of directional signage, to meet El Bethel Road. Crossing the road on-grade, the route turns into Hillock Lane and continues west to the north side of the pond. Veering north, it rejoins Beason Creek. Crossing Yarbrow Road on-grade, the route follows the north side of the creek northwestward for approximately 0.3 miles to the utility station at **Cleveland County Industrial Park**. It then departs from Beason Creek and joins the existing drive by signage for approximately 0.4 miles. It leaves the drive and utilizes proposed trail that follows an existing cleared route to Commerce Boulevard. Utilizing a series of proposed trails, sidewalk and signage, the route reaches **Ingles** and then crosses Shelby Road at the Countryside Road intersection. From there it follows proposed sidewalk along Countryside to terminate at Potts Creek.

### 3. GATEWAY ROUTE

This route provides an alternative connection from downtown to the city's existing greenway facility trailhead, into the city's ETJ area, and ultimately to the existing regional scale Ridgeline Trail just south of the city's jurisdiction. The Gateway Route is made up primarily of proposed trail and existing trail, as both parallel-to-street and off-street paths. The Gateway Route also utilizes existing sidewalk downtown, existing and proposed midblock alleyways, and an existing bridge over I-85. In total, the route runs nearly eight miles, almost exclusively upon adopted or proposed Carolina Thread Trail alignment.

The Gateway Route runs westward from the central courtyard **archway**, connecting users to existing and proposed destinations between Mountain and Gold Streets in the vicinity of the **Post Office**. It then turns south along existing sidewalk on South Gaston Street, and crosses Gold Street to continue by way of signed route to the street terminus. From there, the Route utilizes proposed greenway along the existing cleared connection to Falls Street, following the street by signage to its southern terminus where it returns to proposed greenway that will connect to the existing **Gateway Trailhead**. From there, the route follows the existing and planned Gateway Trail, crossing I-85 on the existing quarry bridge to be renovated, and on to Alex D. Owens Drive at the intersection of Galilee Church Road. Continuing beside the road as a parallel trail, the route passes **Davidson Lake**, and leaves the road approximately 0.7 miles beyond the Lake's southern end. It climbs south out of the city ETJ following an existing path to connect to the **Ridgeline Trail**.

### 4. KINGS LOOP

While the other proposed routes link the downtown to the broader region, particularly to the west and south, the Kings Loop focuses on the inner urban area of the City, north and east of the downtown. The Loop serves a number of neighborhoods and prominent destinations and provides two connections across the barrier of US 74 Bypass. Its 3.5 mile length takes advantage of existing sidewalk, augmented by some proposed segments.

From the **archway**, the Loop first heads through the south end of the alley. The Route follows Gold Street westward over the railway to the entrance of **Patriots Park**. It then turns north to traverse the west half of Kings Mountain’s “main street” past restaurants, and the **Kings Mountain Little Theater (Joy Theater)**. The Loop continues along S. Railroad Avenue to cross the railway over the **Southern Railway Bridge**. Crossing to the existing sidewalk on Battleground Avenue, the Kings Loop joins the Potts Creek Route as it heads north to the **Art Center**. The Loop continues north, crossing the tracks again to follow the west side of N. Piedmont past businesses including the **Chat & Nibble**. It crosses US 74 Bypass and continues to the proposed trail to **North Elementary School** and the existing crosswalk at Linwood Road.



**Intersection of North Piedmont Avenue and Linwood Road**

At this point the Loop heads east with a clear view to the Kings Mountain Pinnacle. It follows the existing sidewalk along the north side of Linwood Road. Crossing Fairview Street, the Loop continues along a proposed sidewalk following the north side of Linwood as it passes along the **Phenix Mill** neighborhood. It crosses the railway and utilizes an existing crosswalk at Church Street before reaching the commercial center at Cleveland Avenue, which includes Linwood Produce. This intersection marks the southwestern extent of the **Northwood** neighborhood.

The Loop then takes a turn south, following existing sidewalk along the east side of Cleveland Avenue and street improvements proposed along this corridor, past **East Elementary School**, under US 74 Bypass, to **Deal Park** and the **YMCA**.

Kings Loop makes its return toward downtown along King Street, passing numerous destinations along the city’s primary business corridor. It leaves King Street at the historic **Mauney Library** on S. Piedmont Avenue. Turning westward on E. Mountain Street at the **Historical Museum**, the Loop travels a half-block to Cherokee, turns south, then west again to join the Mountain Route briefly until returning to the Archway.

### **ADDITIONAL KEY CORRIDORS:**

As with many cities, Kings Mountain is anchored by an intersection of two primary streets. Kings Street and Battleground Avenue form the primary spines of the City. Portions of both of these corridors make up segments of the previously described routes, particularly the Kings Loop.

### **KING STREET (US 74 BUSINESS)**

King Street runs from the US 74 bypass to Shelby Road. The street consists of three lanes for its entire length of approximately two miles, roughly 40% of the total length of US 74 Business. It’s eastern side rarely exceeds 32 feet in width. But west of Gaston Street, King widens to roughly 34 feet for most of its remaining length. Intersections are regularly 600 feet apart.

### Destinations & Land Use

King Street hosts a significant number of commercial establishments among a variety of single-family residential properties. It also connects locations of civic importance, such as the Senior Center complex, First Presbyterian Church, the Mauney Library, the L. G. Thombs Walking Track, First Baptist Church, Boyce Memorial ARP Church, West Elementary School, and the hospital and other nearby medical offices. However, Kings Street's prime destination is the downtown as it frames the north end of the commercial core from South Piedmont Avenue to South Railroad Avenue.

### Current Pedestrian Facilities

Sidewalks line both sides of King Street from its eastward end where Business 74 converges to three lanes at the Patrick Senior Life and Conference Center, 400 feet west of Canterbury Road, to the Kings Mountain Hospital complex, 300 feet west of Sims Street. From there, sidewalk continues along the north side of King Street past Country Club Road into the recent retail construction at the northwest corner. Standards at the time required a width of only three feet with a planting strip of 12 to 24 inches width. Much of this older length of sidewalk exhibits cracks and other deterioration. A newer, solitary four feet wide segment lines a more recent retail complex developments along the north side of King at North Oriental Avenue.

As King Street continues westward past the commercial area at NC 161, the planting strip width widens to three feet. West of Gaston Street, the standard sidewalk width is four feet. Conditions vary widely around the intersection of NC 161. These conditions are described in detail in the King at York Focus Area, **Section 5.4.3**.

Commercial properties along the King Street corridor are marked by frontyard offstreet parking which, in many instances, extends to the sidewalk, or in some cases the street itself, completely obliterating the sidewalk. A more recent commercial developments at the northeast corner of South Gaston Street provides some minimal vegeta-

tive buffer between the sidewalk and parking area.

Street trees are intermittent along King Street providing very minimal shading along the sidewalks. East of Battleground Avenue, King is characterized by frequent curb cuts, and numerous signs and utility poles. Westward, the street takes on a greener, more residential character.

Traffic lights are located along King Street at the intersections of Canterbury Road, NC 161, Gaston Street, Piedmont Avenue, Battleground Avenue (NC 216), Cansler Street, Watterson Street, Sims Street, and Country Club Road/Phifer Road.

Current crosswalk facilities on King Street include crossing signals and striping at the Phifer Road intersection, and striping at Sims Street.

### Pedestrian-related Policy

King Street is covered by the US 74 East Corridor Overlay District, with additional coverage by the Downtown District Overlay from east of North Gaston Street to west of Cansler Street. The NC 161 Corridor Overlay also overlaps King Street at its intersection with York Road. The underlying zoning districts are primarily commercial until passing west of Sims Street where properties are almost all residentially zoned.

The posted speed limit throughout the corridor is 35 mph.

### Recommendations

As the US 74 Business route, King Street is the primary arterial into the City. It serves as the front door for visitors and the primary connector for residents and commercial interests. With these economic and transportation factors in mind, the appearance and safety of this corridor deserves priority. Additional sidewalks, crosswalk facilities, and lighting are recommended.

### BATTLEGROUND AVENUE/RAILROAD AVENUE

Battleground Avenue and, to a lesser degree, South Railroad Avenue, have historically served as the Main Street of the city and the focal point of today’s downtown. Efforts continue toward revitalization of this portion of the downtown, with focus upon small business in the store fronts, redirecting through truck traffic, and mitigating the visual and physical barrier posed by the railroad.

#### Destinations & Land Use

As a segment of NC Highway 216, the corridor emerges to the north where North Piedmont Avenue crosses the Norfolk-Southern Railway and terminates at an angle with Battleground Ave. Located here is the Art Center complex, a destination described in the next section as the center of a pedestrian focus area. The complex occupies a thin wedge between the railway and Battleground Ave., with businesses, backyards and some civic uses across the street. The main business district begins at the King Street intersection, and continues south nearly until Dickson Street. From East Ridge Street south, the railroad corridor follows adjacent to the western side of Battleground Avenue and North Piedmont Street.

#### Current Pedestrian Facilities

A continuous stretch of sidewalk lines the east side of the corridor. In many segments, the utility of this sidewalk as a safe pedestrian way is compromised by immediately adjacent parking lots, numerous curb cuts, and a very narrow or total lack of planting strip. The notable exception is the block between Mountain Street and Gold Street, where conditions are very inviting to pedestrian use. This block includes ideal features, such as storefronts with no setbacks and facades with doors and large display windows, awnings, street trees, outdoor seating and other furnishings, and on-street parallel parking.

A few notable elements detract from the ideal pedestrian conditions of this block:

1. Some of the buildings are unoccupied, either on the second or both floors.

2. Buildings line only one side of the street, which compromises the street’s pedestrian scale and decreases the number of potential attractions within the block. The railroad side of the street features no pedestrian facilities and presents hazardous conditions for travellers on foot.
3. While the street trees serve well in providing shade and reinforcing the pedestrian scale of the sidewalk, this evergreen holly species is not ideal for year around mitigation of sunlight, nor aesthetically optimal. The raised brick planters impede the pedestrian travel path and can present a tripping hazard.



**Raised street tree planters on Battleground Ave.**

Along this corridor, traffic lights are located at the intersections of East Parker Street, King Street, Meeting Street, and the two Gold Street T-intersections.

While traffic is not as much of an issue at the East Parker Street intersection, the street arrangement is complex and presents some hazard with no pedestrian crossing facilities.

The King Street intersection, which sees considerably more vehicular traffic, also has no crosswalk facilities. In addition, there are multiple turn lanes and wide curve radii, particularly on the southeast side, which encourage

high speed turns. One block south, the Meeting Street intersection retains a single crosswalk on its east side. This intersection features the added complication of an adjacent at-grade railroad crossing.

Situated one block south is the intersection pairing of East and West Gold Street. The West Gold Street intersection is located just 160' north of the East Gold street intersection. Both are signalled, but pedestrian crossing facilities are limited to two fading striped crosswalks located on the north and east sides of the East Gold Street intersection. While the east side crosswalk functions to connect the continuous sidewalk of Battleground Ave., the functionality and safety of the north crosswalk is severely limited by its placement. Its east end meets the curb rather than a ramp immediately adjacent. While its west end unceremoniously empties into the division of two perpendicular parking spaces at the street's edge.

This parking bay is part of a continuous parking strip made up of 330' of diagonal spaces north of West Gold Street, and 465' of perpendicular spaces south of West Gold. While this nearly 800' long strip supplies nearly seventy spaces of valuable parking for the downtown area, there are no pedestrian amenities to accommodate these spaces, aside from the crosswalk at East Gold Street, and one other midblock crosswalk between East Gold and Falls Street. As parking vehicles back directly out into the street, this parking arrangement presents a degree of danger for pedestrians already on the watch for vehicles approaching north and south along Battleground Ave.

Recent efforts to increase safety of the midblock crossing have included the addition of a warning sign located in the center striping.

### Railroad Crossings

Until recently, there were five railroad crossing opportunities along this described corridor. In 2012, the Oak Street crossing was completely closed to vehicular and pedestrian traffic.



### West Gold Street Railroad Crossing

Approximately 900' north of Oak Street, the West Gold intersection lies adjacent to another at-grade railroad crossing. This crossing presents a particular challenge to pedestrians and other users as the City struggles to redirect undesirable truck traffic away from this intersection. The current use of moveable barriers to discourage the truck passage has proven only partially effective and but NCDOT has approved a permanent solution. Until its implementation, these barriers provide some refuge on the north side of the street, but pose a danger to pedestrians on the south side as they must negotiate the barriers and oncoming vehicular traffic.

One block further north, Mountain Street crosses the railroad at-grade. While the pavement is sufficiently wide (greater than fifty feet), there are no pedestrian or bike facilities beside the vehicular travel lanes and no crosswalks to this side of the intersection.

The King Street Bridge crosses over the railroad one block north of Mountain Street. It is a three-lane bridge equipped with raised sidewalks, accessible ramps on the south side, and decorative iron handrails and lighting.

Only 250 feet north, the South Railway Overhead Bridge with an 18' foot wide lane allows another opportunity for passage over the railroad.

### 3. FOCUS AREAS

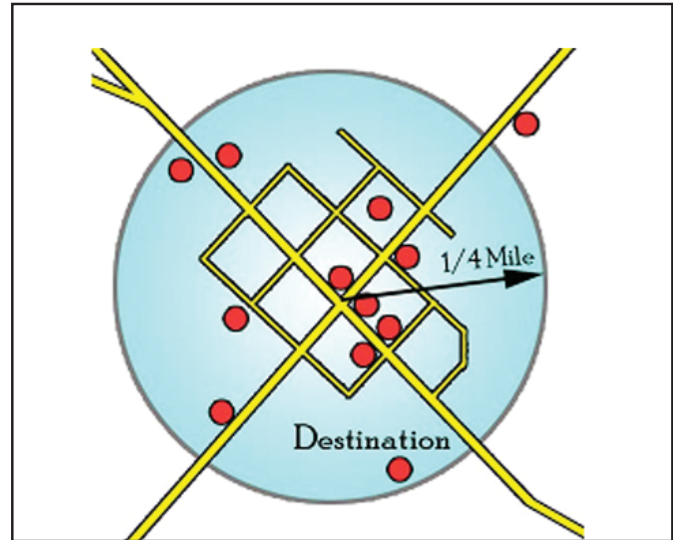
Certain places in the city play a prominent role in the lives of its citizens. Each of these places is unique, offering something special to draw people to them. Their value is felt not only through the activities, services or products that may be found there, but through the sense of identity they impart on the community around them. These places may currently be, and certainly have potential to be, areas of concentrated pedestrian activity, particularly when they feature a variety of destinations in close proximity and provide conditions that are safe and attractive to walk in.

A stated goal of this plan is to “concentrate pedestrian improvements within specific areas of the city.” It is intended that these areas include features such as:

1. higher density
2. economic potential and mix of uses
3. connection to the downtown
4. already serving as centers of activity
5. include prominent destinations
6. local political buy-in

An analysis of these features as they are found within Kings Mountain reveals some likely candidates for such focus areas that merit special emphasis in terms of improving or reinforcing the walkable connections both within the areas, and to their surrounding community. Thought is also given toward how to enhance the potential of these focus areas to grow in a manner that is increasingly inviting to pedestrians.

Each of these focus areas has a geographic sphere of influence that may vary in extent in terms of fostering pedestrian activity. This range depends largely upon the quality of the walking experience around its center. If the area offers safe and attractive walking conditions and a concentration of points of interest, pedestrians will feel comfortable walking considerably further within them than they might if conditions are more hostile and boring. A walkable radius of 1/4 mile is used as a common



**Pedestrian Node diagram**

standard, being the distance a typical pedestrian can walk in the span of 5-minutes. The area described by these circles are termed “pedestrian nodes”.

Ideally, pedestrian nodes offer a concentration of destination points with relatively safe and attractive conditions for pedestrians, creating a walkable center of activity. However, these nodes need not exhibit ideal conditions to serve as useful focus areas for planning purposes.

All focus areas designated in this plan are described in this section, but are also illustrated in **Map 6.15, Section 6**. Each focus area may include portions of designated routes and featured corridors, as well as intersections that are described in the next section in greater detail. All component projects of these routes are described in **Section 6.20 Project Tables**. Destinations and landmarks are shown in bold.





South Railroad Avenue

## 1. DOWNTOWN

The most prominent pedestrian node in Kings Mountain is the downtown area itself, offering numerous destinations extremely well connected by a grid of tree-lined streets lined with sidewalks, as well as functioning alleyways. The center of this focus area has been defined as the meeting point of the alleyways. This point serves as the beginning of each of the four designated routes. The node area extends north to E. Ridge Street, east to S. Gaston Street, west to S. Tracy Street, and south to Oak Street and Falls Street.

### PROMINENT DESTINATIONS:

- Numerous restaurants, churches and businesses
- Patriots Park
- Kings Mountain Little Theater
- Historical Museum
- Historic Park
- Mauney Library
- Post Office
- City Hall



### ASSETS:

- Extremely well connected by a grid of streets
- Sidewalks along the majority of street segments
- Store-lined streets with zero-setbacks

- Public park and assembly space
- Historic buildings and landmarks
- Includes a portion of the adopted Carolina Thread Trail
- Origin of all four designated proposed pedestrian routes
- Includes a portion of the proposed Inner Loop bicycle route
- Signal-controlled intersections
- Street lights
- Street trees
- Public art on display
- On-street parallel parking
- Raised curbs
- Traffic signals and striping
- Residential areas and manufacturing job center
- Located within the Downtown District Overlay, the West End Historic District Overlay, and the US 74 East Overlay.

For information about how the City's zoning overlays influence pedestrian conditions, see **Section 3.1 Policies & Ordinances**.

### CHALLENGES:

- Vehicular traffic (approaching 6000 AADT in some areas)
- Heavy truck traffic, particularly from neighborhood industrial uses.
- Railway corridor physically divides the node in half, leaving only five opportunities of crossing available, only one of which currently offers safe pedestrian passage. Corridor also creates visual blight.
- Pedestrian void areas created by large surface parking lots
- Tree planters along S. Battleground Ave. and E. Mountain St. protrude into the pedestrian travel path.
- Evergreen, oval-form street trees block sunlight during winter months and do not form a comfortable canopy in the summer.



**Historic Park on South Piedmont Avenue**

**GOALS & OPPORTUNITIES:**

- Increase safety, particularly in crossing streets and railways.
- Improve physical and aesthetic conditions along prominent corridors, such as King Street and Battleground Road.
- Increase vibrancy in the downtown.
- Promote the destinations, programs and events the City already has, such as the museum, historic trail, etc.
- Improve safety through better lighting conditions.
- Increase opportunities for pedestrian interaction.
- Provide greater opportunities for family recreation
- Encouragement of denser and more mixed development in the downtown area
- Improve walkability to adjacent focus areas.

**GENERAL RECOMMENDATIONS:**

1. Improve pedestrian connections from downtown to Gateway trailhead and neighborhoods south.
2. Make railway crossings safer for pedestrian traffic.
3. Improve critical street intersections crossing facilities.
4. Improve and extend alley connections.

5. Redirect truck traffic from Battleground Ave. to Cansler St.
6. Close Battleground Ave. from Gold St. to Oak Street. Utilize as additional parking for Patriots Park.
7. Establish trail connection through Patriots Park as part of Park masterplan, to connect northeast entrance to proposed Patriots Trail.
8. Establish a pedestrian route system origination point at the landmark archway. See Route descriptions in **Section 5.2**.
9. Improve pedestrian connections to the **Art Center node** along Battleground Ave. (Potts Creek Route and King’s Loop) and N. Piedmont Ave.
10. Improve pedestrian connection to the **King at York node** along King Street (King’s Loop).
11. Increase on-street parking opportunities.
12. Improve existing street trees and planters.
13. Convert Southern Railway bridge to bike/ped only.
14. Relocate war memorial to proposed historic park.
15. Develop increased pedestrian connections as part of proposed recreational facilities at Patriots Park.
16. Make road diet improvements on Cansler Street from Patriots Park northward.



**Downtown restaurant in Kings Mountain**



**The Art Center on North Battleground Avenue**

## 2. ART CENTER

Immediately to the north of downtown, the Art Center provides a setting for cultural activity in Kings Mountain. In addition to the main building, the Center's collection of railroad cars along its .15 mile length of prominently located paved area could potentially host a variety of events, rotating art shows, and permanent tenants. Neighboring businesses clustered at the intersection of Battleground Road and N. Piedmont provide additional draw to the Center. The Center also marks the beginning of one of the City's primary greenway opportunities along Potts Creek.

### PROMINENT DESTINATIONS:

- The Art Center
- Central Middle School
- The Chat & Nibble restaurant, neighboring businesses and industry
- Davidson School neighborhood
- Various churches

### ASSETS:

- Immediate proximity to downtown
- Connected by a grid of streets, south and east
- Sidewalks along the majority of street segments
- Established neighborhood of attractive

residences

- Parallel parking along residential streets
- Includes two proposed pedestrian routes
- Includes a portion of the proposed Inner Loop bicycle route
- Potts Creek potential trail connection
- Public assembly space
- Raised curbs
- Traffic signal at intersection of N. Battleground Ave., N. Piedmont, and E. Parker Street.
- Highway corridor overlay
- Residential areas and industrial job center

### CHALLENGES:

- Railway corridor physically divides the node in half, with only one opportunity of crossing available that currently offers no pedestrian facilities. Corridor also creates visual blight.
- Pedestrian void area created the large railroad staging 1/4 acre area immediately north of the Art Center property.
- Acute angled intersection of N. Battleground Ave., N. Piedmont, and E. Parker St. at Art Center Entrance
- Unsafe vehicular ingress and egress to Art Center

### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing streets and railways.
- Improve physical and aesthetic conditions along prominent corridors, such as Battleground Road.
- Promote the destinations, programs and events the City already has.
- Provide increased connectivity through greenway development along available creeks, floodways, utility corridors and public rights-of-way.
- Improve safety through better lighting conditions.
- Improve walkable links to adjacent focus areas.

### GENERAL RECOMMENDATIONS:

1. Improve traffic signalling and provide crossing facilities at intersection of N. Battleground Ave.,

- N. Piedmont and E. Parker Street intersection.
- 2. Provide safe pedestrian linkage across railroad corridor from Art Center to existing sidewalk on west side of N. Piedmont Ave.
- 3. Construct trail connection to Potts Creek.
- 4. Provide mid-block crossing to south end of Art Center across Battleground Ave. (near E. Ridge Street intersection).
- 5. Improve pedestrian connections to the **Down-town node** along Battleground Ave. (Potts Creek Trail) and N. Piedmont Ave.



**King Street at the intersection of Cleveland Avenue/York Road**

### 3. KING AT YORK

For many visitors arriving in Kings Mountain from the east, north or south, the intersection of Kings Mountain’s primary business corridors - US 74 Business and NC 161 - serves as a gateway to downtown. But a quick survey of this strategically prominent intersection shows all four corners primarily devoted to the automobile. A gas station, a drug store featuring drive-thru service, fast food and an auto parts store, each set amidst a blanket of black top, offer little to the eye or to foot traffic.

#### PROMINENT DESTINATIONS:

- Food Lion Store
- YMCA
- Restaurants and neighboring businesses
- Mountain Rest Cemetery

#### ASSETS:

- Proximity to downtown
- Gateway to the City
- Connected by a grid of streets to the northwest and southeast
- Sidewalks along some prominent street segments
- Parallel parking along some residential streets
- Includes a portion of the Kings Loop proposed pedestrian route and the intersection of the proposed Inner Loop and Outer Loop bicycle route
- Raised curbs
- Traffic signal
- US 74 East Overlay and US 161 Corridor Overlay

#### CHALLENGES:

- Vehicular traffic (12,000 AADT on NC 161, 11,000 AADT on King)
- Busy, acute angle intersections along NC 161 with no pedestrian safety measures
- Visual blight
- Pedestrian void areas created by large parking lots
- Frequent curb cuts

#### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing streets.
- Improve physical and aesthetic conditions along prominent corridors, including King Street and York Road.
- Improve walkable links to adjacent focus areas.

#### GENERAL RECOMMENDATIONS:

1. Provide sidewalks with planting strips and street trees along NC 161
2. Install pedestrian crossing facilities at the intersection of NC 161 and King Street.
3. Install traffic signal and pedestrian crossing facilities at the intersection of Cleveland Ave. and Ridge Street.
4. Improve pedestrian connection to **Northwood node** and destinations on Cleveland Ave through streetscape improvements along Cleveland Ave. (Kings Loop).



Linwood Produce on Cleveland Avenue

#### 4. NORTHWOOD

The Northwood focus area is centered upon the intersection of Cleveland Avenue (NC 161) and Linwood Avenue. Its radius captures the southwest corner of the Northwood neighborhood, as well as residential areas south and west that are situated north of US 74 and east of the railway, some portion of the industrial area along Phenix Street and the commercial center at Cleveland and Linwood.

##### PROMINENT DESTINATIONS:

- Linwood Produce
- East Elementary School
- Northwood neighborhood and adjacent residential areas

##### ASSETS:

- Connected by a grid of streets in Northwood neighborhood
- Some sidewalks, particularly along Cleveland Ave. and Church Street
- Parallel parking along residential streets
- Includes a portion of the Kings Loop proposed pedestrian route
- Includes a portion of the proposed Outer Loop bicycle route

- Signalled-controlled intersection and some cross-walk striping at Linwood Road/Cleveland Ave.
- Raised curbs
- US 161 Corridor Overlay
- Residential areas

##### CHALLENGES:

- Vehicular traffic (9,700 AADT on NC 161)
- US 74 Bypass corridor imposes a barrier to downtown.
- Railway corridor imposes a barrier to Phenix Mill neighborhood
- Few commercial, civic or recreational destinations
- Few sidewalks in residential areas
- Numerous curb cuts at Cleveland Ave. and Linwood Road intersection

##### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing high volume streets like NC 161.
- Improve physical and aesthetic conditions along prominent corridors.
- Improve walkable links to adjacent focus areas.



Road diet concept for Cleveland Avenue

### GENERAL RECOMMENDATIONS:

1. Cleveland Ave. road diet
2. Provide improved crossing facilities at Cleveland Ave. and Linwood Road intersection.
3. Provide sidewalk along Linwood Road.
4. Improve at-grade pedestrians railroad crossings.
5. Reduce number of driveway curb cuts around Cleveland Ave. and Linwood Road intersection
6. Improve pedestrian connection to **King at York node** and destinations on Cleveland Ave through streetscape improvements along Cleveland Ave..
7. Improve pedestrian connection to **Phenix Mill node** along Linwood Ave. (Kings Loop).



### Intersection of North Piedmont and Linwood Road

#### ASSETS:

- Some sidewalks, particularly along N. Piedmont Ave. and Linwood Road
- Includes a portion of the Kings Loop proposed pedestrian route
- Signalled-controlled intersection and some cross-walk striping at Linwood Road and N. Piedmont Ave.
- Potts Creek potential trail connections to North Elementary School
- Provides safe crossing of US 74 Bypass
- Raised curbs
- Residential areas



North Elementary School

## 5. PHENIX MILL

The neighborhood known as Phenix Mill is bordered by US 74, the railway, and North Piedmont Ave. (NC 216). This focus area includes the southwestern portion of the Phenix Mill neighborhood, but extends westward across North Piedmont to include the homes clustered about North Elementary School.

#### PROMINENT DESTINATIONS:

- North Elementary School
- Mac's Grocery (currently out-of-business)
- Phenix Mill neighborhood and adjacent residential areas

#### CHALLENGES:

- Vehicular traffic (6,700 AADT on NC 216)
- US 74 Bypass corridor imposes a barrier to downtown.
- Railway corridor imposes a barrier to Northwood neighborhood
- Few commercial, civic or recreational destinations
- Few sidewalks in residential areas

#### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing high volume streets like NC 216.
- Increase opportunities for walking to school

- Improve safety through better lighting conditions.
- Improve walkable links to adjacent focus areas.

#### GENERAL RECOMMENDATIONS:

1. Provide improved crossing facilities at N. Piedmont Ave. and Linwood Road intersection.
2. Create trail links to North Elementary School from surrounding neighborhoods.
3. Improve pedestrian connection to **Northwood node** along Linwood Ave. (Kings Loop).



**Kings Food Store on Waco Road and Walker Street**

## 6. WACO

The city's network of streets extends as far as Watterson Street in the northwest direction before it loses coherency amidst the largely underdeveloped land along Waco Road. This outlying area, however, includes commercial establishments that draw pedestrian activity and form the anchor of an identifiable neighborhood. The radius considered in this focus area extends to North Cansler Street, US 74, the tributary of Potts Creek that runs just south of Belvedere Circle, Sims Street and the northeast corner of Davidson Park, and the largely wooded land southeast of greater north tributary of Potts Creek that passes under US 74.

#### PROMINENT DESTINATIONS:

- Mountain Market General Store
- Kings Food Store



#### ASSETS:

- Sidewalks along Walker and portions of Waco Road
- Includes a portion of the proposed Inner Loop bicycle route
- Commercial destinations
- Proximity to park on Sims Street
- Residential areas
- Raised curbs
- Waco Road Overlay

#### CHALLENGES:

- No sidewalk connections south toward downtown or northward or westward.
- Unsafe crossing conditions at the Waco & Watterson intersection
- Few civic destinations

#### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing streets.
- Improve walkable links to adjacent focus areas.
- Improve pedestrian linkage to destinations across major barriers, such as US 74 Bypass.

#### GENERAL RECOMMENDATIONS:

1. Install pedestrian crossing facilities at intersection of Waco Road and Watterson street.
2. Extend sidewalk on Watterson St. to Waco Road.
3. Make road diet improvements on Cansler Street from Fulton Street to King Street to provide continuous sidewalk (with planter strips) connection to **Downtown node**.



**Crossing Waco Road**



**Kings Mountain Plaza**

### 7. COUNTRY CLUB

Diverse segments meet at the junction of King Street, Shelby Road, and Country Club Road. Here, the tight network of city streets descends and dissolves into more dispersed development. Dense residential properties meet empty commercial parking lots. Humble residences look across to the entrance of the City’s Country Club. Three major destination areas fall within the bounds of this walkable node: the Country Club, the commercial center in and around Kings Mountain Plaza, and the Hospital complex. While Phifer Road leads directly to the nearby school complex, and Mountain Street heads straight downtown. The Beason Creek corridor runs next to the southern extent of the node along Landing Street.

#### PROMINENT DESTINATIONS:

- Kings Mountain Hospital
- Kings Mountain Country Club
- Kings Mountain Plaza

#### ASSETS:

- Connected by a grid of streets
- Sidewalks along primary streets, including: King, Mountain, Gold, Phifer, and Country Club
- Includes a portion of the adopted alignment of the Carolina Thread Trail

- Includes a portion of the proposed Inner Loop bicycle route
- Signalled-controlled intersection with (the City’s first) crosswalk signal and striping at King Street and Phifer Road
- Potential public assembly space
- Raised curbs
- US 74 Business East and West Overlays
- New commercial development
- Residential areas

#### CHALLENGES:

- Changing traffic patterns where Shelby Road converges into King Street
- No sidewalk connections northward and westward
- Empty shopping center (KM Plaza) with parking lot creates significant pedestrian void.
- Few recreational destinations

#### GOALS & OPPORTUNITIES:

- Improve physical and aesthetic conditions along prominent corridors, such as King Street.
- Increase safety, particularly in crossing high volume streets.
- Improve walkable links to adjacent focus areas.

#### GENERAL RECOMMENDATIONS:

1. Explore redevelopment opportunities for Kings Mountain Plaza and adjacent properties.
2. Create trail links to and within city right-of-way along Ironwood Place corridor, to connect to Westgate Plaza node and Beason Creek.
3. Improve walking conditions within the commercial parking areas through the addition of pedestrians facilities such as curbed walkways, warning striping, and planted areas to include canopy trees.
4. Improve safety through better lighting conditions.
5. Create link from Kings Mountain Plaza to proposed trail facilities within city right-of-way along Ironwood Place corridor to **Westgate node**, and to Patriots Trail.



Westgate Plaza Shopping Center

## 8. WESTGATE

Occupying roughly ten acres, the Westgate Plaza commercial center, fronting Shelby Road, features a major grocery store and other occupied and unoccupied retail space. The shopping center is surrounded by neighborhoods on both sides of Shelby Road that are established or currently under development.

### PROMINENT DESTINATIONS:

- Food Lion Store
- Other retail stores

### ASSETS:

- Residential neighborhoods adjacent to retail
- Adjacent to proposed Patriots Trail along the adopted alignment of the Carolina Thread Trail
- Shelby corridor falls within the US 74 West Overlay
- Redevelopable acreage
- Potential public assembly space

### CHALLENGES:

- Divided by 6-lane Shelby Road
- Vehicular traffic (9,300 AADT on Shelby Road)
- Severely limited pedestrian connections to retail center
- Pedestrian void areas created by large, uninter-

rupted parking lot with zero pedestrian amenities

- Lack of trees in commercial and public areas
- Visual blight

### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing streets.
- Improve physical and aesthetic conditions along prominent corridors, such as Shelby Road.
- Improve safety through better lighting conditions.
- Improve walkable links to adjacent focus areas.

### GENERAL RECOMMENDATIONS:

1. Provide pedestrian connections from retail to adjacent neighborhoods
2. Install pedestrian-activated signal with crossing facilities at main entrance to Plaza across US 74
3. Improve walking conditions within the commercial parking areas through the addition of pedestrian facilities such as curbed walkways, warning striping, and planted areas to include canopy trees.
4. Create links within neighborhood south using wayfinding signage to proposed trail facilities within city right-of-way along Ironwood Place corridor to **Country Club node**, and to Beason Creek.
5. Connect to **Phifer node** with creek crossing and Patriots Trail.



Remnant pedestrian amenity at Westgate Plaza



**Phifer Road approaching the schools**

### 9. PHIFER

Just south of Westgate Plaza area, across Beason Creek, lies the city’s complex of public schools. Within the focus area, the school complex fronts Phifer Road with the Margrace neighborhood immediately across the street. Beason Creek and associated woodlands line the north of the complex.

#### PROMINENT DESTINATIONS:

- Kings Mountain High School
- Kings Mountain Middle School
- Kings Mountain Intermediate School (in vicinity)
- Margrace neighborhood

#### ASSETS:

- Existing sidewalk on school side of Phifer Road
- Established neighborhood
- Traffic light and crosswalk striping at Fulton Road intersection of Phifer Road
- Warning signage and crosswalk striping at Maner Road intersection on Phifer.
- Includes a proposed pedestrian route
- Includes a portion of the proposed Inner Loop bicycle route
- Beason Creek potential trail connection
- Public assembly space
- Parallel parking along residential streets

- Raised curbs

#### CHALLENGES:

- Vehicular traffic between Margrace neighborhood and schools (5,100 AADT on Phifer Road)
- No commercial destinations
- No sidewalks in residential areas
- Beason Creek divides schools from homes immediately north

#### GOALS & OPPORTUNITIES:

- Provide increased connectivity through greenway development along available creeks, floodways, utility corridors and public rights-of-way.
- Increase safety, particularly in crossing streets.
- Promote the destinations, programs and events the City already offers.
- Improve safety through better lighting conditions.
- Improve walkable connections to adjacent focus areas.

#### GENERAL RECOMMENDATIONS:

1. Provide improved crossing facilities on Phifer Road at Margrace neighborhood intersections.
2. Install trail facilities along Beason Creek with strategic trailhead locations for accessing the school complex, adjacent neighborhoods, and Phifer Road sidewalk.
3. Connect to **Westgate node** with creek crossing and Patriots Trail.



**Crossing Phifer Road at Maner Road  
(Google image)**



**Ingles Shopping Center on Shelby Road  
(Google image)**

## 10. INGLES

At the city's western extent, where US 74 Business prepares to merge again with the Bypass, a commercial center has sprung up among a largely industrial area of various distribution centers. From the shopping center entrance at Countryside Road, the focus area extends nearly to Potts Creek, US 74 Bypass, the salvage yard on Shelby Road, and into the Cleveland County Industrial Park.

### PROMINENT DESTINATIONS:

- Ingles Store
- Cleveland County Industrial Park and other industry
- Various retail outlets

### ASSETS:

- Arterial entrance to the City
- Includes a portion of the adopted alignment of the Carolina Thread Trail
- Includes a portion of the Beason Creek proposed pedestrian route at the point of connection to the Potts Creek Route
- Raised curbs on internal streets
- Traffic signal
- Large areas of undeveloped land
- Potential public assembly space
- Adjacent to safe crossing opportunity of US 74 Bypass

### CHALLENGES:

- 4-lane US 74 (Business) divides the node in half.
- Vehicular traffic (9,600 AADT on US 74)
- No pedestrian crossing facilities along US 74
- Dominated by auto-centric retail establishment
- Pedestrian void areas created by large parking lots
- Few street lights
- Only partially within City limits

### GOALS & OPPORTUNITIES:

- Increase safety, particularly in crossing streets.
- Improve physical and aesthetic conditions along prominent corridors.
- Provide increased connectivity through greenway development along available creeks, floodways, utility corridors and public rights-of-way.
- Improve prominent corridors in order to encourage greater investment, including Shelby Road.

### GENERAL RECOMMENDATIONS:

1. Provide internal sidewalks within Ingles Shopping Center with planting strips and street trees along proposed Patriots Trail corridor.
2. Install trail facilities along proposed Patriots Trail through Cleveland County Industrial Park.
3. Provide pedestrian connection along proposed Beason Creek alignment northeast of Shelby Road to proposed Potts Creek Trail, concurrent with new development.
4. Install traffic signal and pedestrian crossing facilities at the primary entrance to Ingles Shopping Center on Shelby Road (US 74 Business) at Countryside. Install audible, pedestrian activated crosswalk signals and striping with pedestrian refuge medians across Shelby Road.





## EXISTING CONDITIONS

1. Regional Context
2. Existing Conditions: Project Area
3. Existing Conditions: Downtown

## ANALYSIS

4. Aerial Photo
5. Neighborhoods & Destinations
6. Neighborhoods & Destinations: Downtown
7. Current Pedestrian Facilities: Downtown
8. Off-road Trail Potential
9. Traffic Conditions
10. Collisions Involving Pedestrians
11. Generalized Zoning and Overlay Districts
12. Overlay Districts
13. Population
14. Minority Population

## PROJECT RECOMMENDATIONS

15. Focus Areas
16. Priority Corridors & Proposed Routes
17. Proposed Routes: Downtown
18. Proposed Facilities
19. Proposed Facilities: Downtown
20. Proposed Project Data and Ranking Tables\*:
  - a. Sidewalks
  - b. Trails, Signage, Road Diets, Bridges, Tunnels
  - c. Crosswalks, Railroad Crossings, Lighting

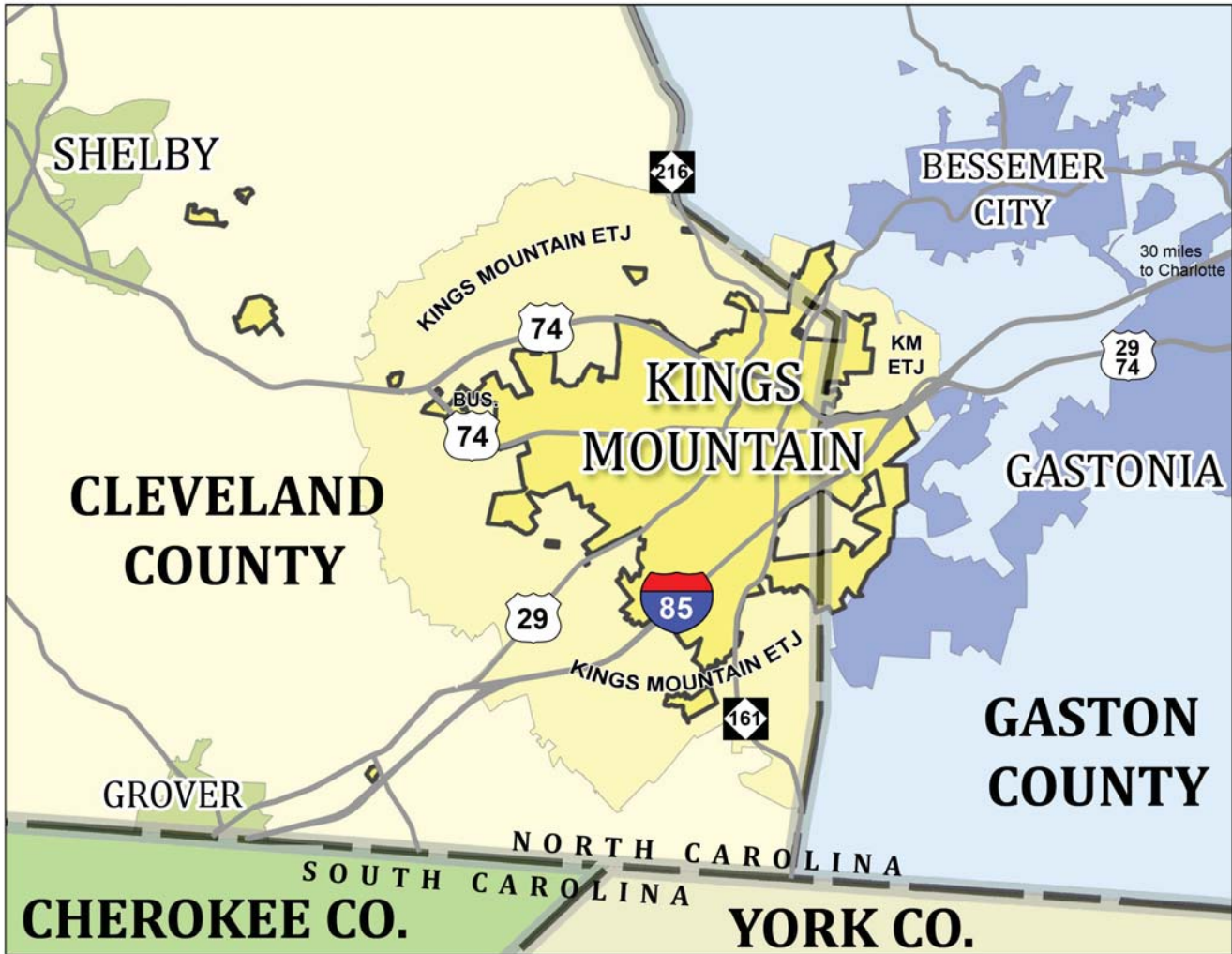
## FUNDING STRATEGIES

21. Funding Opportunities

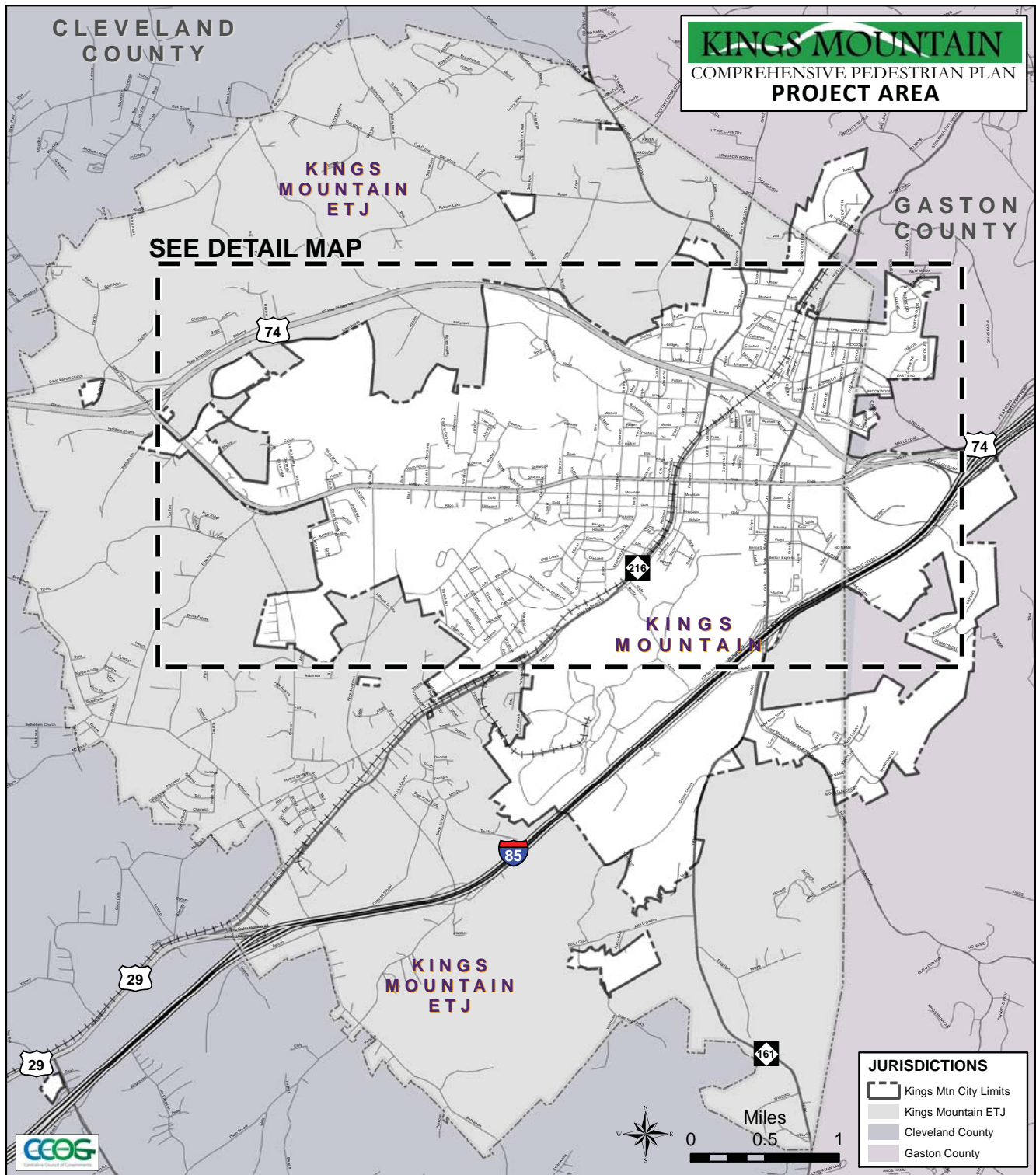
### \* PRIMARY PROJECT TABLES

All projects recommended in this plan are included in three project tables that describe: location, current conditions, improvement type, recommended features, length or quantity of improvement, associated costs, potential funding sources, and project ranking. All projects are numbered to correspond to the Proposed Facilities Maps, 6.18 & 6.19.

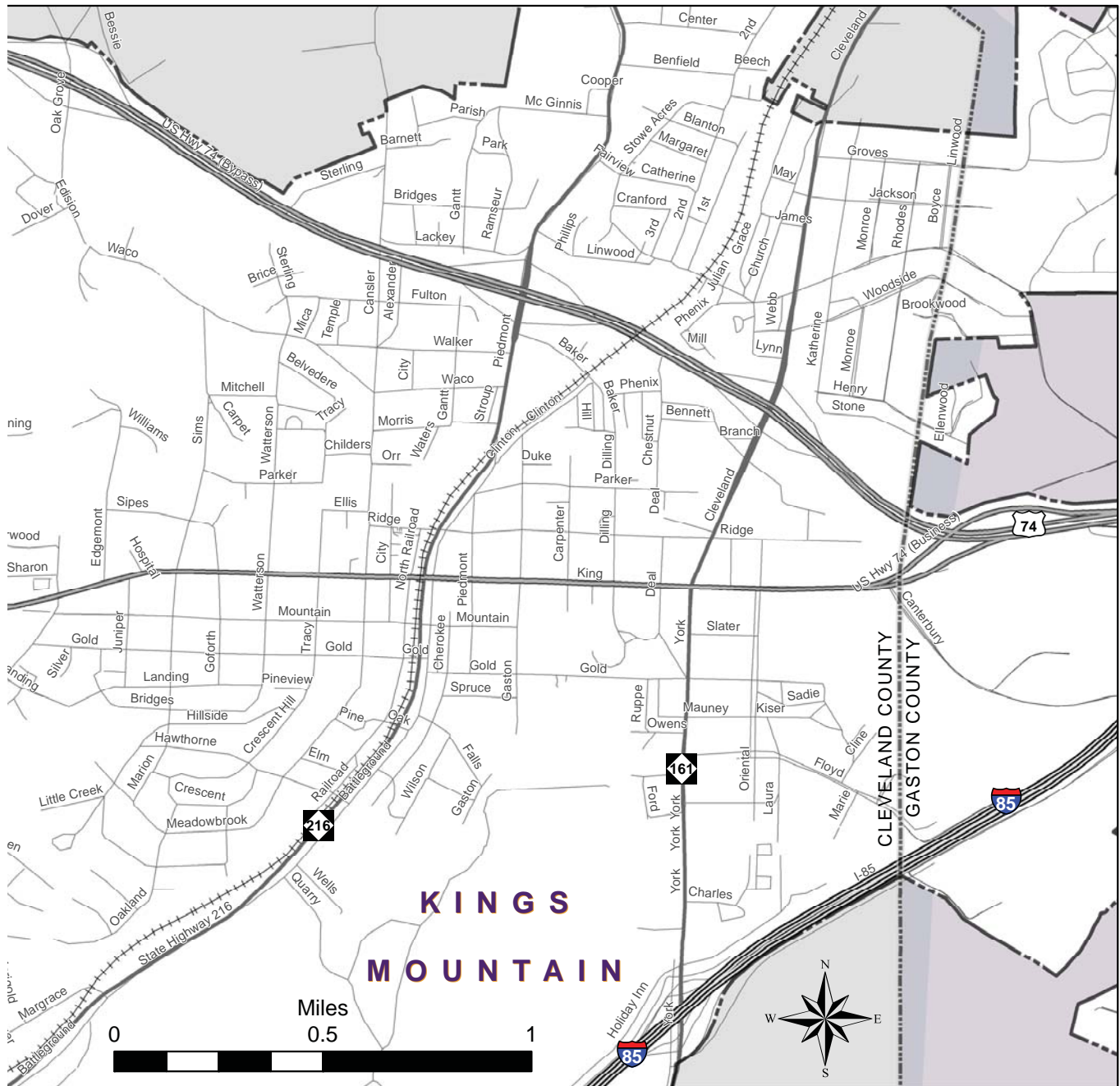
Map 6.1 Regional Context



Map 6.2 Project Area



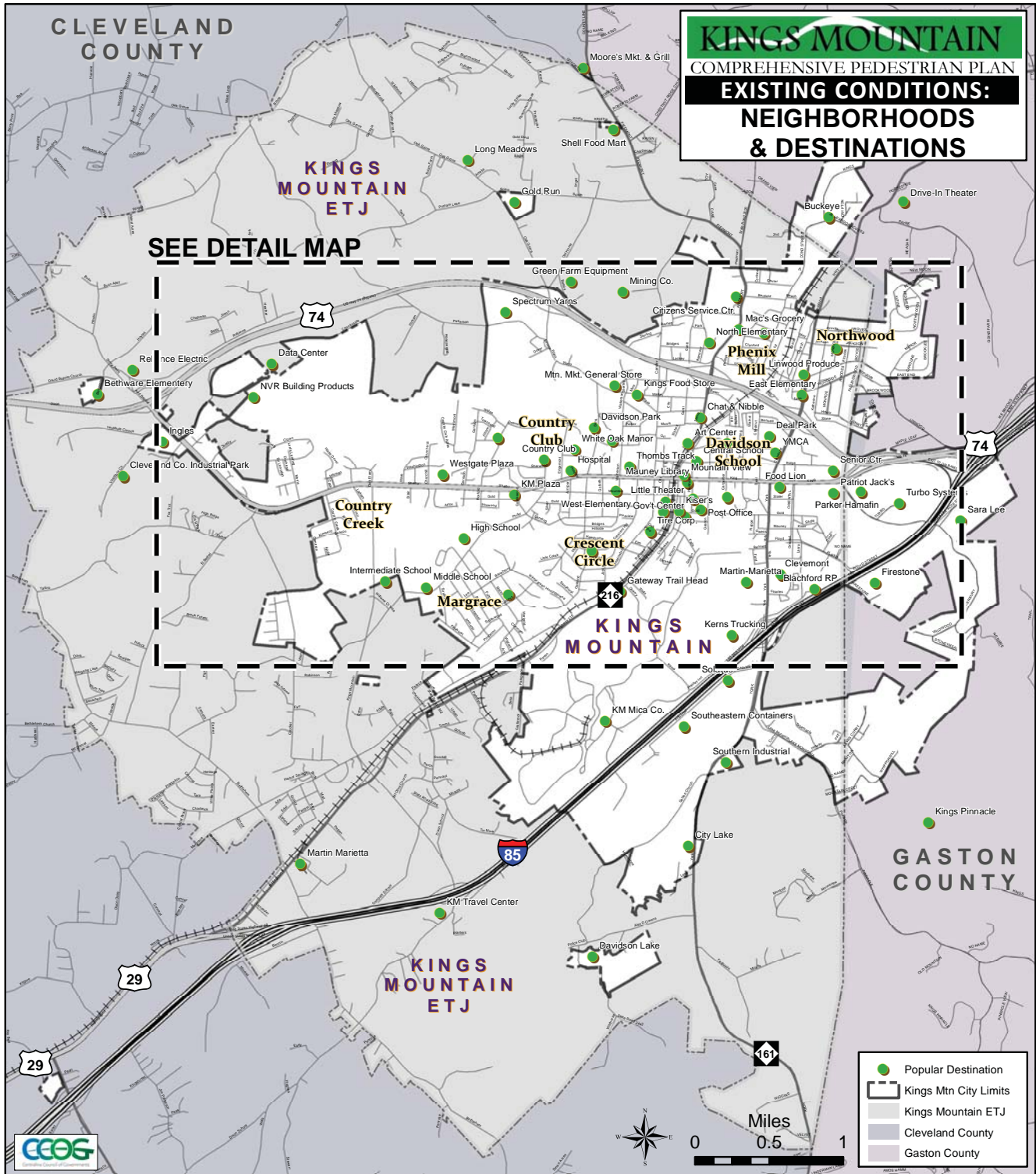




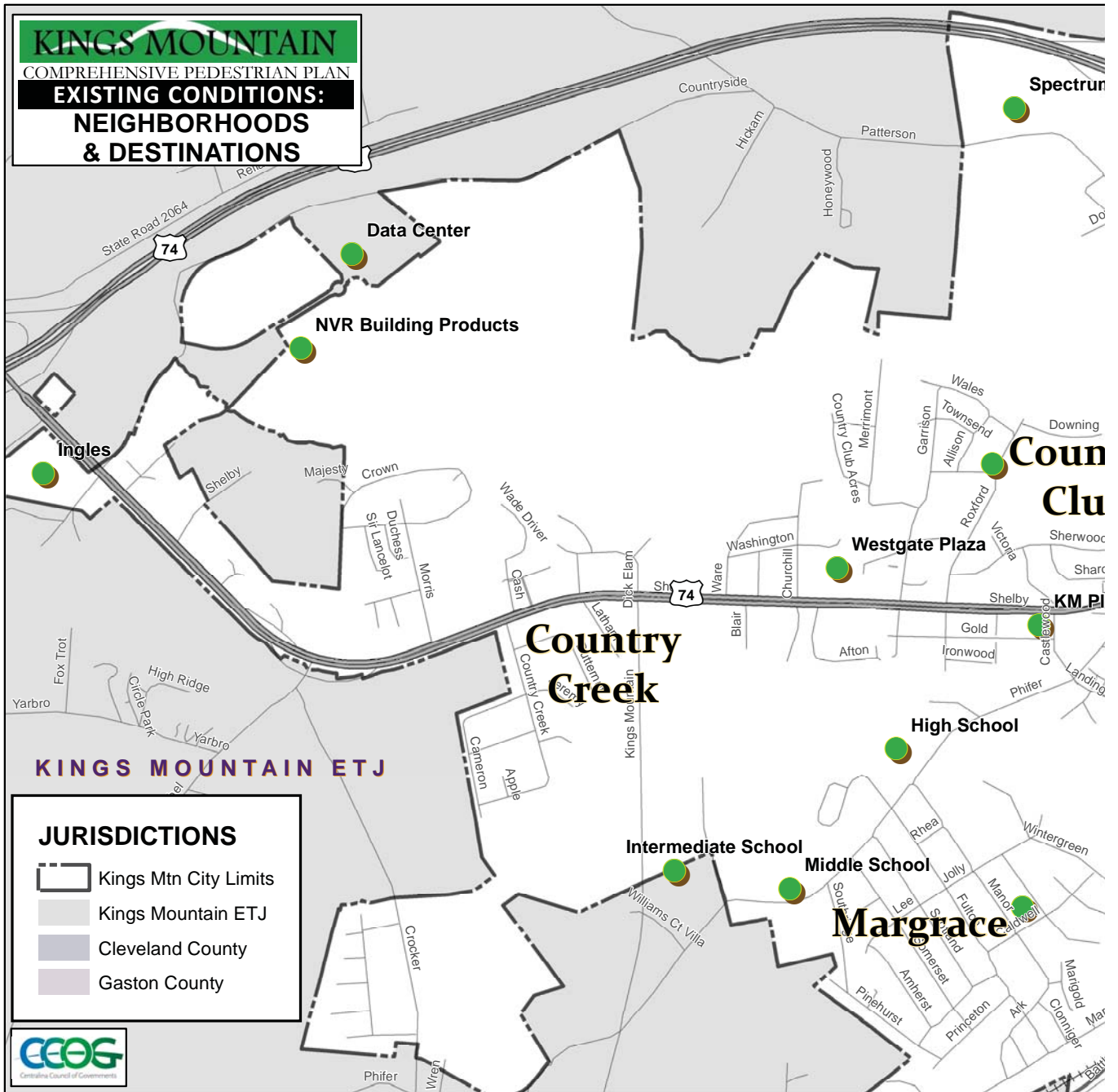
Map 6.4 Aerial Photo

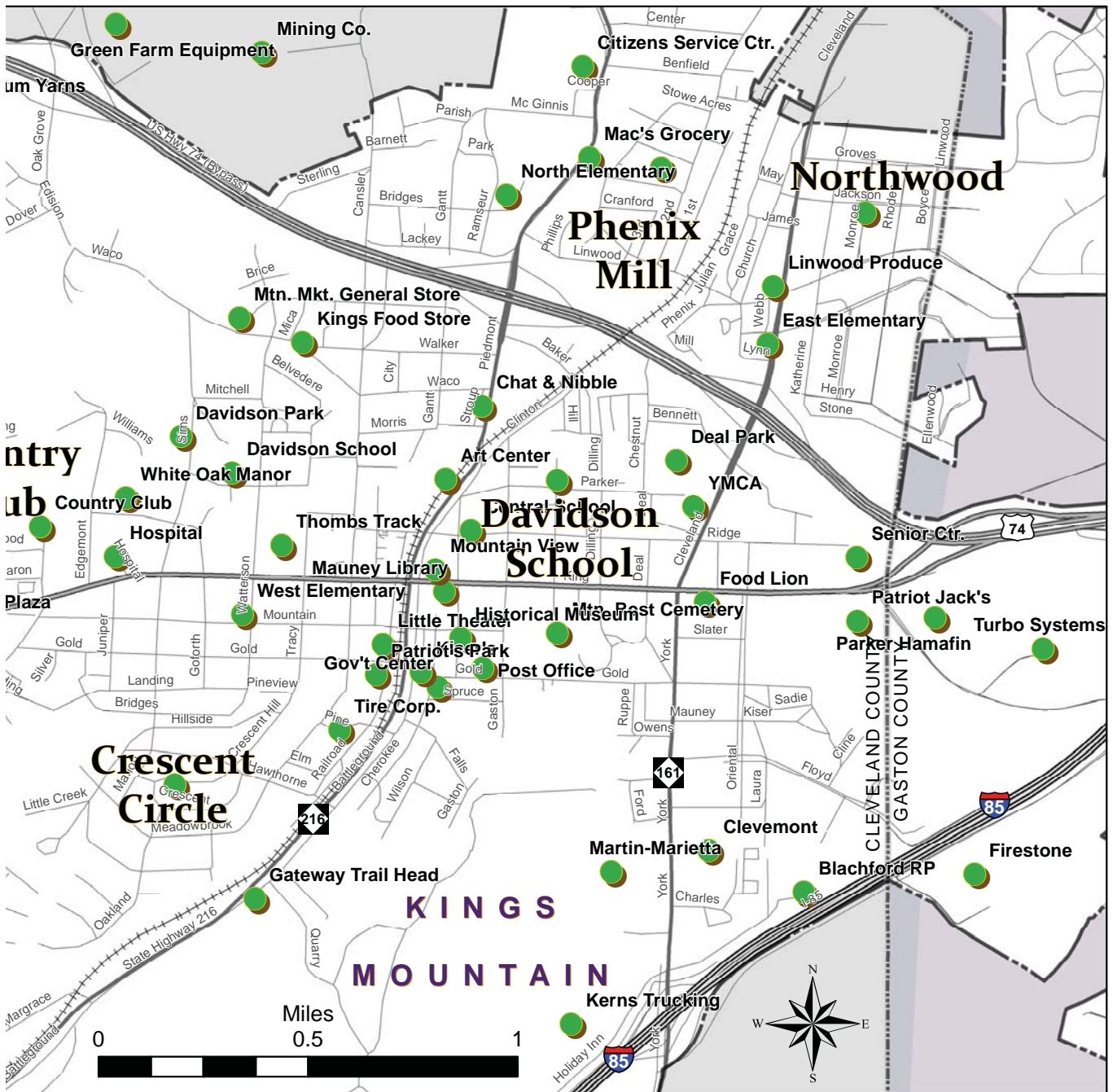


Map 6.5 Neighborhoods & Destinations

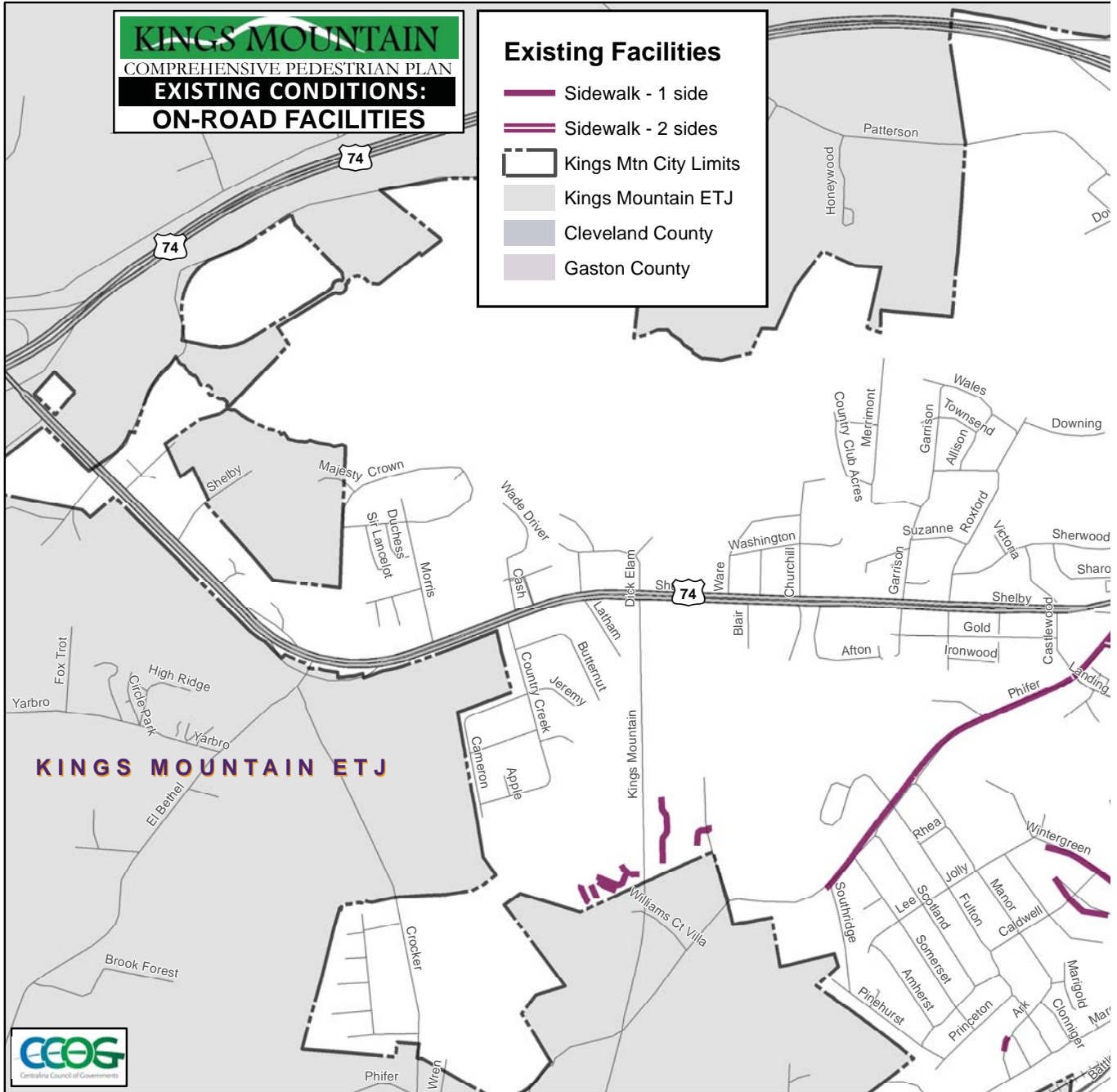


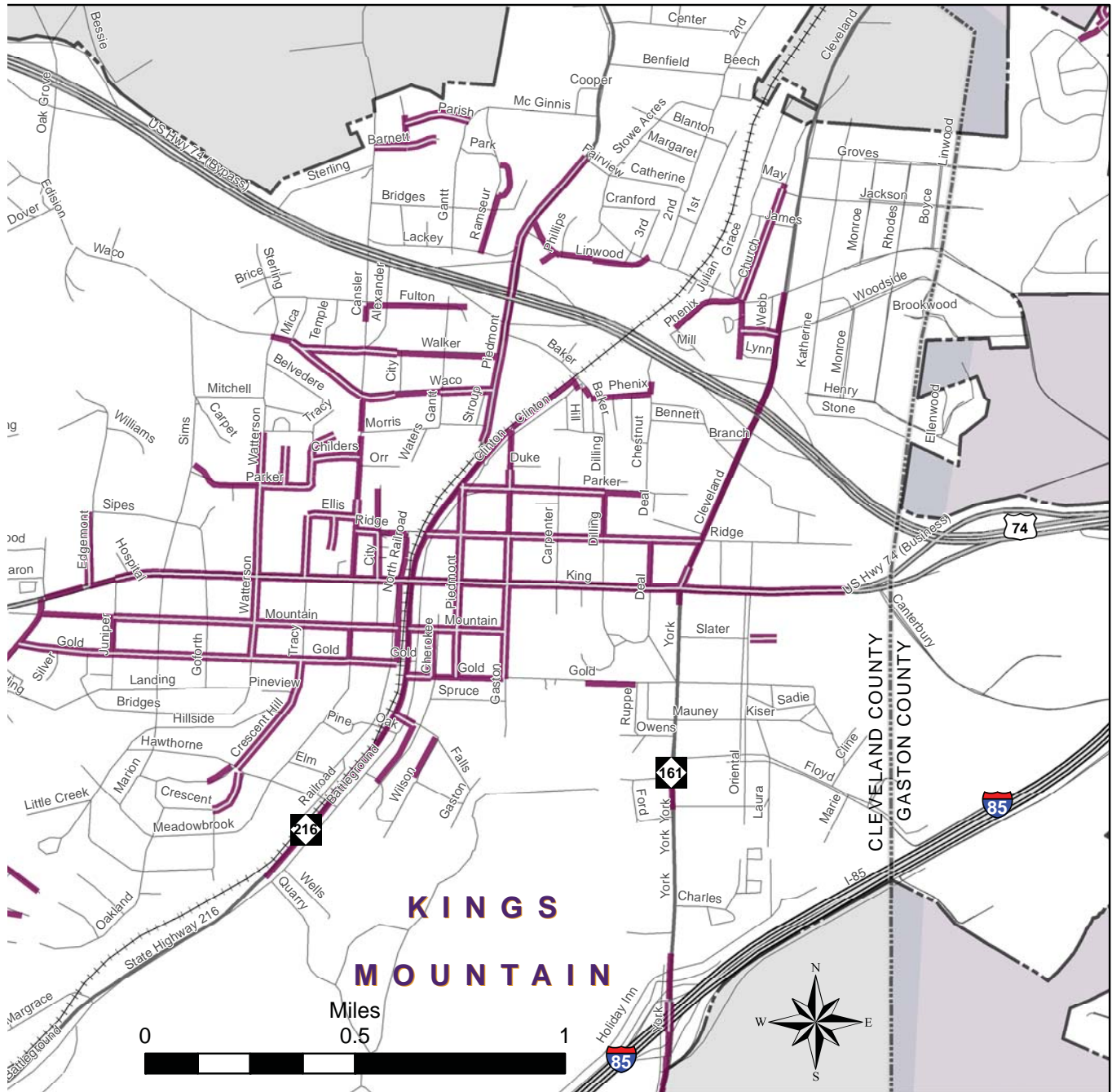
Map 6.6 Neighborhoods & Destinations - Downtown



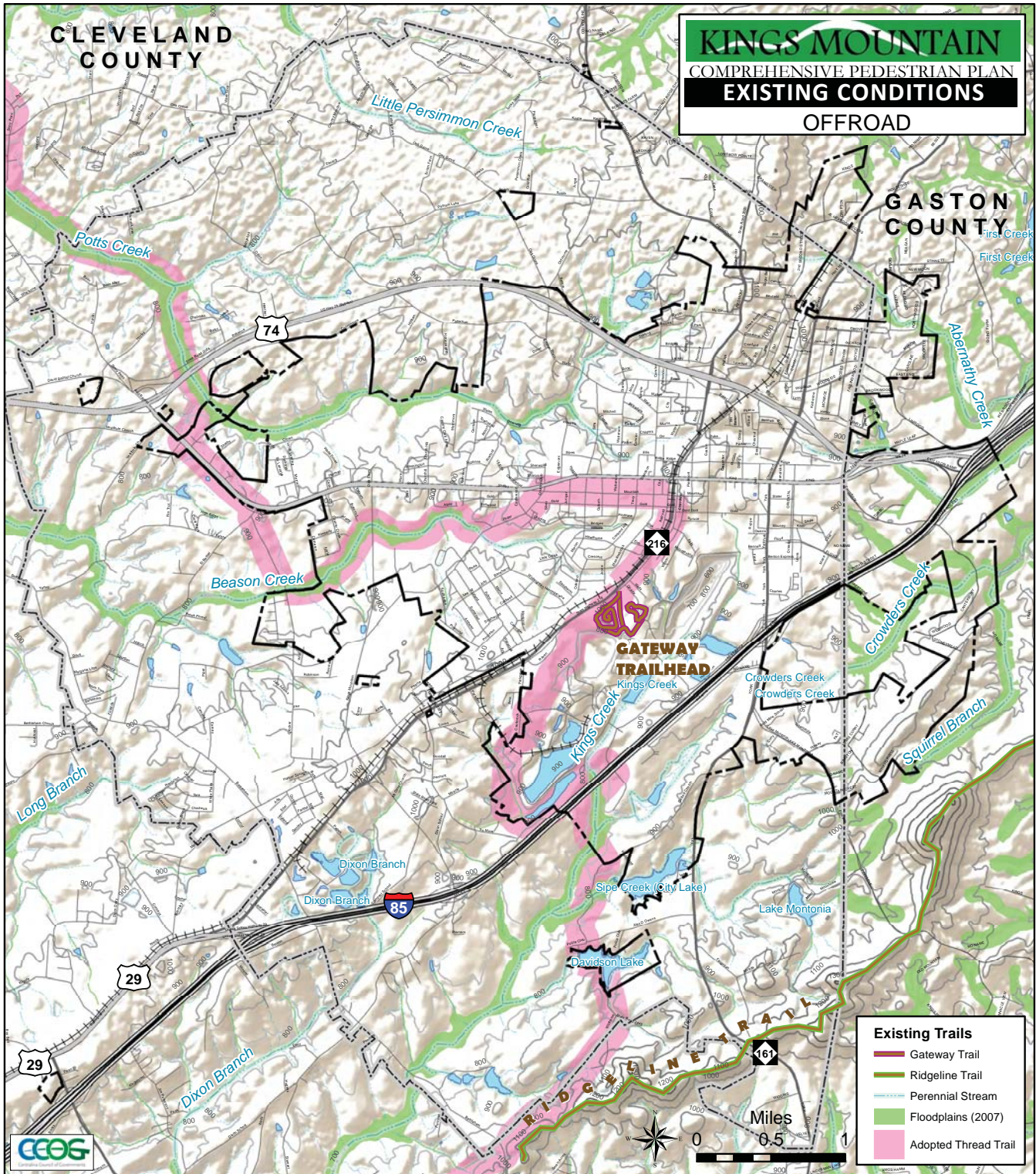


Map 6.7 Existing On-Road Facilities - Downtown

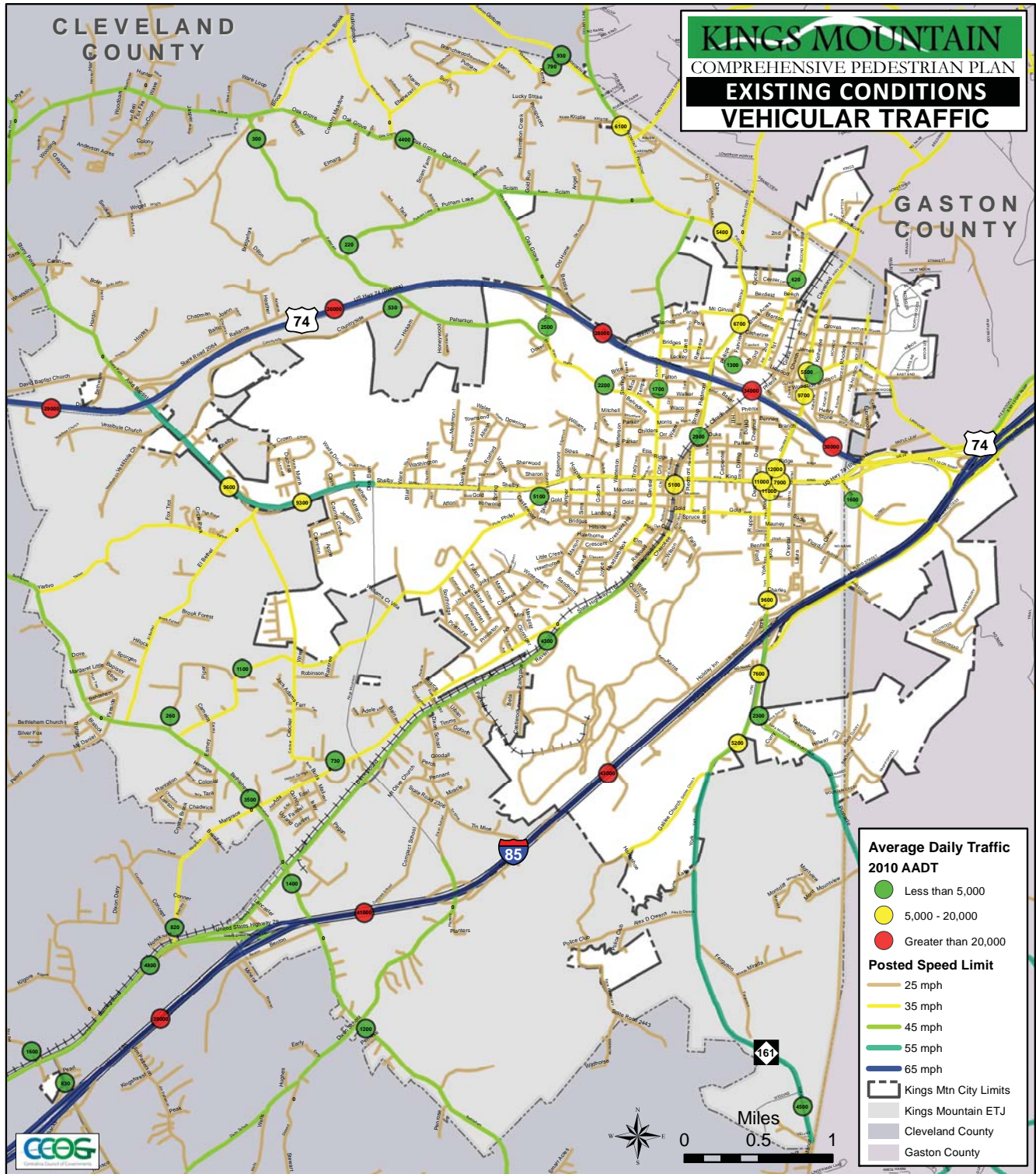




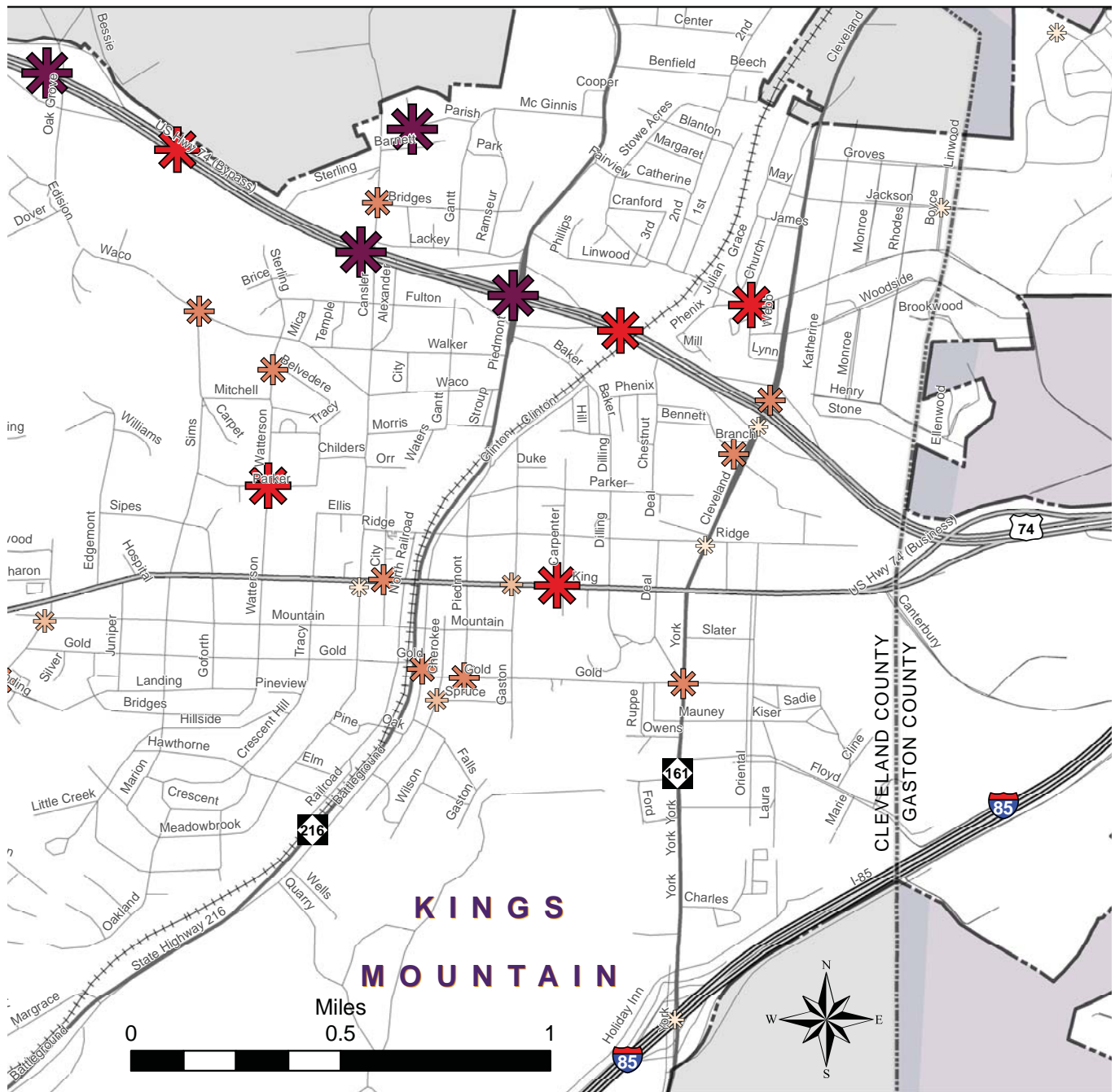
Map 6.8 Off-Road Trail Potential



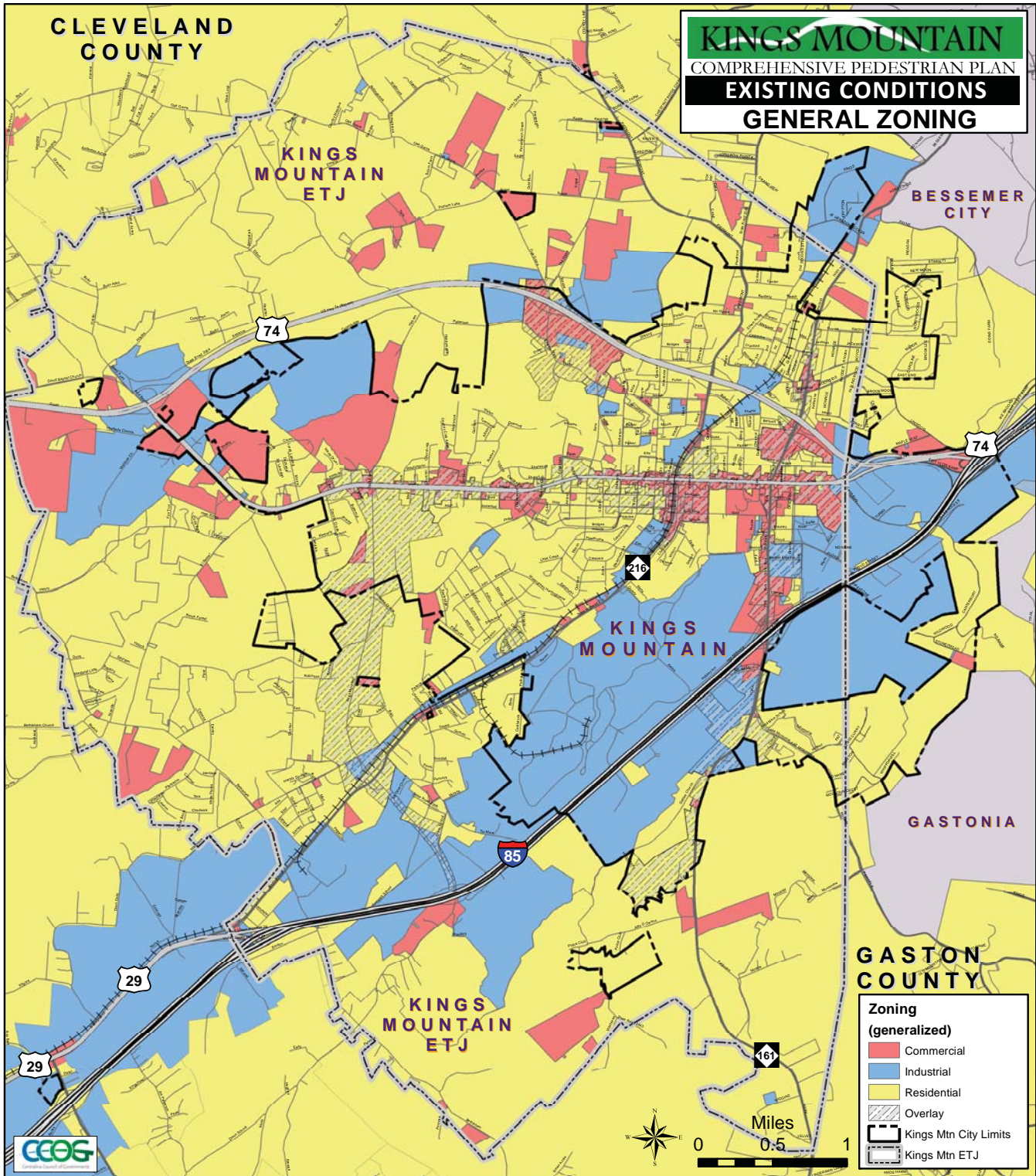
Map 6.9 Traffic Conditions



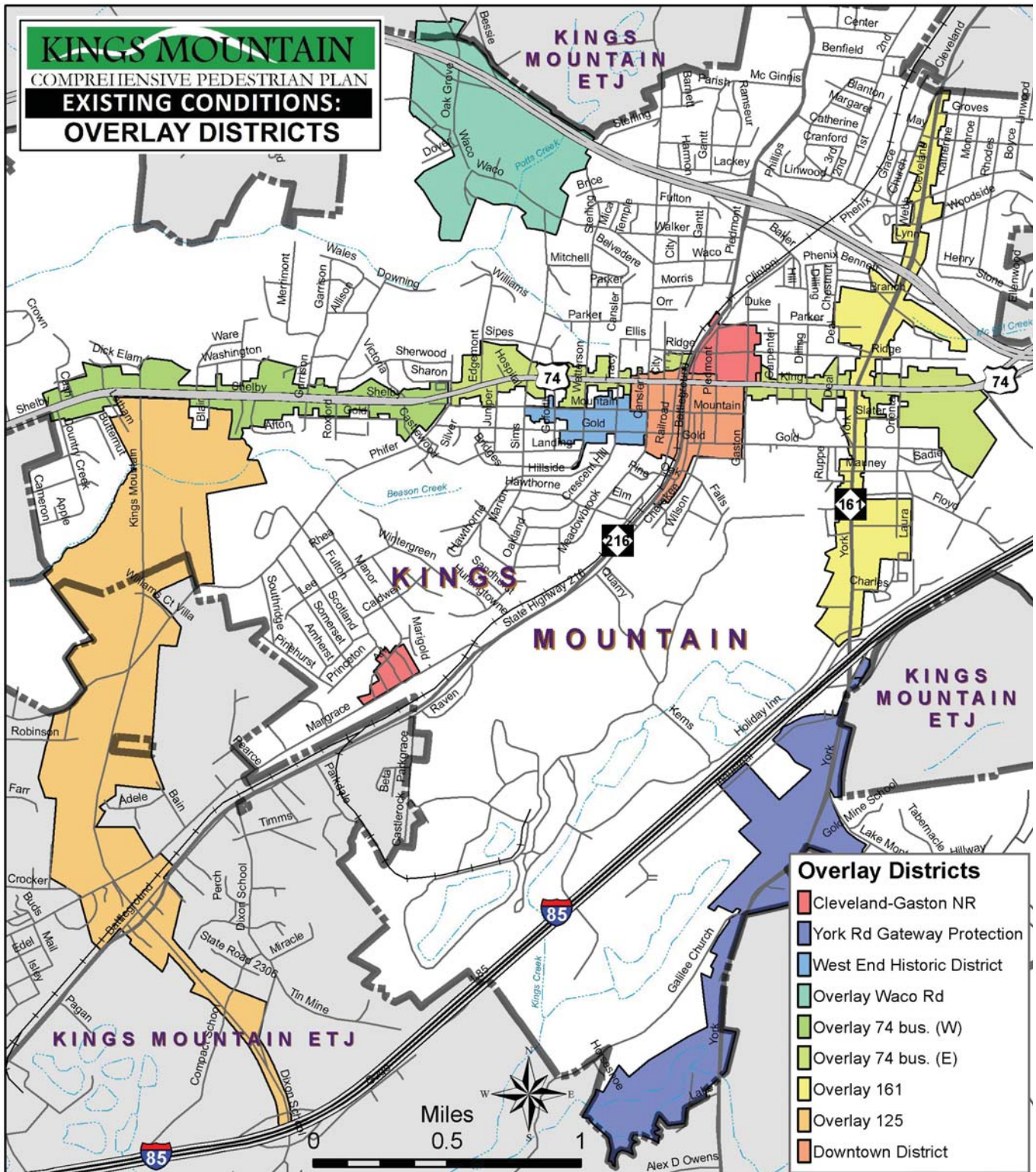




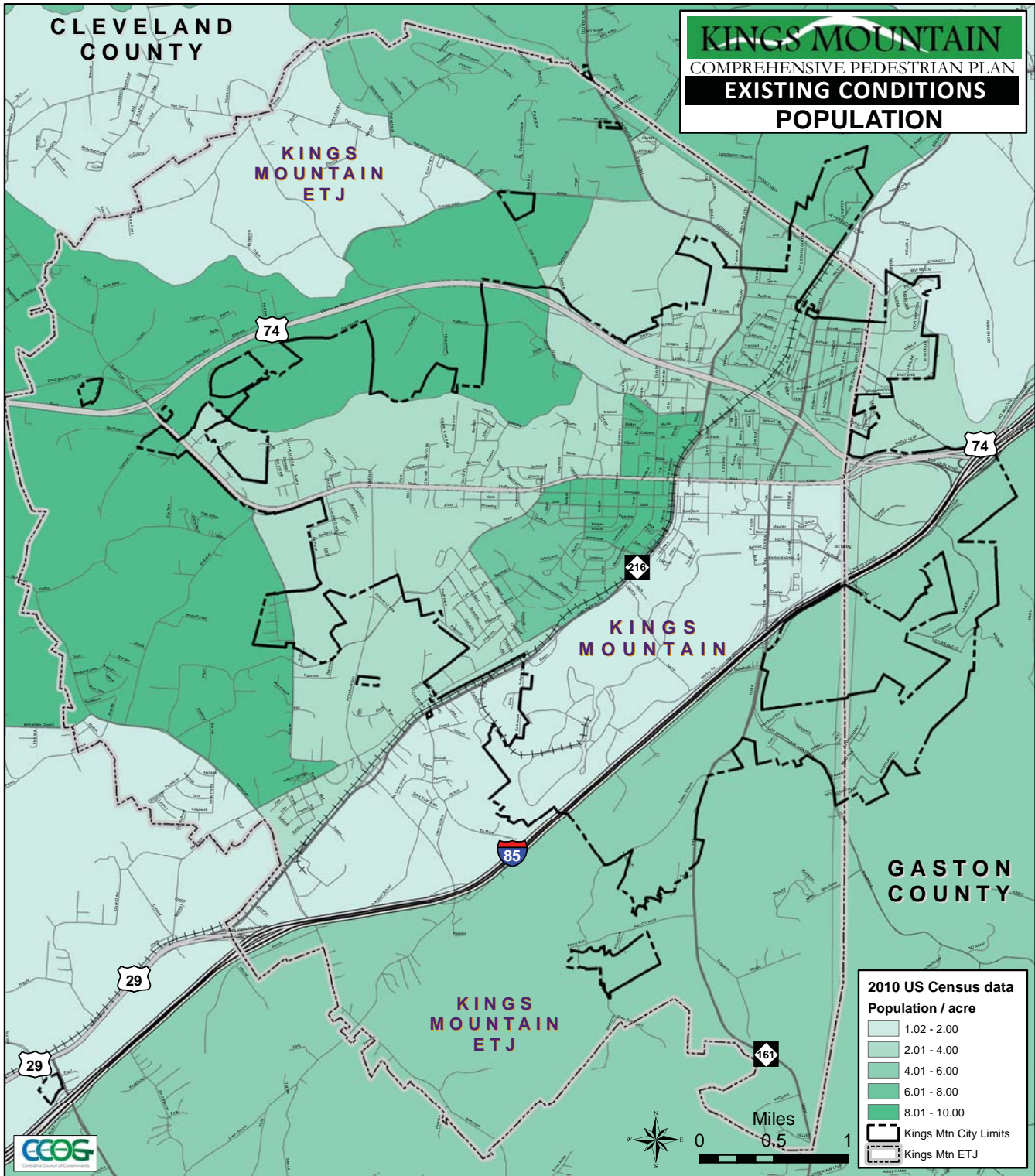
Map 6.11 Generalized Zoning



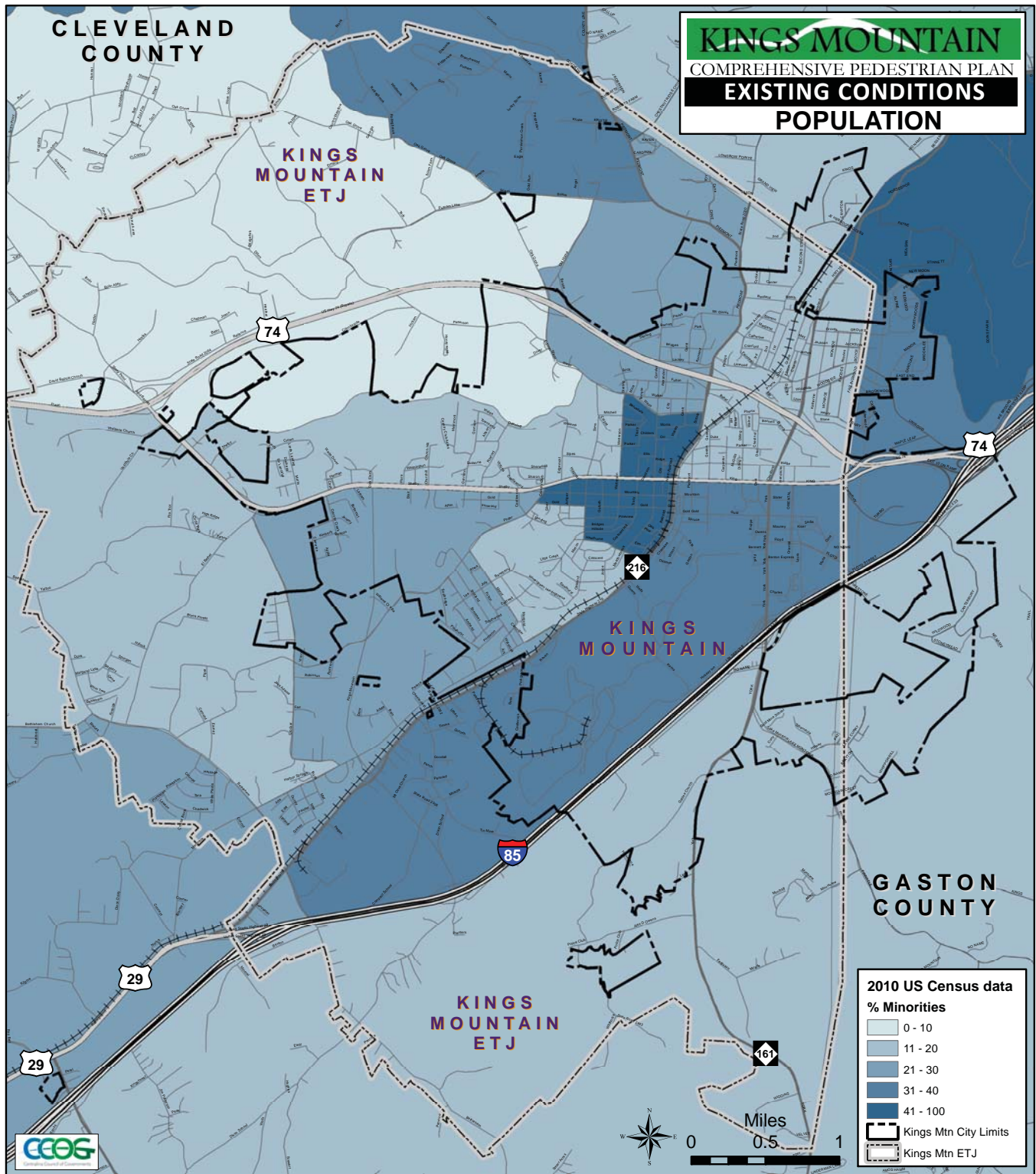
Map 6.12 Overlay Districts



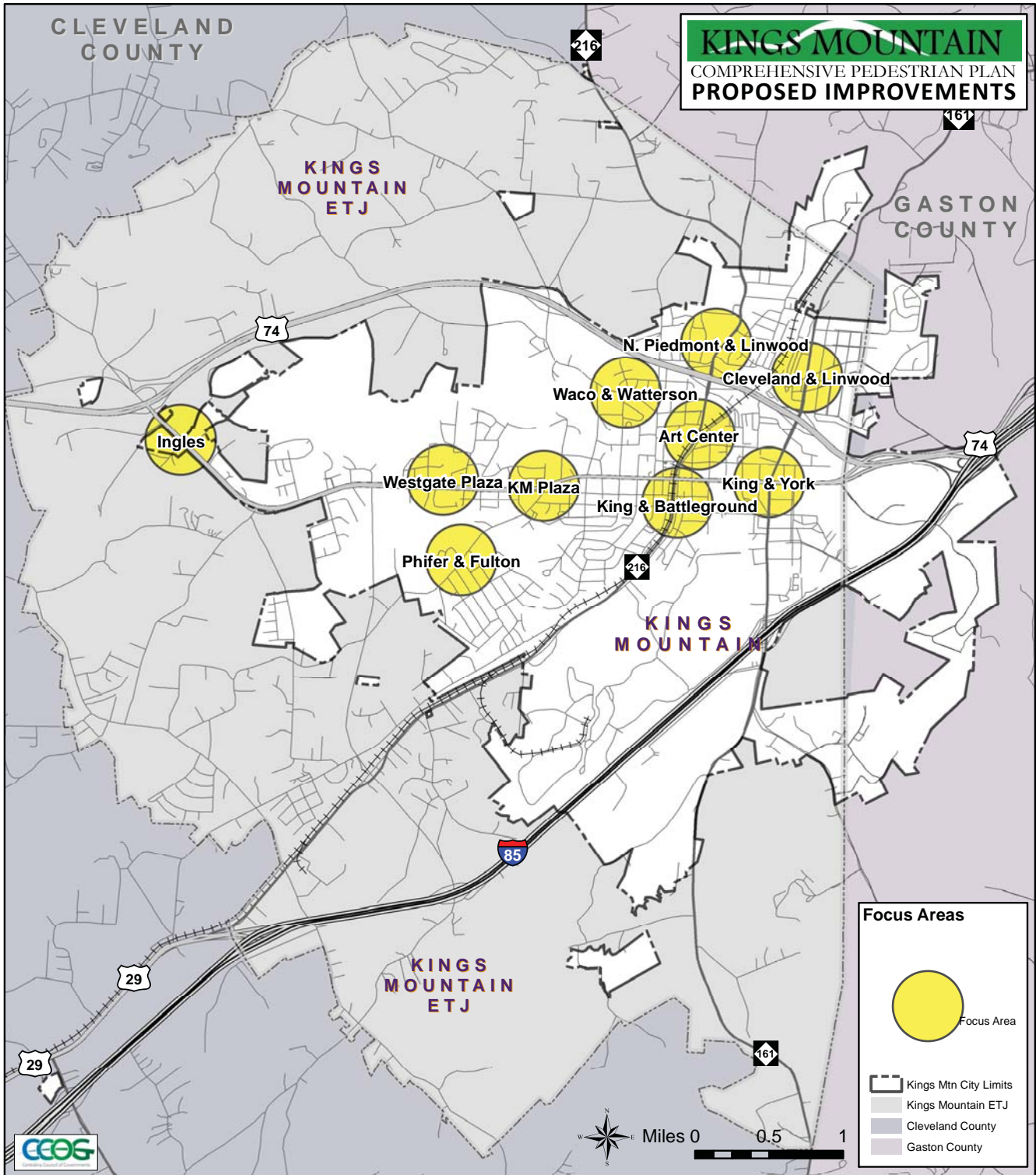
Map 6.13 Population



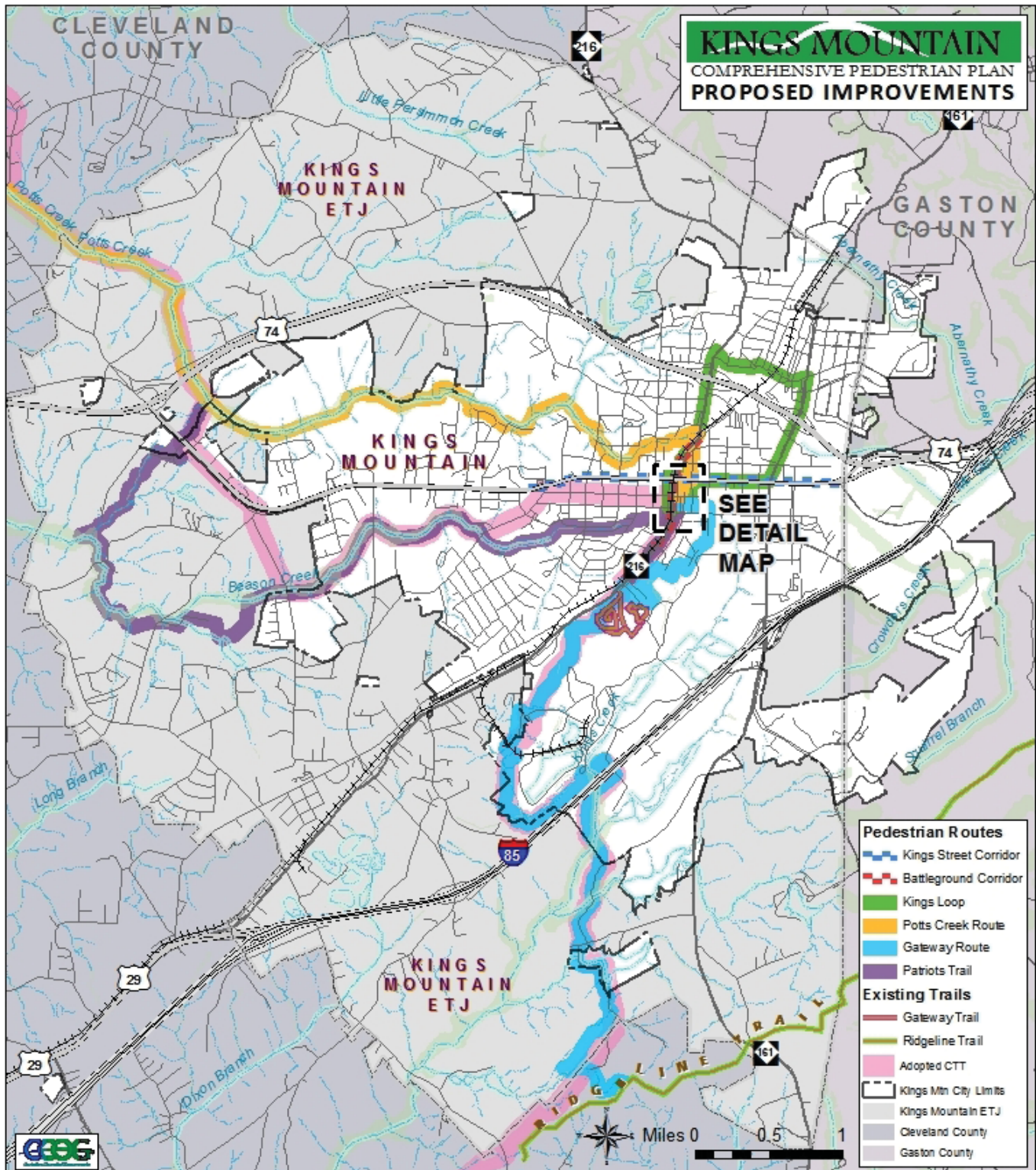
Map 6.14 Minority Population



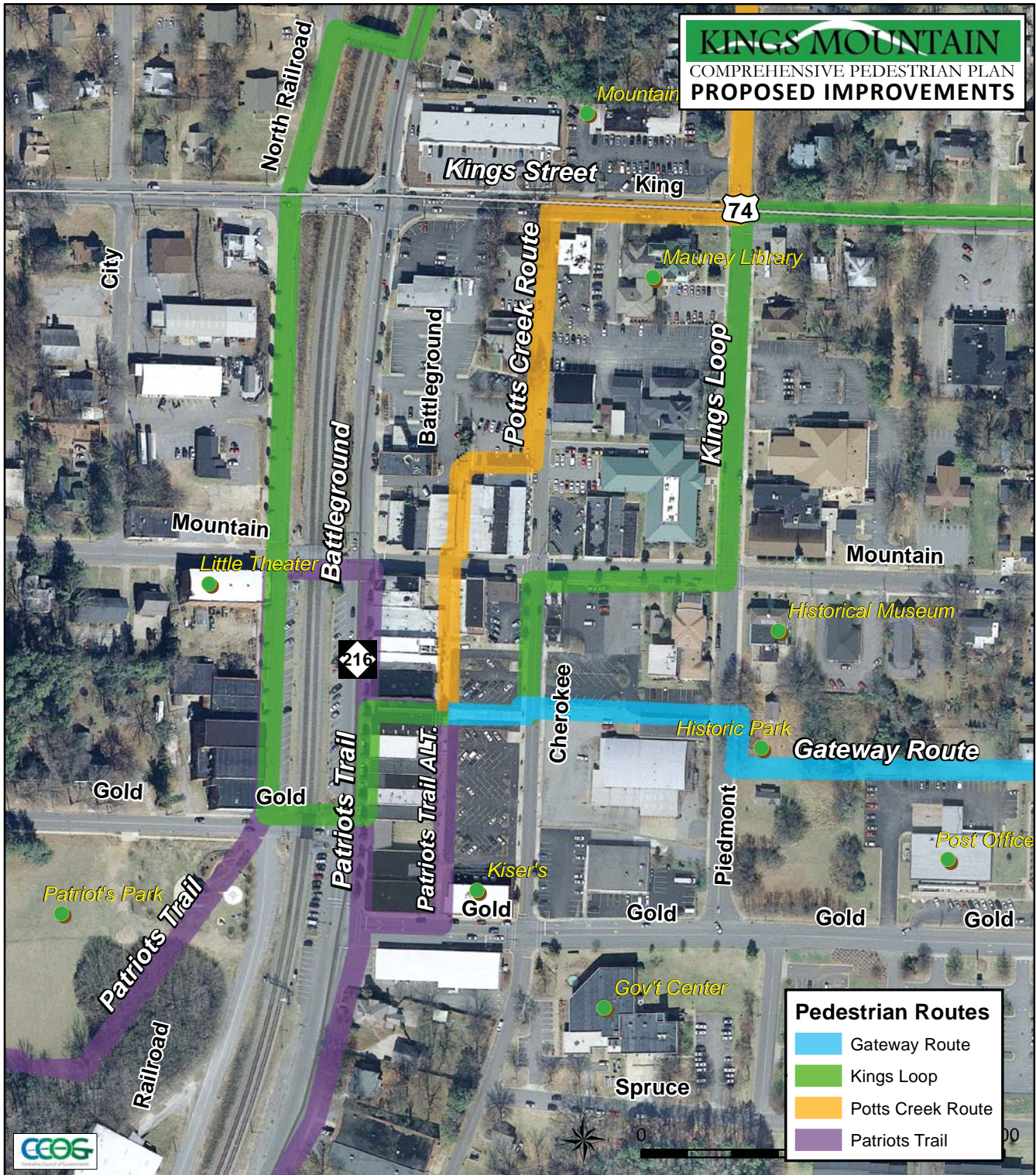
Map 6.15 Focus Areas



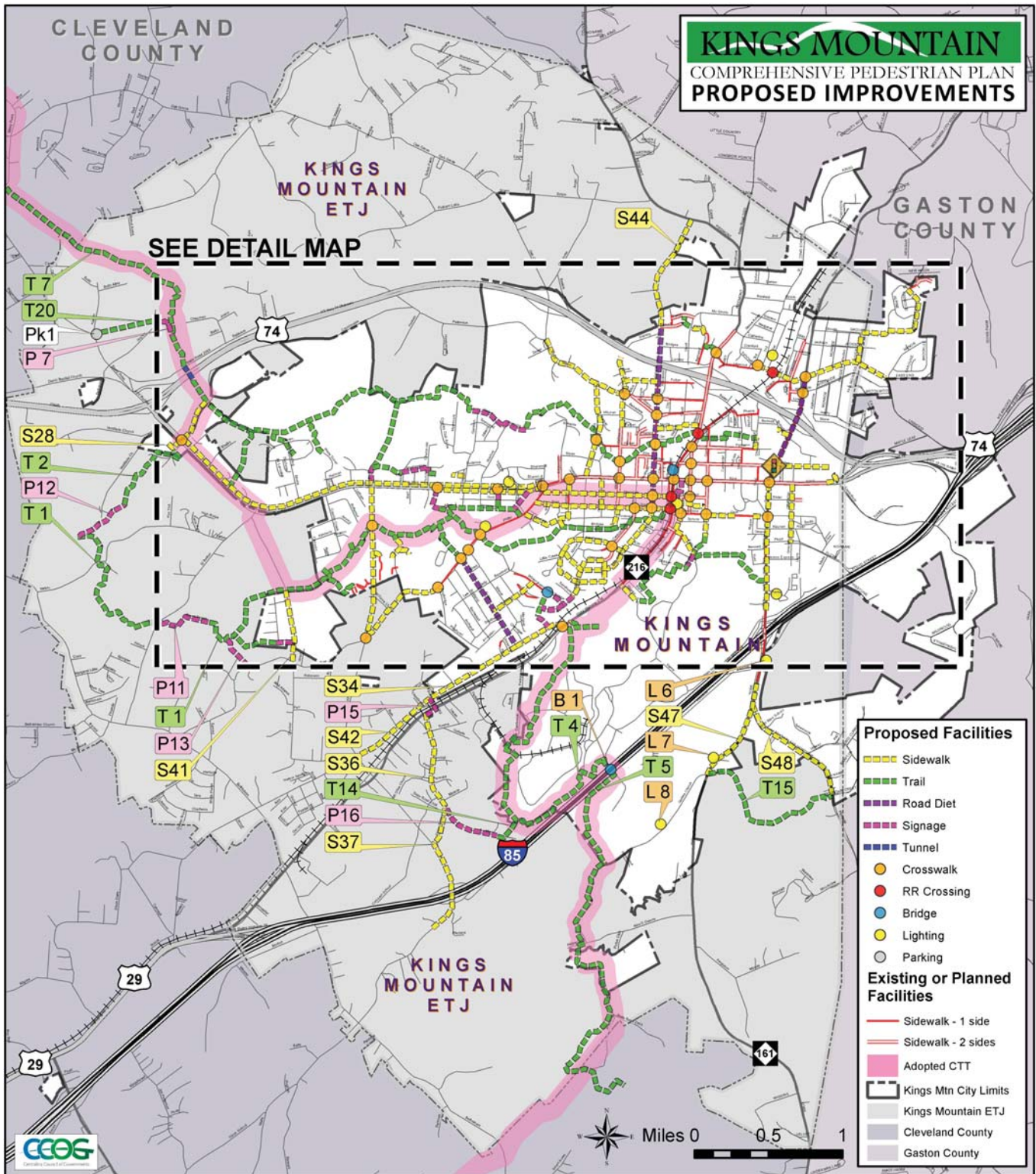
Map 6.16 Priority Corridors & Proposed Routes



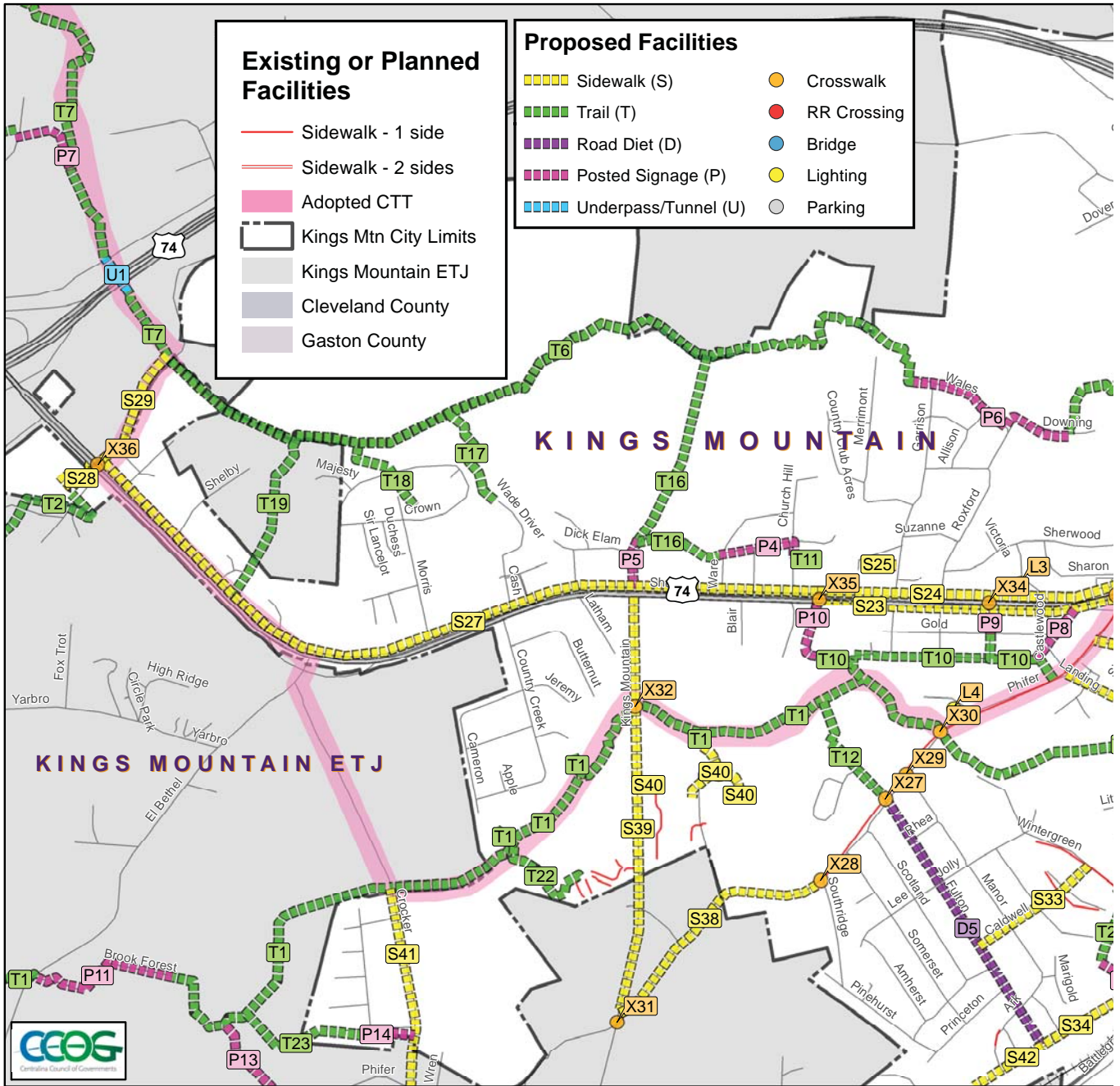
Map 6.17 Proposed Routes: Downtown



Map 6.18 Proposed Facilities



Map 6.19 Proposed Facilities: Downtown



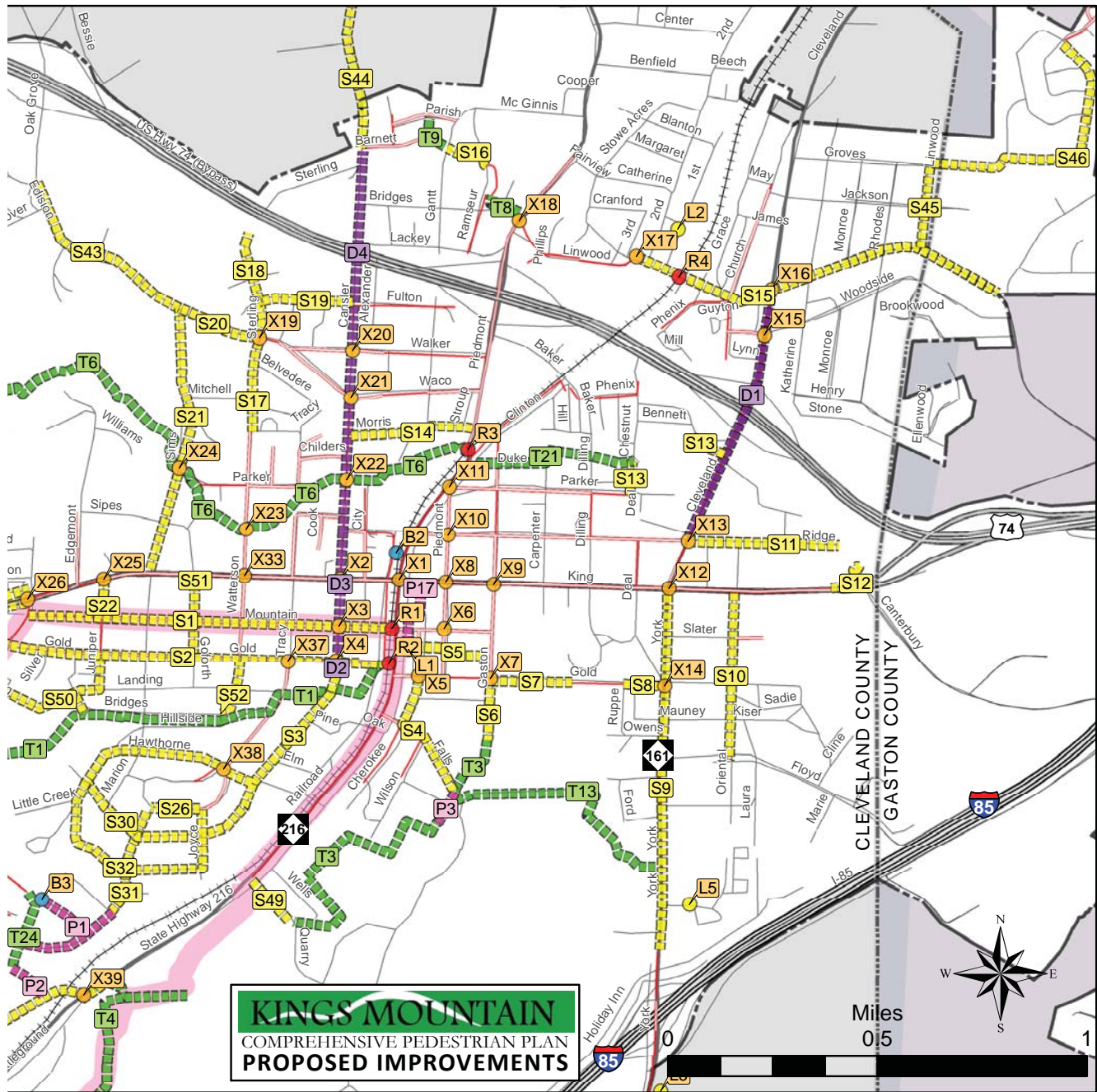


Table 6.20a Proposed Project Data & Ranking Tables - Sidewalks

RECOMMENDED FACILITIES	LOCATION					IMPROVEMENTS							COST				
	Street/Project Name	Proj. No.	From	To	Side	Purpose	Existing Conditions	Recommendations					Distance	Unit Cost	Con		
						Goal served or link made	Along majority of segment	Demo	Swalk	Strip	Trees	Mid	C&G	feet	mile	\$/LF	
SIDEWALK PROJECTS	Mountain	S1	Railroad	Phifer	both	Downtown link	narrow sidewalk	2	2	2	2			4,533	0.86	288	\$/
	W. Gold	S2	Railroad	Phifer	both	Downtown link	narrow sidewalk	2	2	2	2			4,803	0.91	288	\$/
	S. Cansler	S3	W. Gold	Hawthorne	E	Downtown/CTT	lawn & curb		1	1				1,881	0.36	135	
	Cherokee & Falls	S4	Gov't Center	Mountain Trail	E & N	Downtown link	mixed		1	1	1		1	1,722	0.33	154	
	Historic Walk	S5	Battleground	Gold	mid	Mountain Route	mixed	1			1	1		1,056	0.20	144	
	Gaston	S6	Gold	end	E	Downtown link	undeveloped		1	1	1		1	767	0.15	154	
	E. Gold	S7	exist'g	Gaston	S	Downtown/CTT	undeveloped		1	1	1			1,029	0.19	139	
	E. Gold	S8	exist'g	York	S	Focus area	paved & lawn		1	1	1			495	0.09	139	
	York	S9	King	exist'g (near I-85)	both	Focus area/CTT	mixed		2	2	2			4,518	0.86	278	\$/
	Oriental	S10	King	Floyd	E	Focus area	lawn & undeveloped		1	1	1		1	2,088	0.40	154	
	Ridge	S11	Senior Center	Cleveland	TBD	Focus area/CTT	lawn		1	1	1			1,897	0.36	139	
	King	S12	exst'g	Senior Center	N	Destination/CTT	lawn & curb		1	1	1			641	0.12	139	
	Chestnut, Branch (2 segs.)	S13	Parker	Cleveland	W & S	Destination link	lawn		1				1	939	0.18	150	
	Morris	S14	Piedmont	N. Cansler	TBD	Focus area	lawn		1	1			1	1,598	0.30	150	
	Linwood	S15	Eastend	Fairview	both	Focus area	lawn & curb		2	2	2		2	4,927	0.93	308	\$/
	Park	S16	Ramseur	Gannt	N	Focus area	lawn, severe grades		1	1			1	658	0.12	150	
	Watterson	S17	Waco	exist'g	both	Focus area	lawn		2	2	2		2	1,178	0.22	308	
	Sterling	S18	Waco	end	E	Focus area	lawn		1	1			1	1,352	0.26	150	
	Fulton St.	S19	N. Cansler	Sterling	S	Focus area	lawn		1	1				1,190	0.23	135	
	Waco	S20	Watterson	N. Sims	N	Focus area	lawn		1	1	1		1	1,053	0.20	154	
	N. Sims	S21	Waco	King	E	Focus area	lawn		1	1	1		1	3,384	0.64	154	
	Juniper	S22	King	Mountain	E	Focus area	lawn		1	1	1		1	441	0.08	154	
	Shelby	S23	Country Club	Afton	S	Focus area/CTT	lawn, multi-lane		1	1	1		1	3,782	0.72	154	
	Shelby	S24	Country Club	Afton	N	Focus area	lawn, multi-lane		1	1	1		1	3,835	0.73	154	
	Sherwood	S25	Garrison	Westgate Plaza	N	Focus area/CTT	lawn		1	1	1		1	455	0.09	154	
	Crescent (south)	S26	exist'g	Oakland	both		lawn & curb		2	2				622	0.12	270	
	Shelby	S27	Afton	Countryside	N	Focus area	lawn, multi-lane		1	1	1		1	10,170	1.93	154	\$/
	Ingles	S28	Shelby	Ingles store	N	Focus area	lawn		1	1	1			540	0.10	139	
	Countryside	S29	Shelby	Potts Ck. Trail	N	Focus area	undeveloped		1	1	1		1	1,596	0.30	154	
	Hawthorne, Meadowbrk.	S30	S. Cansler	S. Cansler	inside		lawn & curb		1	1				4,999	0.95	135	
	Oakland	S31	Crescent (South)	Sandhurst	E		lawn & curb		1	1				1,360	0.26	135	
	Joyce, Hillside	S32	Crescent (South)	Meadowbrook	inside		lawn & curb		1	1				2,892	0.55	135	
	Caldwell/Hall Crossing	S33	Wintergreen	Fulton Rd.	both		lawn & curb		2	2	2			1,715	0.32	278	
	Margrace	S34	Battleground	Fulton Rd.	N		Lawn		1	1	1		1	1,875	0.36	154	
	Battleground	S35	Margrace	Mountain Trail	E	Route link	lawn		1	1				402	0.08	135	
	Dixon School	S36	Battleground	Kings Mtn Blvd	E		mixed		1	1	1		1	4,946	0.94	154	
	Kings Mountain Blvd.	S37	Dixon School	Truck Stop	E	Barrier passage	paved shoulders		1	1	1		1	3,451	0.65	154	
	Phifer	S38	exst'g (Southridge)	Kings Mtn Blvd	N	Focus area	undeveloped		1	1	1		1	3,238	0.61	154	
	Kings Mountain Blvd.	S39	Shelby	Phifer	both	Route link	undeveloped		2	2	2		1	5,247	0.99	293	\$/
	Intermediate Sch drives	S40	Beason Ck Route	covered walkway	E & N	Route link	lawn		1	1	1			1,560	0.30	139	
	Crocker	S41	Beason Ck Route	Phifer	E	Route link	goat path		1	1	1		1	2,560	0.48	154	
	Margrace	S42	Fulton	Kings Mtn Blvd	N		lawn		1	1	1			6,889	1.30	139	
	Waco	S43	Sims	Patterson	S	Focus area	undeveloped		1	1	1		1	2,547	0.48	154	
	N. Cansler	S44	Barnette	Piedmont	E		undeveloped		1	1	1		1	4,204	0.80	154	
	Boyce	S45	Linwood	Groves	TBD		lawn		1	1			1	1,024	0.19	150	
	Groves, Northwoods	S46	Boyce	Pennington	TBD		lawn		1	1			1	3,482	0.66	150	
	York	S47	exst'g	Galilee	E		undeveloped		1	1			1	3,919	0.74	150	
	Lake Montonia	S48	York	Mountain Crest	SW		undeveloped		1	1	1		1	4,512	0.85	154	
	Quarry Road	S49	Battleground	Mountain Route	SW	Route link	lawn		1	1	1		1	704	0.13	154	
	Landing, Juniper	S50	Phifer	W. Gold, Beason	N & E	Focus area	lawn		1	1	1			2,324	0.44	139	
	S. Goforth	S51	King	W. Gold	both		lawn		2	2	2		2	1,030	0.20	308	
	Watterson	S52	W. Gold	Bridges	E	Route link	lawn		1	1				774	0.15	135	
TOTALS													128,804	24.4		\$2	

STS		FUNDING				RANKING							Project Priority	
Construction \$ Estimate	Annual Upkeep	Potential Sources				Project Scoring								
		CTT	SRTS	CMAQ	Powell Bill	Serves Downtown	Focus area or corridor	Links destinations	Miti-gates barriers	Upgrades exst'g system	Public vote	Com-mittee vote	Total points	
\$1,307,317	\$859		●		●	1	3	2	0	1	4	4	15	★
\$1,385,185	\$910		●		●	1	2	1	0	1	5	6	16	★
\$254,311	\$89	●	●		●	1	2	1	0	0	0	2	6	●
\$265,532	\$163		●		●	1	2	0	0	0	0	0	3	○
\$152,064	\$100		●		●	1	1	2	0	1	6	5	16	★
\$118,271	\$73		●		●	1	1	0	0	0	0	2	4	○
\$143,237	\$97	●	●		●	1	1	0	0	1	1	3	7	●
\$68,904	\$47		●		●	0	1	0	0	0	1	0	2	○
\$1,257,811	\$856	●	●		●	0	2	3	0	1	5	13	24	★
\$321,970	\$198		●		●	0	1	1	0	1	0	0	3	○
\$264,062	\$180	●	●		●	0	2	1	0	0	0	1	4	○
\$89,227	\$61	●	●		●	0	1	1	0	1	0	6	9	●
\$140,850	\$44		●		●	0	1	2	0	1	0	2	6	●
\$240,020	\$76		●		●	0	2	1	0	0	0	0	3	○
\$1,519,487	\$933		●	●	●	0	2	1	0	2	0	7	12	★
\$98,832	\$31		●		●	0	1	1	0	1	0	3	6	●
\$363,295	\$223		●		●	0	1	1	0	1	0	4	7	●
\$203,070	\$64		●		●	0	1	1	0	0	0	0	2	○
\$160,888	\$56		●		●	0	2	0	0	0	0	0	2	○
\$162,373	\$100		●		●	0	2	1	0	0	0	1	4	○
\$521,813	\$320		●		●	0	3	0	0	0	0	7	10	★
\$68,002	\$42		●		●	0	2	0	0	1	0	1	4	○
\$583,184	\$358	●	●		●	0	2	3	0	0	2	0	7	●
\$591,357	\$363		●		●	0	2	3	0	0	8	1	14	★
\$70,161	\$43	●	●		●	0	1	1	0	0	0	0	2	○
\$168,189	\$59		●		●	0	0	0	0	0	0	0	0	○
\$1,568,214	\$963		●		●	0	3	2	0	0	0	3	8	●
\$75,168	\$51		●		●	0	2	1	0	1	0	0	4	○
\$246,103	\$151		●		●	0	3	1	0	0	0	1	5	●
\$675,865	\$237		●		●	0	0	0	0	0	1	5	6	●
\$183,872	\$64		●		●	0	0	0	0	0	0	2	2	○
\$390,998	\$137		●		●	0	0	0	0	0	1	9	10	★
\$477,456	\$325		●		●	0	0	0	0	1	0	0	1	○
\$289,125	\$178		●		●	0	0	0	1	0	0	1	2	○
\$54,350	\$19		●		●	0	1	0	0	0	0	0	1	○
\$762,673	\$468		●		●	0	0	0	0	0	0	0	0	○
\$532,144	\$327		●		●	0	0	1	1	0	0	0	2	○
\$499,300	\$307		●		●	0	0	1	0	0	0	4	5	●
\$1,539,470	\$994		●		●	0	1	1	0	0	2	8	12	★
\$217,152	\$148		●		●	0	1	1	0	1	0	0	3	○
\$394,752	\$242		●		●	0	1	0	0	0	0	0	1	○
\$958,949	\$652		●		●	0	0	0	0	0	0	3	3	○
\$392,747	\$241		●		●	0	1	0	0	0	0	0	1	○
\$648,257	\$398		●		●	0	0	1	0	0	0	0	1	○
\$153,805	\$48		●		●	0	0	0	0	0	0	3	3	○
\$522,996	\$165		●	●	●	0	0	0	0	0	0	1	1	○
\$588,634	\$186		●		●	0	0	2	0	0	0	0	2	○
\$695,750	\$427		●		●	0	0	0	0	0	0	0	0	○
\$108,557	\$67		●		●	0	1	1	0	0	1	0	3	○
\$323,501	\$220		●		●	0	2	1	0	1	1	0	5	●
\$317,652	\$195		●		●	0	0	0	0	1	0	0	1	○
\$104,645	\$37		●		●	0	1	0	0	1	0	0	2	○
<b>\$23,241,548</b>	<b>\$13,591</b>													

### KEY:

LOCATION	
<b>Project Identification</b>	
<b>Project #</b>	<b>Project Type</b>
S	Signage Only
P	Paved Shoulder
W	Wide Outside Lane
L	Striped Bicycle Lane
T	Offroad Trail/Greenway
X	Bridge Crossing Improvement
For details on Project types see Section 5.	

IMPROVEMENTS (& unit costs)		
For a description of project goals, see Sec. 1.1.		
For more info. on unit cost estimates, see Sec. 8.1.		
CTT = Carolina Thread Trail		
Recommended Facilities		Estimated cost
Code	Facility	per linear foot
Demo	demolish exstg. SW	\$5.00
Swalk	sidewalk	\$135.00
Strip	planting strip	\$0.20
Trees	street trees	\$4.00
Mid	midblock concrete walk	\$135.00
C&G	curb and gutter	\$15.00

COSTS		TOTALS
<b>Total Construction Costs</b>		<b>\$23,241,548</b>
<b>Total Annual Upkeep</b>		<b>\$13,591</b>
Based upon current annual cost of \$250/mile		
For details on project costs, see Section 8.1.		

FUNDING SOURCES	
CTT	Carolina Thread Trail
SRTS	Safe Routes to School
CMAQ	Congestion Mitigation & Air Quality
Powell Bill	
For more information on potential funding sources, see Section 8.2.	

RANKING	
For an explanation of priority of projects	
★ - High	● - Medium ○ - Low
Public and Steering Committee voting procedures, and assigned values (key linkages, safety, school links, destination links, scenic), see Section 6.2.	

Table 6.20b Proposed Project Data & Ranking Tables - Trails, Signage, Road Diets, Bridges,

RECOMMENDED FACILITIES	LOCATION					IMPROVEMENTS							COSTS					
	Street/Project Name	Proj. No.	From	To	Align ment	Purpose	Existing Conditions	Recommendations							Distance		Const'n Unit Cost	Const'n \$ Est.
								Clear	Asphalt	Gravel	Sign	Strip	C&G	feet	miles			
TRAIL PROJECTS	Beason Creek	T1	Patriots Park	Beason Ck. Rd	TBD	Route, CTT	wooded floodplain	1	1		1				27,494	5.21	141	\$3,8
	Ingles Trail	T2	Beason Ck. Rd	Ingles store	TBD	Route	cleared		1		1				3,664	0.69	136	\$4
	Gateway Connector	T3	Gaston	Gateway T-head	TBD	Downtown link	wooded	1	1	1					4,440	0.84	141	\$6
	Gateway Trail (a)	T4	Ex. Gateway Trail	I-85	TBD	Route, CTT	wooded	1	1	1	1				15,013	2.84	141	\$2,1
	Gateway Trail (b)	T5	I-85	Ridgeline Trail	TBD	Route, CTT	wooded	1	1	1	1				16,424	3.11	141	\$2,3
	Potts Creek Trail (a)	T6	Art Center	Countryside	TBD	Route	wooded floodplain	1	1	1					19,715	3.73	141	\$2,7
	Potts Creek Trail (b)	T7	Countryside Rd.	Gaston	TBD	CTT	wooded floodplain	1	1	1	1				11,373	2.15	141	\$1,6
	N. Elementary Sch. Trail	T8	Piedmont	School	path	Focus area	path, lawn, sidewalk				1	1			536	0.10	16	
	Parish Trail	T9	Parish	Park Dr.	path	Focus area	path	1			1	1			475	0.09	21	
	Ironwood Trail	T10	Phifer Rd.	Afton	TBD	Focus area	power line		1		1				3,697	0.70	136	\$5
	Westgate Walk	T11	Churchill Dr.	Westgate Plaza	TBD	Focus area	lawn				1	1			320	0.06	16	
	Phifer	T12	Fulton Xwalk	Beason Ck. Trail	path	Focus area	lawn, path				1	1			1,535	0.29	136	\$2
	Martin-Marietta Trail	T13	York Rd.	Falls St.	path	Route link	power line, wooded	1	1		1				3,298	0.62	141	\$4
	Tin Mine Way	T14	Tin Mine	Gateway Trail	path	Focus area	path	1			1	1			1,006	0.19	21	\$9
	Montonia Trail	T15	Galilee	Mountain Crest Dr.	TBD	Route	wooded	1	1		1				6,012	1.14	141	\$8
	Westgate Trail	T16	Washington St.	Potts Ck. Trail	TBD	Route link	wooded	1	1		1				3,623	0.69	141	\$5
	Wade Driver Way	T17	Wade Driver/Cash	Potts Ck. Trail	TBD	Route link	wooded	1	1		1				1,337	0.25	141	\$1
	Royal Way	T18	Crown Ct.	Potts Ck. Trail	TBD	Route link	wooded	1	1		1				1,172	0.22	141	\$1
	NVR Way	T19	Shelby	Potts Ck. Trail	TBD	Route link	wooded	1	1		1				2,184	0.41	141	\$3
	Hardin Trail	T20	Hoyles Rd.	Hardin Dr.	path	Route link	power line				1	1			2,145	0.41	136	\$2
	Deal Way	T21	Deal Park	Art Center	TBD	Focus area	power line				1	1			2,149	0.41	136	\$2
	Kings Way	T22	Kings Row Apts.	Beason Ck. Trail	path	Route link	cleared path in woods				1	1			1,408	0.27	136	\$1
	Marcella Trail	T23	Marcella Dr.	Beason Ck. Trail	TBD	Focus area	cleared path in woods				1	1			1,709	0.32	136	\$2
	Wintergreen Way	T24	Wintergreen	Millcreek Dr.	TBD	Route	wooded floodplain	1			1	1			1,034	0.20	21	\$9
<b>TOTALS</b>											<b>131,763</b>	<b>25.0</b>		<b>\$18,0</b>				
ROUTE SIGNAGE	Huntingtown/Oak'd	P1	Sandhurst (S31)	cul-de-sacs (T24)	street		C&G				1			1,976	0.37	1		
	Millcreek Dr.	P2	Margrace (S34)	creek (T24)	street		C&G				1			521	0.10	1		
	Falls St.	P3	(T3)	(S4 & T13)	street	Route link	road, no C&G				1			452	0.09	1		
	Washington St.	P4	Church Hill (T11)	Ware St. (T16)	street	Focus area	road, no C&G				1			1,170	0.22	1		
	Dick Elam	P5	Shelby Rd. (S27)	(T16)	street		road, no C&G				1			638	0.12	1		
	Wales/Downing	P6	Potts Creek (T6)	Wales (T6)	street	Route	some C&G				1			2,274	0.43	1		
	Hoyles Connector	P7	Hoyles Rd. (T20)	Potts Creek (T7)	path	Route link	utility drive				1			1,056	0.20	1		
	KM Plaza	P8	W. King St. (S23)	power line (T10)	store	Focus area	covered store front				1			793	0.15	1		
	Spring St.	P9	Shelby Rd. (S23)	W. Gold Extn. (T10)	street	Focus area	road, no C&G				1			260	0.05	1		
	Afton Dr.	P10	Shelby Rd. (S23)	terminus (T10)	street	Focus area	road, no C&G				1			874	0.17	1		
	Brook Forest	P11	Brook Forest (T1)	El Bethel Rd. (T1)	street	Route	road, no C&G				1			1,930	0.37	1		
	Cleveland Co. Indus. Pk.	P12	(T1)	(T2)	road	Route	service road, utility				1			2,090	0.40	1		
	Maples Lake	P13	Phifer Rd.	(T1)	road	Route link	service road				1			1,319	0.25	1		
	Marcella Drive	P14	Crocker (S41)	Marcella (T23)	road	Route link	road, no C&G				1			641	0.12	1		
	RR Underpass	P15	Margrace (S34)	Battleground (S36)	road	Barrier passage	road, no C&G				1			852	0.16	1		
	Tin Mine	P16	Dixon School (S37)	trailhead (T4)	road	Route link	road, no C&G				1			2,154	0.41	1		
	Alley & Cherokee	P17	Alley (S5)	King	alley	Focus Area	paved alley				1			958	0.18	1		
<b>TOTALS</b>											<b>152,755</b>	<b>28.9</b>		<b>\$18,1</b>				
ROAD DIETS	Cleveland	D1	King	Linwood	Focus area	52' pvmt width					2	2		3,342	0.63	310	\$1,0	
	Cansler	D2	Gold	King	Downtown link	40' pvmt width					2	2		1,015	0.19	310	\$3	
	Cansler	D3	King	Fulton	Focus area	40' pvmt width					2	2		3,424	0.65	310	\$1,0	
	Cansler	D4	Fulton	Barnett	Barrier passage	48' pvmt width					2	2		1,910	0.36	310	\$5	
	Fulton	D5	Margrace Rd.	Phifer	Focus area	42' pvmt width					2	2		3,683	0.70	310	\$1,1	
<b>TOTALS</b>											<b>13,374</b>	<b>2.5</b>		<b>\$4,4</b>				
BRIDGES, TUNNELS	Mine Rd. at I-85	B1																
	Southern RR Bridge	B2																
	H'towne & W'green	B3																
	Potts Creek @ I-85	U1			Route	box drainage tunnel								540	0.10			
<b>COLLECTED TOTAL (EXCLUDING TUNNELS)</b>											<b>297,892</b>	<b>56</b>		<b>40,5</b>				

### Tunnels

Construction Estimate	Annual Upkeep	FUNDING				RANKING							Project Priority	
		Potential Sources				Project Scoring								
		CTT	SRTS	CMAQ	Powell Bill	Serves Down-town	Focus area or corridor	Links destinations	Mitigates barriers	Upgrades existing system	Public vote	Committee vote		Total points
\$3,876,654	\$27,077	●	●		●	1	4	3	0	0	14	17	39	★
\$498,304	\$3,608		●		●	0	1	2	0	0	0	0	3	○
\$626,040	\$4,373		●		●	0	1	1	0	0	5	3	10	★
\$2,116,833	\$14,786	●	●		●	0	1	0	1	0	0	0	2	○
\$2,315,784	\$16,175	●			●	0	1	1	1	0	1	2	6	●
\$2,779,815	\$19,416		●		●	0	2	5	0	0	3	16	26	★
\$1,603,593	\$11,201	●	●		●	0	1	0	1	0	0	0	2	○
\$8,576	\$223		●		●	0	2	1	0	1	1	2	7	●
\$9,975	\$198		●		●	0	1	0	0	1	0	0	2	○
\$502,792	\$3,641		●		●	0	2	1	0	0	0	0	3	○
\$5,120	\$133		●		●	0	0	0	0	0	0	0	0	○
\$208,760	\$1,512		●		●	0	2	1	0	1	0	0	4	○
\$465,018	\$3,248		●		●	0	2	0	0	0	0	0	2	○
\$21,126	\$419		●		●	0	0	0	0	0	0	0	0	○
\$847,692	\$5,921		●		●	0	0	0	0	0	1	0	1	○
\$510,843	\$3,568		●		●	0	1	0	0	0	0	0	1	○
\$188,517	\$1,317		●		●	0	1	0	0	0	0	0	1	○
\$165,252	\$1,154		●		●	0	1	0	0	0	0	0	1	○
\$307,944	\$2,151		●		●	0	1	0	0	0	0	0	1	○
\$291,720	\$2,113		●		●	0	1	0	0	0	0	0	1	○
\$292,264	\$2,116		●		●	0	2	4	0	0	3	0	9	●
\$191,488	\$1,387		●		●	0	1	0	0	0	0	0	1	○
\$232,424	\$1,683		●		●	0	1	0	0	0	0	0	1	○
\$21,714	\$431		●		●	0	0	0	1	0	0	0	1	○
<b>\$18,088,248</b>	<b>\$127,851</b>													
\$1,976	\$75		●		●	0	0	0	1	0	0	0	1	○
\$521	\$20		●		●	0	0	0	0	0	0	0	0	○
\$452	\$17		●		●	0	1	0	0	0	0	0	1	○
\$1,170	\$44		●		●	0	1	1	0	0	1	1	4	○
\$638	\$24		●		●	0	0	0	0	0	0	0	0	○
\$2,274	\$86		●		●	0	1	0	0	0	4	1	6	●
\$1,056	\$40		●		●	0	1	0	0	0	0	0	1	○
\$793	\$30		●		●	0	1	1	0	0	0	0	2	○
\$260	\$10		●		●	0	0	0	0	0	0	1	1	○
\$874	\$33		●		●	0	2	1	0	0	0	0	3	○
\$1,930	\$73		●		●	0	1	0	0	0	0	0	1	○
\$2,090	\$79		●		●	0	1	1	0	0	0	0	2	○
\$1,319	\$50		●		●	0	1	0	0	0	0	0	1	○
\$641	\$24		●		●	0	0	0	0	0	0	0	0	○
\$852	\$323		●		●	0	0	0	1	0	0	0	1	○
\$2,154	\$82		●		●	0	0	0	0	0	0	0	0	○
\$958	\$36		●		●	1	1	2	0	1	0	7	12	★
<b>\$18,129,920</b>	<b>\$129,329</b>													
\$1,036,020	\$158					0	3	4	1	1	2	5	16	★
\$314,650	\$48					1	3	1	0	1	0	1	7	●
\$1,061,440	\$162					1	2	0	0	1	0	2	6	●
\$592,100	\$90					0	1	0	1	0	1	0	3	○
\$1,141,730	\$174					0	1	1	0	0	1	1	4	○
<b>\$4,145,940</b>	<b>\$633</b>													
						0	1	0	1	0	0	0	2	○
						1	2	0	1	1	0	0	5	●
						0	0	0	1	1	1	0	3	○
						0	1	0	1	0	0	0	2	○
<b>\$40,364,108</b>	<b>\$257,813</b>													

### KEY:

LOCATION	
<b>Project Identification</b>	
<b>Project #</b>	<b>Project Type</b>
S	Signage Only
P	Paved Shoulder
W	Wide Outside Lane
L	Striped Bicycle Lane
T	Offroad Trail/Greenway
X	Bridge Crossing Improvement
For details on Project types see Section 5.	

IMPROVEMENTS (& unit costs)		
For a description of project goals, see Sec. 1.1.		
For further information on unit cost estimates, see Sec. 8.1.		
CTT = Carolina Thread Trail		
Recommended Facilities	Estimated Costs	
<b>Code</b>	<b>Facility</b>	<b>per linear foot</b>
	clear clearing & grubbing	\$5.00
Asphalt	10' asphalt trail	\$135.00
Gravel	6' gravel fines	15
Sign	signage	1
Strip	planting strip & trees	\$140.00
C&G	curb and gutter	\$15.00

COSTS	
	<b>TOTALS</b>
<b>Total Construction Costs</b>	<b>\$40,364,108</b>
<b>Total Annual Upkeep (from avg. annual est.)</b>	<b>\$257,813</b>
greenway/mile	\$5,000
trail/mile	\$2,000
signage/mile	\$200
sidewalk, street trees, planting strip	\$250
For details on project costs, see Section 8.1.	

FUNDING SOURCES	
CTT	Carolina Thread Trail
SRTS	Safe Routes to School
CMAQ	Congestion Mitigation & Air Quality
Powell Bill	
For more information on potential funding sources, see Section 8.2.	

RANKING	
For an explanation of priority of projects (High(H), Medium (M) & Low (L)), Public and Steering Committee voting procedures, and assigned values (key linkages, safety, school links, destination links, scenic), see Section 6.2.	

Table 6.20c Proposed Project Data & Ranking Tables - Crosswalks, Railroad Crossings,

RECOMMENDED FACILITIES	LOCATION		IMPROVEMENTS											COS			
	Proj. No.	Intersection of and	Purpose	Existing Conditions		Recommendations (side of Intersection N,E,S,W)								Installation Estimate			
			Goal served or link made		striping (sides)	signs	flash	count	motion	audible	radius reduction	curb	textured pavement	ped refuge island			
CROSSWALKS	X1	King	Battleground	Downtown	traffic light, C&G	4			4			4	1 (SE)				
	X2	King	Cansler	Downtown link	traffic light, C&G	4			4			4		4			
	X3	Mountain	Cansler	Downtown/CTT	traffic light, C&G	4			4			4					
	X4	Gold	Cansler	Downtown	traffic light, C&G	4	4		4			4					
	X5	Gold	Cherokee	Downtown	traffic light, C&G	4			4			4		1			
	X6	Mountain	S. Piedmont	Downtown/CTT	traffic light, C&G	2 (SE)	4		4			4		2 (NW)			
	X7	Gold	Gaston	Route	traffic light, C&G	2 (NE)	4		4			4		2 (SW)			
	X8	King	Piedmont	Downtown	traffic light, C&G		4		4			4					
	X9	King	Gaston	Route	traffic light, C&G	2 (EW)	4		4			4		2 (NS)			
	X10	E. Ridge	N. Piedmont	Route	C&G	2 (NS)	4		4			4		2 (EW)			
	X11	E. Parker	N. Piedmont/Bground	Focus area	traffic light, acute		4		4			4		4			
	X12	King	York	Focus area	traffic light, acute		4		4			4		4	1 (NE)		
	X13	E. Ridge	Cleveland	Focus area	acute	2 (NS)	4		4			4		2	2 (EW)	1 (N)	
	X14	Gold	York		traffic light		4		4								
	X15	Woodside	Cleveland	Focus area	Xwalk, acute, C&G	2 (NS)	4		4			4		2 (EW)	1 (S)		
	X16	Linwood	Cleveland	Focus area	Xwalk, acute, C&G (S)		4		4			4		4	1 (S)		
	X17	Linwood	Fairview	Route	3-way, wide radius	1	2	1									
	X18	Linwood	N. Piedmont	Focus area	traffic light, C&G	2 (NE)	3		2			2			1 (E)		
	X19	Waco	Watterson/Sterling	Focus area	no C&G	4			4								
	X20	Walker	Cansler			4			4					4			
	X21	Waco	Cansler		acute, C&G	4			4			4		4	1 (NW)		
	X22	Potts Creek	Cansler	Route	creek crossing	1	2			1				2			
	X23	Potts Creek	Watterson	Route	creek crossing	1	2			1							
	X24	Potts Creek	Sims	Route	creek crossing	1	2			1							
	X25	King	Juniper	Focus area	3-way, C&G	1			1		1				1 (E)		
	X26	King	Country Club	Focus area	traffic & Xwalk signal	2 (NS)											
	X27	Phifer	Fulton	Focus area	traffic lt., part C&G	4	2		4		4	1 (NE)			1 (E)		
	X28	Phifer	Southridge		3-way, part C&G	1 (N)		1				1 (NE)					
	X29	Phifer	Manor	Focus area	3-way, part C&G			1									
	X30	Phifer	Beason Creek	Route/CTT	creek crossing	1	2			1							
	X31	Phifer	KM Blvd.		multi-lane	4			4						2		
	X32	Beason Creek	KM Blvd.	Route/CTT	creek crossing	1	2			1							
	X33	King	Watterson		traffic light, C&G	4			4		4						
	X34	Shelby	Spring		multi-lane, median	2	2		1		1				2		
	X35	Shelby	Afton	Focus area	multi-lane, median	2	2		1		1				2		
	X36	Shelby	Countryside	Focus area	multi-lane, median	4			4		4				2 (NS)		
	X37	Gold	S. Tracy/Crescent Hill		sidewalks, C&G	4			4								
	X38	Hawthorne	Crescent Hill		5-way, sidewalks	3			3								
	X39	Battleground	Margrace		3-way	1 (E)	2		1								
TOTALS																	\$4
RAILROAD CROSSINGS	R1	Mountain	Downtown/CTT			3	4						2 (EW)	2 (EW)		TBD	
	R2	Gold	Downtown			4	4						2 (EW)	2 (EW)		TBD	
	R3	N. Piedmont	Route/Focus Area			4	4									TBD	
	R4	Linwood	Route/Focus Area			2	2									TBD	
TOTALS																TBD	
LIGHTING	L1	Alley btwn. Battleground & Cherokee		Downtown												TBD	
	L2	Phenix Mill between RR & Piedmont		Focus area												TBD	
	L3	Castlewood area north of Shelby Rd.		Focus Area												TBD	
	L4	Phifer at Beason Creek & HS		Focus Area/CTT												TBD	
	L5	York Road at Charles														TBD	
	L6	York Road at Woodlake Pkwy.														TBD	
	L7	York Road at Galilee Church Road														TBD	
	L8	Galilee Church Road														TBD	
TOTALS (EXCLUDING RR CROSSINGS AND LIGHTING)																\$4	

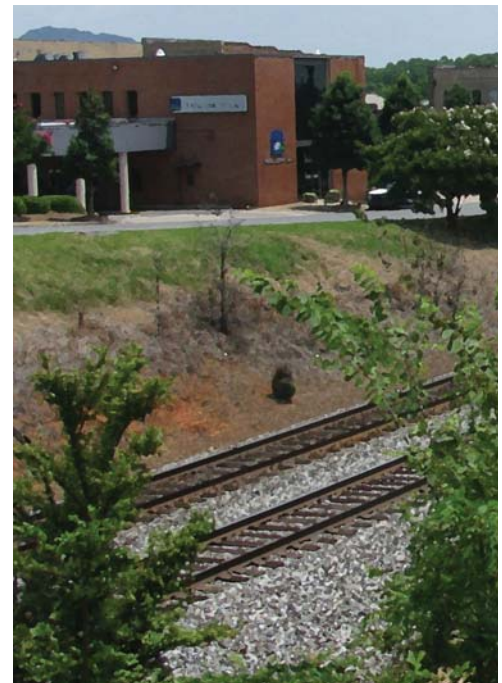
### Lighting

ESTIMATE	FUNDING				RANKING								
	Potential Sources				Project Scoring								Project Priority
	CTT	SRTS	CMAQ	Powell Bill	Serves Downtown	Focus area or corridor	Links destinations	Mitigates barriers	Upgrades existing system	Public vote (15)	Comte. vote	Total points	
\$152,000	●				1	2	0	0	1	0	0	4	●
\$182,000	●				1	1	0	0	1	0	1	4	●
\$182,000	●	●		●	1	2	0	0	1	0	0	4	●
\$184,000	●	●		●	1	1	0	0	1	0	2	5	●
\$152,000	●	●		●	1	1	2	0	1	0	0	5	●
\$153,000	●	●		●	1	2	1	0	1	0	0	5	●
\$153,000	●	●		●	1	2	1	0	1	0	1	6	●
\$162,000	●	●		●	1	3	1	0	1	0	0	6	●
\$153,000	●	●		●	1	2	0	0	1	1	0	5	●
\$153,000	●	●		●	0	2	1	0	1	0	1	5	●
\$162,000	●	●		●	0	3	2	0	1	1	2	9	★
\$177,000	●	●		●	0	3	1	0	1	1	3	9	★
\$188,000	●	●		●	0	3	0	0	1	0	3	7	★
\$62,000	●	●		●	0	2	0	0	0	0	1	3	○
\$168,000	●	●		●	0	3	1	0	1	0	1	6	●
\$177,000	●	●		●	0	3	1	0	1	0	2	7	★
\$11,500	●	●		●	0	1	0	0	1	0	0	2	○
\$87,500	●	●		●	0	2	1	0	1	0	1	5	●
\$42,000	●	●		●	0	1	2	0	0	0	0	3	○
\$82,000	●	●		●	0	1	0	0	1	0	0	2	○
\$197,000	●	●		●	0	0	0	0	1	0	0	1	○
\$41,500	●	●		●	0	1	0	0	1	0	0	2	○
\$21,500	●	●		●	0	0	0	0	1	0	0	1	○
\$21,500	●	●		●	0	1	1	0	0	0	1	3	○
\$50,500	●	●		●	0	2	1	0	1	0	2	6	●
\$1,000	●	●		●	0	2	0	0	1	2	2	7	★
\$168,000	●	●		●	0	1	1	0	1	0	0	3	○
\$20,500	●	●		●	0	1	1	0	1	0	0	3	○
\$10,000	●	●		●	0	1	1	0	1	0	0	3	○
\$21,500	●	●		●	0	2	1	0	1	1	1	6	●
\$82,000	●	●		●	0	0	0	0	0	0	1	1	○
\$21,500	●	●		●	0	1	0	0	0	0	2	3	○
\$142,000	●	●		●	0	1	2	0	1	0	0	4	●
\$67,000	●	●		●	0	0	1	0	0	1	0	2	○
\$67,000	●	●		●	0	1	1	0	0	0	0	2	○
\$172,000	●	●		●	0	2	1	0	0	0	0	3	○
\$62,000	●	●		●	0	1	0	0	1	0	0	2	○
\$46,500	●	●		●	0	0	0	0	1	0	0	1	○
\$16,500	●	●		●	0	1	0	0	0	0	0	1	○
\$4,022,500	●	●		●	1	2	1	1	1	0	2	8	★
	●	●		●	1	3	1	1	1	0	2	9	★
	●	●		●	0	3	1	1	1	0	0	6	●
	●	●		●	0	2	0	1	0	0	0	3	○
					1	5	1	0	1	0	1	9	★
					0	1	0	1	0	0	0	2	○
					0	1	1	0	0	0	0	2	○
	●		●		0	2	1	0	1	0	0	4	●
					0	1	1	0	0	0	0	2	○
					0	1	1	0	1	0	0	3	○
					0	1	1	0	0	0	0	2	○
					0	0	0	0	0	0	0	0	○
\$4,022,500													

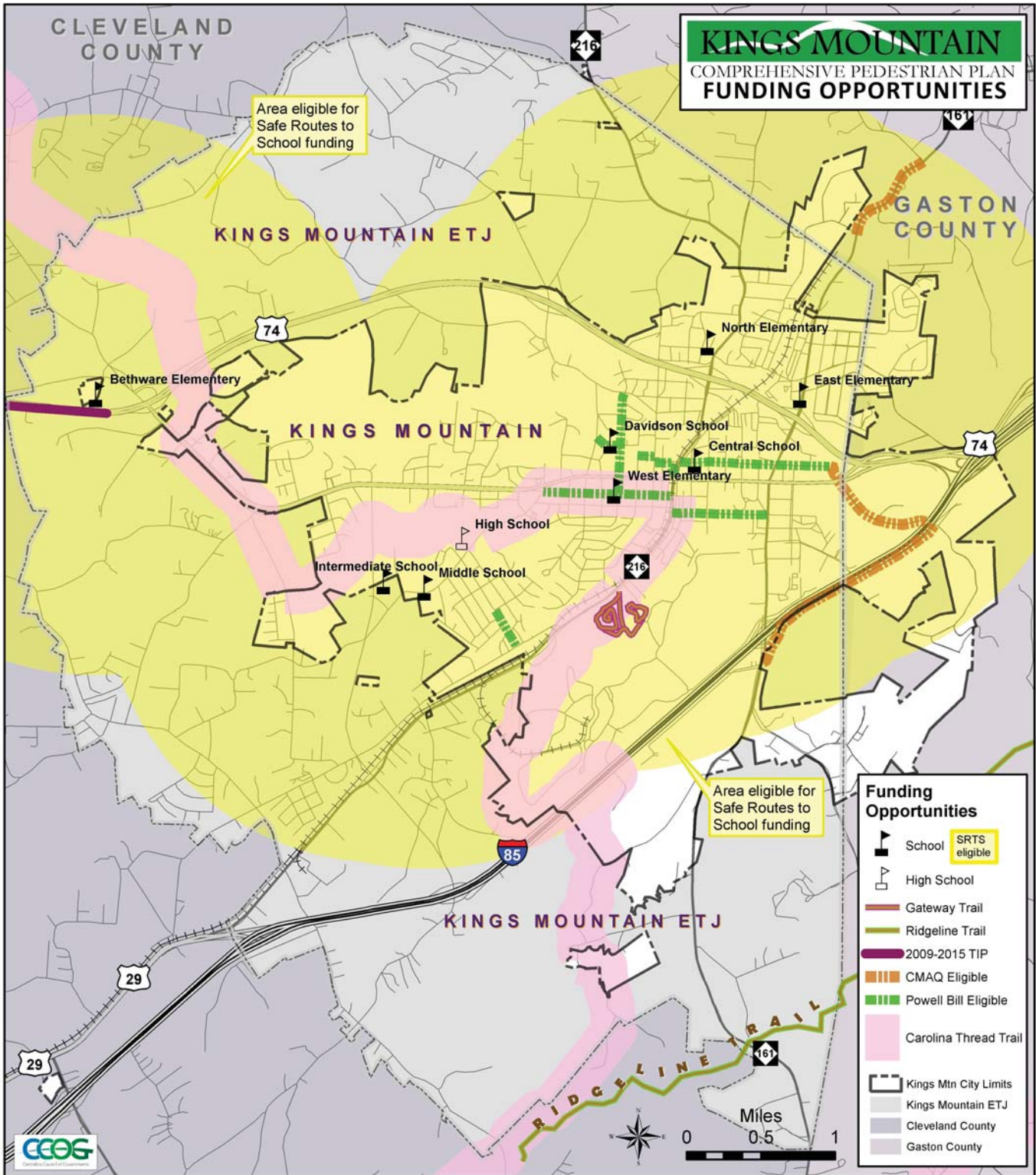
### KEY:

LOCATION	
<b>Project Identification</b>	
<b>Project #</b>	<b>Project Type</b>
S	Signage Only
P	Paved Shoulder
W	Wide Outside Lane
L	Striped Bicycle Lane
T	Offroad Trail/Greenway
X	Bridge Crossing Improvement
For details on Project types see Section 5.	

IMPROVEMENTS (& unit costs)		
For a description of project goals, see Sec. 1.1.		
For further information on unit cost estimates, see Sec. 8.1.		
CTT = Carolina Thread Trail		
Recommended Facilities	Estimated Costs	
Code	Facility	per linear foot
stripe	crosswalk lines and advanced stop bars per street	\$500
signs	pedestrian warnings, STOP, No-R on red, per street	\$500
flash	flashing warning or upfit of existing traffic lights	\$10,000
count	ped-activated crossing lights w/ countdown signals	\$15,000
motion	motion-activated warning systems	\$20,000
audible	audible accessible ped-activated countdown signals	\$20,000
radrx	curb radius reductions	\$10,000
curbrx	curb extension/bulb out	\$10,000
txpvt	textured pavement	\$5,000
isls	pedestrian island/median	\$15,000
Reference		



Map 6.21 Potential Funding Sources





### REFERENCES

1. SIDEWALKS
  - connectivity
  - width of travel path
  - paving type
2. ALLEYWAYS
3. CROSSWALKS & INTERSECTIONS
4. MIDBLOCK CROSSINGS
  - bulb-outs
  - medians
5. SIGNAGE, SIGNALS & STRIPING
6. TRAFFIC CALMING DEVICES
7. ROAD DIETS
8. STREETScape IMPROVEMENTS
  - Lighting – location, type, style
  - Pedestrian Buffer Zones
  - On-Street Parking
  - Street Trees - planting and maintenance, visibility, tree characteristics, pits & grates
  - Street Furniture – seating, trash receptacles, bike racks, raised planters, water features
9. BRIDGES & UNDERPASSES
10. OFF-ROAD PATHS/TRAILS – trail types, paving, environmental concerns, grade and site lines, accessibility, multi-use, acquisition and ownership, liability, security and safety, front-yard v. backyard paths, access points, maintenance and operations

Additional Accessibility Information

Information Sources

### REFERENCES:

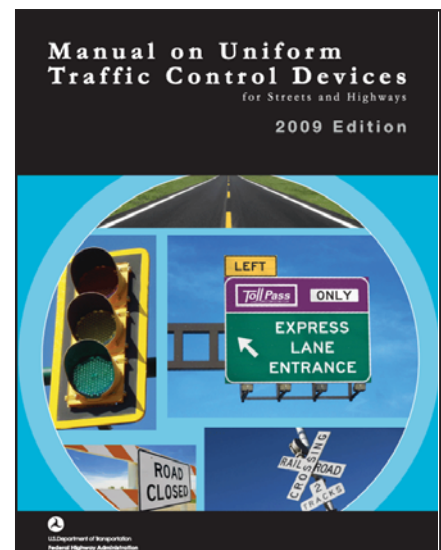
Specific locations for facility installation and site improvements are provided in the Project Identification and Priority List. Any recommended improvements proposed to be located in the North Carolina Department of Transportation (NCDOT) right-of-way are under the jurisdiction of NCDOT Division 10. Contact the Division 10 Engineer before considering implementation of any improvements in the NCDOT right-of-way.

All facilities shall adhere to the current U.S. Access Board definition of the American's with Disabilities Act (ADA). See: <http://www.access-board.gov/>

For additional facility information, refer to the NCDOT Office of Bicycle & Pedestrian Transportation's Planning and Designing Local Pedestrian Facilities, available by request:

Email: [bikeped\\_transportation@dot.state.nc.us](mailto:bikeped_transportation@dot.state.nc.us)

For markings, dimensions and other standards, refer to the Manual on Uniform Traffic Control Devices (MUTCD) 2009 edition. The MUTCD is published by the Federal Highway Administration (FHWA) and defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways. See: <http://mutcd.fhwa.dot.gov/>





Old Town Alexandria  
(Photo by EDAW)

## 1. SIDEWALKS

Public sidewalks are intended to provide pedestrians a clear and convenient path of travel within the public right-of-way, separated from roadway vehicles, in a manner that is safe and accessible to all members of the public. They also provide places for community interaction, and for children to walk, run, skate, ride bikes, and play.

New sidewalks shall be designed and built to serve pedestrians in the most direct and convenient manner possible

without causing undue physical or aesthetic damage to existing trees or other site features. New sidewalk design shall also respect all required or proposed landscaping and other site features.

### Connectivity

Sidewalks, like roads, do not work well in isolated segments. They need to connect, both to destinations, and to each other to form a useful system.

Within all new commercial, institutional and industrial development, an on-site sidewalk system should be included that connects the main entrance or the most convenient accessible entrance of the primary building to existing public sidewalks, and to public trails adjacent to the property. Sidewalk/driveway crossings shall be minimized in on-site sidewalk systems.

### Width of travel path

A minimum travel path width of five feet for paved sidewalks or walkways is recommended, in accordance with the Federal Highway Administration (FHWA) and the Institute of Transportation Engineers (ITE). This width allows two people to pass comfortably or to walk side-by-side. Where sidewalks abut public or commercial buildings, or anywhere high concentrations of pedestrians are expected, a minimum travel path of eight feet should be used.

All sidewalks should feature a continuous travel path free of obstacles, such as utility poles, signposts, pedestrian amenities such as street furniture, trashcans, etc., and other obstacles that could block the obstruct pedestrians, obscure a driver's or pedestrian's view, or become a tripping hazard. Sidewalks shall meet all requirements of the ADA standards for "accessible pathway".

Sidewalks should have a running grade of five percent or less and a maximum cross-slope of no more than two percent.

Where sidewalks align with the edge of an angled or

90-degree parking lot, a minimum of 30 inches of parked car overhang obstructing the sidewalk shall be taken into account in order to maintain the minimum travel path width.



### Paving type

While standard concrete pavement is often preferred for sidewalks for reasons of price, durability and consistency, textured or alternate paving materials offer some advantages that should be considered in certain applications, such as:

- To distinguish the pedestrian buffer zone from the pedestrian travel path. Sand-set pavers are recommended in the buffer zone for ease of utility maintenance.
- To vary the paving type as a pedestrian path crosses a vehicular path in order to visually cue pedestrians (and drivers) and provide tactile warning to the visually impaired. This can be particularly helpful to the visually impaired.
- To add significant aesthetic value and help define a unique place.



Alley on South Battleground Avenue

## 2. ALLEYWAYS

Alleyways can function as attractive connections between streets, businesses, and interior parking areas. But they are more than that. Alleyways can function as courtyards, providing a quaint setting for outdoor dining areas or as places to display art. The variety of each alley created by awkward juxtapositions of buildings can add interest and intrigue.

Naming each alley instills a persona to reinforce their individual character and sense of place. Each alley can recognize a particular theme of the City.

Alleys should follow similar guidelines for pedestrian clearance and accessibility.

Alleys should feature suitable illumination and - when intended as a gathering place - incorporate seating, bollards, signage, and other elements as appropriate.



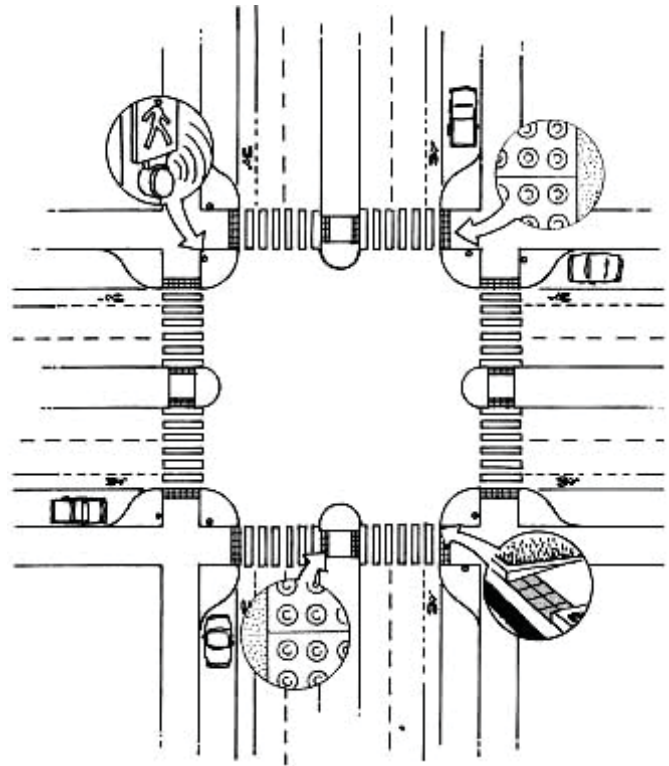
Corner of Gold Street & South Battleground Ave.

### 3. CROSSWALKS & INTERSECTIONS

Marked crosswalks indicate preferred locations for pedestrians to cross streets. They provide paths of increased safety to pedestrians as they warn motorists to yield to pedestrians in this designated right-of-way. Their presence encourages people to walk. Crosswalks should be placed strategically at high pedestrian volume locations, such as signalized intersections and high volume mid-block locations.

The design of safe and effective road crossings for pedestrian involves the coordination of a number of elements including:

- Signs, signals and markings
- Turning radii
- Crossing times
- Medians
- Refuge islands and slip lanes
- Curb ramps
- Sight lines
- Traffic patterns
- Onset of signal phases
- Crosswalks striping



Example crosswalk facilities

Considerations for location and design:

- Crosswalk locations should be convenient for pedestrian access.
- Crosswalks should be used in conjunction with other measures that help reduce speeds and warn drivers to be prepared to stop, such as advance warning signs, warning signs, stop bars, median crossing islands and curb extensions (only where there is on-street parking), to improve the safety of a pedestrian crossing, particularly on multi-lane roads with average daily traffic (ADT) above about 10,000.
- Recommended width for crosswalks is six feet. Higher pedestrian volume crossings may require wider crosswalk paths (ten feet or more).
- Crosswalk markings must be placed to include the ramp to allow wheelchair users access without leaving the marked crosswalk.

- NCDOT typically requires sidewalks on both sides of roadways when placing crosswalks.
- Pedestrians will generally wait only 30 seconds at crossings before looking for opportunities to cross, regardless of the walk indication and the crossing location.
- Pedestrian walking speeds generally range between 2.5 to 6.0 ft/s.
- Marked crosswalks are particularly important for pedestrians who are visually impaired. “Continental” and “Ladder” striping styles are preferred. See **Section 7.5: Signage, Signals & Striping**.

### RIGHT-OF-WAY

*North Carolina General Statute §20-155*

The driver of any vehicle upon a highway within a business or residence district shall yield the right-of-way to a pedestrian crossing such highway within any clearly marked crosswalk, or any regular pedestrian crossing included in the prolongation of the lateral boundary lines of the adjacent sidewalk at the end of a block, except at intersections where the movement of traffic is being regulated by traffic officers or traffic direction devices. (d) The driver of any vehicle approaching but not having entered a traffic circle shall yield the right-of-way to a vehicle already within such traffic circle.

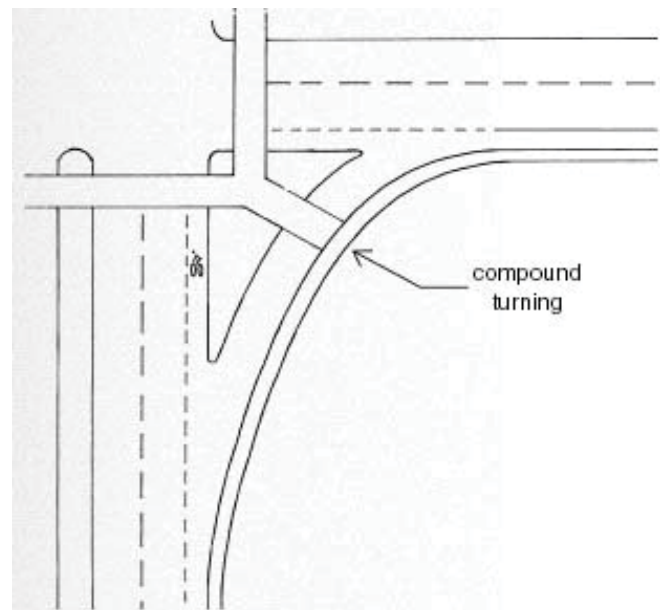


**Crosswalk Improvements at 9th St. and N. Caldwell Street, Charlotte, NC**

### PEDESTRIANS’ RIGHTS AND DUTIES

*North Carolina General Statute §20-173*

(a) Where traffic-control signals are not in place or in operation the driver of a vehicle shall yield the right-of-way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at or near an intersection, except as otherwise provided in Part 11 of this Article. (b) Whenever any vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the roadway, the driver of any other vehicle approaching from the rear shall not overtake and pass such stopped vehicle. (c) The driver of a vehicle emerging from or entering an alley, building entrance, private road, or driveway shall yield the right-of-way to any pedestrian, or person riding a bicycle, approaching on any sidewalk or walkway extending across such alley, building entrance, road, or driveway.



**Design for Wide Radius Intersections**



Midblock crossing facilities

## 4. MIDBLOCK CROSSINGS

Mid-Block Crosswalks are defined as crosswalks not located within an intersection. Installation of Mid-Block Crosswalks shall be made in cases where NCDOT engineering studies determine that they are appropriate to enhance transportation operation and pedestrian safety. All Mid-Block Crosswalks shall be signed and marked in compliance with the MUTCD, the North Carolina Supplement to the MUTCD, and current NCDOT Roadway Standard Drawings.

### CRITERIA

- Mid-Block crosswalks should be avoided on roadways having speed limits of greater than 35 MPH.
- Mid-Block Crosswalks should not be located within 300 feet of a non-signalized intersection and 400 feet of a signalized intersection, as to not interfere with the functionality of the intersection.
- On-street parking spaces should be eliminated adjacent to each Mid-Block Crosswalk to allow adequate visibility for motorists approaching and/or departing the crosswalk. Parking removal should include no less than 50 feet on each curbside approach lane to the Mid-Block Crosswalk and no less than 25 feet on each curbside exiting lane leaving the Mid-Block Crosswalk. However, if sidewalk bulb-outs are used, removal of on-street parking may not be necessary.

- Installations of refuge or safety islands should be installed for Mid-Block Crosswalks on multi-lane roadways if sufficient roadway width is available.
- Mid-Block Crosswalks should not be installed on streets with an ADT volume exceeding 12,000 vehicles per day. If a raised pedestrian refuge median is provided the ADT should not exceed 15,000 vehicles per day.
- Minimum pedestrian crossing volumes of 25 pedestrians per hour for at least four hours of a typical day should be met in order to warrant a Mid-Block Crosswalk.
- Supports for in-street signs (R1-6, R1-6a) shall be constructed of a breakaway material as to reduce harm to the vehicle and the pedestrian. In-street signs shall be constructed of a non-metal material as to also reduce harm to the vehicle and the pedestrian.

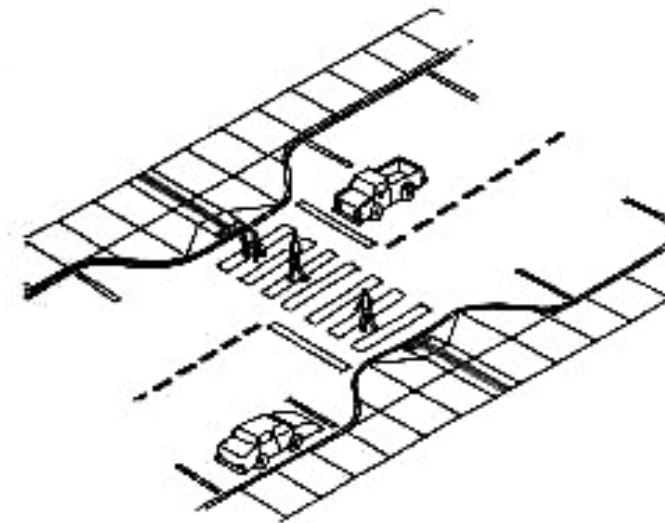
### RECOMMENDATIONS

- Unsignalized Mid-Block Crosswalks should not be provided on streets where traffic volumes do not have gaps in the traffic stream long enough for a pedestrian to walk to the other side or to a median refuge. At locations with inadequate gaps that also meet MUTCD signalization warrants, consider a signalized Mid-Block Crosswalk. Also consider a signalized Mid-Block Crosswalk when the average wait time for pedestrians to cross is more than 60 seconds.
- On streets with continuous two-way left-turn lanes, provide a raised median pedestrian refuge with a minimum refuge length of 20 feet and a minimum width of 6 feet.
- Provide raised median pedestrian refuge at Mid-Block Crosswalks where the total crossing width is greater than 60 feet.
- Use high-visibility (ladder-style) crosswalk markings to increase visibility longitudinally.
- Provide advance stop or yield lines to reduce multiple threat collisions.
- Provide advanced crosswalk warning signs for vehicle traffic.
- Use curb extensions (see Figure 1) to increase the vis-

ibility of the driver and the pedestrian.

- “Z” crossing configurations should be used for Mid-Block Crosswalks with medians wherever possible (see Figure 1). Provide an at-grade channel in median at a 45-degree angle toward advancing traffic to encourage pedestrians to look for oncoming traffic.

**Raised crosswalks** are speed tables outfitted with crosswalk markings and signage. They are constructed 3-4 inches above the elevation of the street in order to make pedestrians more visible to approaching motorists. They are typically used at midblock pedestrian crossings on two-lane streets with less than 35 mph speed limits, but where vehicle speeds still tend to be excessive. Textured paving should be incorporated into the edges in order to provide visual and tactile cues.



**Curb extensions** – also referred to as bulb-outs, neck-downs, or chokers, extend the sidewalk or curb line out into the parking lane, which reduces the effective street width from curb to curb. Curb extensions significantly improve pedestrian crossings, at intersections or mid-block, by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. They

slow vehicles by alerting drivers to potential pedestrians, visually tightening the vehicular path, and physically reducing the turning radii. They can provide additional space on narrow sidewalks for curb ramps and landings, landscaping, and street furniture. Care should be taken to ensure that street furniture and landscaping do not block motorists’ views of pedestrians. Curb extensions should only be used where there is a parking lane.



**Raised median with crosswalk**

**Medians/pedestrian islands** – are located along the centerline of a street that may or may not narrow the vehicular travel lanes at that location. Medians can be combined with crosswalks to provide pedestrians a temporary “refuge” as they cross the street. They are often landscaped to provide a visual amenity. Placed at the entrance to a neighborhood, they are often combined with textured pavement, and called “gateway islands.” Crossings greater than 60 feet should provide a median or crossing island preferably combined with curb extensions. Medians should be at least six feet wide. They may be raised or partially sunken and combined with hydrophilic landscaping and drainage infrastructure to treat and drain storm water.

For crosswalk markings, dimensions and other standards, refer to the Manual on Uniform Traffic Control Devices (MUTCD).

## 5. SIGNAGE, SIGNALS & STRIPING

### SIGNAGE

Striping can serve effectively to alert drivers to reduce speeds and to warn pedestrians to use extra caution. However, too much signage can produce visual “clutter” and can encourage complacency and noncompliance with signs in general. Signs, and the sign text, should be large enough to be seen from a distance. The distance is dependent upon the road speeds. It is imperative that all signs be properly located so as not to obstruct the pedestrian and visibility triangles of motorists.

Way-finding signage is intended to orient and communicate in a clear, concise and functional manner. It should enhance pedestrian circulation and direct visitors and residents to important destinations. In doing so, the goal is to increase the comfort of visitors and residents while helping to convey a local identity. Signage regulations should address the orientation, height, size, and style of signage to comply with a desired local aesthetic.

It is recommended that municipalities adopt consistent and descriptive graphics to identify pedestrian routes. This signage system would assure pedestrians that they are safe and will not encounter gaps in facilities along these routes. A map should be incorporated into each route illustrating the entire pedestrian system and their location. Bus stops, destinations, and mileage should also be identified on the signs. Maps and route signs are particularly recommended for use with greenway systems, both to help users find trailheads and be guided along paths, and promote the trail system to those unaware of the amenity.

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

Though traffic signage can carry legal authority, it should

not be relied upon as the primary or sole means of influencing driver or pedestrian behavior. However, it is essential to anticipate the need for traffic signs in every situation to provide clear direction for both pedestrians and drivers. It is also important to avoid unnecessary signs as they may cause physical or visual obstruction, will require maintenance, can confuse and erode the significance of necessary signage and add to visual blight. Signs should only be installed when they fulfill a need based on an engineering study or engineering judgment.

All pedestrian and vehicular pavement striping, signage and signals, and the locations thereof shall conform to the MUTCD.



**Pedestrian Crossing LED Warning BlinkerSign®**

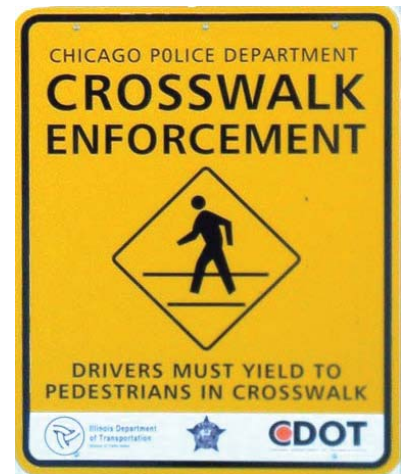


In some cases, mid-block crossings can be very dangerous when not adequately made visible to drivers. Standard signage might not be entirely effective in new and high-use crossings, cluttered or visually challenging crossings, or crossings within higher speed higher traffic volume.

### MUTCD Pedestrian-Related Signage Regulatory Signs



### School, Warning, and Informational Signs



## SIGNALS

Signals include traffic control devices intended to direct vehicle drivers, such as traffic signals and flashing warning lights, and pedestrian signals, directing pedestrians to walk/don't walk. Traffic signals create gaps in the traffic flow, providing intervals where pedestrians can cross streets safely. These intervals should allow adequate crossing time for pedestrians and based upon a maximum walking speed of 3.5 ft/s. Most traffic signals are installed based on vehicular traffic considerations, but some high-volume pedestrian circumstances warrant traffic signals themselves. Judgment must be used on a case-by-case basis. For example, a new facility being built, such as a park, recreational path, or school, will create a new demand. A new signal could be installed based upon the 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. According to the MUTCD, a traffic signal may be warranted when the pedestrian volume crossing a major street or mid-block location during an average day reaches 100 or more for each of any 4 hours; or 190 or more during any 1 hour. Prohibiting Right Turn on Red should be considered at intersections with high pedestrian volumes, or where there is a proven problem with motorists conflicting with pedestrians.

In downtown areas, signals are often closely spaced, sometimes every block. When high or regular pedestrian traffic exists during a majority of the day, fixed-time signals should be used to consistently allow crossing opportunities. Pedestrian activated signals should only be used when pedestrian crossings are intermittent and should be made accessible to all pedestrians, including those with disabilities. Signal cycles should be kept short (90 seconds maximum) to reduce pedestrian delay. Pedestrians are very sensitive to delays. Marked crosswalks at signals should always be installed at all four legs. They encourage pedestrians to cross at the signal and discourage motorists from encroaching into the crossing area.

Signals can be timed to allow a leading pedestrian interval (LPI) which gives pedestrians several seconds to start in the crosswalk before the motorists get a green light. This makes pedestrians more visible to motorists who will then more likely yield to them.

Simply meeting certain MUTCD warrants for signalization, however, does not always justify installation of a traffic signal. Traffic signals can sometimes cause excessive delay for drivers and pedestrians alike, and may lead to an increase in certain accident types.

**Overhead warning signals** warn drivers of crossing pedestrians at midblock crosswalks, or at intersections that periodically see heavy pedestrian traffic but do not otherwise warrant traffic signals. These signals are most effective when triggered directly by pedestrian activity, or when flashing only during peak pedestrian times, such as school commute times.

**Pedestrian signal devices** are recommended at all traffic signals, unless the signal is located on a highway where walking is prohibited. Pedestrian signals should be clearly visible to the pedestrian at all times when in the crosswalk or waiting on the far side of the street.

**Countdown signals** are pedestrian signals that show how many seconds the pedestrian has remaining to cross the street. The countdown can begin at the beginning of the WALK phase, perhaps flashing white or yellow, or at the beginning of the clearance, or DON'T WALK phase, flashing yellow as it counts down.



**Audible signals** - provide audible cues that pulse along with a countdown signal. The signals are used for visually and audibly impaired individuals. Audible pedestrian sig-

nals should be carefully placed to ensure that false readings of the signal are not presented where there is a free-right or “slip” lane, in the presence of complex signal phasing, or other conditions where background noise can interfere with the audible signal. Consideration should be paid to the noise impact on the surrounding neighborhoods when deciding to use audible signals.

### High-intensity Activated Crosswalk Signals

“HAWK” signals provide enhanced warning to drivers at pedestrian crossings as a way to increase safety. It is used only for pedestrian crossings. It does not control traffic on side streets. To cross the street, the pedestrian pushes a button to activate the signal. A flashing yellow light warns drivers approaching the crosswalk of a pedestrian wishing to cross. The flashing yellow light is followed by a solid yellow light telling drivers to prepare to stop. The signal then changes to a solid red for drivers to stop at the intersection. At this point, pedestrians can cross safely. The solid red signal then converts to a flashing red signal after a predetermined amount of time, indicating to drivers they may proceed through the intersection when it is clear and safe to do so. The HAWK signal will then go dark and drivers can continue through the intersection without stopping until the button is again activated



### Rectangular Rapid Flashing Beacons

RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. RRFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. RRFBs

may be installed on either two-lane or multi-lane roadways. Some potential benefits include:

- A lower cost alternative to traffic signals and hybrid signals
- Found by the FHWA to be dramatically more effective at increasing driver yielding rates to pedestrians than traditional overhead beacons. The novelty and unique nature of the stutter flash may elicit a greater response from drivers than traditional methods.
- Can be powered by standalone solar panel units, or wired to a traditional power source

**Pedestrian detectors** automatically activate the red traffic and WALK signals when pedestrians are detected. As only half of pedestrians utilize pushbutton devices (even fewer where there are sufficient motor vehicle gaps), new “intelligent” microwave or infrared pedestrian detectors are now being considered in many locations. Detectors can also extend the crossing time for slower moving pedestrians. Automatic detectors have been found to improve pedestrian signal compliance and also reduce pedestrian conflicts with motor vehicles. The reliability of these devices, however, may vary under different environmental conditions. A motion activated warning systems is one example of a pedestrian detector.

**Motion activated warning systems** present an option where trails intersect roads. When triggered by path activity, these devices flash warning beacons to signal approaching motorists of path users near the intersection, without altering the existing flow of traffic. This solution is ideal for mid-block crossings or intersections where crosswalks that stop traffic are not warranted.

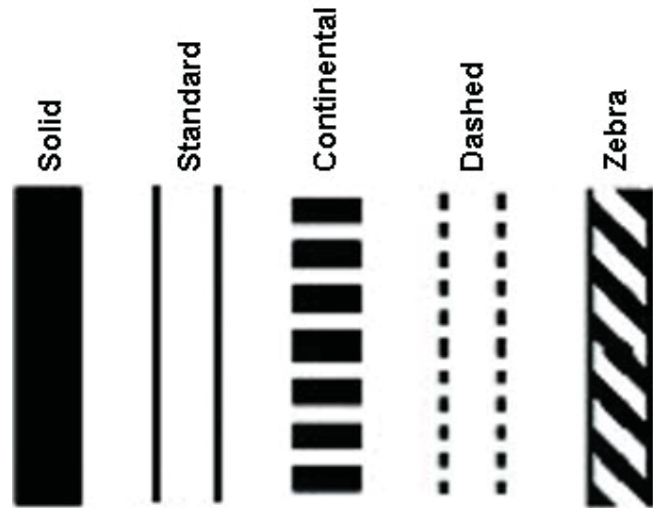


The system also flashes beacons to pathway users warning them to stop. Active warning systems are more effective than 24-hour flashes that motorists come to ignore over time. Such devices can be equipped with trail counters to provide data of trail use. Solar energy with battery backup systems can be used to power the signal. For an example of this system, visit [www.crossalert.com](http://www.crossalert.com).



**In-pavement flashing warning light systems** consist of a series of high-intensity luminaries buried in the pavement on both sides of the crosswalk that direct light along the road towards oncoming traffic. When activated, either by a pedestrian pressing a signal button or by some form of automatic pedestrian detection system, the lamps in each luminary flash for a fixed time, effectively alerting drivers that the crosswalk is in use. These systems can be integrated with other traffic signal lights if required.

The MUTCD contains language that makes the use of in-pavement flashing warning lights at crosswalks acceptable and gives guidance for their application.



Example crosswalk striping patterns

## STRIPING

Striping is a warning and directional feature to be used in conjunction with other devices. It can include crosswalk striping, stop bars, etc. One of the best materials for marking crosswalks is tape, which is installed on new or repaved streets. It is highly reflective, long lasting, slip-resistant, and does not require much maintenance if installed properly. However, it does require a higher level of expertise to install well. Although initially more costly than paint, both inlay tape and thermoplastic are more cost-effective in the long run. Inlay tape is recommended for new and resurfaced pavement, while thermoplastic may be a better option on rougher pavement surfaces. Both inlay tape and thermoplastic are more visible and less slippery than paint when wet.

Advanced stop bar lines benefit pedestrians, giving them and drivers a clearer view and more time to assess each other's intentions. At signalized pedestrian crossings, the vehicle stop line can be moved 15 to 30 feet further back from the pedestrian crossing than the standard four feet distance to improve visibility of through cyclists and crossing pedestrians for motorists (and particularly truck drivers) who are turning right.

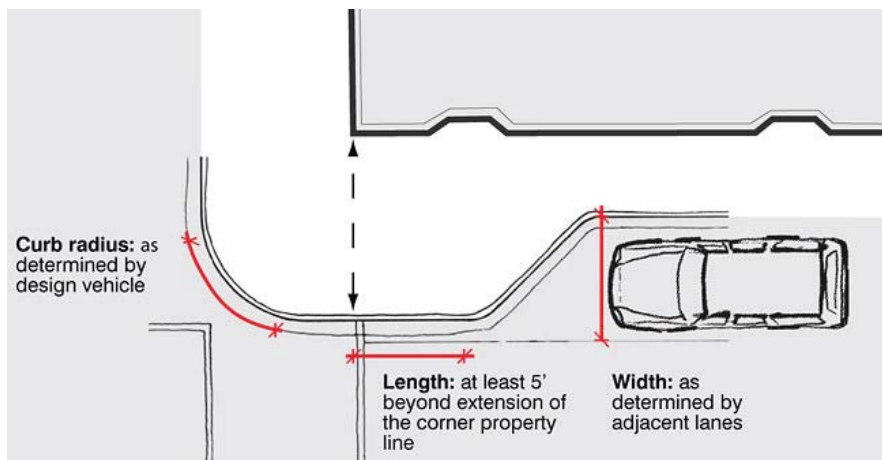
### 6. TRAFFIC CALMING DEVICES

Traffic Calming Devices (TCDs) are physical measures in street design that cue drivers to slow down. The effectiveness of TCDs does not depend upon a driver’s compliance with traffic signs and signals, or police enforcement, though they may be used effectively in conjunction with them. In coordinated combinations, TCDs reduce speeds, alert drivers to pedestrians, and reduce the severity of collisions. Some TCDs can also provide greater refuge for pedestrians, reducing their exposure to at-grade traffic.

The following TCDs are generally recommended for consideration on a project-by-project basis:

- **Textured pavements** provide a visual and tactile cue for drivers that they are driving in an area of high pedestrian use. Textured street pavements should be used in areas of substantial pedestrian activity and where noise is not a major concern.
- **Curb radius reduction** will reduce turning speeds, shorten the crossing distance for pedestrians, and also improve sight distance between pedestrians and motorists.
- **Curb extensions** slow vehicles by alerting drivers to potential pedestrians, visually tightening the vehicular path, and physically reducing the turning radii.

- **Raised crosswalks** can be used to reduce vehicle speeds specifically where pedestrians will be crossing a street. They are intended for streets with posted speed limits of less than 35 mph.
- **Raised intersections** are raised flat areas that cover an entire intersection, with ramps on all approaches. By modifying the level of the intersection, the crosswalks are more readily perceived by motorists to be “pedestrian territory”.
- Raised intersections should be used only where there is substantial pedestrian activity where other traffic calming measures have not been effective.
- **Speed humps** are raised mounds placed across residential streets to control chronic speeding problems where other methods of slowing traffic have not been effective. They are designed to calm traffic in residential areas, particularly near parks and schools. Similar to a speed bump, the speed hump is wider and has a more sloping side taper. The physical impact on passing vehicles is less severe at slower speeds than at higher speeds. Speed humps reduce vehicular speeds between intersections. It is strongly recommended that their use be considered in coordination with local emergency response agencies.
- **Speed Tables** are flat-topped speed humps typically long enough for the entire wheelbase of a passenger car to rest on the flat section. They often constructed with brick or other textured materials on the flat section.



Other strategies that do not rely on pavement and curb manipulation can also be employed to cue drivers to the presence of pedestrians and induce slower vehicular speeds. One of the most effective means among them is on-street parking.

**Curb extension or bulb-out design**

## 7. ROAD DIETS

Road diets convert vehicular streets to multi-modal facilities that serve vehicles, bicyclists and pedestrians, and generally improve aesthetics for adjacent land use. They help moderate travel speeds, eliminate lane “jockeying” and improve pedestrian crossing safety.

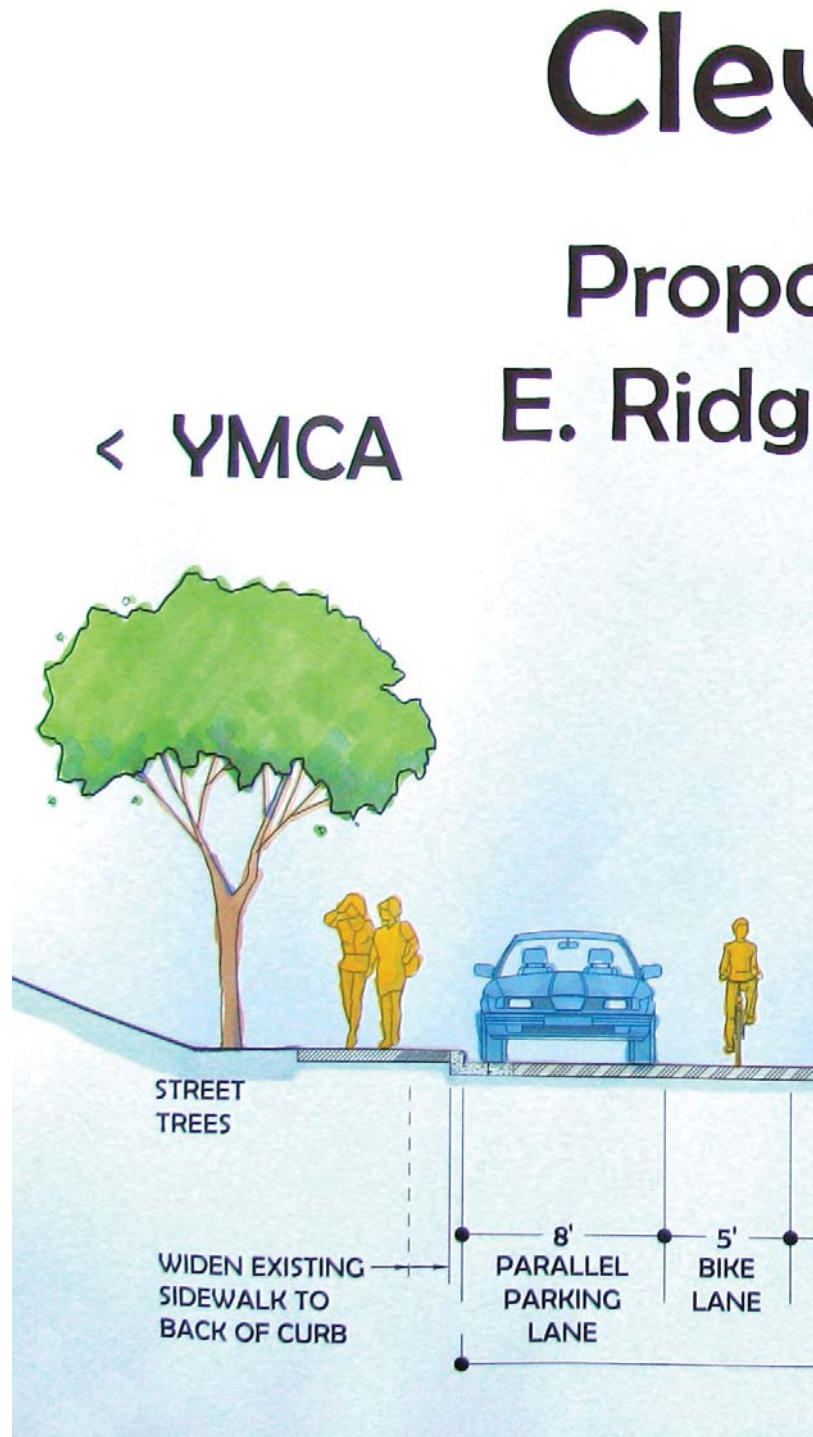
Generally, a road diet involves the conversion of a four-lane roadway to a two or three lane facility. Previous lane width may be converted to a center median or turn lane, bike lanes, sidewalks, pedestrian refuge islands, or planting strips. Often, the conversion can be done within the existing right-of-way and with minimal to no grading.

Road diets are ideal for streets with an average daily traffic of less than 20,000, but may still prove feasible in some cases with higher volumes. Road diets have the potential to improve traffic flow, decrease speeds and accident rates, increase on-street parking, increase bicycle and pedestrian volume, and improve adjacent property values.

The typical road diet project shown here features the addition of a landscaped median, striped bicycle lanes, and onstreet parallel parking by reducing a four lane road to two lane. Other design options include addition of sidewalks with planting strips featuring street trees and other landscaping.

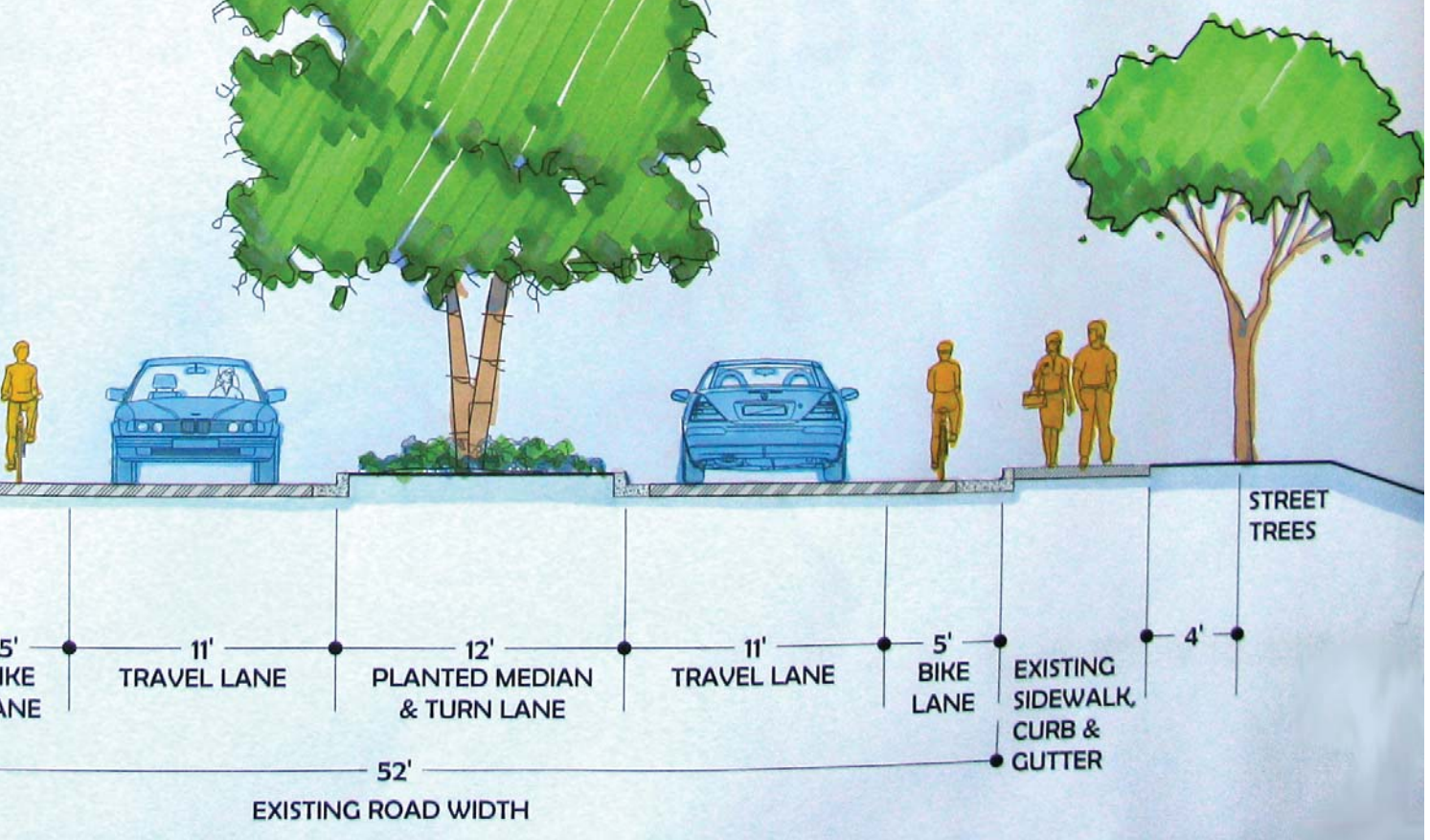


Cleveland Avenue at the YMCA, current conditions (Google image)



# Cleveland Avenue

## Proposed Improvements from Edge Street to Linwood Road



## 8. STREETSCAPE IMPROVEMENTS

### LIGHTING

#### Location

Lighting for sidewalks and off-street paths should be provided where considerable pedestrian traffic is expected at night, where there is insufficient available light from the surrounding area, and at all designated road crossings.

#### Type

Each lighting situation is unique and must be considered on a case-by-case basis. Average maintained horizontal illumination levels of 5 lux (0.5 foot candles) to 22 lux (2 foot candles) should be considered, though higher levels are advisable in special areas where security problems might exist. Light poles should generally be 12 to 15 ft. high. Luminaries and poles should be at a scale appropriate for pedestrian use.

#### Style

Light fixtures, as well as other on-street facilities, like street furniture, can add a great deal in terms of street aesthetics and reinforce community identity. The Plan recommends the community adopt a particular style of street lighting fixture appropriate for the community's identity and coordinate this choice with stylistic choices in other street facilities.



### PEDESTRIAN BUFFER ZONES

Buffer zones between pedestrian paths and vehicular traffic impart an increased sense of security to those on foot or in wheelchairs. They also help define the path and give it a more comfortable scale. Buffers also provide additional benefits depending on the type used.

Planting Strips of sufficient width provide a zone for street trees and other landscaping, creating a more comfortable and attractive environment for pedestrians and drivers. Street trees are most effective when placed between the walkway and the curb. When planting strips are properly engineered to provide storm water drainage, they can eliminate the need for curb and gutter, thereby vastly reducing the cost of road and sidewalk construction while providing an environmental benefit. The recommended width for planting strips to permit healthy tree growth is six to eight feet measured from the edge of pavement or back of curb. While planting strips are the preferred means of providing a buffer, they are not always feasible or appropriate. Areas of high foot traffic may preclude landscaping due to maintenance or space considerations. Buffers of less than 4-feet in width may be preferred on certain lower volume local and collector streets. Additional information about street trees is provided on the following page.

Paved buffer zones are appropriate in more urbanized settings. This zone is located between the travel path of the sidewalk and the curb, though an additional buffer zone may also exist along the opposite side of the travel path, adjacent to buildings, open space, or off-street parking. Though a constant width is preferred for the buffer zone, widths may vary as long as the buffer does not interrupt the pedestrian travel path. Items such as street furniture, trees planted in tree grates, streetlights, street signs, fire hydrants, parking meters, etc., are placed in the buffer zones so as not to restrict pedestrian flow in the travel path. The buffer zone may be a good location to use paver stones for easy and affordable access to underground utilities.



**Battleground Avenue parallel on-street parking**

## ON-STREET PARKING

On-street parking provides another opportunity to physically shield pedestrians from vehicular traffic, making them feel safer and more comfortable. On-street parking allows pedestrians to clearly see into the street and allows drivers to clearly see pedestrians. On-street parking benefits both pedestrians and drivers in a variety of ways, as well as contributing to the economic viability of a street.

- On-street parking provides a physical buffer between pedestrians on sidewalks and moving traffic in the streets. Pedestrians feel safer with such a barrier that still allows them to clearly see into the street and drivers to clearly see pedestrians.
- On-street parking compliments pedestrian-friendly setbacks for on street commercial development. Commercial establishments with on street parking require fewer parking spaces in large expanse pedestrian-unfriendly parking lots. When commercial buildings are set back behind parking lots, longer walking trips through vehicular areas are necessitated for pedestrians coming from the street. This arrangement discourages pedestrian usage of the area.
- On-street parking calms traffic. Drivers tend to slow down when they sense potential conflict with opening car doors or vehicles suddenly mov-

ing into the traffic lane.

- On-street parking can be easily monitored and controlled in order to maximize short-term visitor usage.
- On-street parking can even provide a source of revenue that helps pay for parking enforcement and other transportation improvements.
- Despite the potential for on-street collisions, such collisions occur more commonly occur in interior parking lots.

On-street parking alignment options include: parallel, diagonal or angle, and perpendicular.

1. Parallel parking permits drivers a clear view of on-coming traffic. This arrangement also requires the least amount of additional right-of-way depth to accommodate parked cars.

2. Diagonal or angle parking. Though diagonal parking provides the advantage of greater ease in maneuvering into a space with fewer steps than parallel parking, it is the most accident-prone on-street parking arrangement commonly used, providing the most potential conflicts between vehicles and pedestrians. Diagonal parking is the least efficient use of space per car and is exceptionally unsafe of bicyclists. Diagonal parking can be either “back-out” or back-in”.

- a. Back-out diagonal parking requires a person leaving a parking space to back out into traffic, often without a good view of approaching cars or pedestrians.
- b. Back-in diagonal parking requires additional maneuvering skill (as does parallel parking) but provides some advantages over back-out diagonal parking:
  - i.) Children are directed to the sidewalk and shielded by the door.
  - ii.) Easier to unload and load trunk at the sidewalk.
  - iii.) Sight visibility is improved for drivers and cyclists.

3. Perpendicular parking has many of the disadvantages of angled parking but requires the even more depth in right-of-way.



Queens Road West, Charlotte, NC

## STREET TREES

This Pedestrian Plan recommends adopting a Municipal Tree Ordinance to provide guidance for tree installation and maintenance. For more information about developing a Tree Ordinance and related policies and programs, see: <http://www.seql.org/actionplan.cfm?PlanID=10>

### Planting and Maintenance requirements

All street trees should be selected according to the standards described in the American Standard for Nursery Stock of the American Nursery and Landscape Association. See: <http://www.anla.org/applications/Documents/Docs/ANLStandard2004.pdf>

Install and maintain trees according to the International Society of Arboriculture (ISA) guidelines. See: <http://www.treesaregood.com/treecare/treecareinfo.aspx> or contact:

ISA, P.O. Box 3129, Champaign, IL 61826-3129, USA.  
E-mail: [isa@isa-arbor.com](mailto:isa@isa-arbor.com)

### Visibility

Street trees should never be allowed to obscure the line of sight between pedestrians and drivers. A clear view should be maintained between 30" and 72" above street.

This area must be free of limbs and foliage for safe cross visibility. Other plantings should also follow this rule within 50 ft. proximity of street corners and other designated crossing points.

### Tree Characteristics

- Form - To maintain visibility and provide shade for a comfortable pedestrian corridor, street trees should be vase shaped, columnar, or oval in form (habit) with large spreading crowns.
- Leaf - Street trees should primarily be deciduous, losing their leaves in the winter season.
- Roots - Avoid trees with aggressively invasive roots adjacent to pavement or buildings.

### Tree Pits and Tree Grates

Street trees should generally be located in open planting strips, however tree pits with tree grates may be a practical (though expensive) alternative in very high pedestrian traffic areas. Tree pits should be constructed so that a continuous channel of soil under the pavement connects the individual pits and allows greater volumes of soil for root growth and water storage. Raised tree planting areas should likewise be designed to accommodate multiple rather than single trees. Tree grates should generally not encroach upon the travel path. However, for optimal pedestrian safety and comfort, all tree grates used should meet the ADA standards for "accessible pathway". Gratings should have openings not greater than 1/2" wide with slots perpendicular to the general direction of travel and have a coefficient of friction at least 0.6 on flat surfaces and 0.8 on ramps.

### STREET FURNITURE

Well-designed walking environments are enhanced by street furniture, such as outdoor seating, lighting fixtures, bus shelters, trash receptacles, and water fountains. To select and properly site street furniture, careful attention should be given to the physical and social needs of the community and the various groups within it.

General design principles for selection, design, and siting of street furniture are listed below:

- Street furniture placement should never be placed so as to restrict regular pedestrian flow.
- Street furniture can be positioned to help reinforce a physical or visual buffer between pedestrians and vehicular traffic.
- Consider the role street furniture can take by providing familiar tactile landmarks, which can aid navigation for the visually impaired.
- Coordinate the style of various street elements to complement one another and reinforce a sense of common identity for the community.



### Seating

- Seating should be located periodically along well-traveled paths and at destination points. For paths frequented by elderly citizens, adequate seating should be provided for along the path at a minimum of 150 ft.
- Provide seating in locations that are logical destinations or gathering points to allow opportunities for community interaction, particularly for students and the elderly.
- Seating should be oriented toward travel ways and areas of visual interest. Align benches with sidewalks and prominent views.
- Whenever possible in destination areas, provide moveable chairs.

- Seating should generally be located to take advantage of shade or in “suntraps” - areas that take advantage of winter sun and blocked from the wind.

In addition to benches and other pre-manufactured seating, additional opportunities for seating may include other areas that meet the following parameters: smooth, level areas with a minimum depth of 14 inches, a minimum height of 12 inches, and a maximum height of 36 inches.

The following procedure for selection and placement of benches is recommended:

1. Hold a community meeting to determine optimal locations for benches.
2. Select appropriate bench design based on utility, maintenance and aesthetic concerns.
3. Determine ongoing maintenance procedures and responsibilities.
4. Identify parcel owners if easement acquisition is required and acquire easement.
5. Involve community volunteer workers in installing benches where practical.

### Trash Receptacles

- Well placed, attractive, and properly maintained trash receptacles encourage pedestrian behavior toward keeping a cleaner community.
- Design style of trash receptacles should be carefully coordinated with other street furnishings to optimize aesthetic quality and opportunity for reinforcing community identity.
- Apply the recommended procedure for bench selection and placement.

### Raised Planters

- Planters can provide opportunities in addition to planting strips for street landscaping.
- Raised planters should be located either to act as buffers between pedestrian and vehicular ways, or to help define or enhance a public gathering space. Planters should not be located in the travel path or where they will otherwise obstruct normal pedestrian flow.
- Raised planters should be designed to provide addi-

tional opportunities for comfortable seating (meeting the dimensions specified in the Seating section) as well as community identity.

### Bike Racks

- Bike racks encourage pedestrian life by providing greater opportunity for people to leave their cars at home.
- Rack design should be attractive to encourage use by cyclist and property owners.
- Racks must allow the bike frame and wheel(s) to be locked securely.
- Racks should be built from heavy duty, weather & tamper resistant materials.
- Racks must support the bicycle frame and not hold the wheel.
- Most racks are misused to some degree. Look for racks that provide the same opportunity for security whether the bike is on the end or middle of the rack.
- Locate racks next to entrance doors and in line of site of a window.

### Water Features

- Decorative fountains usually provide an inviting visual and audible focal point for a public space. They are usually the dominant feature in any space.
- Fountains should be designed with audible effects in mind, so as to create an atmosphere conducive to conversation. Splashing water provides an element of privacy in public areas as it masks conversational tones.
- Raised fountains can provide highly favorable additional seating area.
- Fountains should be designed to permit free access to water by pedestrians.
- Great care should be given in planning fountain projects. Insure that there is an ongoing funding source for adequate fountain maintenance, as well as sufficient liability protection.



South Railway Bridge  
viewed from King Street Bridge

## 9. BRIDGES & UNDERPASSES

Grade-separated crossings provide continuity of a pedestrian or multi-purpose facility over or under barriers such as high volume multi-lane roadways, active multi-track railroads, streams, or environmentally sensitive areas. These structures are often expensive and difficult to implement. For these reasons, advanced planning, identification of a source of funds, and a compelling purpose and need are primary factors in obtaining approval for construction. Construction of grade-separated crossings should be considered only when no other solution is expected to be effective and where continuity is critical and well justified. Research shows that pedestrians will avoid using such facilities if they perceive the ability to cross at grade as taking about the same amount of time.

Bridges and underpasses should be considered for high volume traffic areas such as freeways, and other high volume arteries, only where traffic volumes exceed 20,000 vehicle trips per day with speeds 35 - 40 mph and over.

These facilities may be specially constructed, or make use

of an existing culvert or vehicular bridge. However, ADA accessibility requirements for stairs, ramps, and elevators can require the construction of an enormous structure that is visually disruptive.

Minimum widths for these structures should follow the guidelines for sidewalk width. Underpasses should have a daytime illumination minimum of 10 foot-candles achievable through artificial and/or natural light provided through an open gap to sky between the two sets of highway lanes, and a nighttime level of 4 foot-candles. Consider acoustics measures within underpasses to reduce noise impacts to users. In underpasses, where vertical clearance allows, the pedestrian walkway should be separated from the adjacent roadway by more than a standard curb height.

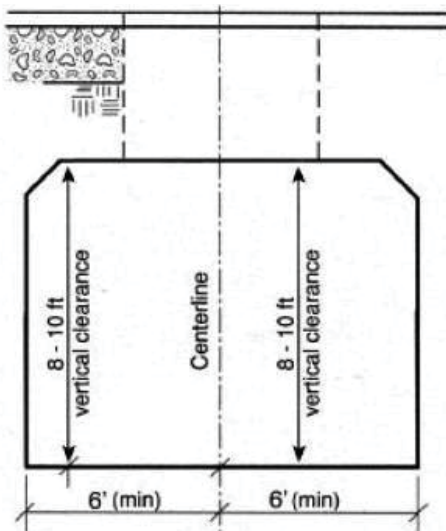


### 10. OFF-ROAD TRAILS

Trails can be used for walking, bicycling, horseback riding or other forms of recreation or transportation. Some trails are located in corridors of protected open space known as greenways. Greenways often follow natural land or water features. They may also provide an additional complimentary use for existing utility rights-of-way. Greenways improve the quality of life for a community not only by providing additional recreation opportunities and connections between points of interest, they are also a tool to help preserve open space, improve environmental quality, facilitate economic development, and celebrate the unique heritage of the area they traverse. A network of connecting greenways results in a system that can be greater than the sum of its parts.

When developing pedestrian trails (and/or greenways), the following steps should be considered:

1. Identify, plan and develop trails and greenways in cooperation with all affected landowners, local businesses, civic organizations, pertinent citizen advisory groups, utility companies, jurisdictions, and local law enforcement. A "Greenways Partnership" can facilitate communication between these groups.
2. Ensure the preservation, protection and appropriate management of significant and sensitive envi-



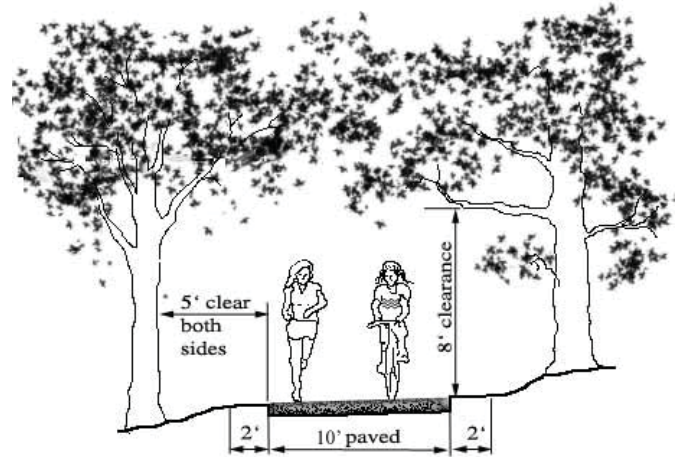
**Typical culvert crossing for multi-use path**

ronmental, ecological and cultural resources within greenways through conformance with the standards and criteria identified in this Plan and other pertinent policies and plans.

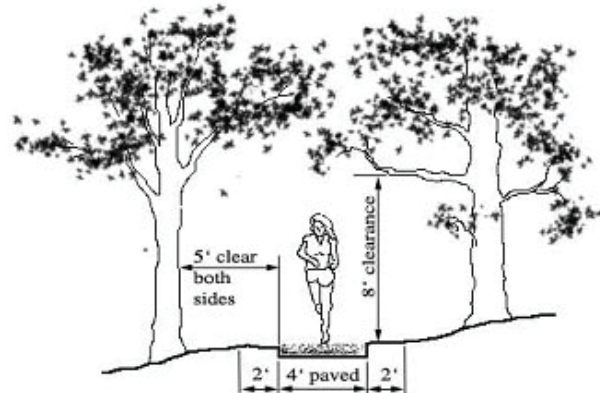
3. Where acquisition of land needed for a greenway or trail is not feasible or desirable, work with landowners to protect identified resources, and provide public access where appropriate, through voluntary means such as conservation and trail easements and/or cooperative agreements.
4. Identify roadside segments of the greenway/trail plan. Ensure that these segments are incorporated into local and state transportation plans and developed and maintained through appropriate agencies.
5. Design for all users. Most off-road trails should accommodate a wide range of user-types and activities going on simultaneously, including walking, running, bicycling, wheelchairs, skateboarding, and other non-motorized uses. Trail alignment (turning radii and sightlines), slope, pavement width and paving materials should be designed with the needs of each user type in mind.

### Multi-purpose Trails

Particularly in and near populated areas, trails systems should be composed primarily of pathways that can accommodate a variety of user types, including walkers, runners, bicyclists, and other non-motorized users. These multi-purpose paths must meet certain design criteria to simultaneously accommodate these different needs. Clearance dimensions are critical. Width of pavement should be maintained ideally at ten feet, with two feet improved shoulders on both sides. Some rural trails with hard surfaces include a soft shoulder for joggers. Deviations for very short distances may be acceptable when existing conditions do not physically permit standard trail width, but paved trail surfaces must maintain at least six feet in width to allow accessibility for maintenance equipment (ATV type). Pavement types may vary between conventional or pervious concrete, asphalt or crusher fines. Maximum slope shall not exceed 8%. Maintain a vertical clearance minimum of eight feet.



Multi-Purpose Trail



Secondary Footpath

### Secondary Footpaths

Some trails in the system may be considered secondary or alternate paths, particularly in cases of challenging topography where ADA compliance is impractical, or particularly sensitive environmental areas. These secondary "footpaths" should be limited to pedestrian use only. Here a soft pavement surface may be preferred (crusher fines recommended). Where a minimum width is necessary due to these conditions, maintain a four feet wide path with two feet wide improved shoulders. Maintain

a vertical clearance minimum of eight feet. Be sure that the main destinations footpaths serve can still be reached by a multi-purpose path. All trails should be maintained with a five feet cleared area from the edge of the trail on each side. Trails should be pitched to drain with a 2% minimum grade. Paving materials may vary in specific locations.

### Equestrian-shared Trails

In areas where equestrian use is desirable, use horse-friendly surfaces such as pea-gravel or mulch, or provide a parallel trail with suitable surface. Trails must have enough space for horses to feel at ease. Horses tend to travel about 18 inches from the edge of the tread surface and tend to stay a comfortable distance away from other trail users and from walls or fences they cannot see through or over, sometimes even moving to the far side of the trail to avoid them. Accommodate this behavior by widening the trail, routing it away from disturbing objects or activity, locating the horse tread on the far side of the trail corridor, providing a physical separation or visual screen, installing barriers, or increasing the horizontal distance—also called the shy distance—from the discomfort. Shy distance is in addition to tread width.

Single-tread trails reserved exclusively for horses (bridle-trails) are uncommon particularly in urban settings. Most public trails are designated for shared use, although there may be instances where a trail is not appropriate or safe for all users—for example, a narrow and winding recreation trail with a steep drop-off.

Whether or not equestrians and bicyclists can share a trail without conflict depends on local expectations and cycling style. Mountain bikers have different needs than road cyclists. While there are situations where bicyclists and horses don't coexist well, in other situations they may be very compatible.

Here are three approaches to consider:

- The Guide for the Development of Bicycle Facilities (AASHTO 1999) recommends a bridle trail

separate from multi-use trails due to the fact that many bicyclists are ill-informed about the need to slow down and make room for horses, and horses may be unpredictable if they think a bicyclist poses a danger.

- The Pedestrian and Bicycle Information Center (PBIC) notes that some hard surface trails already include a soft shoulder for joggers. The PBIC recommends providing a parallel trail with suitable surface for horses where adequate width is available.
- Michael Kelley's address at the National Symposium on Horse Trails in Forest Ecosystems held at Clemson University (1998), made a case for trails shared by bikers and riders, explaining that "problems are often matters of perception rather than reality, and those that are real can almost always be solved with a proactive approach..."

### At-Grade Railroad Crossing

When designing railroad crossings for multi-use trails, both pedestrian and other forms of non-motorized traffic must be considered. Railroad crossings have flangeway gaps that allow passage of the wheels of the train. These gaps can sometimes exceed 1/2 inch, making them hazardous for pedestrians as well as bicyclists, those using wheelchairs, and other non-motorized traffic. Narrow tires can easily get caught in the flangeway gap. In addition, rails or ties that are not embedded in the travel surface create a tripping hazard. Pedestrian safety and accessibility at railroad crossings can be enhanced through the following actions:

- Raise the approaches to the track and the area between the tracks to the level of the top of the rail creating flat level areas to cross. When casters on wheelchairs hit changes in level, they rotate and may drop into the flangeway gap.
- Utilize a surface material that will not buckle, expand, or contract significantly (e.g., textured rubber railroad crossing pads) in all areas adjacent to the tracks so that the surface material will not interfere with railway function or degrade with use.

- Design crossings so that the pedestrian paths of travel intersect the railroad track at a 90 degree angle, which minimizes problems with the flange-way gap width.
- Widen the crosswalk when a perpendicular crossing cannot be provided so that pedestrians have room to maneuver and position themselves to cross the tracks at a 90 degree angle.
- Install detectable warnings similar to a transit platform if the railroad crosses the sidewalk.
- Provide railroad crossing information in multiple formats, including signs, flashing lights, and audible sounds. The MUTCD requires railroad crossing signs whenever railroad tracks intersect the street.

### Paving

Each trail is unique in terms of its location, design, environment, and intended use. For each segment of the trail, care should be given to selecting the most appropriate surface treatment, considering cost-effectiveness, environmental benefit, accessibility and aesthetics. Various pavement types can be used to meet ADA standards, as long as the surface is "firm and stable." Pavement options include:

- Conventional Concrete – Costly installation and maintenance, but requires less periodic maintenance than asphalt or crusher fines. Install 4-inch thickness on compacted 4-inch aggregate base course.
- Pervious Concrete – Allows storm water to percolate when used over permeable soils, superior traction, unfavorable to rollerblading and skateboarding, higher installation cost. Install according to manufacturer's specifications.
- Asphalt – smooth, joint free and softer than concrete, preferred by runners, roller-bladers, cyclists, handicap users, and parents pushing strollers. Construction is quicker and costs significantly less than a concrete. Repair is quick and inexpensive. Install a minimum 2-inch I-2 asphalt thickness with 4-inch aggregate base course. Pavement can

last up to 20 years with periodic maintenance. See additional information at: <http://www.americantrails.org/resources/trailbuilding/betterAsphalt.html>

- Crusher fines – Excellent for running trails, as well as walking, mountain bike and equestrian use. Can be constructed to meet ADA requirements. Constructed of small, irregular and angular particles of rock, crushed into an interlocking tight matrix. A crusher fine trail combines the rustic feeling of a natural surface trail with a surface type that's durable (but not concrete or asphalt). The natural gravel-like surface feels more like a trail than a hard surfaced path and fits in well with primitive settings. Typically costs about 1/3 the price of concrete paths, installed. More susceptible to erosion than asphalt or concrete. For detailed information, see: <http://www.americantrails.org/resources/trailbuilding/Build-CrushFinesOne.html>
- Dirt – Recommended for mountain bikes and equestrian uses.
- Boardwalk – very expensive, for environmentally sensitive areas and wetlands.

For comparative costs of pavement types, see **Section 8.1, Sample Cost Estimates for Facility Construction.**

### Road Crossings

In order to maximize the safety and accessibility of trail-to-street intersections, the following trail design considerations are recommended:

- Intersect streets at a 90-degree angle
- Increase trail width intersections to reduce user conflicts
- Provide good sight lines for both motorists and trail users
- Provide signage to ensure that motorists are aware of the trail crossing
- Provide a visible crosswalk across the intersection to increase trail user and motorist awareness



- Locate signage to clearly indicate right of way to both drivers and the trail
- Use curb ramps as required. Include detectable warnings to ensure that trail users with vision impairments are aware of the street.

### Accessibility

The trail system should be designed to accommodate all people, regardless of age and ability. Off-road trails should meet ADA accessibility requirements whenever possible in the design. Does an accessible trail have to be paved with concrete or asphalt? Not as long as the surface is “firm and stable”. Packed crushed stone, gravel fines compacted with a roller, packed soil and other natural materials bonded with synthetic materials can provide the required degree of stability and firmness. For additional paving information, refer to: <http://www.americantrails.org/resources/accessible/ADASummFeb00.html>

### Environmental Concerns

Trail corridors serve the community by protecting and enhancing the natural environment. Trails provide more transportation choices for people who wish to walk or bicycle. By doing so, they help to decrease dependence upon automobiles and thus contribute to improved air quality. Trails also improve water quality when they are used in conjunction with buffers along creeks and streams. These buffers provide habitat for a diversity of plant and

animal species. They serve as natural filters, trapping pollutants from urban runoff, eroding areas and agricultural lands. Stream buffers also reduce the severity of flooding by releasing storm water more gradually, giving the water time to evaporate, or percolate into the ground and recharge aquifers, or be absorbed and transpired by plants. All proposed trails and other improvements should be designed, constructed and maintained with their ecological value in mind. Any disturbance of natural features should be kept to a minimum and conform to all jurisdictional environmental policy and ordinances.

### Grade and Sight Lines

Trails should be designed with a minimum slope to insure proper drainage and prevent pooling. The maximum slope should not exceed 8% on primary paths to prevent undue erosion of the trail, accessibility, safety and ease of use. Horizontal and vertical curves should be gentle in order to permit ADA accessibility, the safe use of bicycles on the path, and to allow maximum sight distances for the safety and security of all trail users. Sight lines along the trail should be maintained at a minimum of 100 ft. wherever feasible.

### Acquisition & Ownership

Acquisition negotiations of the proposed off-road trail corridors can result in various types of agreements with current landowners. The owner of the property need not be the same entity that operates and maintains the trail corridor if appropriate agreements are drawn. Ownership options to consider for individual trails include:

1. Local government – An existing department within the City government (usually a department of parks and recreation) is assigned to manage and maintain the corridor.
2. Non-profit association – A non-profit association or council may assume ownership of the corridor or control of the trail property. Local organizations that are experienced in trail management have distinct advantages in managing the trail system and responding to public needs. Local land trusts or trail conservancies may also form to take ownership of the trails.

3. Private landowners – May open their land to trail use by formal or informal agreement, and may sell or donate conservation easements while retaining other rights to the land.

Several legal instruments that may be used to transfer ownership or interests in property, either temporarily or permanently:

1. Titles – transfer permanent ownership of the land, usually acquired in “fee-simple” through contribution or outright sale.
2. Easements – convey ownership and control of a certain interest, right or tangible element of the property to a second property while the other retains other rights to the land. Conservation easements are often particularly appropriate to retain off-road trail ways, as these lands are often valuable for lowland or wild-life corridor protection.
3. Access and Use Agreements – specify how a portion of property may be used for a specified time. The agreement should contain a termination clause, obligations of the municipality or trail manager, and a list of impermissible activities.
4. Leases – convey almost all rights, control and liability of the property to the lessee for a specified number of years (usually 25 or 99) and may provide the landowner with compensation from the lease.

Acquisition of land for trail corridors, on land that is currently underdeveloped, can take place as part of the Waxhaw’s subdivision process. As large parcels are subdivided, corridors that are specified in the adopted Pedestrian Plan are acquired from the developer and incorporated in to the town’s trail system through whichever legal instruments are specified in the Waxhaw UDO. The town may choose to require through the ordinance that the developer contribute a fee for the construction of the trail improvements, as well as continual maintenance fees for its upkeep through a portion of homeowners’ association fees.

### Liability

The following risk management strategy steps should be taken as the trail is planned and developed:

1. Identify potential hazards in the proposed trail alignment.
2. Develop a list of permitted trail uses along with the risks associated with each.
3. Identify applicable laws.
4. Design and construct the trail in accordance with recognized guidelines.
5. Develop a plan for handling medical emergencies.
6. Conduct regular inspections once the trail is open for use (see Routine maintenance).
7. Document inspection findings and actions taken.

For detailed information concerning liability, see:

<http://www.americantrails.org/resources/adjacent/Rail-Liability.pdf>

### Security & Safety

- Safety concerns, such as minimizing accidents and exposure to risk should be addressed during the design process of any off-road trails.
- Safety design elements to consider include:
  1. Lighting and emergency phones,
  2. Elimination of obstructions
  3. Clear sight lines by selective vegetation removal
  4. Planting prickly shrubs at select locations
- In addition to standard police patrol, Adopt-A-Trail programs should be considered that encourage local residents to police trails much like Neighborhood Watch.
- Trails are typically accessible during daylight hours only, and violations after dark are viewed as trespassing.
- Emergency access points for Police, Fire, and EMS should be signed and have restricted-access bollards that allow emergency vehicles into the site while prohibiting access by unauthorized vehicles. Most maintenance access points also suffice as emergency access points.
- When extreme weather is expected, efforts should

be taken to close the trail to protect the safety of the public.

- 
- “Front yard” v. “backyard” paths
- Although off-road trails will typically follow stream banks and utility corridors, they should be designed as “front yard elements” whenever possible, connecting to existing sidewalks, as well as civic, residential and commercial destinations. This arrangement will maximize the transportation value of the trail, and also increase visibility and safety for users.

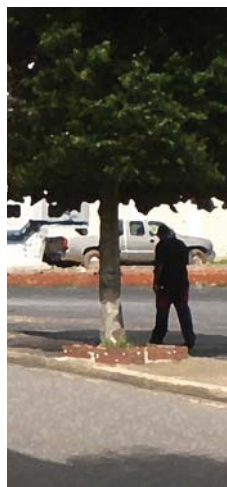
### Access Points & Linkages to private property

Access opportunities to off-road trails should be maximized. The trail system should be readily accessible from sidewalks in the public right-of-way. Commercial and institutional establishments, as well as residential developments, are strongly encouraged to provide direct access to the trail from their property at points convenient to potential users.

### Maintenance & Operations

Facility inspections are an essential part of maintaining any facility. Planning and design of all off-road trails should include management plans that help gauge operational funds for various maintenance projects. Proper maintenance must address both the performance condition of the trail preserving the environmental integrity and character of any environmental areas that are adjacent to the trail.

Maintenance and repair projects can be managed either through annual service contracts put out to bid, or become an integral part of the facilities management maintenance program. Annual budgets for trail maintenance and operations should document maintenance items, facility improvements, and other related costs to ensure the long-term health of trail facilities, the environment, and safety for users.



### ADDITIONAL ACCESSIBILITY INFORMATION

The following accessibility standards and guidelines are provided by the Pedestrian and Bicycle Information Center ([www.walkinginfo.org](http://www.walkinginfo.org))

The Americans with Disabilities Act (ADA) requires that new and altered facilities be accessible. Title II of the ADA covers sidewalk and street construction and transit accessibility, referencing the ADA Accessibility Guidelines (ADAAG) or the Uniform Federal Accessibility Standards (UFAS) for new construction and alterations undertaken by or on behalf of a state or local government. The Department of Justice (DOJ) title II regulation specifically requires that curb ramps be provided when sidewalks or streets are newly constructed or altered. (Requirements for existing pedestrian networks not otherwise being altered are also included in the DOJ regulation, available on line at [www.ada.gov/reg2.html](http://www.ada.gov/reg2.html)). The ADA Accessibility Guidelines ([www.access-board.gov/adaag/html/adaag.htm](http://www.access-board.gov/adaag/html/adaag.htm)) include standards for site development applicable to new construction and alterations in the public right-of-way.

### CURB RAMPS

A curb ramp or other sloped area is required wherever a new or altered pedestrian walkway crosses a curb or other barrier to a street, road, or highway. Similarly, a curb ramp is required wherever a new or altered street intersects a pedestrian walkway. A curb ramp maybe perpendicular to the curb it cuts or parallel with the sidewalk. Other designs may also comply, including sidewalks that ramp down to a lesser curb height, with a short perpendicular curb ramp to the street; blended or at-grade connections, or raised crossings that connect at sidewalk level.

The running slope of a new curb ramp should not exceed 1 in 12 (8.33%). Steeper ramps are not usable by many pedestrians in wheelchairs and scooters. Cross slope should be limited to 2%.

A level landing should be provided at the top of a perpendicular curb ramp. A curb ramp must connect at the top to a level landing that is at least 48 inches deep with a cross slope of no more than 2%. The side flares of a curb ramp are not intended for accessible travel (the slope of a side flare is limited so that it will not present a tripping hazard to pedestrians).

The foot of a curb ramp should be contained within the crosswalk markings. Pedestrians who use wheelchairs should not be directed outside the crosswalk or into an active travel lane in order to cross stopped traffic. If a diagonal ramp is used, a 48-inch long bottom landing must be provided in the space between the curb radius and curb line extensions.

The transition from curb ramp to gutter should be flush. Lips are not permitted. Gutter counter slope in the line of travel should not exceed 1 in 20 (5%) and should connect smoothly with other elements of the pedestrian network. The boundary between the sidewalk and street should be detectable underfoot. A 24-inch strip of truncated dome or other approved detectable warning material should be provided the full width of the ramp or other uncurbed connection to the crosswalk so that pedestrians do not inadvertently travel into the street.

### **SIDEWALKS**

A new sidewalk should be wider than the minimum accessible travel width of 36 inches. Additional maneuvering space is necessary for a pedestrian using a wheelchair to turn, to pass by other pedestrians, to operate and pass through an entrance door, to use sidewalk telephone or to activate a pedestrian crossing button. A 60-inch minimum width can accommodate turns and passing space and is recommended for sidewalks adjacent to curbs in order to provide travel width away from the drop-off at street edge; a 48-inch width can accommodate side-by-side travel with a service animal.

The cross slope of a sidewalk should not exceed 2%. Excessive cross slope requires additional energy to counter-

act and tends to direct wheelchair users into the street, particularly when it is wet, icy, or snowy underfoot. At driveways there should be a minimum 36-inch (915 mm) wide passage with a cross slope of no more than 1:48 (2%). Corners at intersections should comply in both directions, since the running slope of one walkway will be the cross slope of another.

Street furniture, plantings, and other fixed items should not protrude into travel routes. Pedestrians with vision impairments can detect objects mounted on walls or posts if they are installed so that the leading edge is less than 27 inches above the sidewalk. Items mounted above this height should not project more than 4 inches into any circulation route. Particular care should be taken to locate temporary signage so that it does not impede pedestrian travel.

### **STREET CROSSINGS**

Consider the information needs of blind and low-vision pedestrians at intersections. When pedestrian signals are provided, their crossing and timing information should be available to all users. The audible and tactile information delivered at the pedestrian button of an accessible pedestrian signal (APS) can identify pedestrian signal phases and provide other non-visual information about the nature of a crossing.

Insufficient crossing time may be a barrier for some pedestrians. Every pedestrian cohort should be expected to contain some walkers whose rate of travel is less than 3.5 feet per second. Some jurisdictions add additional time using video technology; others employ a pedestrian button to call for a longer crossing cycle.

### **TEMPORARY WORK**

Temporary work should be accessible. Where construction blocks a public sidewalk for more than a short time, an alternate accessible route should be provided that is cane-detectable. Sidewalk barriers should be continuous and cane-detectable as well. Temporary events and facilities should also meet accessibility criteria.

### OTHER PEDESTRIAN FEATURES

Pedestrian facilities on and along sidewalks must be accessible. Signal actuating buttons, drinking fountains, telephones, kiosks, and other pedestrian elements should meet accessibility criteria for approach and maneuvering space, reach range, and operation.

Additional rights-of-way guidelines may be found at the U.S. Access Board's website at [www.access-board.gov](http://www.access-board.gov). The Board also maintains a toll-free technical assistance line at 800/872-2253 (V); 800/993-2822 (TTY).

### INFORMATION SOURCES:

**Planning and Designing Local Pedestrian Facilities** – NCDOT, Office of Bicycle and Pedestrian Transportation, February 1997

**North Carolina Bicycles Facilities Planning and Design Guidelines** – NCDOT, Office of Bicycle and Pedestrian Transportation, January 1994

**James City County Greenway Master Plan (2002)**  
Greenway Maintenance and Management,  
[www.jccegov.com](http://www.jccegov.com)

**American Trails – Resources & Library**  
[www.americantrails.org/resources/index.html](http://www.americantrails.org/resources/index.html)

**Creating Connections**  
The Pennsylvania Greenways and Trails How-to Manual – Russ Johnson, Pennsylvania Environmental Council, Pennsylvania Greenways Partnership, 1998 <http://www.pagreenways.org/toolbox/creatingconnections.pdf>

**Rail-Trails and Liability - A Primer on Trail-Related Liability Issues & Risk Management Techniques** – Hugh Morris, Rails-to-Trails Conservancy in cooperation with the National Parks Service Rivers, Trails and Conservation Assistance Program, September 2000 <http://www.americantrails.org/resources/adjacent/RailLiability.pdf>  
**Cary Parks, Recreation and Cultural Resources Fa-**

### ilities Master Plan

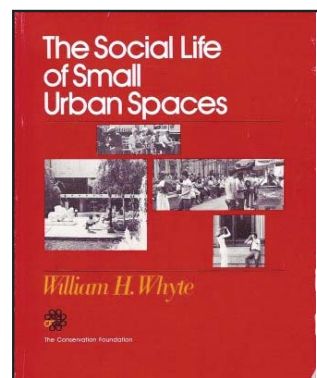
[www.townofcary.org/depts/prdept/greenwayreco.pdf](http://www.townofcary.org/depts/prdept/greenwayreco.pdf)

**Walkinginfo.org**

**Trafficcalming.org**

### Federal Highway Administration

[www.fhwa.dot.gov/environment/sidewalk2/contents.htm](http://www.fhwa.dot.gov/environment/sidewalk2/contents.htm)



### The Social Life of Small Urban Spaces

Whyte, William H., 1980

“This book is about city spaces, why some work for people and some do not, and what the practical lessons may be. It is a by-product of first-hand observation.”

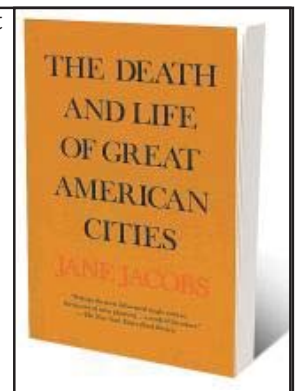
- William H. Whyte

### The Death and Life of Great American Cities

Jacobs, Jane A., 1961

“In setting forth different principles, I shall mainly be writing about common, ordinary things: for instance, what kinds of city streets are safe and what kinds are not; why some city parks are marvelous and others are vice traps; why some slums stay slums and others regenerate themselves even against financial opposition; what makes downtowns shift their centers; what is a city neighborhood, and what jobs neighborhoods in great cities do. In short, I shall be writing about how cities work in real life, because this is the only way to learn what principles of planning and what practices in rebuilding can promote social and economic vitality in cities.”

- Jane Jacobs







1. SAMPLE COST ESTIMATES FOR FACILITY CONSTRUCTION
  - Street Improvements
  - Crosswalks
  - Sidewalks
  - Trails
  - Street Furniture
  - Cost Estimation Sources
2. KEY ACTION STEPS
3. FUNDING STRATEGIES
  - State Agencies Sources
  - Federal Agencies Sources
  - Local Funding Sources
  - Other Local Options
  - Private Foundations and Organizations
4. MAINTENANCE PROGRAMS
5. PLAN ADOPTION & APPROVAL PROCESS
6. PERFORMANCE MEASURES

## 8.1 SAMPLE COST ESTIMATES FOR FACILITY CONSTRUCTION

In order to build pedestrian facilities, a number of different costs associated with projects must be considered. There are material costs, labor costs, mobilization costs, right-of-way purchase or easement costs, design costs, and project management expenses. Sidewalk and trail projects might also include changes to existing grades and necessitate alterations to drainage structures. Together these items are considered “project costs.” In addition to the project costs, there are also ongoing expenses associated with the new facility, such as maintenance, security, promotion and other programs necessary for the initial and continued success of the facility.

The cost estimates provided below are primarily limited to material and labor. They are provided by NCDOT only as a guide and are approximate. Prices are current for the time of this publication. Materials, labor and other project costs will vary with fluctuating interest rates and inflation.

**Street Improvements**

Traffic signals \$40,000 to \$200,000 per signal

Pedestrian signals \$20,000 to \$40,000 for all four legs

Traffic signal enhancements: \$10,000 to add new pedestrian signals

Motion activated crossing: \$20,000 per typical two-pole system (excluding installation)

Warning signage: \$50 to \$150 per sign plus \$150/sign in installation costs.

Striping: 12-inch: \$1 per linear yard (LY)  
4-inch: \$10 K per mile, or \$2 LF

Costs do not include maintenance, which varies according to materials used.

Concrete curb and gutter: \$12 - \$15/LF

Curb inlets \$2,000 per unit

Curb extensions: \$5,000 - 10,000 per corner or midblock section.

Curb ramp: \$7,200 per unit

Costs vary with design and site conditions, particularly utilities, control boxes and drainage considerations. Special pavement, street furnishings and landscaping are recommended but contribute to costs.

Crossing Islands/Medians: \$8,000 to \$15,000 for a raised curbed island with minimal landscaping.

Reconstructing turn radius: \$5,000 to \$30,000 per corner, depending on site conditions (e.g., drainage and utilities may need to be relocated).

Speed humps: \$1,700 per unit

Lighting: \$ 45/LF frontage  
\$6,000/light standard

**Crosswalks**

Approximate materials and installation costs per unit:

Regular striped \$ 100  
Ladder crosswalk \$ 300  
Stamped asphalt \$1,100 (\$50/square yard)  
Patterned concrete \$3,000  
Raised \$2,000 - \$5,000

**Sidewalks**

Approximate materials and installation costs:

5' wide concrete facility \$ 100 per linear foot (LF)

Sidewalk minor repair: \$ 50/LF

**Planting Strip**

Costs can vary widely based upon right-of-way availability and property values, and grading and drainage conditions. Additional costs may be incurred for clearing, grubbing, and removal of structures or pavement. Soil preparation and seeding may also be required.

For a 5' wide strip, the following costs are recommended:  
Seeding: \$1,000/mile, \$0.20/LF

Trees: \$200/tree, installed  
Cost per linear foot of street can be calculated based upon the spacing of street trees:  
40' = \$200/40' = \$5.00 (LF)  
50' = \$200/50' = \$4.00 (LF)

### Trails

Facility Type	Cost per LF	Longevity
Concrete (5')	\$135	20 years +
Pervious Concrete (10')	\$50	unknown
Asphalt (10') - 2" w/6" base	\$135	7-20 years
Crushed stone (10')	\$15 - 25	7-10 years
Wood chips (10')	\$14 - 18	1-3 years
Soil cement (10')	\$14 - 22	5-7 years
Native soil (10')	\$11 - 15	variable
Boardwalk (6' – 8') (wood or recycled material)	\$200 - 250	7-15 years
Polyurethane track (8')	\$22	13-15 years

### Street Furniture:

Prices vary greatly according type of facility, brand, and level of customization. Benches or outdoor trashcans installed start at approximately \$600/unit.

General park facilities                      \$ 25/SF

The construction of new park or open space facilities on land not currently used as park, with some furniture and amenities



### Cost Estimation Sources:

- NCDOT DBPT
- Walkinginfo.org – Pedestrian & Bicycle Information Center
- “Trails For The 21st Century,” published by Rails To Trails Conservancy <http://www.trafficcalming.org/measures2.html>
- [http://www.nysphysicalactivity.org/site\\_beactiveenv/nybc/source\\_files/3\\_pedfac\\_improve/FHA\\_EmergTechPedXWalk.pdf](http://www.nysphysicalactivity.org/site_beactiveenv/nybc/source_files/3_pedfac_improve/FHA_EmergTechPedXWalk.pdf)
- <http://www.charmeck.org/Departments/Transportation/About+Us/Speed+Humps.htm>
- National Trails Training Partnership <http://www.americantrails.org/resources/trailbuilding/Asphalt-CO.html>

## 8.2 KEY ACTION STEPS

Provided here is a quick reference schedule to help ensure that recommendations in the plan are addressed. Associated sections of the pedestrian plan are provided (in parentheses) for easy reference.

### STEP

1. Adopt the pedestrian plan. **(8.5)**
2. Form Action Committee. **(4.1.1)**
3. Make modifications to ordinances. **(4.1.13, 4.2)**
4. Initiate programs. **(4.1.6)**
5. Identify funding sources. **(8.3)**
6. Begin construction of priority projects. **(Sections 4.2, 4.3, 4.8, Section 6: Table 6.20a-c, Appendix A.3)**
7. Develop a maintenance program. **(8.4)**
8. Evaluate progress. **(8.6)**

## 8.3 FUNDING STRATEGIES

Careful planning of pedestrian facilities is half the battle. The other half is building them. Both procedures require funding. However, there are many sources available for funding the planning and construction of pedestrian improvements. Using the right source and getting the best return requires strategy. This Plan itself was funded by the NCDOT Bicycle and Pedestrian Planning Grant. But grants usually provide only a portion of overall funding needs. The most successful strategy for a municipality to develop and improve its pedestrian system will involve an appropriate combination of all possible sources, public and private.

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

### Funding Allocated by State Agencies

#### North Carolina Department of Transportation

Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bi-cycle-safe bridge design are frequently included as incidental features of highway projects. The NCDOT Complete Streets Program is expanding this policy.

#### State Transportation Improvement Program (STIP)

The primary NCDOT source for developing pedestrian and bike facilities involves securing identification of a

project in the State Transportation Improvement Program. Every two years projects are submitted by regional planning organizations (metropolitan planning organizations (MPO) and rural planning organizations (RPO) throughout the state. Submitted bike and pedestrian projects are prioritized by the Division of Bike and Pedestrian Transportation staff. High priority projects will be used to populate the 5-Year Work Program and the delivery STIP. For further information, see: <http://www.ncdot.gov/performance/reform/>

#### Incidental Projects

The NCDOT Board of Transportation approved in 2009 a “Complete Streets” policy to consider and incorporate multimodal alternatives in the design and improvement of all appropriate transportation projects within a growth area of a municipality unless exceptional circumstances exist. Routine maintenance projects may be excluded from this requirement. As NCDOT designs or develops individual highway or bridge projects along the proposed route, recommended bicycle improvements should be included in the design. These accommodations may increase the cost of the project. Local governments typically are asked to participate in funding such improvements, with implementation by the NCDOT.

NCDOT may require local financial participation in the construction of such facilities, but the cost to include as a part of a larger project is always less than as a stand-alone one. The affected RPO and its member governments should reference the Plan’s recommendations when reviewing projects throughout the development process.

#### Congestion Mitigation and Air Quality

CMAQ is a program that currently allocates approximately \$20 million annually to North Carolina to fund programs in “non-attainment areas” (i.e., areas that do not meet federal air quality standards) and projects designed to improve air quality and reduce congestion, without adding single-occupant vehicle capacity to the transportation system. The funds originate from the Federal Highway Administration but are passed through to local

entities by NCDOT. Most of the incorporated area of Kings Mountain lies outside of the current non-attainment boundary and therefore is not eligible for CMAQ funding. However, pedestrian projects within the portion of the City that lies within Gaston County are eligible, as long as they are projects within an existing road or transit corridor. CMAQ funds are distributed through the area Metropolitan Planning Organization (MPO).

### **Road Resurfacing**

The City can request that NCDOT evaluate future road repaving projects in its jurisdiction to determine if a two-foot paved shoulder, or a four-foot bicycle-lane can be installed without significant drainage, Right-of-Way, or grading work required. Where such work is feasible, NCDOT can then inform the City of the upcoming work and offer the opportunity to financially contribute for the marginal cost associated with these improvements.

### **Signage**

Bicycle route signage is installed by either the local NCDOT District Office or, when on municipal roads or multi-purpose paths, the affected municipality. When the District 12 does not have resources to purchase signage, NCDOT's Bicycle and Pedestrian Transportation Division (DBPT) may be able to assist with purchasing signage.

All signage on NCDOT-owned facilities must meet the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD). The DBPT will work with NCDOT divisions to determine signage locations and designations.

### **Bicycle and Pedestrian Planning Grant Initiative**

NCDOT-DBPT and Transportation Planning Branch (TPB) created this annual matching grant program to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans. This program was initiated in January 2004 and is currently administered through NCDOT-DBPT. The development of this pedestrian plan was guided and largely funded through this program.

Funding for the program comes from an allocation first approved by the North Carolina General Assembly in 2003 in addition to federal funds earmarked specifically for bicycle and pedestrian planning through the TPB.

See additional information about NCDOT pedestrian funding and other funding sources at:

<http://www.ncdot.gov/bikeped/funding/default.html>

### **Sidewalk Program**

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

### **Safe Routes To School**

The SRTS program is funded under SAFETEA-LU and administered by NCDOT. The program provides approximately \$15 million in North Carolina over five years for improvements within two miles of elementary and middle schools. Some of these funds are provided to the local highway division who distributes the funds at their own discretion. Individual grant awards are limited to approximately \$200,000. No local match is required. These grants can pay for pedestrian and bicycle facilities and intersection improvements. The funds can also be used for education and enforcement efforts. The target population for these activities must be K-8 students. For more information about the SRTS program, contact:

Ed Johnson, ASLA, RLA  
SRTS Coordinator  
NCDOT, Division of Transportation Mobility and Safety  
Traffic Management Unit  
1552 Mail Service Center, Raleigh, NC 27699  
Email: [erjohnson2@ncdot.gov](mailto:erjohnson2@ncdot.gov)  
Phone: 919.707.2604

### **Governor's Highway Safety Program**

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

#### **The North Carolina Conservation Tax Credit**

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

#### **Land and Water Conservation Fund**

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

of \$900 million each year. However, Congress generally appropriates only a small fraction of this amount. The allotted money for the year 2007 was \$632,846.

#### **The Land and Water Conservation Fund**

LWCF has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by NCDENR. Since 1965, the LWCF program has built a permanent park legacy for present and future generations. In North Carolina alone, the LWCF program has provided more than \$63 million in matching grants to protect land and support more than 800 state and local park projects. More than 37,000 acres have been acquired with LWCF assistance to establish a park legacy in our state. For more information, visit:

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

#### **NC Adopt-A-Trail Grant Program**

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

<http://ils.unc.edu/parkproject/trails/grant.html>.

#### **Recreational Trails Program**

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

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

#### **North Carolina Parks and Recreation Trust Fund**

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

The trust fund is allocated three ways:

- 65% to the state parks through the N.C. Division of Parks and Recreation
- 30% as dollar-for dollar matching grants to local governments for parks and recreation
- 5% for the Coastal and Estuarine Water Access Program

For information on how to apply, visit: [www.partf.net/learn.html](http://www.partf.net/learn.html)

#### **Powell Bill Program**

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as provided by G.S. 136-41.1 through 136-41.4. The Town of Waxhaw received \$122,525.42 in fiscal year 2010-2011, but should receive almost double that in 2011-2012 due to the new population numbers reflected in the 2010 US Census and additional streets. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets

and highways. Communities are able to use Powell Bill funds to build and maintain bicycle lanes on roads that they maintain. For recent Powell Bill allocation to Kings Mountain, see **Appendix A.3.6**. For more information about the Powell Bill in North Carolina, see: [http://www.ncdot.org/programs/Powell\\_Bill/](http://www.ncdot.org/programs/Powell_Bill/)

#### **Clean Water Management Trust Fund**

North Carolina's Clean Water Management Trust Fund (CWMTF) was established in 1996 and has become one of the largest sources of money in North Carolina for land and water protection. At the end of each fiscal year, 6.5 percent of the unreserved credit balance in North Carolina's General Fund, or a minimum of \$30 million, is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies and conservation non-profits to help finance projects that specifically address water pollution problems. CWMTF funds may be used to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits. The Fund has provided money for land acquisition of numerous greenway projects featuring trails, both paved and unpaved. For a history of awarded grants in North Carolina and more information about this fund and applications, visit [www.cwmtf.net/](http://www.cwmtf.net/), or contact Bern Shumack at (336) 366-3801.

#### **Natural Heritage Trust Fund**

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

tage Program. Visit [www.ncnhtf.org/](http://www.ncnhtf.org/)

#### **North Carolina Conservation Tax Credit Program**

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

[www.enr.state.nc.us/conservationtaxcredit/](http://www.enr.state.nc.us/conservationtaxcredit/)

#### **Urban and Community Forestry Assistance Program**

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

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

#### **Ecosystem Enhancement Program**

Developed in 2003 as a new mechanism to facilitate improved mitigation projects for NC highways, this program offers funding for restoration projects and for protection projects that serve to enhance water quality and wildlife habitat in North Carolina. Information on the program is available by contacting the Natural Heritage Program of NCD*ENR*. For more information, call 919-715-0476,

or visit: [www.nceep.net/pages/partners.html](http://www.nceep.net/pages/partners.html).

#### **Water Resources Development Grant Program**

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

#### **Small Cities Community Development Block Grants**

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

#### **North Carolina Health and Wellness Trust Fund**

The NC Health and Wellness Trust Fund was created by the General Assembly as one of 3 entities to invest North Carolina’s portion of the Tobacco Master Settlement Agreement. HWTF receives one-fourth of the state’s tobacco settlement funds, which are paid in annual installments over a 25-year period. Fit Together, a partnership of the NC Health and Wellness Trust Fund (HWTF) and Blue Cross and Blue Shield of North Carolina (BCB-SNC) announces the establishment of Fit Community, a designation and grant program that recognizes and rewards North Carolina communities’ efforts to support physical activity and healthy eating initiatives, as well as tobacco-free school environments. Fit Community is one component of the jointly sponsored Fit Together ini-

tiative, a statewide prevention campaign designed to raise awareness about obesity and to equip individuals, families and communities with the tools they need to address this important issue.

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

- Physical activity in the community, schools, and workplaces
- Healthy eating in the community, schools, and workplaces
- Tobacco use prevention efforts in schools
- Designations will be valid for two years, and designated communities may have the opportunity to reapply for subsequent two-year extensions. Fit Community benefits include:
- Heightened statewide attention that can help bolster local community development and/or economic investment initiatives (highway signage and a plaque for the Mayor's or County Commission Chair's office will be provided)
- Reinvigoration of a community's sense of civic pride (each Fit Community will serve as a model for other communities that are trying to achieve similar goals)
- Use of the Fit Community designation logo for promotional and communication purposes.

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

Fit Community grants are designed to support innovative strategies that help a community meet its goal to becoming a Fit Community. Eight to nine, two-year grants of up to \$30,000 annually will be awarded to applicants that have a demonstrated need, proven capability, and opportunity for positive change in addressing physical activity and/or healthy eating. For more information, visit: [www.healthwellnc.com/](http://www.healthwellnc.com/)

## Funding Allocated by Federal Agencies

### Congestion Mitigation and Air Quality (CMAQ)

CMAQ is a program that currently allocates approximately \$20 million annually to North Carolina to fund programs in "non-attainment areas" (i.e., areas that do not meet federal air quality standards) and projects designed to improve air quality and reduce congestion, without adding single-occupant vehicle capacity to the transportation system. The funds originate from the Federal Highway Administration but are passed through to local entities by NCDOT. Waxhaw lies within the current non-attainment boundary and is therefore eligible for CMAQ funding. CMAQ funds are distributed through MUMPO. About half of the total candidate projects for fiscal years 2013- 2015 in MUMPO's 2010 call received funding. The projects that were not funded are to be added to the project list in fiscal years 2016 and 2017 when additional funding may become available as a result of a project viability assessment currently underway. There are currently no Waxhaw projects on MUMPO's CMAQ list.

### Wetlands Reserve Program

This federal funding source is a voluntary program offering technical and financial assistance to landowners who want to restore and protect wetland areas for water quality and wildlife habitat. The US Department of Agriculture's Natural Resource Conservation Service (USDA-NRCS) administers the program and provides direct payments to private landowners who agree to place sensitive wetlands under permanent easements. This program can be used to fund the protection of open space and greenways within riparian corridors and can thereby assist with trail/greenway funding efforts. Visit <http://www.nrcs.usda.gov/PROGRAMS/wrp/>.

### The Community Development Block Grant (CDBG)

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

Several communities have used HUD funds to develop greenways, including the Boulding Branch Greenway in High Point, North Carolina. Grants from this program range from \$50,000 to \$200,000 and are either made to municipalities or non-profits. There is no formal application process. Visit: [www.hud.gov/offices/cpd/communitydevelopment/programs/](http://www.hud.gov/offices/cpd/communitydevelopment/programs/).

#### **USDA Business Enterprise Grants**

Public and private nonprofit groups in communities with populations under 50,000 are eligible to apply for grant assistance to help their local small business environment. For more information from the local USDA Service Center, visit: <http://www.rurdev.usda.gov/rbs/buspr/rbeg.htm>

#### **Rivers Trails and Conservation Assistance Program**

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

Although the program does not provide funding for projects, it does provide valuable on-the-ground technical assistance, from strategic consultation and partnership development to serving as liaison with other government agencies. Communities must apply for assistance. For more information, visit: [www.nps.gov/nrcr/programs/rtca/](http://www.nps.gov/nrcr/programs/rtca/) or call Chris Abbett, Program Leader, at 404-562-3175 ext. 522.

#### **Public Lands Highways Discretionary Fund**

The Federal Highway Administration administers discretionary funding for projects that will reduce congestion and improve air quality. The FHWA issues a call for projects to disseminate this funding. In the past, Congress has earmarked a portion of the total available funding for

projects. For information on how to apply, visit: <http://www.fhwa.dot.gov/discretionary/>

#### **FHWA Recreational Trails Program**

This Federal program is administered by the FHWA from the Highway Users Trust Fund dollars derived from Federal fuel tax. Each state receives an annual portion for recreational trail projects. Contact:

<http://www.ils.unc.edu/parkproject/trails/home.html>

### **Local Funding Sources**

#### **Local Land Use Ordinance**

As shown earlier in this Plan, improving the pedestrian qualities of the community may have more to do with guiding its growth patterns than it has with building individual sidewalks or trails. These patterns of development are guided by the land use ordinances governing the municipality. If these documents are guiding and directing privately funded growth in a coordinated, pedestrian-friendly manner, private development will accomplish many of the Town's pedestrian-friendly goals through private initiative and investment. For examples of how the Town's ordinances can accomplish this, refer to the Recommended Policies and Ordinance Modifications of this Plan.

Individual ideas by which private investment can help build and maintain public pedestrian improvements are limited only by the imaginations and incentive of those involved. If the community has a definite vision of what it wants, and promotes that image clearly and positively, it will attract developers that will be more inclined to work with the community to accomplish mutual goals.

#### **Capital Improvement Programs**

Municipalities often plan for the funding of pedestrian facilities or improvements through development of Capital Improvement Programs. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows municipal decision-makers to balance all capital needs.

Typical capital funding mechanisms include the following: capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each of these categories is described here:

- **Capital Reserve Fund** - Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution that states the purpose, duration, approximate amount, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants and donations for the specified use.
- **Capital Project Ordinances** - Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.
- **Municipal Service District** - Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the Townwide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts.

### **Tax Increment Financing**

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

erwise occur. TIF creates funding for public projects that may otherwise be unaffordable to localities. The large majority of states have enabling legislation for tax increment financing.

### **Installment Purchase Financing**

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

### **Taxes**

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

### **Sales Tax**

In North Carolina, the state has authorized a sales tax at the state and county levels. Local governments that choose to exercise the local option sales tax (all counties currently do), use the tax revenues to provide funding for a wide variety of projects and activities. Any increase in the sales tax, even if applying to a single county, must gain

approval of the state legislature. As an example, Mecklenburg County, in 1998, was granted authority to institute a one-half cent sales tax increase for mass transit.

### Property Tax

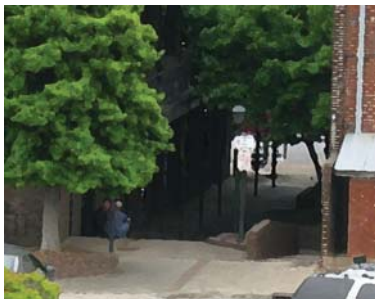
Property taxes generally support a significant portion of a municipality's activities. However, the revenues from property taxes can also be used to pay debt service on general obligation bonds issued to finance greenway system acquisitions. Because of limits imposed on tax rates, use of property taxes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

### Excise Taxes

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

### Occupancy Tax

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



### Fees

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

### Stormwater Utility Fees

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

### Streetscape Utility Fees

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

### Impact Fees

Developers can be required to provide greenway impact fees through local enabling legislation. Impact fees, which are also known as capital contributions, facilities fees, or system development charges, are typically collected from developers or property owners at the time of building permit issuance to pay for capital improve-

ments that provide capacity to serve new growth. The intent of these fees is to avoid burdening existing customers with the costs of providing capacity to serve new growth (“growth pays its own way”). Greenway impact fees are designed to reflect the costs incurred to provide sufficient capacity in the system to meet the additional needs of a growing community. These charges are set in a fee schedule applied uniformly to all new development. Communities that institute impact fees must develop a sound financial model that enables policy makers to justify fee levels for different user groups, and to ensure that revenues generated meet (but do not exceed) the needs of development. Factors used to determine an appropriate impact fee amount can include: lot size, number of occupants, and types of subdivision improvements. If the municipality is interested in pursuing open space impact fees, it will require enabling legislation to authorize the collection of the fees.

### **Exactions**

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

### **In-Lieu-Of Fees**

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

### **Bonds and Loans**

Bonds have been a very popular way for communities across the country to finance their pedestrian and greenway projects. A number of bond options are listed below. Contracting with a private consultant to assist with this program may be advisable. Since bonds rely on the support of the voting population, an education and awareness program should be implemented prior to any vote. Billings, Montana used the issuance of a bond in the amount of \$599,000 to provide the matching funds for several of their TEA-21 enhancement dollars. Austin, Texas has also used bond issues to fund a portion of their bicycle and trail system.

### **Revenue Bonds**

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

### **General Obligation Bonds**

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

velopment and make funds available for immediate purchases and projects. Voter approval is required.

### **Special Assessment Bonds**

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

### **State Revolving Fund (SRF) Loans**

Initially funded with federal and state money, and continued by funds generated by repayment of earlier loans, State Revolving Funds (SRFs) provide low interest loans for local governments to fund water pollution control and water supply related projects including many watershed management activities. These loans typically require a revenue pledge, like a revenue bond, but carry a below market interest rate and limited term for debt repayment (20 years).

## **Other Local Options**

### **Facility Maintenance Districts (FMD)**

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

ties either through its own staff or through private contractors. The public, particularly those within the FMD, should be periodically informed about whom to contact about maintenance issues.

### **Partnerships**

Due to the linear and connective nature of many pedestrian facilities, improvements may present complex challenges of working with multiple property owners and jurisdictions. Creating partnerships may help solve problems that ensue, and help with the inevitable web of utility and transportation corridors. Though partners may have some diverse and sometimes conflicting interests, there may be greater opportunities for funding, support and publicity.

Multiple uses of utility corridors provide one example of effective partnership. Most utilities use a linear corridor but occupy only a small portion of the ground surface. These valuable rights-of-way can often include a complementary public transportation and recreation use along with the utility functions. Utilities can benefit from sharing corridors with trails through maintenance savings.

Partnerships engender a spirit of cooperation, civic pride and community participation. The key to the involvement of private partners is to make a compelling argument for their participation. Major employers and developers should be identified and provided with a “Benefits of Walking”-type handout for themselves and their employees. Specific planned routes that make critical connections to place of business would be targeted for private partners’ monetary support. Potential partners include major employers that are located along or accessible to pedestrian facilities such as greenways. Name recognition for corporate partnerships can be accomplished through signage trailheads or interpretive signage along greenway systems. It is important to have a lawyer review the legal agreement and verify ownership of the subsurface, surface or air rights in order to enter into an agreement. Get more information about partnerships at:

<http://www.americantrails.org/resources/greenways/>

GrnwyUrbanSHM.html

### Local Trail Sponsors

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

### Volunteer Work

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

### Private Foundations and Organizations

#### Carolina Thread Trail

The Carolina Thread Trail (CTT) is a regional network of greenways and trails currently being designed and developed over a region that includes Cleveland and Gaston Counties. It is intended to ultimately reach 15 counties and over two million people, linking cities, towns and attractions. Its multi-purpose paths are intended to be primarily off-road facilities that will also serve to help preserve natural areas and provide opportunities for exploration of nature, culture, science and history.

The Catawba Lands Conservancy is the lead organization for the CTT. The Conservancy is a regional land trust that has worked closely with regional stakeholders to protect natural areas, water quality, working farms and other

special places in the region. Funding opportunities for both design and construction of trail facilities are identified annually for CTT designated trail projects.

The Cleveland County Greenways Master Plan, adopted by the City of Kings Mountain in 2011, and the Gaston County Greenways Master Plan, adopted by the City of Kings Mountain in 2009, include designated CTT alignments within and around the City's incorporated limits. Greenway facilities located within these alignments will be eligible for CTT design and implementation grants.

For additional information concerning the City's participation in the CTT, refer to **Section 3: Existing Policies, Plans & Programs**. For more about CTT grants and related funding opportunities, see: [www.carolinathreadtrail.org/resources/funding-sources/](http://www.carolinathreadtrail.org/resources/funding-sources/)

### Land for Tomorrow Campaign

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals and community groups committed to securing support from the public and General Assembly for protecting land, water and historic places. Their goal is to ensure that working farms and forests; sanctuaries for wildlife; land bordering streams, parks and greenways; land that helps strengthen communities and promotes job growth; historic downtowns and neighborhoods; and more, will be there to enhance the quality of life for generations to come. For more information, visit <http://www.landfortomorrow.org/>

### The Trust for Public Land

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

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

These are some of the conservation services of TPL:

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

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

### **Z. Smith Reynolds Foundation**

This Winston-Salem based Foundation has been assisting the environmental projects of local governments and non-profits in North Carolina for many years. The foundation has two grant cycles per year and generally does not fund land acquisition. However, the foundation may

be able to support municipalities in other areas of greenways development. More information is available at [www.zsr.org](http://www.zsr.org)

### **Robert Wood Johnson Foundation**

The Foundation seeks to help communities become increasingly walkable and thereby promote more active lifestyles that include exercise, like walking or biking, as a part of daily routine, particularly for children. Active Living by Design is a national program of The Robert Wood Johnson Foundation and is a part of the UNC School of Public Health in Chapel Hill, North Carolina. The program will establish and evaluate innovative approaches to increase physical activity through community design, public policies and communications strategies. For more information, visit [www.activelivingbydesign.org](http://www.activelivingbydesign.org).

### **North Carolina Community Foundation**

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

### **National Trails Fund**

In 1998, the American Hiking Society created the National Trails Fund, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. Each year, 73 million people enjoy foot trails, yet many of our favorite trails need major repairs due to a \$200 million in badly needed maintenance. National Trails Fund grants give local orga-

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

Types of projects will American Hiking Society considers, include:

- Acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- Construction and maintenance of trails that result in improved access, hiker safety, and/or avoidance of environmental damage.
- Building constituency around specific trail projects - including volunteer recruitment and support.

See more at: [www.americanhiking.org/alliance/fund.html](http://www.americanhiking.org/alliance/fund.html)

Find additional information about funding sources and procedures in **Appedices A.4.5: How to Build a Sidewalk.**



## 8.4 MAINTENANCE PROGRAMS

Sidewalks and other pedestrian paths must be properly maintained and kept clear of debris, overgrown landscaping, tripping hazards. Grades must be maintained so that water does not accumulate. Associated pedestrian facilities, such as signage, lighting, striping and landscaping, also require care and occasional replacement.

In general, maintenance costs include:

- Personnel Costs, including wages and benefits for the people who perform the work.
- Materials/Supplies, including paving materials and landscape materials such as soil, rocks, and plants.
- Water for irrigation.
- Utilities, including electricity and phone for running automatic or centralized irrigation systems and traffic signals.
- Equipment for on-going maintenance and future purchases of maintenance tools.

### Maintenance Considerations for Landscaped Areas

- All outdoor public areas require regular maintenance procedures, such as weed control, litter pickup, inspection and general repair. Additionally, individual landscape areas require particular maintenance procedures.
- Trees and shrubs: structural pruning, sucker removal, pest/disease control, fertilizing, adjustment/repair of irrigation systems, applying post/pre-emergents, staking and bracing of trees, rodent control, and pruning and clearing branches or trimming shrubs when they encroach on the travel path or impair the line of sight for drivers and pedestrians.
- Groundcover: pruning, edging, applying post/pre-emergents and plant growth regulators, fertilizing, adjustment/repair of irrigation systems, rodent control, dead-heading (removal of dead blooms).
- Turf: mowing, edging, aeration, fertilizing, adjustment/ checking/repair of irrigation systems, clean-

ing hardscape areas (paths, squares, etc.), and rodent control.

- Non-vegetated areas: applying post/pre-emergent (selected areas), fire abatement, cleaning of hardscape areas (concrete pathways, squares, etc.)
- Work as needed: decorative light inspection/repair, inspection for acceptance of new sites, vandalism and graffiti cleanup.

### Maintenance & Operations of Off-road Trails

Facility inspections are an essential part of maintaining any facility. Planning and design of all off-road trails should include management plans that help gauge operational funds for various maintenance projects. Proper maintenance must address both the performance condition of the trail preserving the environmental integrity and character of any environmental areas that are adjacent to the trail. Maintenance and repair projects can be managed either through annual service contracts put out to bid, or become an integral part of the Facilities Management maintenance program. Annual budgets for trail maintenance and operations should document maintenance items, facility improvements, and other related costs to ensure the long-term health of trail facilities, the environment, and safety for users.

Three tiers of maintenance programs should be included in the management plan:

1. Long-term maintenance programs - includes renovation of facilities and trail resurfacing. Comprehensive inspections should occur twice a year to record user impacts, general wear and tear, and other factors that may affect safety, environmental features, or structural integrity of the facility. If long-term maintenance programs are deferred, the safety of the trail is compromised and costly capital improvement funds to renovate damaged areas may be required. Typical long-term maintenance activities include:

- Annual vegetation clearance (June and September)
- Annual inspection by engineer to identify potential repairs needed for bridges and structures,

drainage structures, pavement, railings, and fences

- Re-vegetation during planting seasons

2. Routine maintenance – includes safety and repair issues that occur throughout the life of the facility. Frequency of routine maintenance should take place on a monthly basis, dependent upon the amount of usage and availability of funds. Typical routine maintenance activities include:

- Removal of litter and general cleaning
- Sweeping and leaf removal
- Mowing and weed control
- Pruning and removal of encroaching/fallen branches
- Trail edging
- Route signage maintenance
- Graffiti control
- Regular presence of volunteers to report faults

3. Emergency repairs - Severe weather - in the form of wind, erosion or fallen trees - may occasionally cause damage to facilities and make them unsafe for daily use. Emergency repair funds for severe weather should be allocated and allowed to rollover from year to year for this inevitability.

### Volunteer programs

Volunteer programs for greenway maintenance can be organized through the “Adopt-A-Park” program. Volunteer labor can yield a substantial savings for labor costs on routine maintenance and repair. Materials can be donated by a group, provided through a corporate sponsor, or purchased by the City.

See **Section 5.3: Project Focus Areas** for specific recommended maintenance and repair projects.



## 8.5 PLAN ADOPTION & APPROVAL PROCESS

Upon final approval of the Pedestrian Plan by the Steering Committee and NCDOT's Division of Bicycle and Pedestrian Transportation, the Steering Committee will submit the Plan to the City Planning Board for review. At this time the Plan Consultant (Centralina Council of Governments) will also submit the Plan to the Lake Norman Rural Planning Organization (LNRPO) for endorsement.

The Planning Board will make any recommendations it sees fit and either return the Plan to Steering Committee for revision and resubmittal, or will recommend the Plan to the City Council for review.

The City Council and attorney will review the Plan, and hold a public hearing of the Plan for public comment. The Town Council will then either publicly adopt the Plan, or make other determinations.

Once adopted, the Plan should be referred to and used in making future land use decisions.

## 8.6 PERFORMANCE MEASURES

By its nature and scope, a comprehensive plan is not intended to be completed all at once. Implementing every recommendation of this plan would likely require decades. Meanwhile the shape and needs of the community change. With this in mind, this Plan includes a list of projects that has been carefully prioritized. Projects should be taken on with respect to their designated priority as opportunities permit. But priorities, as well as projects themselves, must be revised periodically to meet changing conditions. Though the City remains true to the vision described in this Plan, the means of achieving that vision may change with fluctuating economic conditions, property sales and redevelopment, fluid population

trends, changing development practices, and evolving technology. As the Plan is implemented and pedestrian facilities are constructed, it is recommended that the City perform a periodic evaluation of the goals and the processes described in the Plan, particularly in coordination with street projects and census reports.

Performance measures help keep a plan on track over the years it takes to implement it. These measures should serve as standards by which to evaluate the efficacy of various projects or programs, and as an impetus to keep the community on the task of completing projects, starting programs, or changing policy. As such, performance measures should be reported publicly at regular intervals.

Performance measures are best determined locally to fit local means and expectations. But to serve effectively and practically for any community, they should include the following:

- A clear description of the data to be collected
- An cost-effective and reliable means of collecting the data
- Straight-forward results related to common factors such as:
  1. linear miles – on-street or off-road facilities, road or trail miles signed, pedestrian connectivity, etc.
  2. years – over which measureable quantities of improvements are made, etc.
  3. number of users – participant count at events, number of reported accidents, participants in education programs.
  4. dollars spent – amount budgeted, amount received through grants, percentage of overall budget spent on various categories of pedestrian-related expenditures, etc.
- Example measures/goals:
  - 1 mile of on-street or off-road pedestrian facility to be implemented each fiscal year.
  - 1,000 participants in a certain event costing \_\_\_\_\_ dollars to sponsor

Ultimately, the Kings Mountain Comprehensive Pedestrian Plan could be considered successful as it meets its stated goals. Therefore, each project should be considered and evaluated in terms of how it contributes to meeting those goals. The goals of this plan are:

- Economic resurgence and increased vibrancy, particularly in the downtown
- Improved health and prevention of obesity
- Increased safety through lower rates of accidents and crime
- A friendlier and more cohesive community through increased pedestrian interaction
- Increased neighborhood pride and care and responsibility by citizens for the public realm
- Greater opportunities for family recreation
- Encouragement of denser and more mixed development in the downtown area
- Preservation of the natural scenic beauty

The following recommendations are provided as examples of regular means of evaluating both the effectiveness of projects, and the ongoing relevance of the Plan itself.

- The Pedestrian Access Committee (PAC) should meet periodically to confirm and re-evaluate the priorities of this Plan and its recommended projects, particularly as tracts of land are developed.
- The Public Works Director should regularly report facility conditions and needs.
- Public surveys should be used to solicit the opinions of everyday users to determine if the plan and its rate of execution are adequately meeting the needs of the populace.



# A

## PPENDICES

### A.1 EXISTING PLANS

1. Cleveland County Greenways Master Plan
2. Gateway Trail Plan
3. Kings Mountain Historic Walking Tour Map
4. Downtown Alley Plans
5. Cleveland County Comprehensive Transportation Plan 2010

### A.2 STAKEHOLDER & PUBLIC INPUT

1. Steering Committee Minutes
2. Steering Committee Initial Input Map
3. Map of Combined Input: Steering Committee, Focus Groups, Public Meetings
4. Minority Focus Group Input
5. Mountaineer Partnership Focus Group Input
6. Online Public Survey Results

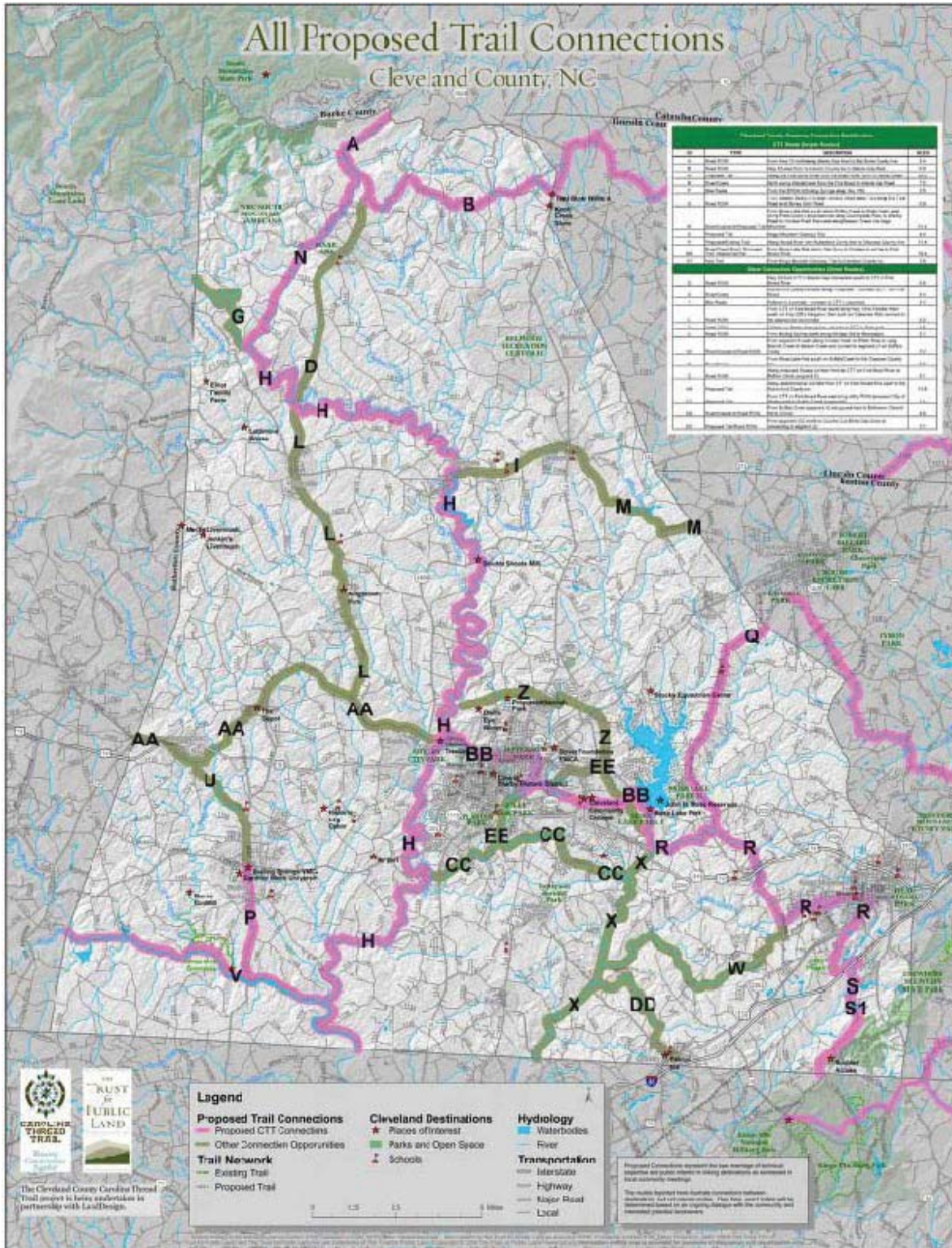
### A.3 DATA, STUDIES, & RESOURCES

1. NCDOT Crash Data
2. Relevant Federal and State Policies
3. NCDOT Bicycle and Pedestrian Prioritization Presentation (excerpt)
4. NCDOT planning grant application
5. Lake Norman RPO Letter of Endorsement
6. 2010 Powell Bill Allocations
7. Example Street Connectivity Calculation Method
8. Pedestrian Barrier Analysis Method

### A.4 ARTICLES

1. The 13 points of pedestrian-oriented development
2. Some Benefits of Greenways
3. Planning on Walking?
4. The Importance of On-Street Parking
5. How to Build a Sidewalk

A.1.1 Cleveland County Greenways Master Plan





A.1.3 Kings Mountain Historic Walking Tour brochure

- 1) ST. MATTHEW'S LUTHERAN CHURCH
- 2) CENTRAL SCHOOL
- 3) DORRIS (DORIS) & SARAH MAUNEY HOUSE
- 4) SUGG HOUSE
- 5) REVEREND JOHN DAVID MAUNEY HOUSE
- 6) CAPTAIN FRENO DILLING HOUSE
- 7) I. WALTON GARRETT HOUSE
- 8) MAUNEY MEMORIAL LIBRARY
- 9) KINGS MOUNTAIN WOMEN'S CLUB
- 10) KINGS MOUNTAIN HISTORICAL MUSEUM
- 11) ROBERT BARBER HOUSE
- 12) GEORGE WASHINGTON CORNWELL HOUSE
- 13) KINGS MOUNTAIN BAPTIST CHURCH
- 14) KINGS MOUNTAIN CITY HALL
- 15) THE SUB FACTORY
- 16) "KINGS MOUNTAIN IN THE 1800s," A MORAL
- 17) PATRIOT'S PARK
- 18) "KINGS MOUNTAIN IN THE 1700s," A MORAL
- 19) JOY THEATER
- 20) KINGS MOUNTAIN CHAMBER OF COMMERCE
- 21) KING STREET OVERHEAD BRIDGE
- 22) SOUTHERN RAILWAY COMPANY OVERHEAD BRIDGE
- 23) (FIRST) WILLIAM ANDREW MAUNEY HOUSE
- 24) (SECOND) WILLIAM ANDREW MAUNEY HOUSE
- 25) THE SOUTHERN RAILWAY COMPANY DEPOT
- 26) PHIL M. NEIDLER HOUSE
- 27) FIRST PRESBYTERIAN CHURCH
- 28) MOUNTAIN REST CEMETERY

A RICH HISTORY

Incorporated on February 11, 1876, Kings Mountain takes its name from the historical Revolutionary battle – "the turning point of the American Revolution in the South" – fought five miles south, thus bringing meaning to our motto "The Historical City"

W. A. Mauney was the first mayor of Kings Mountain and served seventeen years as postmaster of the incorporated town. He was a business man of various interests, including retail, industry, and banking.

In 1870-73 the building of the Charlotte-Atlanta Airline Railway was the impetus for the founding of Kings Mountain. Farmers had no vision of turning the land into town lots or industrial sites, but men of other parts of the county and adjacent areas saw the possibilities for development.

Freno Dilling moved his sawmill from Cherrville to the site of the present Kings Mill on N. Piedmont Ave. in May, 1873. The first railroad track was laid in the fall of that same year. The Dilling sawmill supplied some of the cross ties, and his well provided water to the railroad engine.

Today Interstate 85 and US Highway 74 run through the city making Kings Mountain ideally located for transportation needs of its many businesses. King Mountain industries were firmly based on textiles in the early years, but transportation, along with three established Industrial Parks, have diversified the business climate.

Location and history make Kings Mountain unique, but we also own and operate our own utilities of Gas, Electric, Water, and Sewer, along with John Henry Moss Lake, which not only provides recreational activities, but also our city's water supply.

With the Kings Mountain National Military Park and two state parks within a ten minute drive from the center of town, we have the opportunity of enjoying nature as well as our area's rich history.

Revised 2005. Compliments of the Kings Mountain Tourism Development Authority and the Mauney Memorial Library.



**DOWNTOWN KINGS MOUNTAIN HISTORICAL WALKING TOUR**

**1) ST. MATTHEW'S LUTHERAN CHURCH** • 201 N. PIEDMONT AVE.

Chartered in 1876, a sanctuary was built by the end of 1879. It appears to have burned in 1921, though a salvaged part still remains. The present structure was built in 1953-54, but burned Christmas morning, 1999. The congregation rebuilt within the same walls, which preserved one of the county's leading pieces of Gothic Revival architecture.

**4) SUGG HOUSE** • 118 N. PIEDMONT AVE.

Captain R. S. Sugg built this two story I-house around 1874. The large portico was added in 1940. Sugg was a charter member of Central United Methodist Church and operated a drug store where the Joy Theater now stands.

**2) CENTRAL SCHOOL** • 105 E. RIDGE ST.

Built in 1876, the first Central School opened in 1878 and educated the boys from Captain Bell's Military Academy. State-funded in 1905, the building burned in 1910 and was rebuilt the same year. It received accreditation in 1920, adding the ninth and eleventh grades. All of its records were destroyed again by fire in 1932. The present-day Central School was completed in 1933 with a gymnasium and a cafeteria, the latter built by Franklin Roosevelt's New Deal Works Project Administration Lunchroom Program. Central School was a member of the Southern Association of Secondary Schools and Colleges, a high rank for a high school. It became the junior high when Kings Mountain consolidated its schools into one system. Central School closed in 1994 and was converted into offices.

**5) REVEREND JOHN DAVID MAUNEY HOUSE** • 118 N. PIEDMONT AVE.

In the Queen Ann Style, this home was built around 1900 for John David Mauney and his new bride, Bessie Miller Frantz. They lived here shortly, John becoming a Lutheran minister who served churches throughout Georgia and the Carolinas. Focal points are the octagonal tower, neo-classical details, a hip roof with gables, and the decorative iron fence around the backyard.

**3) DORRIS (DORIS) & SARAH MAUNEY HOUSE** • 104 E. RIDGE ST.

Founder of Sadie Cotton Mills, Dorris (Doris) Carl Mauney built this Georgian/Federal Revival Style home in 1909. He also served as president of Bonnie Cotton Mills and was prominent in the Kings Mountain Manufacturing Co. and Mauney Steel Co. His wife, Sarah "Sadie" was a charter member of the Kings Mountain Woman's Club and helped organize one of the city's oldest social clubs, the Thursday Afternoon Book Club.

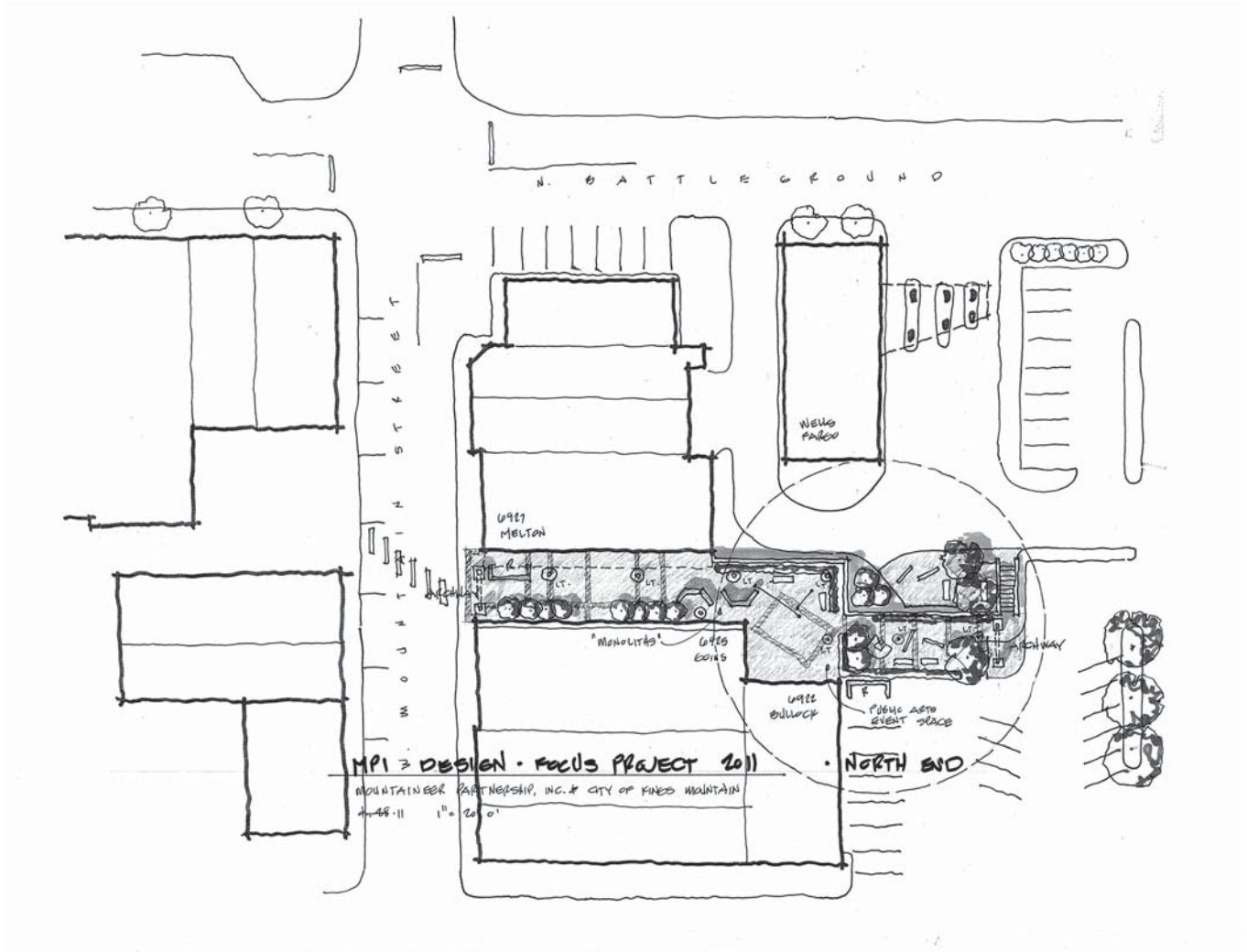
**6) CAPTAIN FRENO DILLING HOUSE** • 112 N. PIEDMONT AVE.

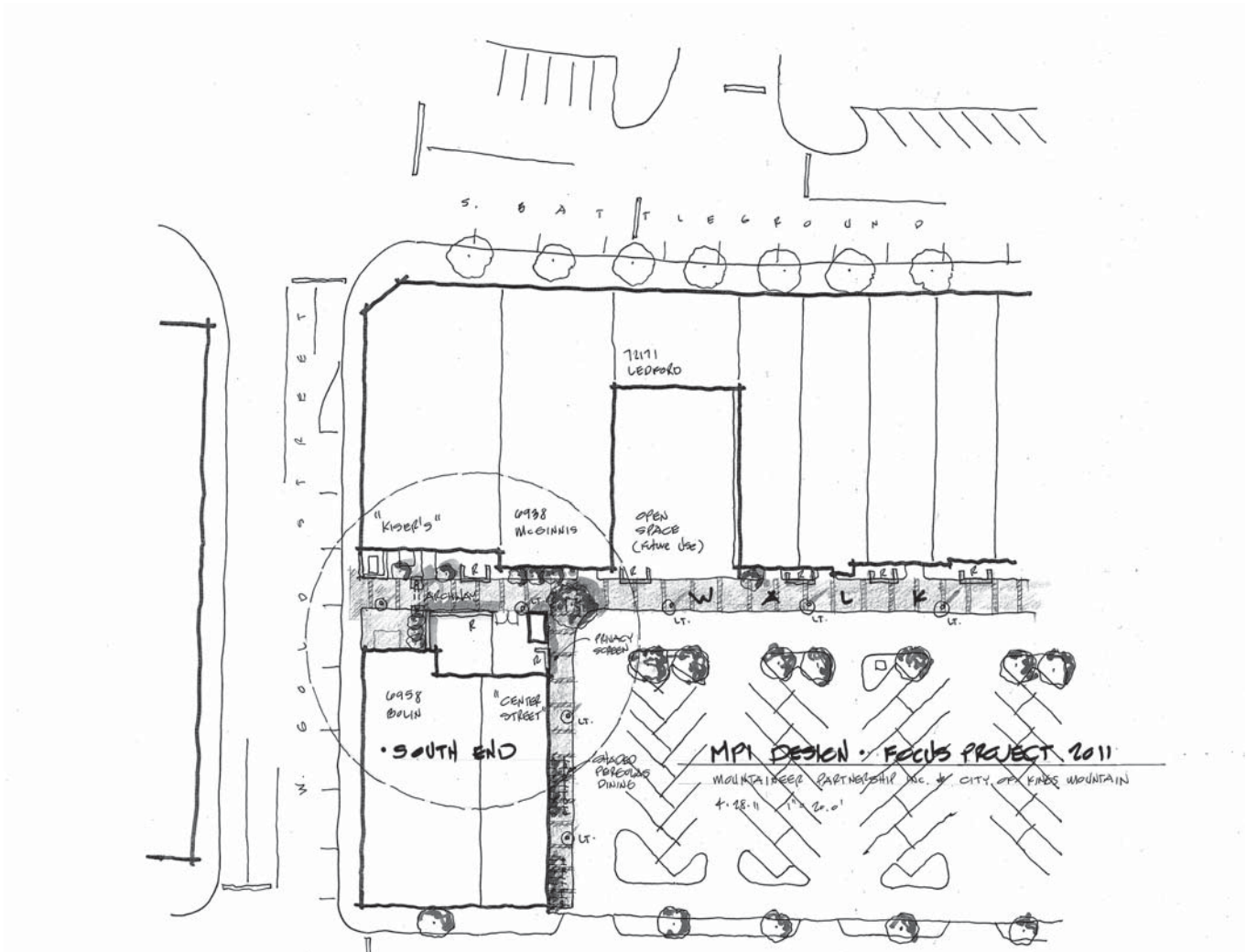
Captain Freno Dilling, an early Kings Mountain settler and industrialist, who built the saw mill that supplied the railroad with timber, constructed this one and a half story frame house with multi-gable roof between 1873 and 1881.

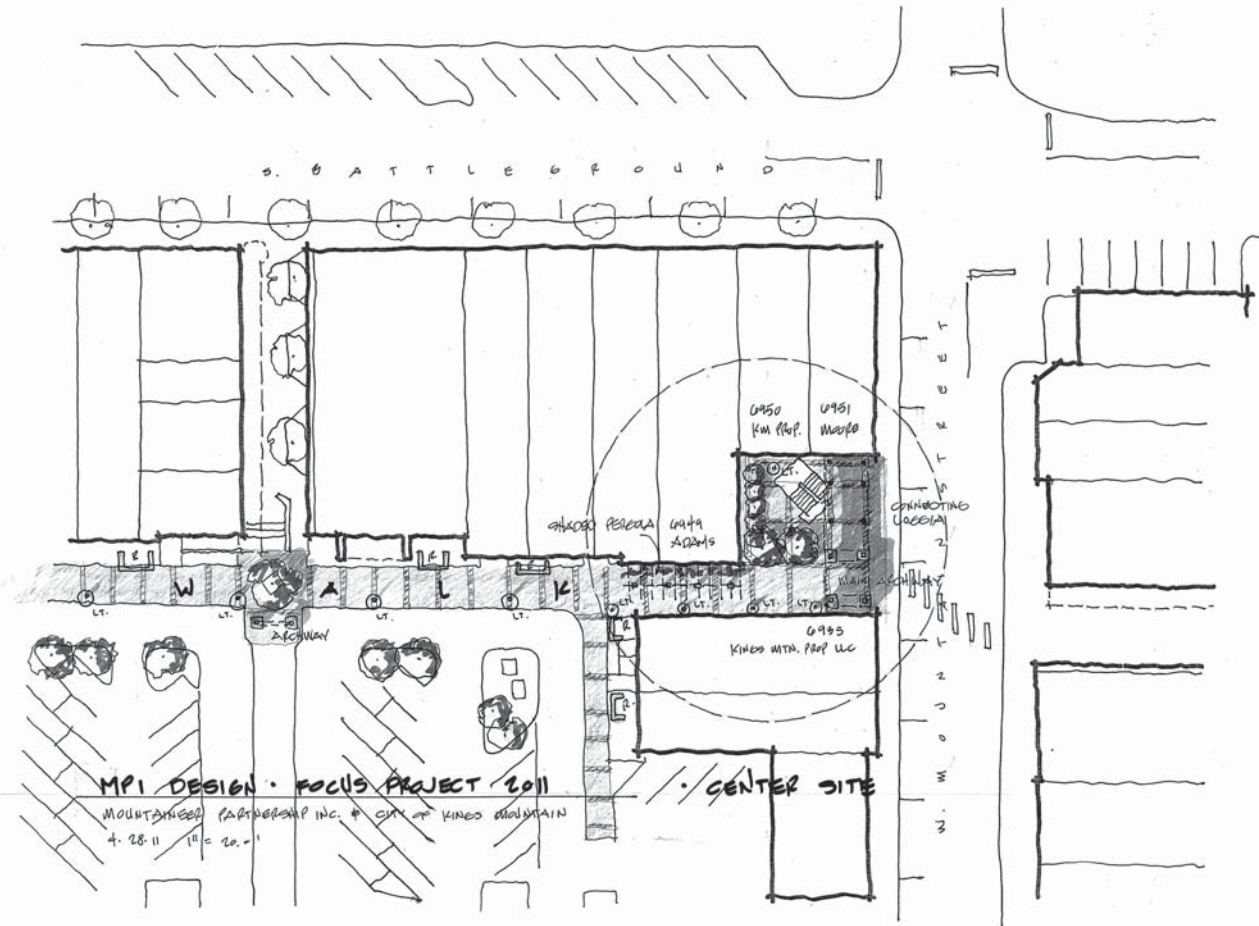
**7) I. WALTON GARRETT HOUSE** • 100 N. PIEDMONT AVE.

A large two-story frame house with a mansard roof, this is the city's only remaining Second Empire structure. Built in 1874 by I. Walton Garrett, an early Kings Mountain merchant and leader, the house was remodeled in 1890 by Charles Dilling, Garrett's grandson. Rich Victorian gingerbread detail is found on the exterior and interior. It was the first house in Kings Mountain to have electricity (1908); the original switches remain.

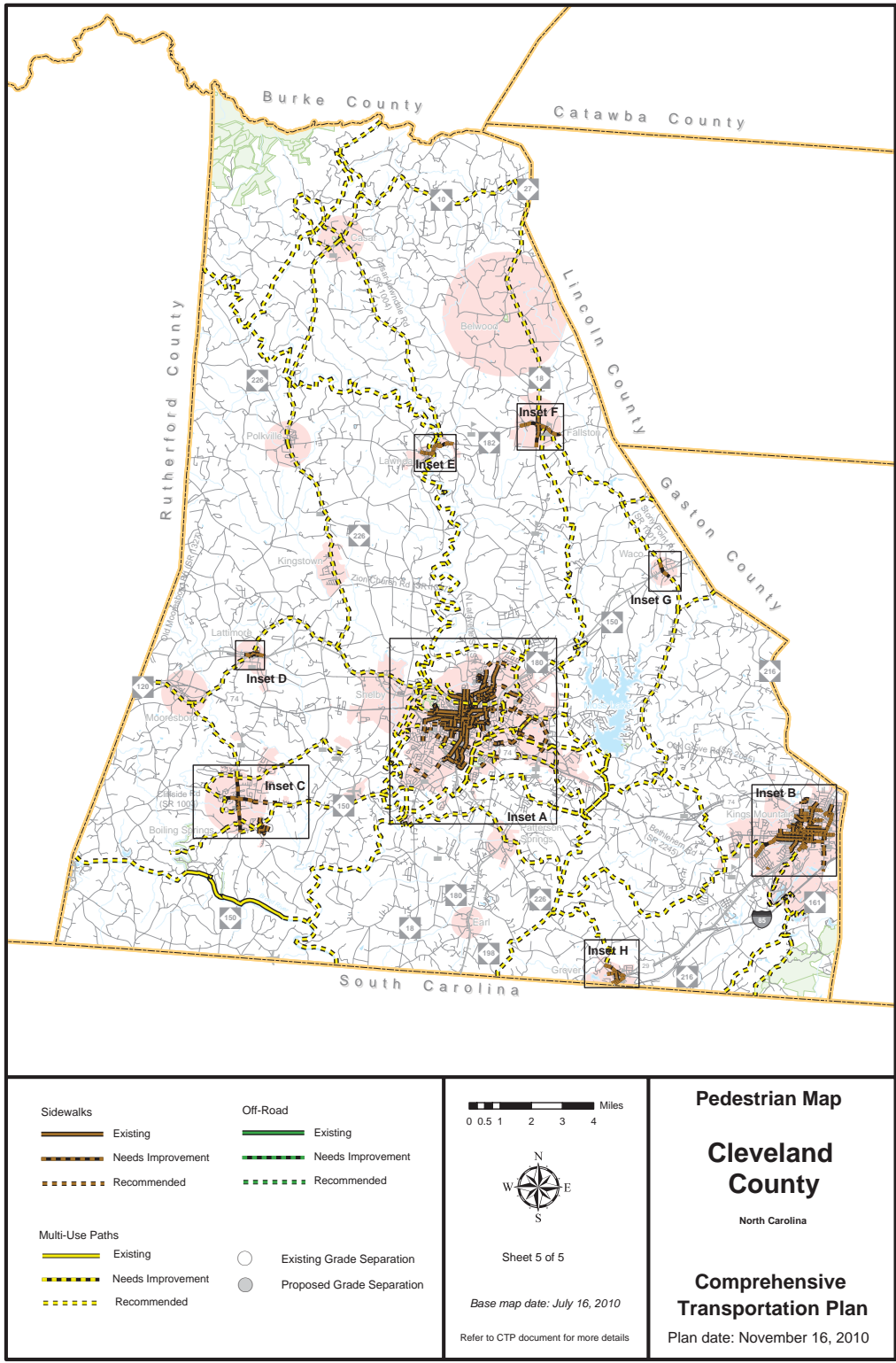
### A.1.4 Downtown Alley Plans

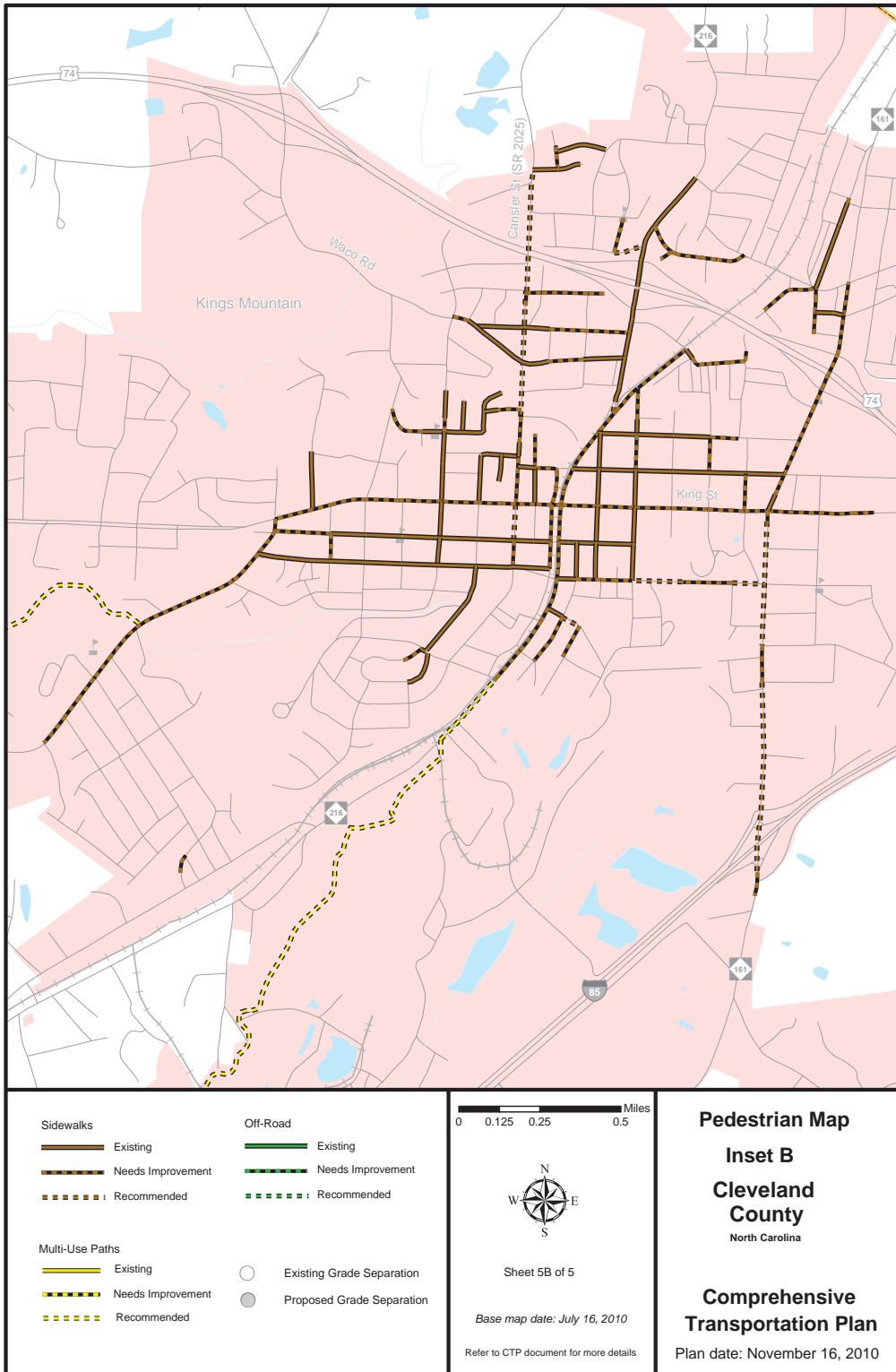






A.1.5 Cleveland County Comprehensive Transportation Plan - 2010





## A.2.1 Steering Committee Minutes



### Kings Mountain Comprehensive Pedestrian Plan

#### Steering Committee Kick-Off Meeting

Firehouse Meeting Room  
February 29, 2012, noon-2 p.m.

#### Minutes

#### 1. Attendees:

David Faunce	Real Estate Developer, downtown property owner
Chief Melvin Proctor	KM Police Chief
Steve Marlowe	Retired Teacher, former Planning Board member
Bill McMurrey	West End resident
Monty Thornburg	KM Senior Center Director
Joyce King	Health Coordinator/CC Health Dept.
Jackie Barnette	KM Public Works Director
Stella Putnam	KM Historical Museum Board of Directors
Erin Broadbent	Superintendent, KM National Military Park
Sandy Dee	Co-Owner of Patriot Jack's
Connie Savell	Former Teacher
Ken Pflieger	Architect
Avis Morrow	Kings Mountain Hospital
Betty Gamble	KM Woman's Club, DAR
Alex Bell	Administrator, Kings Mountain Hospital
Steve Killian	KM Planning Director
Marcie Campbell	KM City Planner
Blair Israel	Centralina Council of Governments

#### 2. Review of Project Scope & Timeline (see attached schedule)

What is a Pedestrian Plan?

- States goals for achieving a determined pedestrian vision for the community
- Analyses current conditions, policies and practices (positive and negative)
- Identifies opportunities for improvement
- Makes general recommendations for policy and projects
- Describes specific projects (type, location, costs and priorities)
- Specifies standards and guidelines for facilities
- Provides information on funding strategies

### 3. Vision and Goal Setting

The committee listed and discussed various values and goals for the plan, including:

- Economic resurgence and increased vibrancy, particularly in the downtown
- Improved health and prevention of obesity
- Increased safety through lower rates of accidents and crime
- More pedestrian interaction to make the community friendlier and more cohesive
- Increased neighborhood pride and care and responsibility by citizens for the public realm
- More family recreation opportunities
- Encouragement of denser and more mixed development in the downtown area
- Preservation of the natural scenic beauty

Discussion also included some more specific objectives for accomplishing these goals, including:

- Promote the destinations, programs and events the City already has, such as the hospital, museum, historic trail, trolley tour, etc.
- Improve the safety of the city's sidewalk system by the use of planting strips to separate the pedestrian way from moving vehicles in the road, wider sidewalks, etc.
- Improve street tree policy to permit greater visibility of businesses and decrease maintenance problems.
- Concentrate pedestrian improvements within specific areas of the city. These focus areas should be determined by the presence of particular features, such as:
  - higher density,
  - economic potential and mix of uses
  - connection to the downtown
  - already serving as centers of activity
  - include prominent destinations
  - local political buy-in
- In addition to the focus areas, concentrate improvements within prominent corridors in Kings Mountain for the purpose of improving the look of the City in order to encourage greater investment. Suggested corridors include:
  - King Street
  - York Road
  - Shelby Road
  - Kings Mountain Boulevard
  - Battleground Road from downtown to the Gateway Trailhead
  - Beason Creek from West End to Phifer Road
- Encourage greater homeowner maintenance by means that include stricter ordinances for homeowners.

#### 4. Rules, Routes & Reality checks

- a. **Rules:** This item was postponed until a later opportunity.
- b. **Routes:** Using an existing destination and sidewalk map depicting the city and its Extra-Territorial Jurisdiction (ETJ), a map of the same scale showing terrain features and proposed trails, and a third map showing greater detail of the downtown area, the Committee identified intersections deemed hazardous, gaps in the existing sidewalk network, potential trail routes, and additional destinations.

Hazardous locations identified include:

1. East King Street at the H. L. Patrick Senior Center and Patrick Senior Life and Conference Center
2. East King Street and York Road intersection
3. East King Street and South Battleground Avenue intersection
4. North Battleground Avenue, Piedmont Avenue N., and East Parker Street intersection (Art Center)
5. South Battleground Avenue near Dickson Street
6. West Mountain Street and South Cansler Street intersection
7. West Gold Street and South Railroad Avenue (Patriots Park)
8. West Gold Street and Crescent Hill Road intersection
9. Crescent Hill Road and Hawthorne Road intersection
10. North Sims Street just north of Sipes Street
11. West King Street and Country Club Road intersection
12. East end of Shelby Road
13. Galilee Church Road at future Gateway Trailhead

A number of comments were made about potential greenway/trail connections:

- An off-road route from the Gateway Trailhead to the downtown area is currently being studied by Carolina Thread Trail (CTT). This alternate route would replace the planned alignment along Battleground Avenue by following a utility line through a primarily wooded area from the Trailhead to the Falls Street to the southern end of South Gaston Street.
- An excellent opportunity for greenway location (also identified in prior planning efforts) would be along Beason Creek from Bridges Drive to Phifer Road. This alignment is also being considered as an alternate to the currently adopted CTT route.
- An existing sanitary sewer line provides a useful connection from Shelby Road (and currently adopted CTT route) - west of the East Bethel Road intersection - to a planned greenway along Potts Creek at the NVR Building products site, just west of Dutchess Drive off Morris Road.

An upcoming CTT meeting to discuss this alternate route from the adopted Cleveland County Greenways Master Plan is scheduled for April 19, 2012.

New sidewalk segments recommended by the Committee are shown on the accompany map: **KM Ped Cmte 2.29.12 results.**

- c. **Reality Check:** The Committee also identified some inaccuracies in the current conditions maps. Corrections have been completed.

## 5. Focus Group input

The Committee identified groups within Kings Mountain that could inform the pedestrian planning process and recommended individuals who could assist in organizing such meetings.

- Mountaineer partnership and other area businesses – Suzanne Amos, Suzie Beard
- Parks & Recreation, YMCA – Jackie Barnette
- Area Schools – Buddy Ramey, John Yarbrow.
- Senior Adults - Senior Center was volunteered as a meeting place for focus groups and Open House meetings
- Minority Communities – Howard Shipp, Curtis Pressley (Chief Proctor)

## 6. Adjourn

Requests were made by Committee members for access to prior related planning efforts. CCOG or city staff will alert you as soon as these documents can be made easily accessible to you.

The Committee will be notified when the first Open House has been scheduled. There is a possibility it will be planned as part of the Carolina Thread Trail meeting, April 19<sup>th</sup>. In the meantime, please consider who you can encourage to attend that public input meeting. Thank you for participating!

The meeting was adjourned at 2:10 p.m.



## Kings Mountain Comprehensive Pedestrian Plan

### Steering Committee Meeting 2

Firehouse Meeting Room  
May 10, 2012, noon-2 p.m.

### Minutes

#### 1. Attendees:

David Faunce	Real Estate Developer, downtown property owner
Chief Melvin Proctor	KM Police Chief
Bill McMurrey	West End resident
Joyce King	Health Coordinator/CC Health Dept.
Ellis Noell	KM Special Events Coordinator
Ricky Putnam	KM Public Works Director
Stella Putnam	KM Historical Museum Board of Directors
Connie Savell	Former Teacher
Ken Pflieger	Architect
Steve Killian	KM Planning Director
Marcie Campbell	KM City Planner
Blair Israel	Centralina Council of Governments

#### 2. Presentation of public input

Thus far, the planning process has involved input from various sources in Kings Mountain. The Steering Committee provided initial input during their first meeting, February 29, 2012. Focus groups representing the Mountaineer Partnership and minority populations met and provided input on March 14th and March 27th, respectively. The initial Open House meeting was held most recently on April 26<sup>th</sup>. The combined input from these sources was presented to the Committee.

The pedestrian plan online survey was not evaluated at this time. We are waiting for additional participation.

#### 3. Application of Committee goals through proposed projects

The goals voiced by the Committee at its previous meeting were utilized to provide a framework for evaluating the input, and to suggest additional projects that would help create a cohesive pedestrian system. These goals include:

- Connecting neighborhoods to downtown
- Promoting current programs and events the City offers



Kings Mountain Comprehensive Pedestrian Plan  
Steering Committee Meeting 2, May 14, 2012 - Minutes

- Improving the safety of the current sidewalk system
- Concentrating improvements in focused centers of activity and corridors of higher density and economic potential, a mix of uses, and prominent destinations

An interpretation of how these goals could be accomplished was presented, superimposed upon the public input. Elements included ten geographic focus areas, four designated pedestrian routes, and additional specific projects of various types including: sidewalks, trails/greenways, improved crosswalks and pedestrian railroad crossings, road dieting, route signage, tunnel and bridge improvements, improved lighting, and the closing railroad crossing with related traffic routing.

#### 4. Evaluation of proposed projects

The Committee reviewed all projects, determining which ones were consistent with the goals, were practical in terms of future development trends in the City and ETJ, and could serve as an integral part of an overall pedestrian system. The Committee also made minor refinements to some of the links and suggested some additional facilities.

#### 5. Adjourn

The Committee will be notified when the second Open House has been scheduled. In the meantime, please consider who you can encourage to attend that public input meeting and to take the survey found on the City's internet homepage.

The meeting was adjourned at 2:10 p.m.



## Kings Mountain Comprehensive Pedestrian Plan

### Steering Committee Meeting 3

Firehouse Meeting Room  
August 16, 2012, noon-2 p.m.

### Minutes

#### Attendees:

Jackie Barnette	KM Public Works
Alex Bell	KM Hospital
Betty Gamble	KM Woman's Club/DAR
Joyce King	Health Coordinator/CC Health Dept.
Bill McMurrey	West End resident
Steve Marlowe	former planning board member
Ellis Noell	KM Special Events Coordinator
Stella Putnam	KM Historical Museum Board of Directors
Connie Savell	Former Teacher
Ken Pflieger	Architect
Steve Killian	KM Planning Director
Marcie Campbell	KM City Planner
Blair Israel	Centralina Council of Governments

#### 1. Presentation of public input

The Second Open House was held August 2nd at the YMCA. The public was invited to comment upon the draft project maps and vote on projects they preferred. These public input results were presented and evaluated by the Committee.

The pedestrian plan online survey results were also reviewed. Of the 85 responses, only one answered that they commute on foot to work, and only one to school. 30% said they feel unsafe walking in the city. Most responded they would like to see more sidewalks and trails and would support public funding of these facilities. The project goals that received the most support were: filling in gaps in the current system, creating more walking trails, and concentrating improvements downtown.

#### 2. Ranking proposed projects

The Committee was led through a project ranking process similar to the method used in the Open House. Large maps were set on tables depicting the city and its ETJ as a whole, along with three detailed areas. The Committee members were each given 24 sticker dots and asked to place them on their preferred projects. These dots would be recorded as votes for these projects.



Kings Mountain Comprehensive Pedestrian Plan  
Steering Committee Meeting 3, August 16, 2012 - Minutes

### 3. Evaluation of project ranking criteria

The Committee reviewed a poster-size version of the project description spreadsheets found in the draft plan. Each of the project ranking criteria and their relative importance were discussed, including how each project meets each of the stated goals of the plan, the public vote, and the Committee vote. The Committee decided that with only fifteen members of the public voting on projects, that the Committee vote should be given more weight relative to the public vote.

### Adjourn

Each of the Committee members will receive a copy of the draft plan with instructions for review of the document as soon as it is ready.

The meeting was adjourned at 2:00 p.m.





## Kings Mountain Comprehensive Pedestrian Plan

### Steering Committee Meeting 4

Firehouse Meeting Room  
August 21, 2012, 2 p.m. – 3:30 p.m.

### Minutes

#### Attendees:

O'Kelley Smith	Broadway	KM citizen
David Faunce		Developer
Betty Gamble		KM Woman's Club/DAR
Bill McMurrey		West End resident
Ken Pflieger		Architect
Connie Savell		Former Teacher
Monty Thornburg		KM Senior Center Director
Bob Mosher		Policy & Planning Manager, NCDOT DBPT
Steve Killian		KM Planning Director
Marcie Campbell		KM City Planner
Blair Israel		Centralina Council of Governments

#### 1. Presentation Draft Plan

Mr. Israel presented the complete list of proposed projects included in the draft Pedestrian Plan. They were illustrated in two maps, with each project individually labeled. The labels corresponded to three large spreadsheets which included detailed information of each plan. With the assistance of Mr. Pflieger, Mr. Israel provided more detailed explanation of the projects that had scored highest in the ranking process. Projects were scored by how many project goals they met, along with votes they received by the committee, and by the public during the Open House meetings. The goals and the ranking process have been described in previous meeting minutes.

To provide context for the projects, Mr. Israel also briefly reviewed maps showing primary destination points and the Route system featured in the plan. A typical road-diet section was also on display.

#### 2. Questions & Comments

Suggestions and comments from the Committee and NCDOT included:

- Examine the feasibility of the T6 greenway project, which follows Potts Creek through the Country Club area. This land may not become available for public access for many years in the future.

KINGS MOUNTAIN

Kings Mountain Comprehensive Pedestrian Plan Steering Committee Meeting 4, August 21, 2013 - Minutes

- The alignment of the **S25** sidewalk project seemed off, but this was due to the Westgate Plaza building, to which it connects, not being shown on the map.
- The existing Ridgeline Trail should be depicted, as it is the destination of the **T5** trail.
- Develop the Executive Summary in a style that it can be most useful for marketing the Plan.

### Adjourn

As agreed during the meeting, each of the Committee members will receive a digital copy of the draft plan with instructions for review. Any member of the committee who then wishes to have a printed version may request that of the City planning office. The draft plan will be distributed as soon as it can be made ready for review, incorporating the recent notes provided by City staff, the suggestions mentioned above, and comments made at the 3<sup>rd</sup> Open House, which was scheduled to take place soon after this meeting. These public comments are included below.

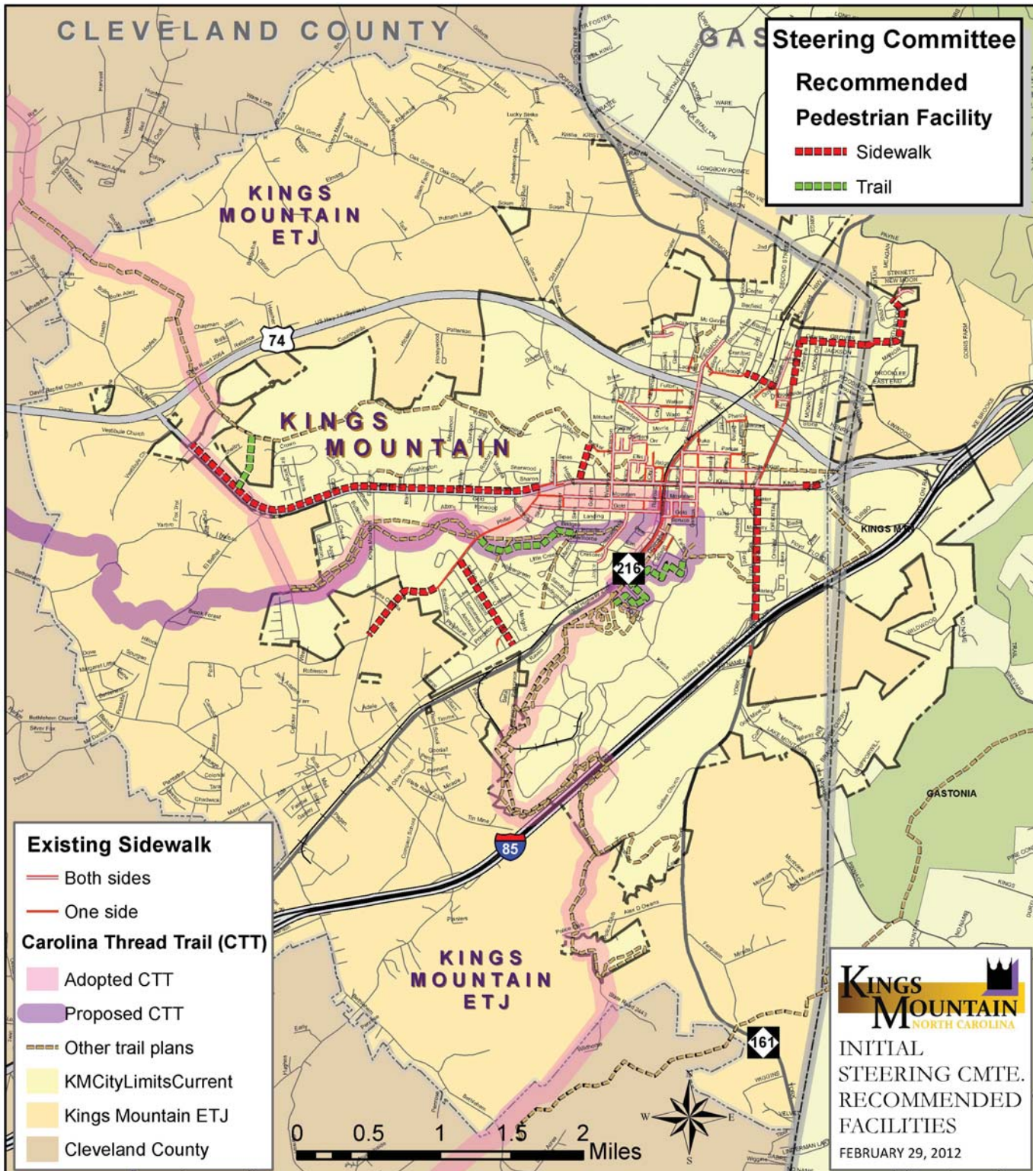
The committee meeting broke up at approximately 4:00 p.m.

### Public Comments, 3rd Open House Meeting, August 21, 2013

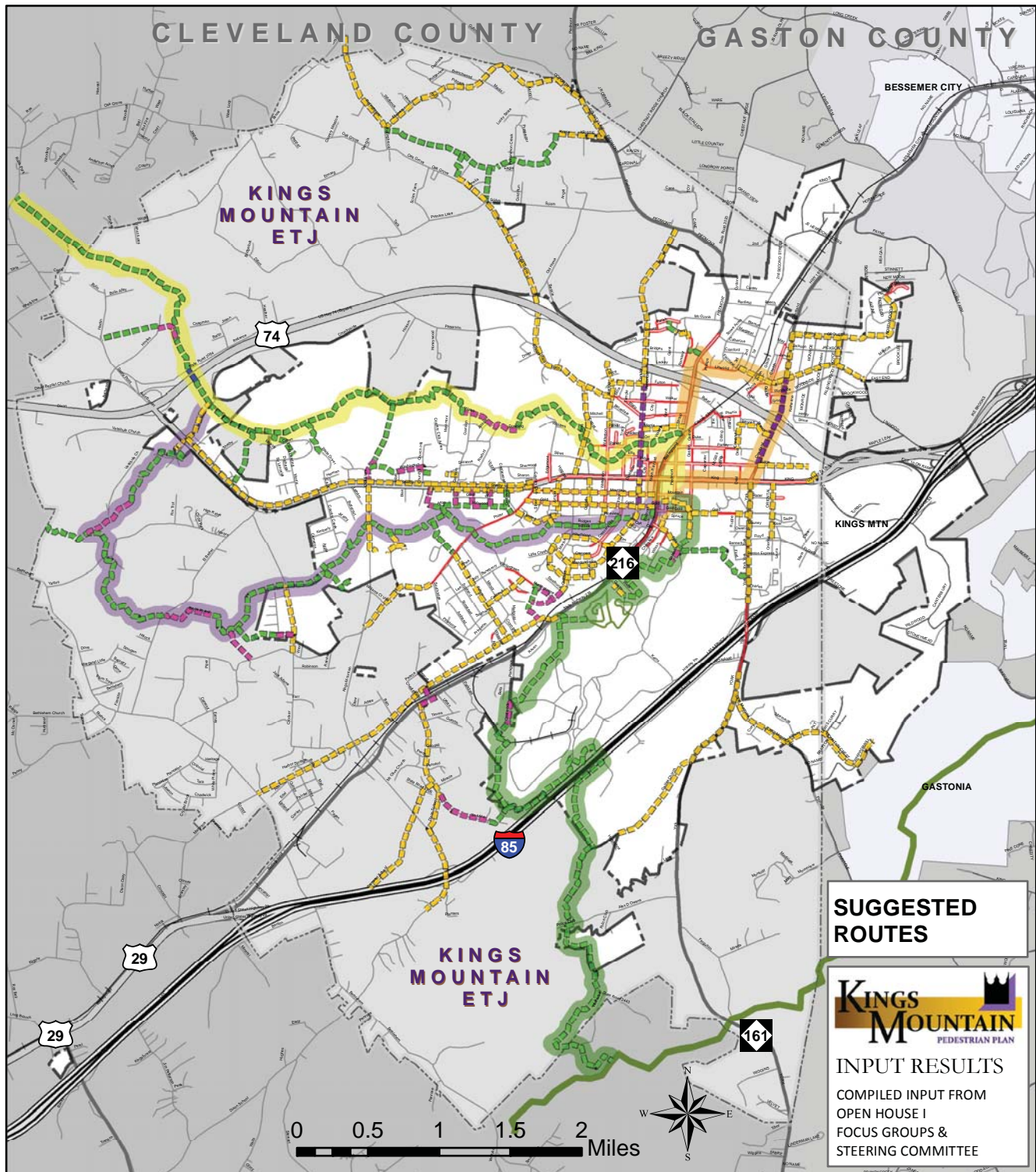
- Consider extending the **S23** and **S24** sidewalk projects from Country Club Road and Phifer Road to Dick Elam Road and Kings Mountain Boulevard, respectively. Provide crosswalk improvements at that intersection.
- Convert the **S27** sidewalk project along Shelby Road to a multi-use path (bike and pedestrian) directly parallel to Shelby Road that would run from the Dick Elam/Kings Mountain Boulevard intersection to the Countryside Road intersection at Ingles. Consider moving this segment to the south side of Shelby Road which appears to be currently less developed and would also be more shaded. This could serve as the Thread Trail Route until the **T1** Beason Creek Trail is completed.
- Add a sidewalk along Maner Street in the Margrace Neighborhood to serve school student foot traffic.
- Remove a portion of the **D5** Road Diet project on Fulton Road from Margrace Road to Ark Street. Also, consider how the priority level of the remaining project could be increased in order to calm traffic.
- Ensure that the existing trails/greenways are shown on the map.
- Re-evaluate the connection between Downtown and the Gateway trailhead. Consider how the current sidewalk connection along Battleground Road could be widened and enhanced for bicycle traffic.

Steering Committee members are asked to weigh in on the above public comments and send their suggestions to Mr. Israel via email ASAP.

A.2.2 Steering Committee Intial Input Map



### A.2.3 Map of Combined Input: Steering Committee, Focus Groups, Public Meetings



#### A.2.4 Minority Focus Group Input

##### Kings Mountain Pedestrian Plan

03.27.12

##### Focus Group meeting: African American Community

Participants: Curtis Pressley, Evelyn Pressley, Sonya Roseboro, Shaun Grier, Phillip Hager, Leroy McVay, Janie McVay, Blair Israel

##### GENERAL PEDESTRIAN-RELATED NEEDS:

1. **Improved street lighting** in select areas for greater safety
2. **Leash and scoop law** enforcement
3. **Benches** to aid elderly pedestrians
4. **Traffic light synchronization** to allow longer periods for pedestrians to cross (particularly at the King Street intersections at Watterson and Cansler)
5. **Audible crosswalk signals**
6. **Trail connections**, particularly from Watterson Road to Ingles Store (Potts Creek)

##### PROJECT RECOMMENDATIONS/IDEAS:

1. Intersection facility improvements are needed at Waco and Watterson, Cansler and Gold, Cherokee and Gold, King and York, Margrace and Battleground, and Shelby at the Ingles store.
2. Sidewalk additions are needed on these street segments:
  - a. Watterson Street to Waco.
  - b. Morris Street from N. Piedmont to Cansler
  - c. E. Gold Street from Cherokee to York
  - d. Cherokee from Gold to Falls, particularly for student use
  - e. York Road from King to I-85 overpass, continuing from overpass south onto Lake Montonia Road, then continuing onto Hillway
  - f. Shelby from Phifer to Castlewood
  - g. Cansler Street from Waco (end of existing sidewalk) to Barnette

- h. Northwoods Drive from Pennington Place to Grover Street. Connect this segment through Northwood neighborhood to intersection of Linwood and Cleveland Avenue.
  - i. Countryside Road from Shelby to Potts Creek
  - j. Crocker Road from Phifer to Beason Creek
  - k. Margrace Road from Battleground to Bethlehem and further westward
  - l. Waco/Oak Grove from Watterson to Scism (Dollar General destination)
  - m. Ebenezer from Rollingbrook to Goforth
  - n. Rollingbrook from Ebenezer to Brook
  - o. Dixon School Road
  - p. Compact School Road
3. Pedestrian bridge across creek to connect the Margrace neighborhood to Crescent Circle by way of adjacent cul-de-sacs.

### A.2.5 Mountaineer Focus Group Input

#### Kings Mountain Pedestrian Plan

03.14.12

#### Focus Group meeting: Mountaineer Partnership

Participants: Ken Pflieger, Bernice Chappell, Camiel Bradshaw, Steve Killian, Blair Israel

#### CURRENT PROJECTS and IDEAS:

1. **Main Street program** design elements
2. **Street lighting** improvements between King Street and Gold Street in phases:  
(1) Railroad Ave, (2) Alley, (3) Cherokee Street
3. **Patriot's Park** improvements, including South Meadow Event Lawn, Gold Street parking, etc.
4. **Historic Park** midblock between Mountain and Gold, facing S. Piedmont and connecting to Gaston Street through property north of Post Office via possible Carolina Thread Trail (CTT) realignment. Current proposed CTT alignment on N. Piedmont would be too steep. Elements include: additional relocated reference structures, walking surfaces and plantings, interpretive heritage areas for Cherokee, Mining, Mills, and the Battle of Kings Mountain, and including relocated war memorial, turnout driveway on S. Piedmont, crosswalk on Gold Street at Gaston Street, sidewalk to connect to new apartments on Gold Street.
5. **Mauney Library** may move to new location. This would free up current property. Historic McGill (Baltimore Style) gas station property across S. Piedmont is for sale.

#### RECOMMENDATIONS/PROJECT IDEAS:

1. Move war memorial to a more respectful, historic area of the proposed trail alignment.
2. Remove the tree planters and up lights, as they impede the path of travel and impair visibility. Use tree wells and new streetscape lighting to be proposed as part of Phase 1 Streetscape improvements in 2013-2014.
3. Improve on grade railroad crossings at Gold and Mountain Streets by adding retrofitting sidewalks into existing width of pavement. Construct ramps along Railroad Ave. to achieve grade change.
4. Shift parking (with street alignment) along Battleground Ave. south of Gold Street from west side to east.
5. As the current downtown street trees approach the need for replacement, select a deciduous species chosen for preferred street tree characteristics.

6. Include Mountain Street historic overlay area in focus area of improvements.
7. Increase downtown parking capacity. Use Cansler, Gold, S. City Street, Railroad Ave. Even consider one-way traffic patterns. We may succeed in getting Fauc property improvements (across from Theatre) at the corner of Mountain and Railroad to increase parking count there.
8. Consider enhancing pedestrian connection from downtown to Art Center by way of N. Piedmont from proposed History Park south of Historical Museum. There are a number of destinations along this walkable path.
9. Continue a defined pedestrian connection from "Arts Park" (North End of alley) to King Street.
10. Continue sidewalk on north side of King Street to connect to Senior Center on Canterbury
11. Close Oak Street railroad crossing.
12. Explore safer ingress/egress options for the Art Center. Current driveway at light is unsafe.
13. Consider extension of the south side walk system along E. Gold Street from Gaston to new apartment complex across from City Cemetery.

## A.2.6 Online Public Survey Results








## Kings Mountain Pedestrian Life








## 1. How often do you walk or run for pleasure, exercise, or to reach a destination in mind?

		Response Percent	Response Count
I don't or am unable to.		4.7%	4
Hardly ever.		10.6%	9
Maybe a few times a month.		25.9%	22
A few times a week.		34.1%	29
Daily, or nearly so.		24.7%	21
		<b>answered question</b>	<b>85</b>
		<b>skipped question</b>	<b>0</b>

### 2. For what reasons do you most often walk?

		Response Percent	Response Count
I don't walk or run.		2.5%	2
For pleasure, recreation, or exercise.		85.0%	68
To get to school.		1.3%	1
To get to work.		1.3%	1
To shop, visit friends, for errands, etc.		20.0%	16
It's the only way I have of getting places.		3.8%	3
Other (please specify)		1.3%	1
		<b>answered question</b>	<b>80</b>
		<b>skipped question</b>	<b>5</b>







**3. What keeps you from walking or running more than you do now?**

		Response Percent	Response Count
I can't, due to poor health or physical inability.		2.5%	2
It feels unsafe to walk or run in and around town.		30.0%	24
I'm too busy or just not interested.		35.0%	28
The weather.		20.0%	16
Some other reason?		21.3%	17
answered question			80
skipped question			5





**4. Please name any particularly unsafe streets or intersections for walking of which you are aware.**

	Response Count
	47
answered question	47
skipped question	38






### 5. What do you think would encourage more walking or running in and around Town the most?

		Response Percent	Response Count
More sidewalks		32.9%	26
Trails or greenways		22.8%	18
Safer places to cross streets		12.7%	10
Better police enforcement of traffic laws		7.6%	6
Getting the community more involved through programs or events		11.4%	9
Something else maybe?		12.7%	10
		answered question	79
		skipped question	6





### 6. Would you support public funding for pedestrian facilities such as sidewalks, safer crosswalks, or greenway paths?

		Response Percent	Response Count
Yes		64.1%	50
Maybe		17.9%	14
No		9.0%	7
I don't know		9.0%	7
		answered question	78
		skipped question	7

### 7. What is the goal most important to you below?

		Response Percent	Response Count
Fill the gaps in the current sidewalk system.		30.8%	24
Make only the least expensive kinds of improvements.		6.4%	5
Concentrate improvements in the Downtown area.		23.1%	18
Focus on improvements for schools.		10.3%	8
Create more walking trails for transportation or recreation purposes, or to attract more tourism.		29.5%	23
		answered question	78
		skipped question	7

### 8. Please tell us your age bracket.

		Response Percent	Response Count
Younger than 16		0.0%	0
16 - 24		5.2%	4
25 - 39		23.4%	18
40 - 65		68.8%	53
Older than 65		2.6%	2
		answered question	77
		skipped question	8

**Page 3, Q1. For what reasons do you most often walk?**

1	To get someplace rather than drive	May 20, 2012 3:51 PM
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**Page 4, Q1. What keeps you from walking or running more than you do now?**

1	Between my house and some of my destinations there are no sidewalks...or enough safe shoulder to walk on.	Aug 3, 2012 9:09 AM
2	sidewalks uneven, cracked and am concerned over falling	Jul 30, 2012 10:22 AM
3	lazy	Jul 14, 2012 7:08 AM
4	insufficient sidewalks, shady sidewalks, not great parks to walk to with recreation or shade.	Jun 26, 2012 11:52 AM
5	No place to safely walk along NC216 South of town.	May 29, 2012 3:44 AM
6	KM 911 & police dept. is rude	May 28, 2012 9:53 AM
7	have no one to walk with me	May 24, 2012 7:52 AM
8	Time and weather.	May 14, 2012 2:23 PM
9	Poorly maintained sidewalks or in some areas no sidewalks at all. Poor lighting. No crosswalks so I feel it's very dangerous to walk where I know there will be traffic.	Apr 25, 2012 10:06 AM
10	Lots of work hours	Apr 24, 2012 5:43 AM
11	I can't easily get to where I'm going	Apr 17, 2012 9:47 AM
12	i walk everyday	Apr 15, 2012 5:46 PM
13	nothing	Apr 13, 2012 1:36 PM
14	Work schedule.	Apr 12, 2012 5:56 PM
15	Places I want to get to are too far to walk or run.	Apr 10, 2012 4:55 AM
16	Unsafe crossing areas	Apr 7, 2012 8:41 AM
17	lazy	Mar 29, 2012 11:39 AM

**Page 5, Q1. Please name any particularly unsafe streets or intersections for walking of which you are aware.**

1	Phifer and West Mountain St.	Aug 7, 2012 9:19 PM
2	None	Aug 6, 2012 1:50 PM
3	Gold Street And the street that runs in front of SECU -no sidewalks	Aug 3, 2012 9:10 AM
4	Battleground -Kisers to Clark Tire	Jul 30, 2012 10:23 AM
5	Battleground south of downtown. It's not that it's unsafe, but it is busy and has no/limited SW.	Jul 26, 2012 6:28 AM
6	First & Second Street, Neighborhood behind walking track	Jul 20, 2012 3:56 PM
7	ANY AND ALL STREETS WITHOUT SIDEWALKS	Jul 19, 2012 1:45 AM
8	condition of sidewalks	Jul 17, 2012 5:27 PM
9	Margrace - Battleground crossing at RR	Jul 17, 2012 8:24 AM
10	linwood	Jul 16, 2012 1:02 PM
11	sidewalk in terrible shape on gold st. Need a sidewalk on sims st	Jul 16, 2012 12:08 PM
12	na	Jul 14, 2012 7:08 AM
13	there are many without sidewalks forcing to walk the street	Jun 26, 2012 6:22 PM
14	anyplace without sidewalk	Jun 26, 2012 11:53 AM
15	King St because of the congestion and noise	Jun 20, 2012 10:13 AM
16	battleground	Jun 13, 2012 8:05 AM
17	Phifer Road and Gold	Jun 12, 2012 9:06 AM
18	NC216 south of town	May 29, 2012 3:44 AM
19	everywhere	May 28, 2012 9:53 AM
20	Crown Ct. people drive too fast through my residential neighborhood and there is children out here	May 24, 2012 7:53 AM
21	Morris Street	May 20, 2012 3:52 PM
22	crossing at King and Country Club-- Where the new Walgreens is located	May 14, 2012 2:24 PM
23	battleground/mountain & battleground/gold	May 7, 2012 7:42 AM
24	Literally too many for this answer space.	Apr 25, 2012 10:08 AM
25	none	Apr 24, 2012 5:44 AM
26	Most of the streets in the Country Club No Sidewalks	Apr 22, 2012 5:53 PM

**Page 5, Q1. Please name any particularly unsafe streets or intersections for walking of which you are aware.**

27	Shelby Highway	Apr 17, 2012 9:47 AM
28	none	Apr 15, 2012 5:47 PM
29	E. King St. at Hwy 161	Apr 15, 2012 4:35 PM
30	Will Hall Rd; Foster Ct.	Apr 13, 2012 3:15 PM
31	NC 161 York Road	Apr 13, 2012 1:38 PM
32	side walks often have broken glass i.e. falls st ,battleground av	Apr 13, 2012 1:37 PM
33	all streets without sidewalks	Apr 13, 2012 7:40 AM
34	Shelby Hwy	Apr 13, 2012 7:09 AM
35	The track at night when I can walk	Apr 12, 2012 9:04 PM
36	streets with no sidewalks	Apr 12, 2012 6:23 PM
37	Phifer Road past the middle school	Apr 12, 2012 5:58 PM
38	Maner Road	Apr 12, 2012 5:01 PM
39	S. Canster St from King St to Gold St	Apr 12, 2012 12:29 PM
40	Gold St	Apr 12, 2012 11:02 AM
41	king street and piedmont ave	Apr 12, 2012 8:25 AM
42	parts of N. Piedmont Avenue, King Street	Apr 12, 2012 8:25 AM
43	any with stoplight	Apr 11, 2012 7:41 PM
44	sandspurs around 216/piedmont ave. bridge	Apr 10, 2012 2:30 PM
45	GOLD ST, MOUNTAIN ST	Apr 10, 2012 12:34 PM
46	Gold Street and Battleground/Railroad	Apr 10, 2012 4:58 AM
47	cansler st	Mar 29, 2012 11:16 AM

**Page 6, Q1. What do you think would encourage more walking or running in and around Town the most?**

1	sidewalks (need repair, many are cracked and uneven) trails and greenways -	Aug 3, 2012 9:11 AM
2	Neighborhood clean ups, Incentives for walkers by the cities, Encouragement to walk downtown area to increase business development	Jul 20, 2012 3:58 PM
3	MORE SIDEWALKS AND BIKE PATHS. BIKE PATHS WOULD BE SUITABLE FOR THE YOUNG AND THE OLD AND WOULD BE GOOD FOR GREENING OUR COMMUNITY. EVERYONE LOVES RIDING A BIKE.	Jul 19, 2012 1:48 AM
4	more shady sidewalks or sidewalks in general, trails/greenways	Jun 26, 2012 11:54 AM
5	I know that more handicapped parking would help me to get to more places.	May 27, 2012 1:48 PM
6	better lighting	May 20, 2012 3:53 PM
7	All of these. One thing alone won't do it.	Apr 25, 2012 10:09 AM
8	people becoming more health aware	Apr 15, 2012 5:48 PM
9	Maintaining existing sidewalks before building more!	Apr 12, 2012 8:00 AM
10	getting community more involved and more sidemwalks	Mar 29, 2012 11:19 AM

### A.3.1 NCDOT Crash Data

#### PEDESTRIAN CRASHES IN THE CITY OF KINGS MOUNTAIN, NC JANUARY 1, 1990 TO DECEMBER 31, 2011

CRASH ID	DATE	TIME	SEVERITY	ON ROAD	MILEPOST	DISTANCE	FROM ROAD	TOWARDS RD
90127079	08/31/1990	2:38 PM	A-INJURY (DISABLING)	BROADVIEW DR	999.999	0.057	YORK RD	
90127079	08/31/1990	2:38 PM	A-INJURY (DISABLING)	BROADVIEW DR	999.999	0.057	YORK RD	
91061326	05/07/1991	3:00 PM	C-INJURY (POSSIBLE)	STERLING DR	999.999	0.038	WACO RD	WATTERSON ST
91061326	05/07/1991	3:00 PM	C-INJURY (POSSIBLE)	STERLING DR	999.999	0.038	WACO RD	WATTERSON ST
91088786	06/28/1991	4:15 PM	B-INJURY (EVIDENT)	BATTLEGROUND AVE	7.464	0.011	PARKER ST	PIEDMONT AVE
91088786	06/28/1991	4:15 PM	B-INJURY (EVIDENT)	BATTLEGROUND AVE	7.464	0.011	PARKER ST	PIEDMONT AVE
91109703	08/06/1991	1:26 AM	A-INJURY (DISABLING)	FLOYD ST	999.999	0.019	CLINE ST	LAURA ST
91109703	08/06/1991	1:26 AM	A-INJURY (DISABLING)	FLOYD ST	999.999	0.019	CLINE ST	LAURA ST
91118953	08/23/1991	8:43 PM	A-INJURY (DISABLING)	KING ST	24.2	0	GASTON ST	
91118953	08/23/1991	8:43 PM	A-INJURY (DISABLING)	KING ST	24.2	0	GASTON ST	
91158884	11/05/1991	7:40 PM	FATAL-KILLED	WACO RD	999.999	0.03	WATTERSON ST	SIMS ST
91158884	11/05/1991	7:40 PM	FATAL-KILLED	WACO RD	999.999	0.03	WATTERSON ST	SIMS ST
92108749	07/28/1992	2:43 AM	A-INJURY (DISABLING)	LANDING ST	999.999	0.007	JUNIPER ST	BRIDGES DR
92108749	07/28/1992	2:43 AM	A-INJURY (DISABLING)	LANDING ST	999.999	0.007	JUNIPER ST	BRIDGES DR
92115346	08/10/1992	12:10 PM	B-INJURY (EVIDENT)	MOUNTAIN ST	0.62	0	WATTERSON ST	TRACY ST
92115346	08/10/1992	12:10 PM	B-INJURY (EVIDENT)	MOUNTAIN ST	0.62	0	WATTERSON ST	TRACY ST
92199200	12/25/1992	3:48 PM	C-INJURY (POSSIBLE)	CANSLER ST	3.023	0.019	CHILDERS ST	KING ST
92199200	12/25/1992	3:48 PM	C-INJURY (POSSIBLE)	CANSLER ST	3.023	0.019	CHILDERS ST	KING ST
93015720	01/15/1993	6:39 AM	B-INJURY (EVIDENT)	YORK RD	5.436	0	FLOYD ST	FREDERICKSO
93015720	01/15/1993	6:39 AM	B-INJURY (EVIDENT)	YORK RD	5.436	0	FLOYD ST	FREDERICKSO
93107609	07/14/1993	9:56 AM	A-INJURY (DISABLING)	CLEVELAND AVE	6.062	0.023	BRANCH ST	RIDGE ST
93107609	07/14/1993	9:56 AM	A-INJURY (DISABLING)	CLEVELAND AVE	6.062	0.023	BRANCH ST	RIDGE ST
93209646	12/19/1993	2:19 AM	A-INJURY (DISABLING)	WALKER ST	0.333	0.009	CANSLER ST	WACO RD
93209646	12/19/1993	2:19 AM	A-INJURY (DISABLING)	WALKER ST	0.333	0.009	CANSLER ST	WACO RD
94066909	04/07/1994	7:07 PM	FATAL-KILLED	KING ST	22.98	2.8	WATTERSON ST	
94066909	04/07/1994	7:07 PM	FATAL-KILLED	KING ST	22.98	2.8	WATTERSON ST	
94069519	04/25/1994	3:32 PM	C-INJURY (POSSIBLE)	PHIFER RD	0.082	0	GOLD ST	
94069519	04/25/1994	3:32 PM	C-INJURY (POSSIBLE)	PHIFER RD	0.082	0	GOLD ST	
98000070	01/01/1998	11:25 AM	A-INJURY (DISABLING)	US 74	23.724	0.044	NC 216	NC 161
98000070	01/01/1998	11:25 AM	A-INJURY (DISABLING)	US 74	23.724	0.044	NC 216	NC 161
98000070	01/01/1998	11:25 AM	A-INJURY (DISABLING)	US 74	23.724	0.044	NC 216	NC 161
98254148	10/22/1998	6:08 PM	A-INJURY (DISABLING)	CANSIER ST	999.999	0	KING ST	CITY ST
98254148	10/22/1998	6:08 PM	A-INJURY (DISABLING)	CANSIER ST	999.999	0	KING ST	CITY ST
99018436	01/26/1999	5:08 PM	A-INJURY (DISABLING)	BATTLEGROUND AVE	7.201	0	KING ST	
99018436	01/26/1999	5:08 PM	A-INJURY (DISABLING)	BATTLEGROUND AVE	7.201	0	KING ST	
99143223	07/25/1999	12:35 AM	C-INJURY (POSSIBLE)	BATTLEGROUND AVE	6.464	0.019	WELLS ST	QUARRY RD
99143223	07/25/1999	12:35 AM	C-INJURY (POSSIBLE)	BATTLEGROUND AVE	6.464	0.019	WELLS ST	QUARRY RD
99266166	11/11/1999	6:47 PM	A-INJURY (DISABLING)	MARGRACE RD	0.481	0.009	ARK ST	PEIRCE CT
99266166	11/11/1999	6:47 PM	A-INJURY (DISABLING)	MARGRACE RD	0.481	0.009	ARK ST	PEIRCE CT
100195749	10/02/2000	9:54 AM	C-INJURY (POSSIBLE)	E KING ST	24.2	0	N GASTON ST	
100195749	10/02/2000	9:54 AM	C-INJURY (POSSIBLE)	E KING ST	24.2	0	N GASTON ST	
100239439	11/26/2000	11:58 PM	B-INJURY (EVIDENT)	US 74	23.89	0	NORTH CITY ST	
100239439	11/26/2000	11:58 PM	B-INJURY (EVIDENT)	US 74	23.89	0	NORTH CITY ST	
100397570	07/15/2001	6:48 PM	FATAL-KILLED	US 74	23.28	0.4	NC 216	OAK GROVE RD
100397570	07/15/2001	6:48 PM	FATAL-KILLED	US 74	23.28	0.4	NC 216	OAK GROVE RD
100442944	09/01/2001	9:33 PM	B-INJURY (EVIDENT)	SOMERSET DR	999.999	0	SOUTHWOOD DR	LEE ST
100442944	09/01/2001	9:33 PM	B-INJURY (EVIDENT)	SOMERSET DR	999.999	0	SOUTHWOOD DR	LEE ST
100479832	10/19/2001	4:36 PM	C-INJURY (POSSIBLE)	SPRUCE ST	999.999	0	ALEXANDER	S CHEROKEE ST
100479832	10/19/2001	4:36 PM	C-INJURY (POSSIBLE)	SPRUCE ST	999.999	0	ALEXANDER	S CHEROKEE ST
100480056	11/04/2001	5:03 PM	B-INJURY (EVIDENT)	NC 161	5.598	0	GOLD ST	US 74
100480056	11/04/2001	5:03 PM	B-INJURY (EVIDENT)	NC 161	5.598	0	GOLD ST	US 74
100521095	12/23/2001	6:00 PM	A-INJURY (DISABLING)	N WATTERSON ST	999.999	0	BELVEDERE CIR	PARKER ST
100521095	12/23/2001	6:00 PM	A-INJURY (DISABLING)	N WATTERSON ST	999.999	0	BELVEDERE CIR	PARKER ST
100726791	10/08/2002	10:39 AM	PDO	CLEVELAND AVE	5.822	0.014	EAST RIDGE ST	KING ST
100726791	10/08/2002	10:39 AM	PDO	CLEVELAND AVE	5.822	0.014	EAST RIDGE ST	KING ST
100753137	11/08/2002	7:25 AM	A-INJURY (DISABLING)	LINWOOD RD	0.49	0	CHURCH ST	CLEVELAND AVE
100753137	11/08/2002	7:25 AM	A-INJURY (DISABLING)	LINWOOD RD	0.49	0	CHURCH ST	CLEVELAND AVE
101092638	01/14/2003	5:01 PM	C-INJURY (POSSIBLE)	PHIFER RD	0.01	0.01	MOUNTAIN ST	GOLD ST
101092638	01/14/2003	5:01 PM	C-INJURY (POSSIBLE)	PHIFER RD	0.01	0.01	MOUNTAIN ST	GOLD ST
100829796	02/14/2003	6:49 PM	PDO	BOYCE ST	999.999	0.028	JACKSON ST	GROVES ST
100829796	02/14/2003	6:49 PM	PDO	BOYCE ST	999.999	0.028	JACKSON ST	GROVES ST
101140308	03/13/2004	11:11 PM	B-INJURY (EVIDENT)	WACO RD	999.999	0	SIMS ST	US 74
101140308	03/13/2004	11:11 PM	B-INJURY (EVIDENT)	WACO RD	999.999	0	SIMS ST	US 74
101378392	09/07/2004	10:43 AM	C-INJURY (POSSIBLE)	SOMERSET DR	999.999	0	UNK	

101378392	09/07/2004	10:43 AM	C-INJURY (POSSIBLE)	SOMERSET DR	999.999	0	UNK	
101401914	02/03/2005	7:05 AM	B-INJURY (EVIDENT)	S BATTLEGROUND	6.985	0	E GOLD ST	W GOLD ST
101401914	02/03/2005	7:05 AM	B-INJURY (EVIDENT)	S BATTLEGROUND	6.985	0	E GOLD ST	W GOLD ST
101493608	06/08/2005	11:11 PM	B-INJURY (EVIDENT)	US 74	22.11	0	WARE ST	KINGS MTN BLVD
101493608	06/08/2005	11:11 PM	B-INJURY (EVIDENT)	US 74	22.11	0	WARE ST	KINGS MTN BLVD
101601853	11/03/2005	6:15 PM	PDO	NC 161	4.762	0	I 85	
101601853	11/03/2005	6:15 PM	PDO	NC 161	4.762	0	I 85	
101647090	01/01/2006	12:51 AM		NC 161	5.702	0	SLATER ST	
101647090	01/01/2006	12:51 AM		NC 161	5.702	0	SLATER ST	
101854354	10/11/2006	3:34 PM	B-INJURY (EVIDENT)	PHIFER RD	0.235	0.009	LANDING ST	
101854354	10/11/2006	3:34 PM	B-INJURY (EVIDENT)	PHIFER RD	0.235	0.009	LANDING ST	
101887136	11/15/2006	4:27 PM	B-INJURY (EVIDENT)	N CANSLER ST	0.928	0	BRIDGES ST	
101887136	11/15/2006	4:27 PM	B-INJURY (EVIDENT)	N CANSLER ST	0.928	0	BRIDGES ST	
101993320	12/23/2006	11:50 PM	B-INJURY (EVIDENT)	NC 161	6.248	0	US 74	NC 161
101993320	12/23/2006	11:50 PM	B-INJURY (EVIDENT)	NC 161	6.248	0	US 74	NC 161
102143162	09/18/2007	4:32 PM	B-INJURY (EVIDENT)	E GOLD ST	4.32	0	S PIEDMONT AVE	
102143162	09/18/2007	4:32 PM	B-INJURY (EVIDENT)	E GOLD ST	4.32	0	S PIEDMONT AVE	
102204779	11/30/2007	8:40 PM	A-INJURY (DISABLING)	US 74	24.3	0.1	GASTON ST	CARPENTER ST
102204779	11/30/2007	8:40 PM	A-INJURY (DISABLING)	US 74	24.3	0.1	GASTON ST	CARPENTER ST
102220590	01/02/2008	8:30 PM	B-INJURY (EVIDENT)	BRANCH ST	999.999	0.019	NC 161	BENNETT ST
102220590	01/02/2008	8:30 PM	B-INJURY (EVIDENT)	BRANCH ST	999.999	0.019	NC 161	BENNETT ST
102262763	02/15/2008	5:02 PM	C-INJURY (POSSIBLE)	SIDEWALK	999.999	0	WACHOVIA PVA	
102262763	02/15/2008	5:02 PM	C-INJURY (POSSIBLE)	SIDEWALK	999.999	0	WACHOVIA PVA	
102422161	09/28/2008	9:23 AM	PDO	CANSLER	999.999	0	KING ST	MTN ST
102422161	09/28/2008	9:23 AM	PDO	CANSLER	999.999	0	KING ST	MTN ST
102464120	10/31/2008	7:56 PM	B-INJURY (EVIDENT)	MERRIMONT DR	999.999	0	GARRISON DR	
102464120	10/31/2008	7:56 PM	B-INJURY (EVIDENT)	MERRIMONT DR	999.999	0	GARRISON DR	
102467383	11/18/2008	12:59 PM	A-INJURY (DISABLING)	N WATTERSON ST	999.999	0	CAMPBELL CIRCLE	PARKER ST
102467383	11/18/2008	12:59 PM	A-INJURY (DISABLING)	N WATTERSON ST	999.999	0	CAMPBELL CIRCLE	PARKER ST
102477696	11/30/2008	6:13 PM	A-INJURY (DISABLING)	US 74	23.93	0.25	NC 216	NC 161
102477696	11/30/2008	6:13 PM	A-INJURY (DISABLING)	US 74	23.93	0.25	NC 216	NC 161
102609524	05/16/2009	11:27 PM	PDO	US 74	999.999	0	AFTON DR	PHIFER RD
102609524	05/16/2009	11:27 PM	PDO	US 74	999.999	0	AFTON DR	PHIFER RD
102616846	06/20/2009	5:24 AM	FATAL-KILLED	US 74	22.63	0.17	OAK GROVE ROAD	
102616846	06/20/2009	5:24 AM	FATAL-KILLED	US 74	22.63	0.17	OAK GROVE ROAD	
102668338	09/02/2009	11:28 AM	B-INJURY (EVIDENT)	US 74	21.86	0.03	KINGS MTN BLVD	AFTON DR
102668338	09/02/2009	11:28 AM	B-INJURY (EVIDENT)	US 74	21.86	0.03	KINGS MTN BLVD	AFTON DR
102693764	09/12/2009	8:13 PM	B-INJURY (EVIDENT)	US 74	22.29	0	CHURCH HILL DR	
102693764	09/12/2009	8:13 PM	B-INJURY (EVIDENT)	US 74	22.29	0	CHURCH HILL DR	
102840142	04/15/2010	7:26 AM	B-INJURY (EVIDENT)	PHIFER RD	999.999	0	PVA 500 PHIFER RD	
102840142	04/15/2010	7:26 AM	B-INJURY (EVIDENT)	PHIFER RD	999.999	0	PVA 500 PHIFER RD	
102883270	05/21/2010	2:19 AM	FATAL-KILLED	BARNETT DRIVE	999.999	0	PARRISH DRIVE	THORNBURG DR
102883270	05/21/2010	2:19 AM	FATAL-KILLED	BARNETT DRIVE	999.999	0	PARRISH DRIVE	THORNBURG DR
102911399	06/13/2010	3:21 AM	FATAL-KILLED	US 74	23.68	0	N PIEDMONT AVE	OAK GROVE RD
102911399	06/13/2010	3:21 AM	FATAL-KILLED	US 74	23.68	0	N PIEDMONT AVE	OAK GROVE RD
103044711	12/17/2010	7:58 AM	A-INJURY (DISABLING)	US 74	22.76	0.3	OAKGROVE RD	NC 216
103044711	12/17/2010	7:58 AM	A-INJURY (DISABLING)	US 74	22.76	0.3	OAKGROVE RD	NC 216
103121124	03/26/2011	12:41 PM	PDO	NC 161	999.999	0.038	US 74	
103121124	03/26/2011	12:41 PM	PDO	NC 161	999.999	0.038	US 74	
103250666	09/14/2011	12:33 PM	B-INJURY (EVIDENT)	PHIFER ROAD	999.999	0	PVA 500 PHIFER RD	
103250666	09/14/2011	12:33 PM	B-INJURY (EVIDENT)	PHIFER ROAD	999.999	0	PVA 500 PHIFER RD	

### A.3.2 Relevant Federal and State Policies

- **NCDOT Policy & Procedure manual: Sidewalks** ([www.ncdot.gov/templates/download/external.html?pdf=http%3A//www.ncdot.gov/doh/preconstruct/altern//value/manuals/ppm/ppm28/ppm28-1.pdf](http://www.ncdot.gov/templates/download/external.html?pdf=http%3A//www.ncdot.gov/doh/preconstruct/altern//value/manuals/ppm/ppm28/ppm28-1.pdf))
- **NCDOT Greenway Policy** ([www.ncdot.gov/bikeped/download/bikeped\\_laws\\_Greenway\\_Admin\\_Action.pdf](http://www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf))
- **NCDOT Complete Streets Policy** ([www.bytrain.org/fra/general/ncdot\\_streets\\_policy.pdf](http://www.bytrain.org/fra/general/ncdot_streets_policy.pdf))
- **NCDOT Board of Transportation Resolution for Bicycling and Walking** ([www.ncdot.org/transit/bicycle/laws/laws\\_resolution.html](http://www.ncdot.org/transit/bicycle/laws/laws_resolution.html))
- **NCDOT's Traditional Neighborhood Development Street Design Guidelines** ([www.ncdot.org/doh/preconstruct/altern/value/manuals/tnd.pdf](http://www.ncdot.org/doh/preconstruct/altern/value/manuals/tnd.pdf)). These guidelines are available for proposed TND developments and permits localities and developers to design certain roadways according to TND guidelines rather than the conventional subdivision street standards. The guidelines recognize that in TND developments, mixed uses are encouraged and pedestrians and bicyclists are accommodated on multi-mode/shared streets.
- **United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations** (March 2010) ([www.fhwa.dot.gov/environment/bikeped/policy\\_accom.htm](http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm))
- **FHWA Policy for Mainstreaming Nonmotorized Transportation** (FHWA Guidance – Bicycling and Pedestrian Provision of Federal Transportation Legislation) ([www.fhwa.dot.gov/environment/bikeped/bp-guid.htm](http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm))

A.3.3 NCDOT Bicycle & Pedestrian Project Prioritization



CRITERIA		POINTS
<b>Right-of-Way Acquired</b>		10 (Maximum)
▪ 50% to 74%		3
▪ 75% to 94%		7
▪ 95% to 100%		10
<b>Access</b>		20 (Maximum)
<b>(A) Destination Type</b>		10 (Max)
▪ Municipal center, transit station, major emp. center, mixed use comm., university		3 per destination
▪ Multi-family / high-density resid. developments, schools, parks, bus stops		2 per destination
<b>(B) Distance to Prime Destination</b>		10 (Max)
Pedestrian (miles to destination)	Bicycle (miles to destination)	
▪ 0.0 to 0.25	▪ 0.0 to 1.0	10
▪ 0.26 to 0.5	▪ 1.01 to 3.0	7.5
▪ 0.51 to 1.0	▪ 3.01 to 5.0	5
▪ 1.01 and more	▪ 5.01 and more	2.5
<b>Connectivity</b>		5 (Maximum)
▪ Multiple connections		5
▪ One connection		3
<b>Inclusion in an Adopted Plan</b>		15 (Maximum)
▪ bicycle plan, pedestrian plan, greenway/multi-use plan, SRTS action plan		15
▪ comprehensive plan, LRTP, or CTP, etc.		10
<b>Safety</b>		10 (Maximum)
<b>(A) Crashes</b>		5
<b>(B) Speed Limit</b>		
<b>(C) Project provides a separated facility from roadway</b>		5
<b>(D) Project design encourages a reduction in vehicular speeds</b>		
<b>Demand/Density</b>		10 (Maximum)
▪ Persons per square mile – 2,251 and more / Employees/sq. mile - TBD		10
▪ Persons per square mile – 1,501 to 2,250 / Employees/sq. mile - TBD		7.5
▪ Persons per square mile – 751 to 1,500 / Employees/sq. mile - TBD		5
▪ Persons per square mile – 0 to 750 / Employees/sq. mile - TBD		2.5
<b>MPO/RPO Ranking</b>		30 (Maximum)
Rankings for top 10 bike and pedestrian projects are provided by MPO/RPO.		3 to 30

**Bicycle and Pedestrian Prioritization**



P3.0		P2.0	
<b>Right-of-Way Acquired</b>	Max = 10	<b>Right-of-Way Acquired</b>	Max = 18
50% to 74%	3	50% to 74%	5
75% to 94%	7	75% to 99%	10
95% to 100%	10	100%	18

P3.0			P2.0	
<b>Access</b>			<i>Incorporated in Connectivity criterion</i>	Max = 10
<b>(A) Destination Type</b>				
Municipal center, transit station, major employment center, mixed use commercial			Direct access to transit/school/CBD/high density residential or commercial area/park	10
Multi-family and high-density residential developments, schools, parks, bus stops, park and ride lots				
<b>(B) Distance to Prime Destination –</b>				
Pedestrian (miles to destination)	Bicycle (miles to destination)			
0.0 to 0.25	0.0 to 1.0	10		
0.26 to 0.5	1.01 to 3.0	7.5		
0.51 to 1.0	3.01 to 5.0	5		
1.01 and more	5.01 and more	2.5		
<b>Connectivity</b>			<b>Connectivity</b>	Max = 5
If a candidate segment links at both ends to existing bike/pedestrian facilities or has multiple connections to an existing bike/pedestrian facility			Linked to a larger system of interconnected pedestrian/bicycle/multi-use facilities	5
If the segment connects at one end to an existing bike/pedestrian facility or has one connection to an existing bike/pedestrian facility				



P3.0		P2.0	
<b>Inclusion in an Adopted Plan</b>	Max = 15	<b>Inclusion in an Adopted Plan</b>	Max = 15
bicycle plan, pedestrian plan, greenway/multi-use plan, SRTS action plan	15	bicycle plan, pedestrian plan, greenway/multi-use plan, SRTS action plan	15
comprehensive plan, LRTP, or CTP, but not included in an adopted bike or greenway/multi-use plan	10	comprehensive plan, LRTP, or CTP, but not included in an adopted bike or greenway/multi-use plan	10

P3.0		P2.0	
<b>Safety</b>	Max = 10	<b>Crashes</b>	Max = 5
<b>(A) Crashes</b> – Three or more bicycle/pedestrian/vehicle crashes within last 5 years along the corridor.	5 (can receive points for either A or B)	<b>Crashes</b> – Three or more bicycle/pedestrian/vehicle crashes within last 5 years along the corridor.	5
<b>(B) Speed Limit</b> – Posted speed on the roadway exceeds 35mph.			
<b>(C) Project provides a separated facility from roadway</b>	5 (can receive points for either C or D)		
<b>(D) Project design encourages a reduction in vehicular speeds</b> (traffic calming, pedestrian refuges, restriping to narrow lanes, road diet, etc.)			



P3.0		P2.0	
Demand/Density	Max = 10	Demand/Density	Max = 12
Persons per square mile- 2,251 and more	10	Projects in the 6th Quantile	12
Persons per square mile- 1,501 to 2,250	7.5	Projects in the 5th Quantile	10
Persons per square mile- 751 to 1,500	5	Projects in the 4th Quantile	8
Persons per square mile- 0 to 750	2.5	Projects in the 3rd Quantile	6
		Projects in the 2nd Quantile	4
		Projects in the 1st Quantile	2

Note: Employment density will also be incorporated into calculation

P3.0		P2.0			
MPO/RPO Ranking	Max = 30	MPO/RPO Ranking		Max = 35	
#1 bike/pedestrian project	30	#1 bike project	#1 ped. project	35	35
#2 bike/pedestrian project	27	#2 bike project	#2 ped. project	28	28
#3 bike/pedestrian project	24	#3 bike project	#3 ped. project	21	21
#4 bike/pedestrian project	21	#4 bike project	#4 ped. project	14	14
#5 bike/pedestrian project	18	#5 bike project	#5 ped. project	7	7
#6 bike/pedestrian project	15				
#7 bike/pedestrian project	12				
#8 bike/pedestrian project	9				
#9 bike/pedestrian project	6				
#10 bike/pedestrian project	3				

## Bicycle & Pedestrian Project Submittals

**Maximum number of bicycle and pedestrian projects each MPO/RPO can evaluate in P3.0 is 20**

- Combined total of both bicycle and pedestrian projects
- Any MPO/RPO which currently has more than 20 projects in prioritization system, must decide upon their top 20 in order reduce their number of projects.

### A.3.4 NCDOT Pedestrian Planning Grant Application

**North Carolina Department of Transportation  
Application for Bicycle and Pedestrian Planning Grant Funds  
2011 Call for Proposals**

Submittal Deadline is December 3, 2010

Applicant Information			FOR NCDOT USE ONLY Proposal eligible <input type="checkbox"/> Yes <input type="checkbox"/> No	
Name of Municipality: City of Kings Mountain	Population 11,070	County Cleveland	NCDOT Division 12	
Total Cost for Plan Development: \$31500	NCDOT Planning Funds Requested: \$	Local Match: \$		
Municipality agrees to enter into a reimbursement agreement with NCDOT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Municipality is member of: <input type="checkbox"/> MPO <input checked="" type="checkbox"/> RPO <input type="checkbox"/> neither		
Department applying for grant: Planning and Economic Development				
Contact Person: Steve Killian	Title: Director of Planning	Work Phone Number: 704-734-4595		
Work Fax Number: 704-734-4480	E-mail Address: stevek@cityofkm.com			
Mailing Address: P.O. Box 429	City: Kings Mountain	State: NC	Zip Code: 28086	

I certify that the City/Town of \_\_\_\_\_, in applying for Bicycle or Pedestrian Planning Grant funds, attests a commitment to the plan's development, management, financing and completion within 18 months from execution of the MRA, and that the completed plan will be submitted to the City/Town Council or other approving authority for adoption.

\_\_\_\_\_  
Signature\*

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name (printed)

\_\_\_\_\_  
Date

Eligibility Criteria	
Plan Category – Check only one category	<input type="checkbox"/> Bicycle Plan <input checked="" type="checkbox"/> Pedestrian Plan
Due to limited planning grant funds, municipalities may apply for funding to undertake <b>either</b> a bicycle plan or a pedestrian plan in any given fiscal year. Please indicate the type of plan for which you are submitting <u>this</u> application.	
Has the City/Town Council passed a resolution supporting this application?	<input checked="" type="checkbox"/> Yes, attached <input type="checkbox"/> Pending** _____ Date anticipated
For municipalities within a Metropolitan Planning Organization (MPO), has the MPO passed a resolution supporting this application?	<input type="checkbox"/> Yes, attached <input type="checkbox"/> Pending** _____ Date anticipated
For municipalities within a Rural Planning Organizations (RPO), has the RPO passed a resolution supporting this application?	<input checked="" type="checkbox"/> Yes, attached <input type="checkbox"/> Pending** _____ Date anticipated

**\*THE SIGNATURE OF AN AUTHORIZED STAFF PERSON (I.E. CITY/TOWN MANAGER, ADMINISTRATOR, ETC.) IS REQUIRED FOR PROPOSAL TO BE ELIGIBLE.**

**\*\*A RESOLUTION BY THE APPROPRIATE MUNICIPAL GOVERNING BODY AND BY THE MPO, IF APPLICABLE, MUST ACCOMPANY THE APPLICATION, OR MUST BE SUBMITTED PRIOR TO DECEMBER 31, 2010 TO BE ELIGIBLE FOR FUNDING. RPO RESOLUTION, IF APPLICABLE, IS HIGHLY ENCOURAGED. PLEASE INDICATE THE DATE YOU ANTICIPATE RECEIVING A PENDING RESOLUTION.**

**\*\*\*APPLICANTS WILL NOT BE REWARDED BY THE REVIEW COMMITTEE'S SCORING FOR REQUESTING A FUNDING AMOUNT THAT IS LESS THAN THE MAXIMUM AMOUNT ALLOWED FOR THE PARTICULAR POPULATION CATEGORY OF THE APPLYING MUNICIPALITY.**

**\* WE ENCOURAGE MUNICIPALITIES TO USE LOCAL STAFF MEMBERS TO COMPLETE THE APPLICATION.**

*North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation, page 1 of 9 – 9/03/10*

Municipality Name: City of Kings Mountain

### Narrative Description

#### Please limit descriptions to space provided

1) Please describe the vision and goals for your municipality related to improving bicycle **OR** pedestrian transportation. Be sure your goals are realistic and measurable. Refer to any plans adopted within the last five (5) years that support this vision (may include comprehensive plan, land use plan, transportation plan, etc). Note that the vision and goals for your community need to be focused upon transportation and not solely upon recreation.

Land use and transportation co-exist in a mutual symbiotic relationship. Both play an integral part in the synchronicity of health, environment, and the quality of life. The City of Kings Mountain recognizes this unique marriage of form and function by redirecting policy and emphasizing tenets of sustainable and smart growth in our pursuit to accommodate local population growth that supports connections between infrastructure and the environment. Over the years, the shift from an amenity viewpoint to a more sustainable one became evident through multiple plans and venues that set the groundwork for an "intervention" between policy and land use planning. Providing alternative modes of transportation was a central design strategy in the Comprehensive Greenway, Bikeway, and Pedestrian Improvement Plan (2002), which addressed traffic mitigation, facility improvement, and safer travel for pedestrians and bicyclists (KMCGBPIP, 2002). While the City was awarded a bike planning grant through NCDOT in June 2009, we would like complete our vision for an integrated corridor system that makes walking easy, safe, and accessible for both residents and visitors, and continues the "Active, Healthy, Historic Kings Mountain" theme that was adopted through a collaborative grant with the Cleveland County Health Department in 2006. To date, three TEA-21 sidewalk enhancement grants have been funded, two of which benefit low-income neighborhoods and public housing areas. Furthermore, one sidewalk extension grant connects Kings Mountain High School to the Senior Center. The Carolina Thread Trail/Cleveland County Master Plan was adopted in December 2009, and we were recently awarded funds through an implementation grant to begin trail design on a parcel-by-parcel basis on Segment "R" (Potts Creek Greenway). This 11.2 mile priority segment will connect Moss Reservoir to many points within the City (including downtown) and beyond (Gateway Trail). On a separate grant, we worked with the Alliance for Health and Eat Smart Move More Coalition in June 2010 to design three walking routes (using existing sidewalks) that connect two neighborhoods, schools, downtown, and our local park.

2) Describe your municipality, including demographic information and the physical setting. Explain how the demographics and physical setting of your municipality support the need for a pedestrian or bicycle plan. Highlight any special features (e.g. resort community, college town, etc.), high-use bicycle **OR** pedestrian areas and areas with a high incidence of bicycle crashes **OR** pedestrian crashes. Identify and describe any special user populations or areas deserving special focus.

Situated along Interstate 85 and Highway 74, the City of Kings Mountain lies within close proximity to Gastonia (eleven miles) and Charlotte (35 miles) to the east, and York, SC (20 miles) and Greenville/Spartanburg, SC (48 miles) to the south. Our growing and diverse population was estimated at 11,070 by the State in 2010. Residential communities were developed around employment and commercial centers in a textile and manufacturing based economy, and all local schools are nested within residential areas. According to the 2000 U.S. Census, the largest population group (nearly two-thirds) includes children and adults of working age. Since our main objective is to provide and encourage alternative transportation methods, we direct our focus on the existing industrial, residential, and educational network and how it correlates with these two influential population segments. Kings Mountain is unique in that it has small-town character with regional appeal, and we recognize our location with respect to these settings. For example, all six local schools are nested within residential areas, and all employment centers are accessible by an arterial road or residential collectors and secondary roads. Most foot traffic occurs downtown (comprised of seventeen blocks), and radiates outward toward King Street (the activity "spine") and beyond. This area of the city is one of the most densely populated ([www.esri.com](http://www.esri.com)). However, over the past five years, there have been twenty pedestrian crashes all within the incorporated area, including two fatalities ([www.pedbikeinfo.org](http://www.pedbikeinfo.org)). Four of these accidents occurred downtown; therefore, it is prudent to address four main issues: built environment, safety, research, access/equity. In order to develop a fully integrated transport system, the role of pedestrian activity needs to be targeted so to better connect with destinations and accommodate this policy and project intervention. Sidewalks encourage residents and visitors to patronize local business establishments, participate in an array of recreational/fitness activities (including the Gateway Trail, numerous walking routes, and three state parks), and walk as a means of transportation. Concurrently, the City can experience the benefits of greater local and regional connectivity through a balance of complimentary development and multi-modal transportation choices.

North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation, page 2 of 9 – 9/03/10

*Municipality Name: City of Kings Mountain*

**3)** Provide an overview of the current bicycling **OR** pedestrian transportation system, including an assessment of strengths and weaknesses of the system. Describe facilities currently in place or planned for completion in the next two years (e.g. designated bicycle route system, miles of off-road paths, extent of sidewalk network, etc.) as well as potential barriers that inhibit developing the system. Please enclose any relevant documents or maps, or provide links to on-line materials.

The current pedestrian transportation system consists of approximately 25.76 miles of sidewalk that are over fifty years old. Newer extensions occurred with the assistance of TEA-21 enhancement funds (completed within the past five years); however, there exists constraints. While a large portion of the city has a traditional grid pattern of streets/sidewalks, many neighborhoods were developed from an automobile-oriented focus with little to no connectivity. Many sidewalks are in need of repair and increased safety at street crossings. These include accessible curb ramps, countdown timers and pedestrian signals (BikeWalkTalbot, 2009). The KMCGBPIP created provisions for streetscape improvement plans, collaborative planning efforts, and an integration of multi-modal improvements, yet we still need to coordinate all venues. Current routes in place include the Historic Walking Trail (2003) and the one, two, and three mile paths designed with a collaborative grant with Cleveland County. All are located within the downtown area. In addition, the Gateway Trail (also located one-half mile from downtown) includes over two miles of existing paths, and three more planned in the next phase. An exciting opportunity surfaced when the City was awarded funds through the Bike Planning Grant last year. The final plan will be adopted and in place by the spring of 2011. The Carolina Thread Trail Master Plan for Cleveland County Communities was adopted by the City in December 2009, and the priority "Segment R" (Potts Creek Greenway) will provide an additional 11.2 miles of proposed paths that will link Moss Reservoir, downtown Kings Mountain, and the Gateway Trail. With the addition of a Pedestrian Plan, a "complete streets" initiative can heighten community cohesion while providing roadways that "equally serve pedestrians, bicyclists, and motorists" and connect all facilities together (BikeWalkTalbot, 2009). It is quite advantageous to analyze trends and patterns to prioritize specific spatial strategies and policies in both an inter- and intra-regional sense. Concertedly, our vision must be cognizant and alert to "livability" impacts. Therefore, encouraging walking as a form of active transport is paramount as we plan for future growth.

**4)** Describe any bicycle and/or pedestrian education, enforcement or encouragement programs and initiatives underway or planned. List any key issues that have been identified, such as safety, health and well-being, connectivity, etc. Describe clearly the benefits and value that programs or initiatives of this kind would bring to your community, even if your community currently does not have any such programs or initiatives underway.

Intersectoral cooperation exists between numerous agencies and Kings Mountain. The City maintains close partnerships with the Alliance for Health, Cleveland County Health and Planning Departments, Eat Smart Move More Coalition of Cleveland County, and Cleveland County Schools. Currently, Safe Kids of Cleveland County and Cleveland County Schools offers two injury prevention programs within schools. The "Kid Tips" and "Risk Watch" educational initiatives emphasize pedestrian safety. In the past, the City and the Alliance for Health sponsored three "Pedestrian Roadshows". Citizens had the opportunity to look at potential barriers for safe travel throughout the community. We anticipate incorporating future roadshows to assess critical needs and serve the public. The City's Special Events Department incor

*Municipality Name: City of Kings Mountain*

**5)** Provide a brief description of any municipal bicycle planning and/or pedestrian planning activities that are currently underway or have been undertaken in the past (list years). List may include bicycle, pedestrian, or greenway elements in any municipal, county or regional planning documents. Describe what value bicycle planning or pedestrian planning bring to a municipality. Please enclose any relevant documents or maps, or provide links to on-line materials. Describe the results of these planning efforts in terms of improvements in bicycle and/or pedestrian facilities, accessibility, and/or safety.

The City's Zoning Ordinance demonstrates the importance of connectivity between street and structure. For example, it states that "no building, structure, or use of land shall be established on a lot nor shall a ny lot be created that does not abut a public street as defined herein to which it has legal access for a distance of not less than forty feet" (unless it is exempt). This provision allows for a greater land use-transportation connection within the community. The adoption of the 161 York-Cleveland Business Overlay District and the York Road Gateway Protection Overlay District (in 2007) require multi-modal provisions; more specifically, they require sidewalks at the ROW. Open space stipulations, future facilities, and recreational areas are also recommended in the Land Development Plan (1995) and are prevalent throughout the draft of the updated plan, as is applying sustainable growth and smart growth principles with a greater understanding of our sphere of influence and the use of local resources. Pedestrian and bike planning were addressed throughout the KMCGBPIP document (2002). A mission to "create sufficient sidewalks, greenways, and bikeway/bike lanes to link neighborhoods to downtown" was mentioned (KMCGBPIP, 2002). The resounding message implicates a unitary pursuit to create a more livable, "green", and sustainable environment/community through preservation and accountability. Finally the Carolina Thread Trail Master Plan for Cleveland County Communities will reach fifteen counties and over two million citizens, and is another example of . Potts Creek Greenway (Segment R in the Plan) connects The maps within that document generally show future greenway and bikeway trails. However, with the funds received from the bike planning grant last year, we developed plans for facilities with a better representation of public input. In fact, our second Open House is scheduled for December 9, 2010.

**6)** Describe how the development of a comprehensive bicycle transportation **OR** pedestrian transportation plan will benefit your municipality and meet the needs of diverse populations (residents and, where appropriate, students and/or visitors).

*North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation, page 4 of 9 – 9/03/10*

*Municipality Name: City of Kings Mountain*

**7)** List the name and title/position of the municipal staff person responsible for project oversight. Please note that this person **must** be a full-time permanent employee of the municipality. Also list any others who will have involvement in plan development and their experience. Please describe any prior experience these individuals have in the preparation and/or implementation of a bicycle plan and/or a pedestrian plan or other transportation/community planning efforts and include copies or links to relevant documents. Provide resumes/qualifications for each individual listed, including the overseeing staff person.

Steve Killian, Director of Planning and Economic Development for the City of Kings Mountain, will take the lead supervisory role for this project. A member of the AICP, Steve Killian has nearly thirty years of extensive and progressive planning experience. His expertise has been valuable in the development and implementation of several key programs, including the KMGBPIP, Highway Overlay Districts, Share the Road, NCDOT Enhancement Projects, Gateway Trails, and Historic Walking Trail. Currently, he is the principal planner on the City's Land Development Plan and future amendments to the Zoning Code. Steve Killian has been the City's appointed representative on the Lake Norman Transportation Coordinating Committee since its establishment in 2002. He has advocated renewable growth and smart growth policies. Jackie Barnette, Director of Public Works, will also play a fundamental role in this project. Jackie Barnette has over thirty-two years of municipal service experience and oversees City street, storm water, ground, and building maintenance, sanitation, driveway permits, and the City's garage. His many accomplishments include DOT Enhancement Projects (sidewalks), completion of Patriots Park, and obtaining a North Carolina Road Scholar status. Marcie Campbell, City Planner, has many years of local government experience and has worked for Kings Mountain for over two years on several projects including the NCDOT bike planning grant, Carolina Thread Trail and subsequent corridor design grant, Fit Community designation, and walking route design. All work diligently on projects crossing multi-jurisdictional and inter-departmental lines, and serve on several technical committees.

**8)** Describe how your plan will be developed, specifying whether the work will be done through the services of a paid consultant (indicating whether you have decided yet to hire a private consultant or a COG), a combination of municipal staff and consultant, or through some other process. Briefly describe how duties and tasks will be divided. Indicate how MPO or RPO staff and resources may be utilized.

The City will hire the appropriate consultant, who will have a multitude of available resources. These include City staff, Lake Norman RPO, and other transportation and planning committees/agencies as needed. The consultant will work independently, with supervisory guidance of Steve Killian, Director of Planning and Economic Development. The consultant's work will be coordinated with a specific timeline of objectives, project developments, and project recommendations. This timeline will directly coincide with the template "Planning Guide for Developing Bicycle Plans and Pedestrian Plans" (itre.ncsu.edu website). Additionally, Steve Killian will provide monthly evaluation reviews and formative assessments with the consultant. He will also provide a summative assessment at the conclusion of the project.

*Municipality Name: City of Kings Mountain*

**9)** Indicate the level of support from elected officials and municipal decision-makers for bicycle and/or pedestrian programs and projects. Describe what elected officials, municipal decision-makers, representatives of other agencies, interest groups, commissions and boards, individuals and other stakeholders have done to support bicycle and/or pedestrian programs and projects in the past. Describe how they or others will be involved in development of this plan. List any existing bicycle, pedestrian, greenway, open space or other relevant committees and task forces in your area that are charged with addressing bicycle issues and/or pedestrian issues. Provide letters of support, if available. Describe what kind of citizen participation will be sought. Describe the benefits of networking with and involving stakeholders and/or appointing a steering committee. Describe the groups and interests that would be represented on the steering committee.

The City of Kings Mountain elected officials and staff act pro-actively to meet future needs. In the past, the local elected officials formed numerous citizen advisory groups to work with staff and address growth issues in the community. Responsible growth and transportation options, as well as aesthetic and accessibility concerns were explored. Resolutions and prior attempts at both transportation enhancement and bike facility grants show a concerted effort and commitment from the City. Previous accomplishments include: KMCGBPIP, Highway Overlay Districts, Active Healthy Historic Kings Mountain Program, Fit Community Silver Award Designation, Carolina Thread Trail Master Plan Adoption, Roadshow workshops, Gateway Trail collaboration, and Share the Road signage. In addition, there have been numerous well-received meetings for public participation which will again prove vital in developing this pedestrian facility. Mayor Rick Murphrey's introduction of green projects, partnerships with the parks, and trail initiatives reflect a desire to protect the environment while seeking innovative ideas for infrastructure improvement. Currently, the City has several active land use committees: Moss Lake Advisory, Downtown Incentive Grants, Land Development, Planning Board, Technical Review, and Historic Landmark Commission. Working with other local citizen groups will offer a more comprehensive approach on the facility. For example, trail connectivity to neighborhoods, institutions, and the downtown is imperative and supports many grass-roots and large-scale projects (such as the Gateway Trail and Main Street Program). As such, the City has contributed \$130,000 in kind to the Gateway Trail to establish a trailhead facility for its users, and invested over \$80,000 in its Main Street Program (it was recently designated in 2009). Lastly, the Lake Norman RPO provides a solid foundation of knowledge and committed support as does NCDOT through its working relationship with the City.

**10)** Describe how your community will implement the programs, policies, projects and initiatives identified and prioritized in the plan. Indicate what municipal, regional, state or federal resources may be sought. List any departments, agencies, organizations or other partners that may be involved. Attach letters of support, if available.

The City will approach implementation with the philosophy that a pedestrian plan is a viable alternative to automobiles and that broad based support among the citizens, businesses and public institutions exists and can be tapped. Resources includes the grass root organizations (such as Kings Mountain Gateway Trails Inc., Carolina Thread Trail, Cleveland County Chamber of Commerce, Safe Kids of Cleveland County, and the Gateway Trails), institutions (such as hospital and schools) and finally significant financial, staff (such as Planning, Police and Public Works) and in-kind contributions from the City, some of which will be incorporated into the CIP. The City will pursue financial resources such as TEA-21 funds, Powell Bill funds, Safe Routes to Schools, CMAQ (if eligible), local legislative delegation initiatives, and local contributions. Technical assistance will be sought from Centralina COG, NCDOT and the Lake Norman RPO.

The goal is to create pedestrian facilities within a multi-modal transportation system responsive to the citizens' needs. All applicable City policies, both regulatory and financial, will be amended to obtain this goal. Methodologies learned from state and federal transportation agencies will be employed, as well as program and promotion ideas from pedestrian organizations.

A representative sample of letters of support is attached.

*North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation, page 6 of 9 – 9/03/10*

*Municipality Name:* City of Kings Mountain

List activities involved in developing the plan and provide a Plan Development Schedule, beginning with NCDOT notification of grant award, scheduled for June 2011. Note whether the task will be undertaken by staff, consultant, or both. Please state when municipality anticipates executing the Municipal Reimbursement Agreement, entering a contract with a consultant, and receiving the Notice to Proceed. Note that certain items must be received from the grantee, in order that the Notice to Proceed may be issued within the 6 months of the day of the award notification. The items that must be submitted to NCDOT include: 1) Executed Municipal Reimbursement Agreement 2) Executed contract between municipality and consultant; and 3) Listing of steering committee members. List activities by quarter. The municipality will have 18 months to complete the plan, from the date that the MRA is executed. Please be sure that your schedule is a planning schedule and not a construction schedule. Describe what the plan will address. Provide a clear description of deliverables, based upon your current understanding of the planning grant initiative. (This information can be provided in the section labeled "October to December 2011" below.

**June to September 2011**

Upon Notice to Proceed, the City will draft and issue a Request for Qualifications to design consultants, with a sixty-day submittal deadline. During this time, the City Council will form a Task Force, comprised of community stakeholders of various bicycle-related and City planning interests. Together with the Task Force, the City will review all applicants and select three as most qualified. Mr. Killian, Director of Planning, will then submit the recommendations to the City Council for approval. The Lake Norman RPO will be available for assistance with any of these steps.

**October to December 2011**

The City Council will make the final selection of the planning consultant, and Steve Killian will arrange for the contract of services. The consultant will then meet with Steve Killian, appropriate staff, and the NCDOT Division of Bicycle and Pedestrian Transportation (NCDOTDBPT) Project Manager immediately to finalize the work plan objectives, gather data, and perform reconnaissance. The consultant will later meet with the Task Force and perform stakeholder interviews.

**January to March 2012**

The consultant will conduct a public workshop which the City will arrange and advertise for. Results of the public input will be presented to and reviewed by the Task Force. The consultant will then produce the first draft of the plan, incorporating the comments of the public and the Task Force.

*Municipality Name: City of Kings Mountain*

(Plan development activities, continued from previous page)

**April to June 2012**

The consultant will conduct a second public workshop to gather comments upon the draft plan. The consultant will then revise the draft per public input, and submit the draft for review by the Task Force, Steve Killian, NCDOTBPT, NCDOT Division 12, and Lake Norman RPO. The consultant will then revise the draft per the reviews.

**July to September 2012**

The consultant will produce an executive summary of the plan, and then resubmit the final draft to NCDOTBPT for final review. Upon approval by NCDOTBPT, the consultant will take the plan through the City adoption process. This will include review by the Task Force, City Planning Board, and City Council before a public hearing. The consultant will incorporate necessary revisions throughout this process. Upon adoption of the plan, the consultant will submit the plan to the Lake Norman RPO for endorsement.

**October to December 2012**

The consultant will produce and deliver the required number of final printed and electronic copies of the plan, along with all GIS and other electronic files in editable format to the City and the NCDOTBPT.

*North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation, page 8 of 9 – 9/03/10*

Municipality Name: City of Kings Mountain

Project Cost Information			
Total Project Cost*: \$	Total NCDOT Planning Funds Requested: \$	Total Local Match Committed: \$	Source(s) and Amount(s) of Local Matching Funds (list all applicable):

\*Municipalities awarded a grant will be required to submit a detailed budget including a breakdown of allowable costs. Staff time is not an allowable cost, nor can it be considered as an in-kind contribution for matching funds.

Attachments	
Required:	Optional (if information is available on-line, please list link):
<input checked="" type="checkbox"/> Municipal Resolution <input type="checkbox"/> MPO Resolution (if applicable) <input checked="" type="checkbox"/> RPO Resolution (if applicable) <input checked="" type="checkbox"/> Resume(s) of overseeing staff and other individuals <u>3</u> attached <input checked="" type="checkbox"/> Map of Municipality	<input checked="" type="checkbox"/> Letters of Support <u>      </u> attached or were sent <input type="checkbox"/> Copies of previous plans (summaries and/or web links preferred) <input checked="" type="checkbox"/> Other Maps <input checked="" type="checkbox"/> Other (please identify): documents in Appendix <input type="checkbox"/> Other (please identify): <input type="checkbox"/> Other (please identify):

Preparer Information			
Please provide information on the primary person who prepared this application and indicate the municipal department, local agency, consulting firm, or other organization with which they are affiliated.			
Agency/Consulting Firm/Organization: Kings Mtn.			
Name of Preparer: Steve Killian	Title: Director of Planning	Work Phone Number: 704-734-4596	
Work Fax Number: 704-734-4480	E-mail Address: stevek@cityofkm.com		
Mailing Address: P.O. Box 429	City: Kings Mountain	State: NC	Zip Code: 28086

Submittal Information	
For more detailed information on completing the application please see the Step-by-Step Instructions online at <a href="http://www.ncdot.gov/bikeped/planning/default.htm">www.ncdot.gov/bikeped/planning/default.htm</a>  Please mail <b>one original and nine copies</b> of the completed application, including attachments, to the NCDOT Division of Bicycle and Pedestrian Transportation at the address to the right.  Double-sided copies are acceptable.  <b>Applications will be accepted no later than 5:00 pm on December 3, 2010.</b>	<b>Mailing Address:</b> Helen Chaney NCDOT Division of Bicycle and Pedestrian Transportation 1552 Mail Service Center Raleigh, NC 27699-1552  <b>For UPS, Fed Ex, etc. or hand delivery</b> <b>Delivery Address:</b> Helen Chaney NCDOT Division of Bicycle and Pedestrian Transportation Suite 250 401 Oberlin Road Raleigh, NC 27605

## A.3.5 Lake Norman RPO Letter of Endorsement



525 N. Tryon St.  
12th Floor  
Charlotte, NC 28202

(704) 372-2416  
FAX (704) 347-4710  
www.lakenormanrpo.org  
www.centralina.org

**OFFICERS**

Michael Johnson  
TAC Chairman

Bob Austell  
TAC Vice-chairman

Neil Burke  
TCC Chairman

Elinor Hiltz  
TCC Vice-chairman

§

Serving Cleveland,  
Gaston, Iredell and  
Lincoln Counties



## A RESOLUTION FOR ENDORSEMENT OF THE PEDESTRIAN PLANNING GRANT FOR THE CITY OF KINGS MOUNTAIN

**WHEREAS**, The City of Kings Mountain has chosen to apply for a Pedestrian Planning Grant made available by the NCDOT Division of Bicycle & Pedestrian Transportation; and

**WHEREAS**, The purpose of the Bicycle & Pedestrian Planning Grant Initiative is to promote the development of bicycle plans and pedestrian plans; and

**WHEREAS**, The successful implementation of a pedestrian plan will offer a safe and healthy alternative to automobiles by linking the downtown area, neighborhoods, schools, and employment centers with sidewalks; and

**WHEREAS**, the City's policies of sustainable and smart growth initiatives are more likely to succeed because the pedestrian plan will be used to create the framework for an appropriate transportation option ; and

**WHEREAS**, the City of Kings Mountain's population is increasing, and viable alternative transportation modes would ensure mobility for a diverse population

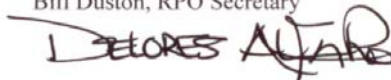
**NOW, THEREFORE BE IT RESOLVED** that the Lake Norman RPO Technical Advisory Committee endorses the Pedestrian Planning Grant for the City of Kings Mountain.

Endorsed this 16th day of November, 2010.

  
\_\_\_\_\_  
Michael Johnson, TAC Chairman

  
\_\_\_\_\_  
Bob Austell, TAC Vice-Chairman

  
\_\_\_\_\_  
Bill Duston, RPO Secretary

  
\_\_\_\_\_  
Dolores Alfaro

Commission Expires January 10, 2015



A.3.6 2010 Powell Bill Allocations

FY 2010-2011

FUND: POWELL BILL

DEPARTMENT/DIVISION: POWELL BILL

*MISSION STATEMENT: To continue to maintain all city streets, shoulders, curb and gutter, and sidewalks; to eliminate tort liability claims; to continue to maintain storm drainage ditches within the City.*

BUDGET SUMMARY

Expense Category	Actual FY 08-09	Budget FY 09-10	Requested FY 10-11	Adopted FY 10-11
PERSONNEL	\$90,492	\$93,207	\$96,000	
OPERATING	\$137,618	\$228,935	\$303,935	
CAPITAL	\$223,151	\$60,000	\$00	
TOTAL	\$451,261	\$382,142	\$399,935	

**ACCOMPLISHMENTS:** Have successfully maintained and done some upgrades on the City's storm sewer system. Have successfully maintained the sidewalks along the city streets.

**GOALS:** To continue to maintain the sidewalks and city roadways. To continue to maintain and improve the City's storm sewer system. To retain all full-time employees.

**BUDGET HIGHLIGHTS, AND/OR SIGNIFICANT MODIFICATIONS:**

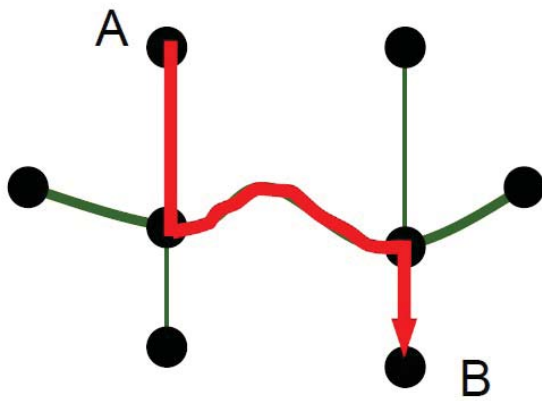
A.3.7 Example Street Connectivity Calculation Method

# Street Connectivity: Link Node Ratio

Link-Node Ratio is an index of connectivity equal to the number of links divided by the number of nodes within a study area. **Links** are defined as roadway or pathway segments between two nodes. **Nodes** are intersections or the end of a cul-de-sac. A perfect grid has a ratio of 2.5.

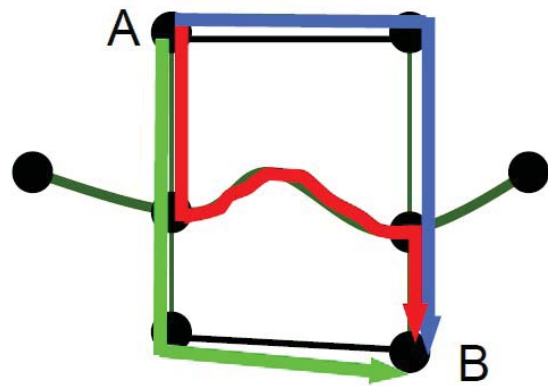
<http://reconnectingamerica.org/assets/Uploads/TRB2004-001550.pdf>

Only One Route from A to B



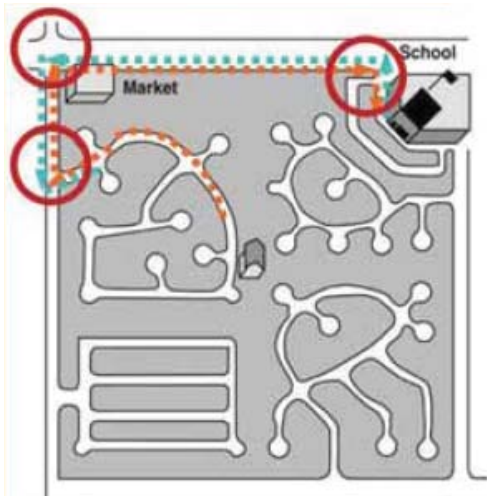
Link Node Ratio =  $7/8 = 0.88$

Three Routes from A to B

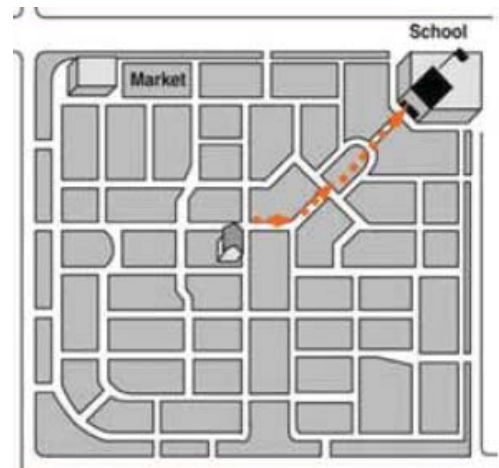


Link Node Ratio =  $9/8 = 1.13$

Source & Presentation Idea : Dill, 2004



**Neighborhood Connectivity**  
< POOR >



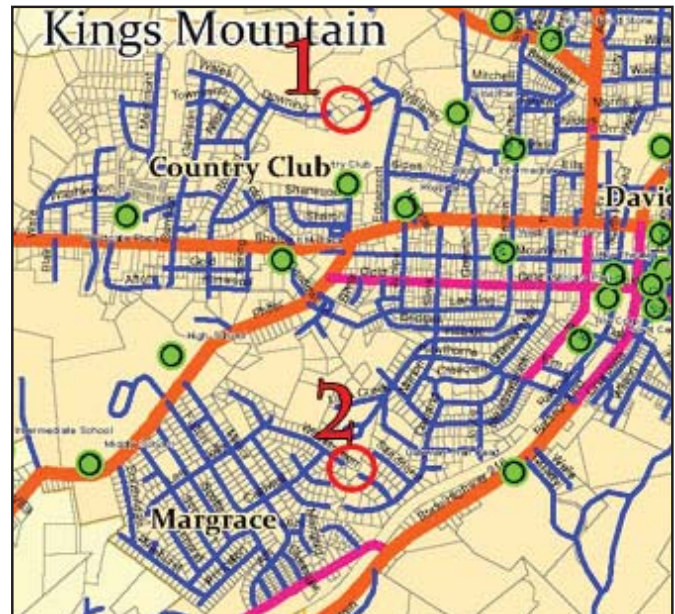
### A.3.8 Barrier Analysis Method

In order to estimate the relative significance of the various barriers in the current system, a number of variables can be factored in: destinations or populations affected, cost of facilities needed, public requests for the facility, etc. However, to evaluate the barriers purely in terms of the logistical impediment they pose, a few measurable factors should be considered. One such factor is the distance required to travel (walk) between two points: the “travel distance” (or Td), compared to the actual distance (Ad) between those points; in other words, how far one must go out of their way to get from point “A” to point “B”, versus the distance “as the crow flies.” This degree of impediment, or “barrier deflection” (BD) can be calculated as:

$$BD = Td - Ad$$

The higher the value of BD, the more the traveler is deflected from a straight course as they try to reach one point from the other. When there is no barrier to overcome, Td and Ad are the same and the BD value = 0.

Two significant barriers within the Kings Mountain local road system are identified here for comparison. Barrier 1 is located in the Country Club area between Edgemont Drive & Downing Court. Barrier 2 is located in the Margrace and Crescent Hill neighborhoods, between Huntingtowne Drive and Wintergreen Court. Both barriers are located in residential neighborhoods. Both barriers have topographical challenges. In order to compare these two barriers in terms of their physical affect on the system, the deflection value can be measured for each.



Barriers to pedestrian travel found in the Country Club (1) and Margrace (2) neighborhoods



Black lines indicate the shortest public travel ways around barriers 1 & 2

In the case of Barrier 1, for a resident of Edgemont Drive to walk to an address on Downing Court, they must leave the local neighborhood street network and utilize US 74 Business, a minor arterial road with a 35 mph speed limit that sees traffic volumes in excess of 10,000 vehicles per day. The actual distance (Ad) between the ends of the two roads at Barrier 1 is approximately 250 feet. The total travel distance (Td) required in order to reach one side of the barrier from the other, utilizing US 74 for a minimum distance, equals 9,770 feet. The deflection of Barrier 1 is therefore calculated as:

$$BD1 = Td - Ad = 9,770' - 250' = 9,520' \text{ or } 1.80 \text{ miles}$$

In other words, Barrier 1 can require a pedestrian to walk as much as 1.8 miles out of their way on an alternative route to reach their destination, and be forced to utilize a segment of road with significant traffic.

In the case of Barrier 2, the actual distance of the interruption due to the barrier is similar: about 260 feet. But the shortest available route between one end point and the other is 12,130 feet (2.3 miles)!

$$BD2 = Td - Ad = 12,130' - 260' = 11,870' \text{ (2.25 miles)}$$

A comparison of the two deflections caused by these barriers shows that, while both are substantial, Barrier 2 imposes a greater burden on the traveler, requiring them again to utilize a minor arterial road (Phifer Street) for part of their journey. Limited to this consideration alone, construction of a bridge facility for pedestrian (as well as bicycle) use over Barrier 2 would provide more “bang for the buck” than a similar facility for Barrier 1.

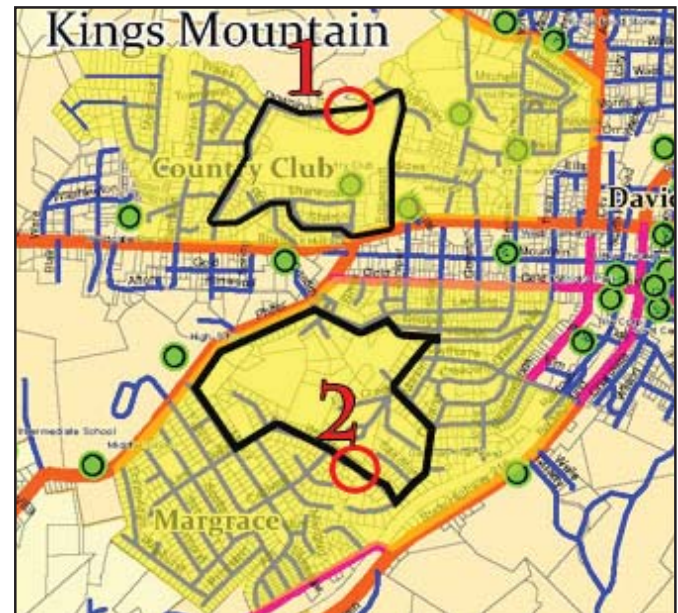
The area and population most significantly affected by the barrier can also be evaluated. This area is approximated by identifying the edge formed by the surrounding streets of higher road classification. The edge is defined in this manner because:

a. It will likely conform to the recognizable edge of the

neighborhood;

b. It will likely offer the least complex and quickest alternative route back into the neighborhood.

c. These streets are not likely to be crossed by pedestrians to reach the destination due to their higher vehicular speeds and volume.



**Areas shaded in yellow show the relative areas affected by barriers 1 & 2**

In addition to the higher classified streets, other natural and man-made barriers may also help define the affected area, or “barrier zone” (BZ); in such cases, parcel lines can provide the actual boundary. Once this zone is defined, it can be easily measured. However, this measurement alone does not reveal the impact, or negative value, of the barrier in terms of the potential number of users affected.

In order to better account for the volume of potential usage in the affected zone, an approximation can be made based upon the number of residential parcels or multi-family dwelling units within that zone. Major destinations in the proximity will also add to the significance of the barrier; however, the majority of affected users

may be limited to residents from within the other side of the affected zone, as those travelling from outside of the zone will more likely utilize the higher classified streets. In general, the higher the number of affected residents, the more significant the barrier is to the system, and the more useful a bridging of that barrier would be. Note: a cursory visual examination of the density of parcels can quickly reveal the relative significance of these barriers. The density of the street pattern may also provide a quick evaluation tool for approximating this value.

Once the number of dwelling units or parcels within the barrier zones has been counted, the “barrier population” (BP) of various barriers can be determined. How these populations are affected by each barrier, and to what degree, can be calculated by combining the values of barrier deflection, barrier zone and barrier population. This overall “barrier value” (BV) is derived using:

$$BV = BP * BD^3 / BZ$$

This formula accounts for a number of factors involved in considering the detrimental effect (or negative value) of a barrier:

- The barrier value (BV) is directly related to the number of residents affected (BP) and additional travel length (or deflection) necessitated by the barrier (BD).
- As the barrier zone (BZ) increases, there are more residents in the zone that are less affected by it, or will need to travel a decreasing portion of it.
- As connectivity of the affected area increases, more choices of path are available and the barrier deflection decreases, though the barrier area may still be large.
- As fewer people reside near the barrier, the impact or negative value of the barrier decreases.
- If the barrier deflection is expressed in mile units, the barrier zone is in square miles, and the resulting barrier value is expressed in a conceptual term “user-miles”. The number of user-miles indicates that a given number of people are being forced to travel various distances out of their way.

Applying the formula to the barriers identified above:

$$\begin{aligned} BV1 &= BP1 * BD1^3 / BZ1 \\ &= 625 * (1.80 \text{ mi.})^3 / .9217 \text{ sq. mi.} \\ &= 625 * 5.832 \text{ mi}^3 / .9217 \text{ sq. mi.} \\ &= 3,955 \text{ user-miles} \end{aligned}$$

$$\begin{aligned} BV2 &= BP2 * BD2^3 / BZ2 \\ &= 935 * (2.25 \text{ mi.})^3 / .9079 \text{ sq. mi.} \\ &= 935 * 11.39 \text{ mi}^3 / .9079 \text{ sq. mi.} \\ &= 11,730 \text{ user-miles} \end{aligned}$$

Though the areas affected by each barrier (BZ) are nearly equal, the Barrier 2 zone has a greater residential density, and the barrier itself creates a greater deflection in the travel path. Its barrier value (BV) is nearly three times as high as that of Barrier 1. This indicates that bridging Barrier 2 would bring more benefit to more people than bridging Barrier 1, whether they choose to walk or bike. And while the Barrier 1 zone includes some prominent destinations and the Barrier 2 zone does not, the majority of residents outside Barrier 1 zone can access those destinations more directly from paths that do not encounter the barrier and would therefore not significantly benefit from a bridging of that barrier.

#### A.4.1 The 13 Points of Pedestrian-Oriented Development

1. The neighborhood has a discernible center. This is often a square or a green and sometimes a busy or memorable street corner. A transit stop would be located at this center.
2. Most of the dwellings are within a five-minute walk of the center, an average of roughly 2,000 feet.
3. There are a variety of dwelling types - usually houses, rowhouses and apartments - so that younger and older people, singles and families, the poor and the wealthy may find places to live.
4. At the edge of the neighborhood, there are shops and offices of sufficiently varied types to supply the weekly needs of a household. (Collective neighborhood edges form a town center.)
5. An elementary school is close enough so that most children can walk from their home.
6. There are small playgrounds accessible to every dwelling - not more than a tenth of a mile away.
7. Streets within the neighborhood form a “connected network, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination.
8. The streets are relatively narrow and shaded by rows of trees. This slows traffic, creating an environment suitable for pedestrians and bicycles.
9. Buildings in the neighborhood center are placed close to the street, creating a well-defined outdoor room.
10. Parking lots and garage doors rarely front the street. Parking is relegated to the rear of buildings, usually accessed by alleys.
11. Certain prominent sites at the termination of street vistas or in the neighborhood center are reserved for civic buildings. These provide sites for community meetings, education, and religious or cultural activities.
12. The neighborhood is organized to be self-governing. A formal association debates and decides matters of maintenance, security, and physical change. Taxation is the responsibility of the larger community.
13. For single-family homes: A small ancillary building is permitted within the backyard of each house. It may be used as a rental unit or place to work (e.g., office or craft workshop).

Duany Plater-Zyberk & Company

### A.4.2 Some Benefits of Greenways

#### from Great Rivers Greenway District in St. Louis

Greenways improve everyday living.

An interconnected system encourages neighborhood and community lifestyles that emphasize outdoor recreation and promote walking and bicycling to school, work and shopping. By linking the system to streets, sidewalks and other public spaces, it helps communities and neighborhoods to function in a more connected, healthy and enjoyable way.

Greenways Link a Community's Resources.

By providing physical connections and green "buffers," a system of greenways, parks and trails helps unite spaces within a community. Residential and commercial districts, educational campuses, civic and cultural amenities, and light industry all can be interwoven with a well-designed open space plan that incorporates and respects the natural environment.

Greenways Create a Stronger Tax Base.

Neighborhoods and communities thrive when public investment is made in greenways, parks and trails, encouraging additional public and private investment in the area. The enhancement of "green infrastructure" is an important aspect of redevelopment and contributes to increased property values and, thus, tax revenue. Neighborhoods and communities prosper, job opportunities increase and the region stabilizes financially. In established and growing communities, the additional open space provided by the interconnected system also increases.

#### Research from the National Park Service

By conserving a greenway corridor rather than permitting intensive development, local agencies may reduce costs for public services such as sewers, roads, and school facilities. Establishing a greenway in an area prone to hazards, such as flooding, may decrease costs for potential damages. Greenways and associated veg-

etation can also help control water, air and noise pollution by natural means, resulting in potential decreased pollution control costs. Greenways and trails may promote physical fitness, leading to decreased public health care costs.

Greenway corridors provide a variety of amenities, such as attractive views, open space preservation, and convenient recreation opportunities. People value these amenities. This can be reflected in increased real property values and increased marketability for property located near open space. Developers also recognize these values and incorporate open space into planning, design, and marketing new and redeveloped properties.

Cases and examples: <http://www.nps.gov/pwro/rtca/propval.htm>)

More information available at: [www.nps.gov/pwro/rtca/index.htm](http://www.nps.gov/pwro/rtca/index.htm)

#### From the San Marco Greenbelt Alliance

Trail users generate tax revenue and income for local businesses. A study conducted by the Maryland Department of Natural Resources found that although the Northern Central Rail-Trail cost \$191,893 to construct, it generated \$303,750 of State tax revenue during one year. (see <http://ntl.bts.gov/DOCS/430.html>) And the 1992 "Impacts of Rail-Trails" study by Roger L. Moore, et al. found that for the three trails studied, trail users of each trail were responsible for generating over \$1.2 million for local businesses. "Users spent an average of \$9.21, \$11.02, and \$3.97 per person per day as a result of their trail visits to the Heritage, St. Marks, and Lafayette/Moraga Trails respectively." For more data on outdoor recreation spending, "Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors" at the National Forest Service site: [www.nps.gov/pwro/rtca/econindx.htm](http://www.nps.gov/pwro/rtca/econindx.htm)

### From Florida Greenways, “What is a greenway? Economic Prosperity”

Property near but not on the Burke-Gilman Trail in Seattle sold at an average of 6.5 percent more than similar property elsewhere. Property values directly adjacent to the trail were not affected, either in average price or ease of sale. Approximately 60 percent of the owners of homes and condominiums adjacent to the trail believed either their homes sell for more because of the trail or would not be effected. It was also found that homes and condominiums near the trail are easier to sell because of their proximity to the trail (Source: Evaluation of the Burke-Gilman Trail’s Effect on Property Values and Crime, by the Seattle Engineering and Department Office of Planning, 1987).

### Excerpts from studies concerning Safety along Greenways and Trails

Greenways are areas of high utilization for recreational purposes. There is little evidence to support the fear that these natural spaces encourage criminal activity.

Evidence supports the notion that greenways, trails and converted rail beds may actually discourage crime and vandalism in many areas. These areas no longer serve as places for people to hang out, dump trash, vandalize or engage in criminal activity because there is too great a risk that they will be discovered.

Police Chief Terry Sult from the Town of Unionia: “[Greenways/trails] just don’t tend to be a magnet for crime as a lot of people might think. That doesn’t mean greenways don’t need to be patrolled, and they must be in use to become criminal deterrents. But the good people who use them for recreation are like unofficial police... The reality is, if you can make sure the [greenways/trails] are activated, it creates more eyes and ears than areas that don’t have them. Anything you can do to raise the risk level of a criminal is going to deter crime.”

### Safety Studies

- A study conducted by UNC-Charlotte explored property crime rates on the entire Mecklenburg County greenway system between 2001 and 2003. The study compared crime on properties next to greenways with those of surrounding neighborhoods. Researchers found that the properties adjacent to the greenways actually experienced less crime during the majority of the years surveyed concluding that greenways do not incur a greater risk of crime. (Assessment of Crime Risk along Greenways in Charlotte, North Carolina 1994-2003 by Walter Martin Presented at the Association of American Geographers 2005 Annual Meeting, Denver, CO, April 8, 2005)

#### Conclusions:

- The data suggests that Greenways are not significantly more prone to property crimes than their parent neighborhood. Crime rates were lower along greenways in 3 of the 4 years and significantly lower in 2001.
- The assertion that greenways are inherently unsafe is merely an urban legend.
- By challenging the baseless fear of greenways, similar studies can support development and extension of these delightful linear parks.
- A survey of persons using greenways in Raleigh and Charlotte, NC found that 59 % of Raleigh users and 75% of Charlotte users felt that crime was not a problem. [www.fogvg.org/trail\\_user\\_faq.php](http://www.fogvg.org/trail_user_faq.php)
- A report in Asheville, NC 1998 Master Greenway Plan called Benefits of Greenways stated that Americans are concerned with crime. Some of the most successful deterrents to criminal activity have involved increased neighborhood awareness by citizens and participation in community watch programs.

#### Conclusions:

- Greenways have proven to be an effective tool

to encourage local residents to participate in neighborhood watch programs.

- Some greenways have even been developed as part of efforts to deter criminal activity in a neighborhood.
- Crime statistics and reports from law enforcement officials have shown that parks and greenways are typically land uses with the lowest incident of reported criminal activity.
- As a recreation resource, alternative transportation corridor, or area where fitness activities can take place, most greenways provide a much safer and more user-friendly resource than other linear corridors, such as local roads.
- Greenways typically attract local residents, who use the facility frequently, creating an environment that is virtually self-policing.
- Additionally, greenways--whether publicly or privately owned—are dedicated for multiple use and are normally designed to meet federal, state and local standards for public safety and use.

- Another study conducted on the effects of three Cary, NC greenways on adjacent residents found that no substantial evidence that these trails negatively impacted public safety. “Only one resident interviewed was concerned with the issue, and none of the police officers interviewed believed that trails had any effect on public safety.”

#### Conclusions:

- Overall, the study found that “The trail does not encourage crime, and in fact, probably deters crime since there are many people, tourists and local citizens using the trail for many activities at various hours of the day.”—Pat Conlin, Sheriff, Green County, WI
- These figures are very low considering the 372 trails surveyed cover nearly 7,000 miles of trail and more than 45 million estimated annual users.
- Letters from law enforcement agencies support these findings. They consistently report

that rail-trails do not encourage crime; rather, several letters cited heavy trail usage as a crime deterrent in areas of former isolation: “The trail has not caused any increase in the amount of crimes reported and the few reported incidents are minor in nature...We have found that the trail brings in so many people that it has actually led to a decrease in problems we formerly encountered such as underage drinking along the river banks. The increased presence of people on the trail has contributed to this problem being reduced.”—Charles R. Tennant, Chief of Police, Elizabeth Township, Buena Vista, PA

### A.4.3 Planning on Walking?

[www.planetizen.com/node/22955](http://www.planetizen.com/node/22955)<<http://www.planetizen.com/node/22955>

With positive effects on public health, safety, and environmental quality -- walkability has become the new buzz word in planning.

Atlanta Journal-Constitution, "Demand for Walkable Communities Unmet," Jan. 19, 2007: "A report scheduled to be released in conjunction with a panel discussion of Georgia planners and health experts has expanded findings on the benefits of pedestrian-friendly neighborhoods...[the study says] there is a significant, unmet demand for developments that make it easier to walk from place to place."

As editor of the Planning Commissioners Journal<[www.plannersweb.com](http://www.plannersweb.com)> ("PCJ"), I try to keep up with news on what's happening around the country, and what topics planners are dealing with. The Atlanta Journal-Constitution article cited above is typical of what we're seeing nationwide: a rapidly growing interest in "walkable communities."

A confluence of trends seems to be behind this. For one, there's been growing interest in the health implications of sprawl. From a relatively limited concern, this has exploded into coverage in major national publications and has led to a growing body of research.

The focus of the Winter 2006 issue of the Journal of the American Planning Association ("JAPA"), for example, is on connections between health and planning. Inside that issue, you'll find a detailed analyses of the correlation between health and walkable communities. The researchers found that "individuals who live in counties that are more walkable and have lower rates of crime tend to walk more and to have lower body mass indices." (See "Active Community Environment and Health: The Relationship of Walkable and Safe Communities to Individual Health.")

Our downtown Main Streets are made for walking (Illustration: Paul Hoffman. Copyright: Planning Commissioners Journal)

In the same issue of the JAPA, there's also an article Many Pathways from Land Use to Health, examining the link between walkability and air quality. The researchers asked if more walkable environments led to reduced auto use, and, in turn, better air quality. Using a "walkability index" that factored in things like net residential density and street connectivity, they found that more walkable neighborhoods yield at least some improvements in air quality (also pointing out that "greater improvements in walkability should lead to larger effects").

Consider also the rapidly growing "safe routes to school" movement, which seeks to get more kids walking to school -- in large part for the health benefits, but also as a way of promoting neighborhood schools in places where walking to school is still possible (we've reported on "school sprawl"<[www.plannersweb.com/wfiles/w165.html](http://www.plannersweb.com/wfiles/w165.html)> in the PCJ, and know that in many places walking to school is simply an impossibility).

Advocating for the opposite end of the age spectrum, AARP has started a major "livable communities" initiative. In Burlington, Vermont, one of the pilot communities in this project, seniors have taken neighborhood walks, where they've evaluated the condition of sidewalks, crosswalks, and signal timing -- with the aim of enabling more seniors to be able to walk from where they live to nearby stores and community services.

Cities where you wouldn't expect it are also focusing on pedestrians. In Kansas City, Missouri, one of the nation's most auto-oriented places, the City has adopted a Walkability Plan, with innovative strategies for promoting more walkable neighborhoods. Kansas City now requires neighborhood walkability audits as a prerequisite to receipt of certain capital improvement funds. The city's development review process also takes into account not just traffic, but pedestrian impacts.

Here's one more force behind the interest in walkable communities: the New Urbanism movement. Those of you familiar with New Urbanism -- which has taken off as an approach to urban design and planning in recent years -- know that it has as a core value a commitment to developing walkable communities. Consider just two of the guiding principles in the Charter of the Congress of the New Urbanism (new urbanism's guiding body).

a. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Inter-connected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.

b. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.

Also connected to the heightened interest in walkable communities is the voice of hundreds of Main Street organizations and downtown business groups. They are seeing how their efforts tie in nicely to promoting walkability. And, of course, there are few places more conducive to walking than downtown main streets.

But even in newer suburbs, town center developments are proliferating -- and are being promoted in terms of their walkability, not just their auto accessibility.

In the current issue of our publication, the PCJ, transportation planner Hannah Twaddell points to many of the developments I've just noted (see excerpts from Let's Plan on Walking <[www.plannersweb.com/wfiles/w258.html](http://www.plannersweb.com/wfiles/w258.html)>). But she also highlights another important ingredient in the brewing interest in walkable communities -- economic value:

"One of the keys to regional and local prosperity is the ability to attract and retain high-skilled people. ... Many people can, and do, choose where they want to

live based on factors beyond their ability to make a living. "Quality of life" has become the coin of the realm. The economic value of a community's attractiveness as a place to live, work, and play is becoming widely recognized by business leaders, local officials, and planners. This has led many cities to focus on ... a built environment that encourages a vibrant street life -- elements that require a welcoming, walkable environment for people of all ages."

Twaddell goes on to note, "Walkability isn't just for cities and suburbs. The economic health and livability of small towns and villages depends upon it, too. Participants in surveys and focus groups conducted for a recent national study on integrating land use and transportation in rural communities repeatedly emphasized the need to invest in sidewalks, crossings, and street amenities in order to take advantage of the compact, connected design they already enjoy."

And before I close, it's interesting to note that even the National Highway Traffic Safety Administration is promoting walkability, witness its Partnership for a Walkable America. As the NHTSA puts it, "Our nation has simply become 'unwalkable' despite the fact that everyone is a pedestrian!" The NHTSA's objectives: "to make walking in America safer by reducing motor vehicle-related deaths and injuries; to provide information about how to achieve walkable communities; and to encourage walking as one of the easiest ways for Americans to improve their health and lower health care costs."

So what's the bottom line? It seems that walkability is in. It's hard to argue with benefits that range from health, to air quality, to quality of life, to economic value, to safety (and I probably left something out!). What we seem to be witnessing, dare I say, is a walkability movement.

Author: Wayne Senville

Resource: A great resource for anyone interested in this topic is the Walkable Communities web site [www.walkable.org](http://www.walkable.org), put together by Dan Burden.

#### A.4.4 The Importance of On-Street Parking

<http://newurbannetwork.com/news-opinion/blogs/steve-mouzon/15124/importance-street-parking>

On-street parking is important to good urbanism on many counts. Let's have a look at some of the most important reasons why it's essential:

##### Commercial parking lots

If people can't park on-street, then off-street parking lots are essential in all but the most highly walkable places where cars are unnecessary (think Manhattan.) Surface parking lots do lots of damage. First, if they are built in front of a building, then they pretty much guarantee that nobody will ever walk on the sidewalk that runs between the parking lot and the street. Pedestrians aren't stupid... you'd be taking your life in your own hands by walking in a place like this because you have no protection from cars zipping by just a few feet away from you.

The second-worst place for a parking lot is beside the building because this creates a big gap in the urbanism. This condition is known as a "snaggletooth streetscape." One of its worst features is that it interrupts the continuity of the street face, making the place seem incomplete, or decaying. Another really bad feature is the fact that it bores the pedestrians, because when they're walking beside it, they get a steady view of cars that doesn't change very quickly. Unlike a parking lot in front, which completely kills pedestrianism in only one block, parking lots beside buildings only injure it, and the extent of the injury to walkability depends on how big the gaps between buildings are.

The third place for a parking lot is behind the building. This isn't as bad as the other two places, but it has problems as well. If everyone parks in back, then it seems logical to the building owner to put the front door in the back. This not only creates a weird and confused floor plan, but it also means the building is less likely to pay the proper attention to the street, usually resulting in boring the pedestrians. And all parking lots have the unfortunate distinctions of being really bad heat sinks,

and of creating lots of stormwater with all that impervious asphalt or concrete.

##### Residential parking

Subdivisions that ban on-street parking force the paving of much of the lot because you've gotta have enough parking places for all of your family plus all of your guests... at your biggest party or other gathering of the year. Many builders will build a double-wide driveway all the way to the front facing garage of their "snout houses" so visitors can park on all that extra paving. This has all of the environmental problems that parking lots do: double-wide driveways are big heat sinks with lots of stormwater runoff. Big heat sinks aren't just environmental problems; they hurt walking as well. By heating up the micro-environment around them, they make it more uncomfortable to walk in their vicinity. And if driveway crossings take up a big percentage of the length of the sidewalk, then much of a walk along that sidewalk is spent subconsciously aware that cars might back out of the driveways and hit you. When fear arrives, pedestrians depart.

##### Parking decks

A parking deck next to a sidewalk creates a terrible pedestrian environment, as you can clearly see in the fourth image on the right. First, it's the most boring thing possible to walk beside, and most of the time, it's terminally ugly because people don't generally lavish a lot of money on a parking deck.

Bore the pedestrians, and they won't walk there. Build ugly buildings, and they'll abandon your sidewalk as well.

But that's not the worst of it. Parking decks are broadly perceived as being scary places. How many movies have you seen where the ax murderer waits in a dark corner of the parking deck for his next victim? The only thing worse for pedestrians than boredom and ugliness are danger and fear. So put a parking deck right beside those sidewalks where you never, ever, ever want pedestrians to walk.

**Liner buildings**

It is possible to fix parking decks by building what is known as a “liner building” between them and every adjacent sidewalk. A liner building is a thin building that “lines” the parking deck’s outer edges. You see the storefronts of the liner building’s shops at the first level and you see the windows of the offices or apartments above. It looks like any perfectly normal downtown building... it just happens to not be very thick, and to have a parking deck behind it. Liner buildings are hardly ever more than 30 feet thick. 18 feet is a good thickness because that’s often the depth of a parking space. But they can be even thinner, like the one shown in the next image.

**The pedestrian shield**

Clearly, forcing cars off the street has lots of negative consequences. But on-street parking isn’t just a car storage device. There are other benefits as well. Remember what we said earlier about “when fear arrives, pedestrians depart”? One major source of fear is the possibility that a car might run off the street and hit you. On-street parking alleviates this fear, because each of those parked cars acts as a shield of several thousand pounds of metal between you and the moving traffic. People don’t consciously realize this all the time, but you’ve never seen a sidewalk cafe next to the expressway, have you?

**Thriving retail**

Retail expert Bob Gibbs says that every on-street parking space in a thriving retail district is worth \$250,000 in sales to the nearby merchants on that street. People will walk much further along an interesting Main Street to get from their parking space to the store they’re going to than they will walk from a parking lot. I blogged about Pedestrian Propulsion a couple years ago; that post explains why this is so. Simply put, if you want to kill the businesses along a thriving commercial street, just remove the on-street parking. Works every time.

### A.4.5 How to Build a Sidewalk A STEP-BY-STEP GUIDELINE FOR BUILDING PEDESTRIAN IMPROVEMENTS

#### I. PROJECT REQUEST

All requests for new sidewalks (or other pedestrian facilities) should be directed to the Pedestrian Needs Committee (PNC). A request may come from various sources, including:

1. A Pedestrian Plan evaluation exercise (see the Plan Evaluation section)
2. An unsolicited request from an individual or group
3. Observations of PNC members themselves, elected officials, Town Manager, Public Works Director or other Town staff members.

#### II. PROJECT EVALUATION PHASE

The PNC should evaluate the project with respect to the following criteria:

1. Appropriateness of the project with respect to the Pedestrian Plan
  - a. Does the project meet the goals of the Pedestrian Plan?
  - b. Where does the project fall into the priorities of the Plan?
  - c. Does the project meet current and anticipated needs and conditions?
  - d. Can the requested project be altered in some way to meet the above criteria?
2. Ownership of the land  
Does the Town already own the right-of-way? If not, the PNC should determine and recommend the most appropriate course of action:
  - a. Purchase the property required by fee simple.
  - b. Acquire an easement on the property.
  - c. Condemn the portion of the property needed.
  - d. Find an alternate project to meet the goal.
3. Source and availability of proper funding

The PNC should determine and recommend a funding strategy that would be most appropriate to the project.

The PNC may consider:

- a. Powell Bill funds
- b. Applicable grants
- c. Other sources (see Funding Opportunities).

#### III. PROJECT DESIGN/CONSTRUCTION PHASE

If the project meets the intent of the Pedestrian Plan, and it has been determined that the property required for the project can be obtained, the PNC should then examine the project in terms of the four specific parameters listed below. Each of these parameters will determine some aspect of how the project construction process will play out.

##### 1. Project Area

Larger projects require additional state permitting. If the project involves one acre or more of disturbed earth, a plan must be submitted to the North Carolina Department of Natural Resources (NCDENR) for a 30-day review of the project. The process for submitting projects to NCDENR, as well as the application forms required, can be found at their Division of Land Resources webpage: <http://www.dlr.enr.state.nc.us/pages/sedimentforms.html>

Additional permits may be required for particular projects depending upon the site involved. For more information, contact the local NCDENR office at 704-663-1699.

##### 2. Project Cost

A rough estimate of the overall project cost should be performed at the outset to determine if the project must be bid publicly.

Project cost <\$300,000

Project does not require public bidding, however obtain-

ing multiple bids, informally, is recommended to find the most competitive price for project construction.

Project cost >\$300,000

- Public bid for the project is required according to General Statute.
- Requires Planning Board Approval
- Bid projects using a professional list serve. Advertising in newspapers may serve this purpose, but are usually not as cost-effective.

### 3. Project Property Owners

Owners of properties directly affected by the project must always be contacted, but depending upon the project size as well as its civic importance, this can occur privately or may require a public workshop.

### 4. Project Design

Some projects are small enough and/or do not require exact measurements for construction, such as some sections of trails. These may be field determined and built according to a standard specification (see Facility Standards & Guidelines). But projects that tie into existing streets or other facilities more often require careful coordination and measured plans. An attempt to save money at the front end by not requiring construction plans can likely produce a project that is unsatisfactory, problematic, and reap unexpected expense.

Constructing a sidewalk sometimes involves a variety of players, from the NCDOT and municipalities, to private property owners and utility departments. A range of federal and state and local funding sources are available to assist in the development and construction of these non-motorized improvements; however local financial participation is often required, in the form of matching funds, right-of-way acquisition or in-kind services.

The following are some of the resources available to assist in the construction of sidewalks. Please contact the NCDOT early in the process if the sidewalk you would like built is along a state-owned road.

### On-Road Pedestrian Facilities

#### Federal

- Enhancement Funds
- Congestion Mitigation and Air Quality Funds (in qualifying areas)
- Earmarks (contact local legislator)
- Safe Routes to Schools (within 2 miles of an elementary or middle school)

#### State

- Independent Projects through the Surface Transportation Program Evaluation Criteria
- Incidental Projects (in conjunction with road maintenance or widening projects)
- Governor's Highway Safety Program
- Board Member Discretionary Funds (via Division Office)

#### Local

- Community Foundations
- Tourism Authority
- Health Foundations/Hospitals
- Powell Bill

