

## Section 8: IMPLEMENTATION & FUNDING

### 8.1 Sample Cost Estimates

In order to build bicycle facilities, a number of different costs associated with projects must be considered. These include: material costs, labor costs, mobilization costs, right-of-way purchase or easement costs, design costs, and project management expenses. Installation of paved shoulders and bicycle lanes may also include changes to existing grades and necessitate alterations to drainage structures. Together these items are considered “project costs.” Multi-purpose paths are literally small roads, with all the costs associated with roads construction, so eliminating the right-of-way costs is often essential to the financial viability of a project. When multi-purpose paths are co-located on water or sewer easements, right-of-way costs are eliminated.

The cost estimates are provided below only as a guide and are approximate. Prices are current as of 2011. Materials, labor and other project costs will vary with fluctuating interest rates and inflation, as well as on the complexity of the project.

A summary of project type unit costs is provided in the following table:

PROJECT TYPE	CODE*	COST PER MILE <sup>♦</sup>
Signage only	S	\$1,000
Restriping (lane adjustment only)	W, P	\$5,000
Striping (bike lanes)	L	\$15,000
Road widening (2' shoulders)	P	\$300,000
Utility relocation		\$400,000
Widening & grading	P	\$500,000
Bridge rail renovation	X	\$530,000
Trail	T	\$750,000
Drainage and shoulder modification		\$750,000
Suspended bridge	X	\$1.5 million

\* Code corresponds to project numbers in the Proposed Projects List and Proposed Routes & Facilities Map.

<sup>♦</sup> Cost assumptions include design and construction. The results are costs that reflect those expenses for stand-alone projects, which must be designed, bid, and managed as independent projects. These costs may be lower for bicycle facilities that are constructed as a part of a larger road improvement project. All facility unit cost estimates include appropriate signage.

#### Signage

The cost for manufacturing a sign is relatively low, as low as \$25 when simple signs are produced in bulk. Installing a sign raises the cost significantly, to approximately \$300 per sign installation. Every major intersection and all intersections on designated bicycle route where bicycle routes make a turn will require bicycle route signage and a directional arrow for each approaching direction. “Share the Road” signage is recommended on a case by case basis as NCDOT desires to limit the installation of further signs due to visibility, maintenance, and driver perception issues.

### **Paved Shoulders and Bicycle Lanes**

Adding asphalt to an existing paved road can oftentimes appear as a straightforward endeavor. Paved shoulders and bicycle lanes can be installed as a part of a resurfacing or widening project, or can be completed as a stand-alone project. The information below describes the variables, and costs, that must be considered as a part of any project.

The above costs were calculated from an NCDOT project calculation spreadsheet that included contingency, design, utility relocation, and contingency costs. The results are costs that reflect those expenses for stand-alone projects, which must be designed, bid, and managed as independent projects. These costs may be lower for bicycle facilities that are constructed as a part of a larger road improvement project.

The cost for slope modification is difficult to predict. The cost is minimal on projects where dirt simply has to be moved to create an appropriate slope. The cost increases dramatically when creating an appropriate slope requires right-of-way or easement acquisition, drainage modification, or retaining structures.

The cost to add bicycle lanes to the design and construction of a traditional road widening or construction project is reflected in all of the costs associated with a project, and so their costs can best be estimated as a percent of the project cost. According to NCDOT, the rule of thumb for adding bicycle or pedestrian facilities to a project is five to ten percent. The percentage will be higher on a straightforward two-lane road project, and less on a complex multi-lane project.

### **Multi-Purpose Paths**

Multi-purpose paths are typically 10-foot wide paved facilities, on 30-foot wide corridors designated for bicycle and pedestrian use only. Such paths can be built on specific easements, dedicated rights-of way, or along utility corridors, such as electricity, water or sewer lines. There must be sufficient room available to accommodate the 30-foot corridor, which includes 10 feet of travel surface, and five-foot shoulders on either side. The cost to build a multi-purpose path includes many of the variables considered when constructing a new road: materials, bridging, drainage, signage, earth moving, and overall design and management.

## 8.2 Funding Sources & Strategies

Many sources are available for funding the planning and construction of bicycle improvements. Using the right source and getting the best return requires strategy. The most successful strategy for the City to develop and improve its bicycle system will involve an appropriate combination of all possible funding sources, both public and private. Local, state, federal, and private funding is available to support the planning, construction, right-of-way acquisition and maintenance of bicycle 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 facility funding opportunities available through federal, state, nonprofit, corporate and private sources. An important key to obtaining any of this funding is for the City to have an adopted plan for bicycle and multi-purpose trail systems in place prior to making an application or otherwise securing funding.

### State Funding

#### NCDOT

Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bicycle-safe bridge design are frequently included as incidental features of highway projects. The NCDOT Complete Streets Program is expanding this policy.

1. **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/>
2. **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.



3. **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. 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, bicycle projects within the portion of the City that lies within Gaston County are eligible. CMAQ funds are distributed through the Lake Norman Rural Planning Organization (LNRPO). Its allocation over a seven year period is approximately \$6.1 million.
4. **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.
5. **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.

6. **Safe Routes To School (SRTS):** 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  
1561 Mail Service Center, Raleigh, NC 27699-1561  
Email: [erjohnson2@ncdot.gov](mailto:erjohnson2@ncdot.gov)  
Direct 919.329.8497 Branch 919.773.2800



### North Carolina Division of Parks and Recreation

The Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The grants are intended for the development, construction, maintenance, and rehabilitation of multi-purpose trails and trail facilities. Funds are subject to the overall Federal-aid highway obligation limitation. Since 2009, reauthorization has been extended at 2009 funding levels. Funding status for the grant for 2012 and beyond is unknown. However, the North Carolina Division of Parks and Recreation is still encouraging applications for grant money. RTP funds may be used to match other Federal program funds for projects that otherwise would be eligible for RTP funding.

Eligible activities for RTP funds include:

- Maintenance and restoration of trails
- Development and rehabilitation of trailside and trailhead facilities
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails (with some limits on Federal lands)
- Acquisition of easements and fee simple title to property
- Assessment of trail conditions for accessibility and maintenance
- Development and distribution of related publications
- Operation of trail safety and trail environmental protection programs
- Assessment of trail conditions for accessibility and maintenance
- Other related uses

### North Carolina Department of Environment and Natural Resources (NCDENR)

NCDENR administers two grant programs designed to fund planning and implementation of recreation projects, such as multi-purpose trails. These programs are the Parks and Recreation Trust Fund (PARTF) and the Land and Water Conservation Fund (LWCF). LWCF applicants may receive a maximum of \$250,000 per project from NCDENR, and PARTF applicants may receive a maximum of \$500,000, per project, from NCDENR. Both LWCF and PARTF grants require a dollar-for-dollar match, or 50 percent.

### Private Foundations & 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 both 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.



Weaving Communities Together

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.



Proposed **Carolina Thread Trail**  
(shown as broad, light pink swath)

Both Cleveland and Gaston County has participated in the CTT by developing county-wide greenway plans. The Carolina Thread Trail segments are defined as ¼-mile wide “opportunity corridors” in which the actual trail will be located. The City of Kings Mountain will determine the exact location of the CTT segments within its jurisdictions. This more detailed alignment will depend upon existing conditions, including the availability of land, rights-of-way, landowner interest and future opportunities, and trail design and development.

As one of these more fine-grained planning efforts, the Kings Mountain Bicycle Plan process involved on-the-ground reconnaissance and evaluation of these CTT corridors within the Kings Mountain jurisdiction, and recommends a number of bicycle facility project segments to be located within proposed CTT alignments included in the Cleveland County master plan. These projects are indicated in the **Section 6: Proposed Projects List** and shown on the **Proposed Routes & Facilities Map** in **Section 7**.

Funding opportunities are identified annually by the Catawba Lands Conservancy for CTT designated trail projects. These funds are designated for both design and construction of trail facilities.

### 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 promotes 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) or call: 919-843-2523.

## Local Strategies

### Implementation through Local Land Development

The most cost efficient method for implementing bicycle facilities on a consistent basis is to do so as part of the land development process. Depending on the individual situation and what the City's land use regulations call for, right-of-way can be preserved, or construction of a greenway, multi-purpose path or bicycle lane can be undertaken. In general, required improvements or land reservation should be proportional to the impact the development will have on the transportation system.

Requiring the installation of bicycle lanes or paved shoulders as a part of the development approval process obviously costs the developer, but results in a facility constructed for less cost, and far less difficulty, than as an independent project. The traditional zoning language used for this strategy requires construction along the frontage of the development. For multi-purpose paths the community may work with the developer to set aside the land for construction of the facility, with either an easement or dedication of the property to the community. These developer costs can be recovered in part since the bike facility is an amenity that can enhance the value of a property.

Another strategy the City may use in securing infrastructural improvements is to make such improvements a "fair and reasonable" condition in association with the approval of a conditional zoning district or conditional use permit. Any such conditions must be tied to a development project itself, and must be mutually agreed upon by both the approving entity and the applicant, and should be directly associated with an approved planning document. In other words, if an approved plan called for an off-road bicycle path or greenway on a piece of property, a "fair and reasonable" condition associated with conditional approval would be for either the property associated with the path or greenway be dedicated to the local government, or the path segment be built on that piece of property (or funds in lieu be paid to the local government).

The City should use this tool **ONLY** when referencing adopted plans that clearly show proposed improvements (i.e., plan or greenway development) on a specific piece of property. The term "fair and reasonable" should also be used appropriately. Asking a property owner to make a \$500,000 improvement or donation for a development that is valued at only \$25,000 would not be deemed by most persons to be "fair and reasonable."

In order for these two tools to be used, they must be specifically allowed in the local land use regulations. In addition, approval of a conditional use permit necessitates a quasi-judicial public hearing to be held by the local government.

### Powell Bill Funds

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 City of Kings Mountain received \$306,939.59 in 2010-2011. 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.

### **General Funds**

Municipalities and counties are always eligible to utilize their own revenues for trail improvement and installation projects. Historically, there has been little interest in County-level participation in transportation, as public roads in North Carolina have been owned and maintained by either NCDOT or by municipalities (although in recent years the North Carolina General Statutes have been changed to allow counties to fund road maintenance). Municipalities have therefore been more involved in funding and executing transportation projects. The City is encouraged to consider funding strategic projects in this Plan that will not be funded by NCDOT in the foreseeable future, are ineligible for other grants, and cannot be improved or funded as a part of the development process. All improvements on NCDOT facilities must be coordinated with the NCDOT to ensure their requirements are met.

### **Partnerships**

Due to the linear and connective nature of bicycle facilities, oftentimes off-road improvements may involve numerous landowners. Greenway projects, for example, can present complex challenges of working with multiple property owners and jurisdictions. Creating partnerships may be the only way to solve the complex problems that ensue, as well as deal with the inevitable web of utility lines (and providers) and transportation corridors. Though these partners may have some conflicting interests at times, opportunities for funding, support and publicity may arise and broaden by involving partners with diverse interests.

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. Rather than being solely dedicated to that one isolated use, these valuable corridors can often include a complementary public transportation and recreation use along with the utility functions. Utilities 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. Very specific routes that make critical connections to places of business would be targeted for private partners' monetary support following a successful master planning effort. Potential partners include major employers that are located along or accessible to bicycle facilities such as multi-use paths or greenways. Name recognition for corporate partnerships would be accomplished through signage trailheads or interpretive signage along greenway systems. Legal agreements should be carefully reviewed to verify ownership of the subsurface, surface or air rights.

### **Local Trail Sponsors**

A sponsorship program for multi-purpose 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 a greenway 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.

### 8.3 Maintenance Programs

Maintenance of bicycle facilities is an ongoing and necessary activity that ensures the continued safe use of a bike lane or trail. Maintenance should not be an afterthought, but should be considered at the outset of new project development and before reconstruction, as well as through on-going plans and routine maintenance.

#### **ON-ROAD FACILITIES**

For on-road facilities, maintenance activities should reflect the specific needs of bicyclists. Bicyclists ride on two very narrow, high-pressure tires. What may appear to be an adequate roadway surface for automobiles can be treacherous for cyclists. Fairly small rocks can deflect a bicycle wheel, a minor ridge in the pavement can cause a spill, a pot-hole can cause a wheel rim to bend. Wet leaves are slippery and can cause a bicyclist to fall. The gravel that gets blown off the travel lane by traffic accumulates against the curb, in the area where bicyclists are riding.

Perform these primary maintenance tasks for on-road bicycle facilities:

- Sweep streets after major winter storms.
- Sweep streets in autumn for leaves and in spring for tree waste.
- Keep drains in operating condition.
- Cut back vegetation to provide adequate clearances and sight distances.
- Cutback intrusive tree roots.
- Replace and repairing signs.
- Inspect and replace roadway striping and graphics to keep them prominent.
- Fill potholes and pavement cracks.
- Inspect pavement patches after underground utility work and other excavation activities that disrupt road and sidewalk surfaces.
- Modify or replace non-standard drainage grates with bicycle-safe grates.
- Clean and replace street lighting as needed to ensure their reliable operation and desired luminescence.

For more information, see the NBPC Technical Brief (National Bicycle & Pedestrian Clearing House) <http://www.michigantrails.org/blog/wp-content/uploads/maintenance-of-bicycle-and-pedestrian-facilities.pdf>

#### **Pavement Marking**

A variety of pavement marking methods can be employed to define bike lanes. These markings are renewed annually either through painting or applying new pavement tape. Buttons are another form of pavement marking, but they are replaced as needed rather than on a regular replacement schedule.

#### **OFF-ROAD FACILITIES**

Trails with multi-purpose paths used by bicycles must be properly maintained and kept clear of debris, overgrown landscaping, tripping hazards, or areas where water accumulates. Other bicycle facilities, such as signage, lighting, striping and landscaping, require other care and occasional replacement.

In general, maintenance costs include:

- Personnel Costs – wages and benefits for the people who perform the work.
- Materials – or 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.

- For tree and shrub areas: structural pruning, sucker removal, pest/disease control, fertilizing, adjustment/checking/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.
- For groundcover areas: pruning, edging, applying post/pre-emergents & plant growth regulators, fertilizing, adjustment/checking/repair of irrigation systems, rodent control and dead-heading (removal of dead blooms).
- For turf areas: mowing, edging, aeration, fertilizing, adjustment/checking/repair of irrigation systems, cleaning hardscape areas (paths, squares, etc.), and rodent control.
- For non-vegetated areas (open space): applying post/pre-emergent (selected areas), fire abatement, cleaning of hardscape areas (concrete pathways, squares, etc.)
- Additional 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
- Revegetation 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** - necessitated when storm damage makes the trail unsafe for daily use. Severe weather may occasionally cause damage to the facility either through wind, erosion, or fallen trees. 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.

## 8.4 Plan Adoption

After final approval of the Comprehensive Bicycle Plan by the Steering Committee and NCDOT’s Division of Bicycle and Pedestrian Transportation, the planning consultant (Centralina Council of Governments) submitted the Plan to the City Planning Board for review, and to the Lake Norman Rural Planning Organization (LNRPO) for endorsement.

Upon recommendation of the Plan by the Planning Board, the Plan was presented to the City Council for review. The City Council and attorney reviewed the Plan and held a public hearing of the Plan for public comment. When the City Council was satisfied with the Plan, it was publicly adopted by that body.

## 8.5 Implementation Actions

Once the Bicycle Plan is adopted and becomes part of Kings Mountain policy, there are a number of Key Action Steps the community can take to ensure that it is addressing the recommendations in the plan. Some of these actions are explained in detail in other parts of the Plan. The items are presented here for quick review with references to those corresponding sections of the Plan.

- |  |                          |
|--|--------------------------|
| 1. Form Action Committee (KMBC)            | <b>Section 4.5.1</b>     |
| 2. Modify Ordinances                       | <b>Section 4.5.2</b>     |
| 3. Initiate Programs                       | <b>Section 4.6</b>       |
| 4. Identify Funding Sources                | <b>Section 8.2</b>       |
| 5. Begin Construction of Priority Projects | <b>Section 6.3</b>       |
| 6. Develop a Maintenance Program           | <b>Section 8.3</b>       |
| 7. Develop a Bike Route Map                | <b>Section 5.9, 5.15</b> |

## 8.6 Performance Measures

By its nature and scope, a comprehensive plan is not intended to be completed all at once. Completing every recommendation of this plan would likely require decades. Meanwhile the shape and needs of the community change. With this in mind, the 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 bicycle 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 road projects, and as more growth in the area occurs.

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:
  - **linear miles** – on-road or off-road facilities, road-miles signed, connectivity, etc.
  - **years** – over which measureable quantities of improvements are made, etc.
  - **number of riders** – participant count at bicycle events, bicycle ownership per capita, number of reported accidents, participants in education programs, etc.
  - **dollars spent** – amount budgeted, amount received through grants, percentage of overall budget spent on various categories of bicycle-related expenditures, etc.

Example measures/goals:

- 1 mile of on-road or off-road bike facility to be implemented each fiscal year.
- 1,000 bicycling participants in a certain event costing \_\_\_\_ dollars to sponsor

Ultimately, the Kings Mountain Comprehensive Bicycle 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. In abbreviated form, the goals of this plan are:

- safe bicycling conditions through targeted on-road and off-road bicycle facilities
- bicycle connections to popular destinations, creating a connected community
- safe passage across gaps and around barriers, such as railroads and highways
- on-road and off-road bicycle facilities to serve all segments of the population, for commuting, recreation, exercise, scenic enjoyment, and relief from automobile traffic
- economic development and significant community events
- Strategic use of existing conditions and making the best use of funding opportunities

The recommendations below are provided as examples of regular means of evaluating both the effectiveness of projects, and the ongoing relevance of the Plan itself.

- The Kings Mountain Bicycle Committee (KMBC) 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.