

Mountain Creek

Community Greenway Master Plan



A plan to preserve our future by enhancing its natural assets.



Prepared by the Chattanooga-Hamilton County Regional Planning Agency,
Adopted by Chattanooga City Council February 11, 2003

MOUNTAIN CREEK

Community Greenway Master Plan

Prepared by:
The Chattanooga-Hamilton County Regional Planning Agency

November 7, 2002

Special Thanks to:

The Chattanooga-Hamilton County Regional Planning Agency would like to thank all of the residents, business owners and other stakeholders in the Mountain Creek community for their patience and participation in the creation of this plan. In addition, special thanks goes to the City of Red Bank, City of Chattanooga Public Works, Traffic Engineering, Stormwater, Parks/Recreation/Arts/Culture, as well as the Hamilton County Department of Education, National Park Service, Trust for Public Land (TPL), Tennessee Valley Authority (TVA), Friends of Mountain Creek (FOMC), and the Metropolitan Planning Organization (MPO). All provided valuable expertise during the planning process.

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RESOLUTION NO. 23689

A RESOLUTION TO ADOPT THE MOUNTAIN CREEK COMMUNITY GREENWAY PLAN.

WHEREAS, the Mountain Creek Community Greenway Plan is the result of a collaborative, four-month planning process involving the Friends of Mountain Creek, residents from the Mountain Creek Community, the Trust for Public Land, the City of Chattanooga, Chattanooga-Hamilton County Regional Planning Agency, and other community stakeholders; and

WHEREAS, the Greenway Plan represents the community's vision for a future greenway trail in the area; and

WHEREAS, the Greenway Plan provides recommendations for a specific greenway corridor location and linkages to various points in the community; and

WHEREAS, the Greenway Plan provides concepts and recommendations for greenway facilities and capital improvements; and

WHEREAS, the Greenway Plan recommends that the trail be used for environmental protection and educational purposes; and

WHEREAS, the Greenway Plan suggests linking existing public facilities such as parks and schools with existing or proposed sidewalks, trails, and bicycle facilities; and

WHEREAS, the Greenway Plan suggests opportunities for the improvement of open space and recreation areas; and

WHEREAS, the Greenway Plan suggests the greenway be designed as a non-motorized multi-use trail available for a variety of users.

WHEREAS, this plan is a policy, and as such, does not guarantee the funding for projects or other recommendations contained therein.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, TENNESSEE, That the Mountain Creek Community Greenway Plan, a copy of which is attached hereto, is thereby adopted.

ADOPTED: February 11, 2003

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1. Introduction

Chattanooga is a pioneer city in the establishment of greenways. A Greenway is basically a linear park which is located along a right-of-way or otherwise reserved area. Its purpose is both environmental and recreation; it gives urban citizens a chance to keep nature close by, and it reserves property from urban development, often connecting neighboring communities. The Parks, Recreation, Arts & Culture Department has several such Greenways: South Chickamauga Creek Greenway, Brainerd Levee, the Tennessee Riverpark, the North Chickamauga Creek, the Blue Blazes Trail, and Old Wauhatchie Pike.

- **Blue Blazes Historic Trail** - Located just past the Moccasin Bend Golf Course, this is a 1.5-mile loop and has interpretive signs of both native American and Civil War Trail.
- **South Chickamauga Creek Greenway** - Located between Shallowford Road and Camp Jordan Park, many Chattanooga residents use the greenway path for leisure purposes. Walking the 2.5 mile trail which includes the Brainerd Levee is a popular pastime for Chattanooga residents of all ages.
- **The Tennessee Riverpark** - This riverside path parallels the Tennessee River from the Chickamauga Dam to Ross's Landing - the site of the Tennessee Aquarium. There are currently 6 miles completed. Construction on the final phase is scheduled for completion in 2003. The Tennessee Riverwalk passes an amphitheater situated underneath the Walnut Street Bridge in downtown Chattanooga which is available for reservation at 423-757-2143.

- **North Chickamauga Creek Greenway** - This linear park located adjacent to the locks of the Chickamauga Dam on Lake Resort Drive runs alongside the creek and wraps around the Greenway Farm. It offers a park area, picnic facilities, trailside benches, a canoe launch and restroom facilities.



The purpose of this plan is to recommend a specific greenway route and related facilities for the *Mountain Creek* community.

Source for the following: Greenways, Inc.

What is a Greenway?

Simply stated, a greenway is a corridor of protected open space managed for conservation, recreation and non-motorized transportation. Greenways are corridors of land recognized for their ability to connect people and places together. These ribbons of open space are located within linear corridors that are either natural, such as rivers and streams, or manmade, such as abandoned railroad beds and utility corridors. Greenways as vegetated buffers protect natural habitats, improve water quality and reduce the impacts of flooding in floodplain areas. Most greenways contain trails, which enhance existing recreational opportunities, provide routes for alternative transportation, and improve the overall quality of life in an area.

Who uses a greenway?

Greenway trails can be paved or unpaved, and can be designed to accommodate a variety of trail users, including bicyclists, walkers, hikers, joggers, skaters, horseback riders, and those confined to wheelchairs.

What are the benefits of greenways?

Recreation. The growing popularity of outdoor recreation activities, such as rollerblading and mountain biking, combined with the rapid loss of community open spaces has increased the need for quality recreational facilities such as greenways. Greenways can not only serve as stand-alone facilities, complete with parking areas and amenities such as benches and informational signage, they can also enhance the existing

recreational resources in an area by linking parks, schools and recreational centers.



Transportation. Two-thirds of all the trips we make are for a distance of five miles or less. Greenway trails, as part of a local or regional system, offer transportation alternatives by connecting homes, workplaces, schools, parks, shopping centers and cultural attractions. Using trails to bicycle or walk for short-distance trips reduces air pollution and increases the mobility of those who cannot drive.

Health. According to the Surgeon General, moderate exercise, such as walking and bicycling, performed on a regular basis can yield substantial health benefits for individuals. Greenway trails provide safe and convenient places for these activities,

which have been proven to reduce stress, burn excess fat, and reduce a person's risk of developing cardiovascular problems, diabetes, cancer, and arthritis.

Economic. Greenways are also economic assets that increase the real estate value of adjacent properties. A recent study from the real estate industry revealed that "walking and biking paths" ranked 3rd among 39 features identified by homebuyers as crucial factors in their home-purchasing decisions (1994 American Lives Study). Additionally, according to a study of an urban trail in the Denver metro area, 57% of residents surveyed felt that the trail would make their home easier to sell (*The Effect of Greenways on Property Values and Public Safety*).

Education. The interpretation of natural, historic and cultural resources along a greenway serves to educate young and old alike. Examples of communities that have incorporated educational themes in the development of greenways include: the Swift Creek Recycled Greenway in Cary, NC, where the use of recycled waste by-products is the featured element of the trail; the Stones River Greenway in Murfreesboro, TN, which emphasizes Civil War history; and the Boulder Greenway System in Boulder, CO, where "outdoor classrooms" help children learn about surrounding natural systems.

Environmental. Greenways are important ecological tools for the protection and enhancement of the natural environment. They improve water quality by establishing buffers along creeks and streams and providing habitat for a diversity of plant and animal species. These buffers serve as natural filters, trapping pollutants from urban runoff, eroding areas and

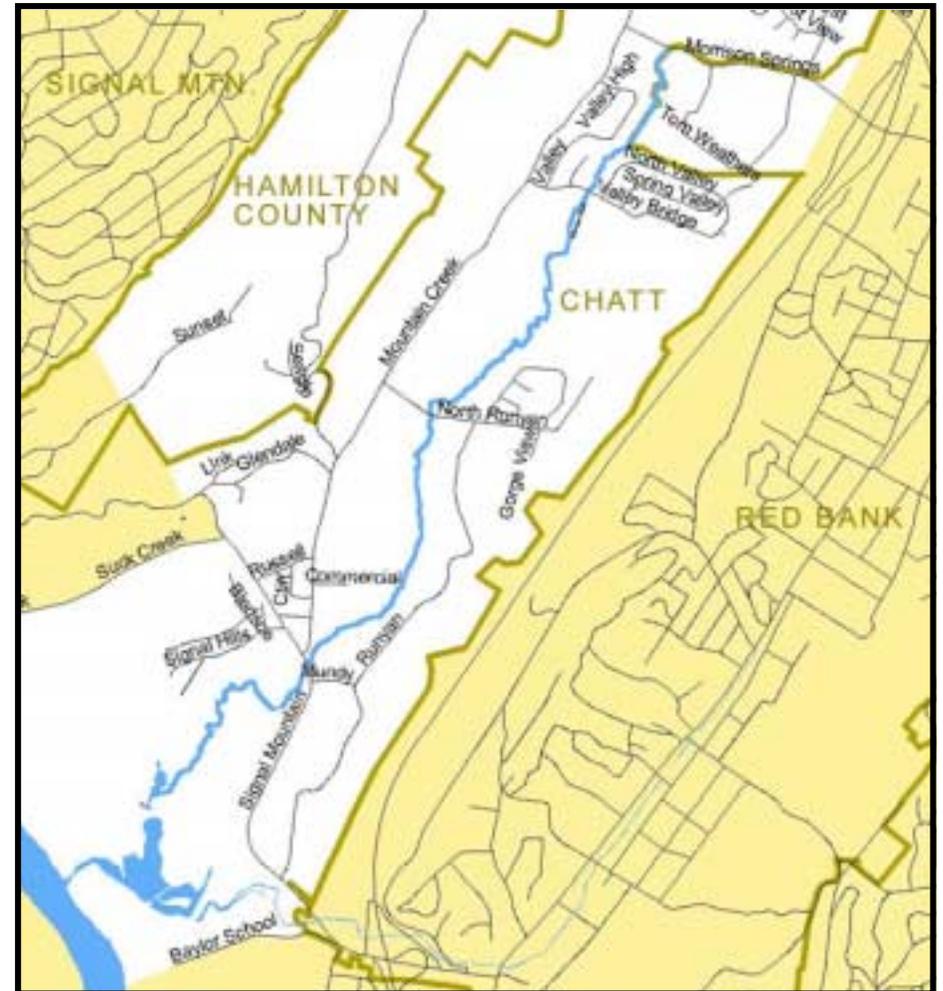
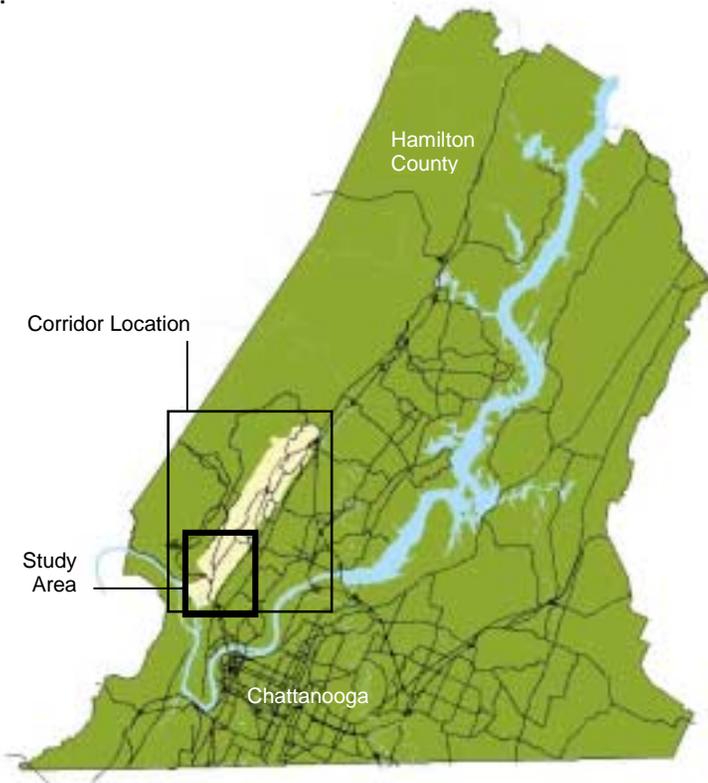
agricultural lands. Additionally, greenways improve air quality by encouraging non-polluting forms of transportation.

Floodplain Management. In the 1990s, flooding has caused more damage to communities across the nation than all other types of natural disasters combined. Flooding costs Americans billions of dollars in property losses every year. One reason for these losses is the fact that many floodprone areas have been heavily developed. Today, communities are beginning to realize the benefit in protecting floodprone areas through greenway development strategies, which reduces the impacts of flooding.

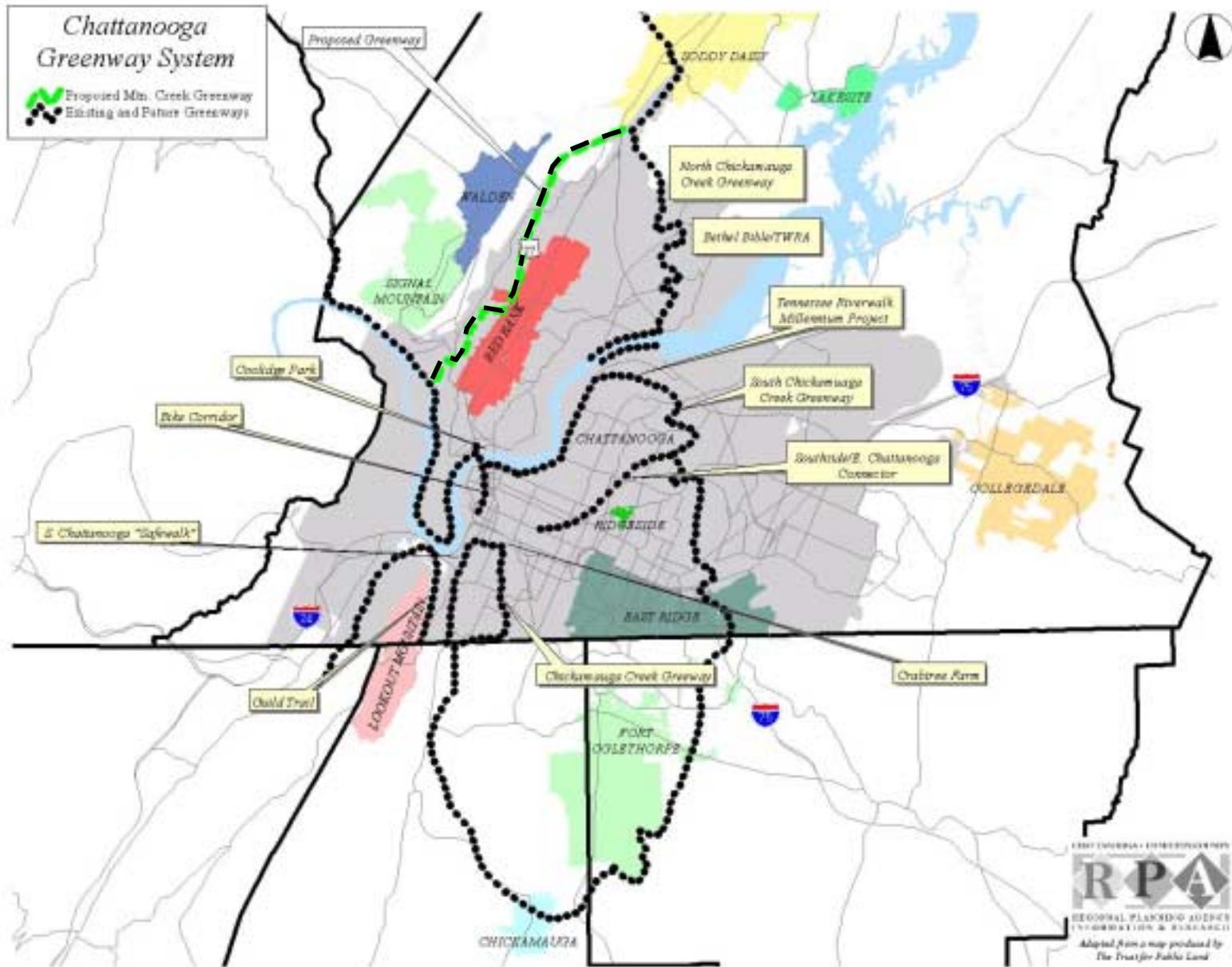
Quality of Life. Communities are always looking for ways to improve quality of life, which not only includes a strong economy and low taxes, but also a clean environment, good education system, access to outdoor resources and neighborhoods that are friendly and free of crime. Greenways are an inexpensive way for cities and towns to improve their quality of life by providing all of these benefits.

2. Context

The proposed greenway corridor, recently added to the City of Chattanooga Master Greenway Plan, is located in the general area between the Tennessee River near Baylor School and North Chickamauga Creek near Highway 27. A portion of this corridor would travel through the Mountain Creek Community and eventually connect to an undetermined point along the North Chickamauga Creek Greenway. The Mountain Creek Community Greenway segment is the focus of *this* plan. The **study area** for the Mountain Creek Greenway extends from the Tennessee River near Baylor School to Morrison Springs Road.



Mountain Creek Greenway Study Area

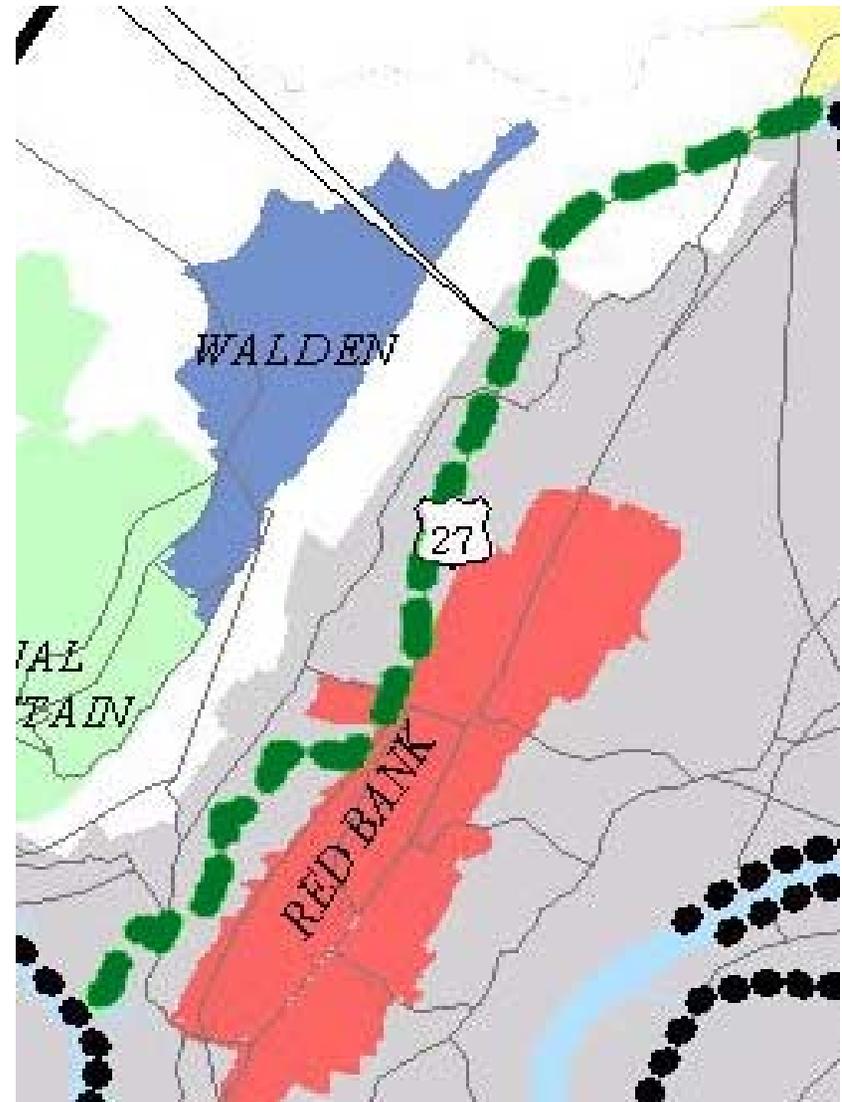


3. History

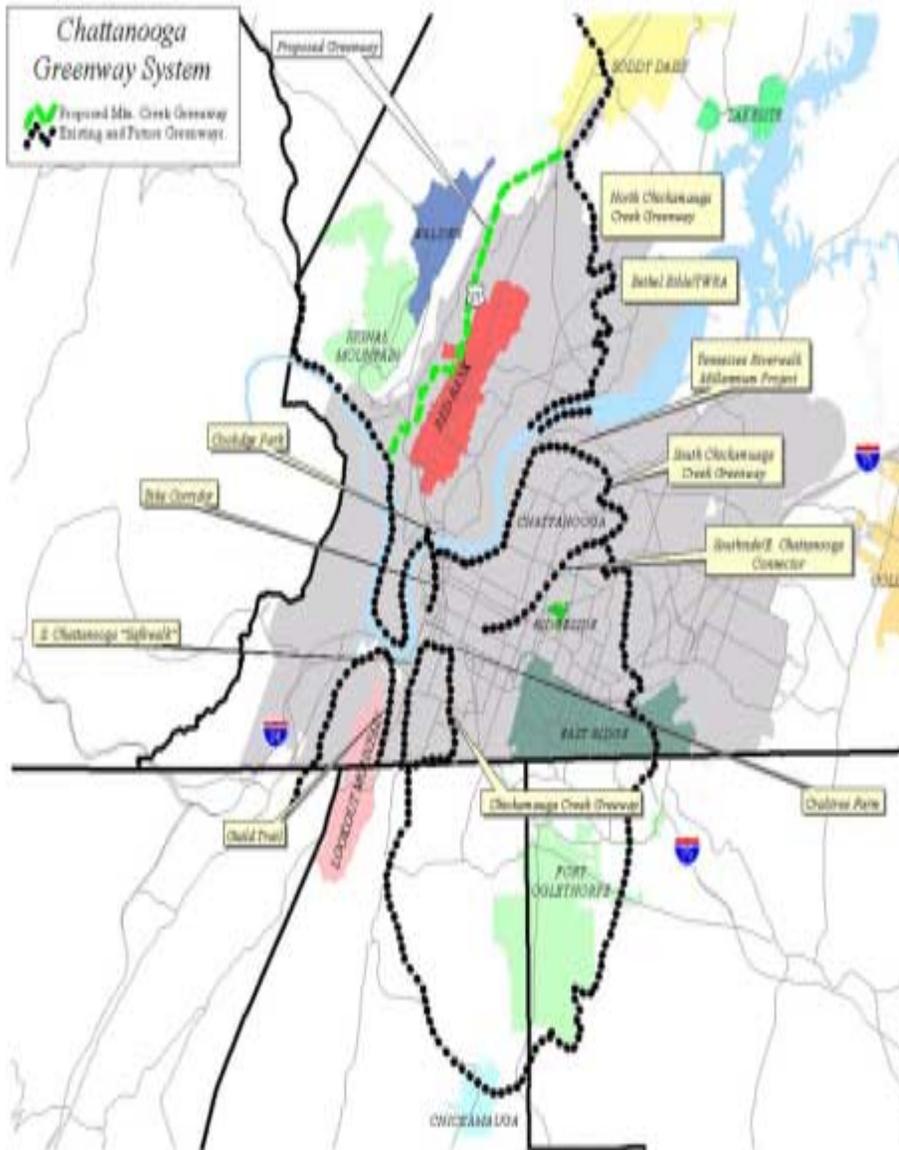
- Mid 1800's-mid 1960's- Mountain Creek area was mostly rural with several farms.
- 1966- Mountain Creek community annexed into the City of Chattanooga.
- 1970's- Several apartment complexes and condominiums were developed.
- March, 2000- The Friends of Mountain Creek organization is formed. This was a neighborhood-based grassroots organization that grew out of concern about rapid development of open space, increasing population pressures, and the need for passive recreational opportunities within the valley at the foot of Signal Mountain.
- May, 2000- May, 2001- Friends of Mountain Creek, with assistance from TVA and the National Park Service, hosted public forums and distributed surveys to create a vision for the community and to set goals.
- March, 2002- Friends of Mountain Creek, with assistance from TVA and the National Park Service, developed a Community Greenway Conceptual Plan.

This Conceptual Plan identified 4 main strategies:

1. Amend the City of Chattanooga Master Greenway Plan and Recreate 2008 plan to



Greenway Corridor proposed by the National Park Service's Rivers, Trails, and Conservation Assistance Program



- include the proposed Mountain Creek Greenway.
- 2. Authorize the Regional Planning Agency to partner with the Friends of Mountain Creek (FOMC) toward gaining public input on the design and specific location of the greenway.
- 3. Authorize the Trust for Public Land (TPL) to partner with FOMC to facilitate the establishment of easements to be held by the City along the corridor for the purposes of developing a greenway.
- 4. Encourage partnerships with FOMC to apply for state and federal funding for transportation, recreation, and conservation projects in the Mountain Creek Community.

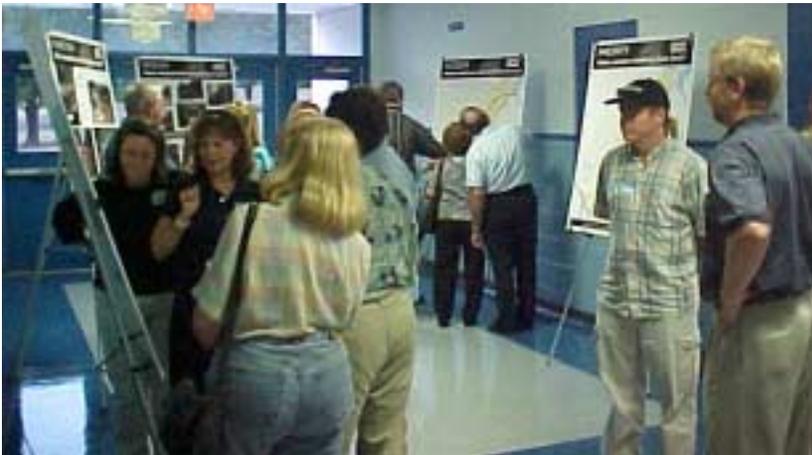
- April 2, 2002- Chattanooga City Council passes a resolution to amend the City's Greenway Master Plan and Recreation 2008 Plan to include a corridor within the Mountain Creek Community (Resolution 23353).
- April 2, 2002- Chattanooga City Council authorizes, by the same resolution mentioned above, the Regional Planning Agency to partner with Friends of Mountain Creek to gain public input on the design and location of a greenway (Resolution NO. 23353).

*Chattanooga City Council:
 "Gain public input on the design and specific location of the greenway."*

4. Public Input

The Chattanooga-Hamilton County Regional Planning Agency (RPA) held a public meeting on Thursday, September 12, 2002 at Red Bank High School. 1,900 meeting notices were mailed out to property owners in the Mountain Creek and Browntown Road areas. The purpose of this meeting was to give the community some general information about greenways and to obtain specific input and comments regarding the Mountain Creek greenway.

Participants gave their input and comments by placing dots, writing, or drawing on display boards that were provided. The five display boards encouraged participants to respond to the topics and questions shown in the box at right.



Public meeting, September 12, 2002

LOCATION: Where should the greenway go?

Results

Option 1, which followed creeks, had 7 responses. Option 2, followed Hwy 27, had 11 responses. A third option was drawn and supported by 4 respondents.

Comments

Need better zoning to protect our community and prevent future apartment development/high density.

Help us maintain the rural characteristics of our area.

Need greenway or sidewalk improvements from Red Bank Elementary to Signal Mountain Blvd.

Section of Mountain Creek at Stonebrook Dr "Will not happen"

Section of Nine Mile Branch midpoint between North Chickamauga Creek & Browntown Rd faces "serious opposition"

Section of Dayton Blvd between Morrison Springs & Gadd Rd "improved sidewalk/bike lanes"

FUNCTION: Who should use the greenway?

Results

Bicyclists category received 5 votes. Walkers category received 16 votes. Joggers and Education received 1 vote each. Roller skaters/Skateboarders received 0 votes. The all-user category received 8 votes.

Comments

Equestrian, dog access with dog park, walkers & joggers, wheelchair accessible, and bikes were all additionally suggested uses.

DESIGN: How should the greenway look?

Results

Natural path had 3 votes all of which were for the dirt trail style and Constructed had 15 most of which were favored as follows 1 vote for boardwalk, 3 compacted gravel, 11 asphalt.

Comments

Greenway should be a "combination, depending on surroundings in immediate area".

Greenway should be "natural wherever possible"

Greenway should minimize impact, keep natural, and maintain & enhance riparian buffers.

ACCESS: Where would you get on the greenway?

Results

There were 11 participants in favor of an access point at the Elementary school, with 9 indicating a need for access at the Skipper Fairbanks Recreation Center/Red Bank High school vicinity, and 3 located at different residential points north of Morrison Springs Rd.

Comments

None

PRIORITY: Which section should be built first?

Results

The majority of the votes reflected beginning phases of construction should be emphasized on sections 6, 7, & 8. Section 6 received 5 votes, section 7 had 10 votes, and section 8 had 4 votes.

Comments

"Improved sidewalks and bike lane"



Public meeting, September 12, 2002

A second public meeting was held on Thursday, November 7, 2002 at 6pm at Red Bank High School to present the Mountain Creek Greenway Draft Plan to the Mountain Creek community. Approximately 1,900 post cards were mailed to property owners in the Mountain Creek area two weeks prior to the meeting. Approximately sixty people attended the meeting. The format of the meeting allowed time for a 40-minute presentation of the Plan recommendations. The presentation was followed by a question and answer session, which lasted an additional hour and a half to two hours. Rick Wood with the Trust for Public Land (TPL) was also present to help answer questions. Maps illustrating the Plan's Study Area, proposed greenway trail options, and proposed greenway facilities were also displayed.

Discussion during the question and answer session ranged from trail costs and funding to trail easements and safety. The RPA and TPL addressed resident concerns about the voluntary nature of the property owner's right to participate in a greenway or not. It was also made clear that greenway involvement is strictly voluntary and no eminent domain has ever been used or ever will be used in the creation of a greenway trail.

Participants were also encouraged to fill out a *Public Comment* sheet that asked the question, "**What should the goals and objectives for the greenway be in the following categories"?**

Environmental - Most comments encouraged improving the water quality, protecting the riparian buffer, and repairing the stream banks of Mountain Creek. Signage and kiosks were also mentioned to provide environmental information for greenway users.

Recreation/ Fitness - Comments suggested allowing walkers, joggers, cyclists, roller-blading, and dogs on leashes. Skateboarders, however, were not favored.

Transportation - Comments were supportive of using the greenway for bicycling and also to provide safe access for children walking to school.

Education - Most comments encouraged linking the schools and providing environmental education opportunities for students, civic groups, and the general public.

Safety - Some comments suggested strategic placement of lighting. Others suggested that the greenway be patrolled by City Bicycle Police and neighborhood associations.

General Comments - Several participants commented on the need for wheelchair and handicap access.

5. Goals

The following goals were derived from input gathered at various public meetings facilitated by TVA, the National Park Service, and the Regional Planning Agency.

Greenway Goals

1. Locate greenway so that it provides access to and connections between the community and its open spaces.
2. Design greenway to be safe, well-maintained, and easily accessible to a variety of users.
3. Promote environmental educational opportunities for the surrounding schools.
4. Improve the water quality and protect the associated wildlife and habitats within the Mountain Creek watershed.

Plan Goals

1. Provide recommendations for a specific greenway corridor location and linkages to various points in the community.
2. Provide concepts & recommendations for greenway facilities.
3. Provide recommendations for an implementation timeline and partners.



6. Natural Environment Assessment

General

Mountain Creek is an area nestled between the steep slopes of Signal Mountain and Highway 27 in the eco-region of southern limestone, dolomite valleys, and low rolling hills. Vegetation comprises approximately 60% of the area. This vegetation include forests, shrubs or grasses, and sensitive steep slopes (as shown on map at right).

The area, shown on the Mountain Creek Watershed Map below, drains into Mountain Creek stream and is known as the Mountain Creek Watershed. The Mountain Creek Watershed has an average elevation of 660' and a drainage area of 6.4 square miles. It is also part of the Lower Tennessee River basin, a much larger watershed, which drains into the Chickamauga-Nickajack Lake.

Soil Composition

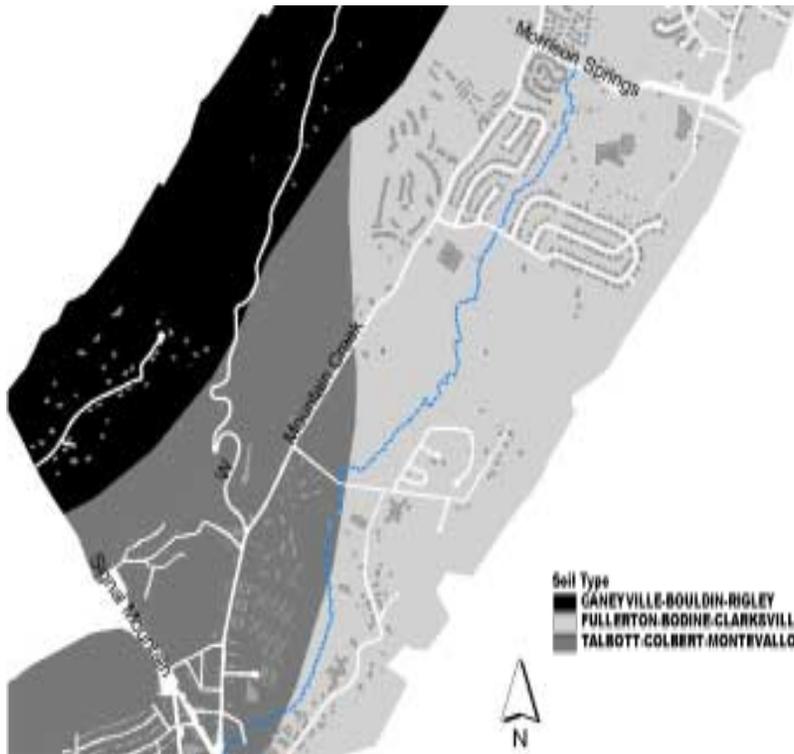
The study area is divided by three basic soil types Caneyville–Bouldin–Rigley (CBR), Fullerton-Bodine-Clarksville (FBC), and Talbott-Colbert-Motevallo (TCM). CBR is gently sloping to steep, well drained loamy soils that range from 2' to more than 5' deep over sandstone, shale, and limestone; on mountain sides and foot slopes. Bouldin soils are generally on concave areas immediately below sandstone escarpments and side slopes of drainage-ways. They cover 8-10% of the land in Hamilton County. These soils are best suited to woodland and those areas on the foot slopes for crops. These soils are



Mountain Creek Watershed Map



Soils Map



Obtained from the Natural Resource Conservation Service

poorly suited to sanitary facilities and building site developments. Slope, slippage, and stones are limitations.

FBC is gently sloping to steep, well drained and somewhat excessively drained cherty soils that are more than 5' deep over limestone; on high hills and ridges. Approximately 48% of the county is comprised of these soils. Cleared areas are suitable for pasture, but slope and the hazard of erosion are the main limitations. The soils are moderately permeable and suited to trees. Pines and mixed hardwoods grow best. The land is moderately to poorly suited for urban development.

TCM is gently sloping to moderately steep, moderately well drained with loamy soils that have a clayey subsoil and depth of 5' or less over limestone; on uplands. These soils make up approximately 10% of the county and are suited for hay and pasture. The soils are slowly permeable and easily hold impounded water. Erosion is a hazard and areas of this composition are poorly suited to sanitary facilities and building site developments. Wooded areas are best suited for woodland use, especially hardwoods, like Chestnut and Hickory.

Information acquired from Soil Survey of Hamilton County, Tennessee, United States Department of Agriculture Soil Conservation Service in cooperation with Tennessee Agricultural Experiment Station, 1982.

Impervious Coverage

Imperviousness is the sum of roads, parking lots, sidewalks, rooftops and other impermeable surfaces. Imperviousness can be measured at all levels of development and represents the imprint of land development on the landscape.

The Mountain Creek watershed is 46,000 acres. In 1998, Tennessee Valley Authority's Clean Water Initiative estimated the creek's total existing impervious surface to be 10% with a protection target of no more than 15%. Thus, only an additional 5% of the land area within the Mountain Creek watershed could be converted to imperviousness without major degradation to water quality. However, the State of Tennessee has already stated that this stream exceeds some state standards for pollutants.

Water resources of a watershed are impacted by impervious coverage in two ways including flow characteristics and pollutant levels. Flow changes include increased flooding frequencies and lower base flow, much higher peak flows (storm water) because impervious surfaces do not allow water to soak into the ground. In addition, widening of stream channels results in sediment loading, loss of aquatic habitat, and riparian degradation. As water travels across impervious surfaces, gaining volume and speed, it carries pollutants from the atmosphere, cars, or other sources.

What is Riparian Area?

This is a creek's buffer zone consisting of low-lying vegetation mixed with trees and the water level is just below the top of the bank.



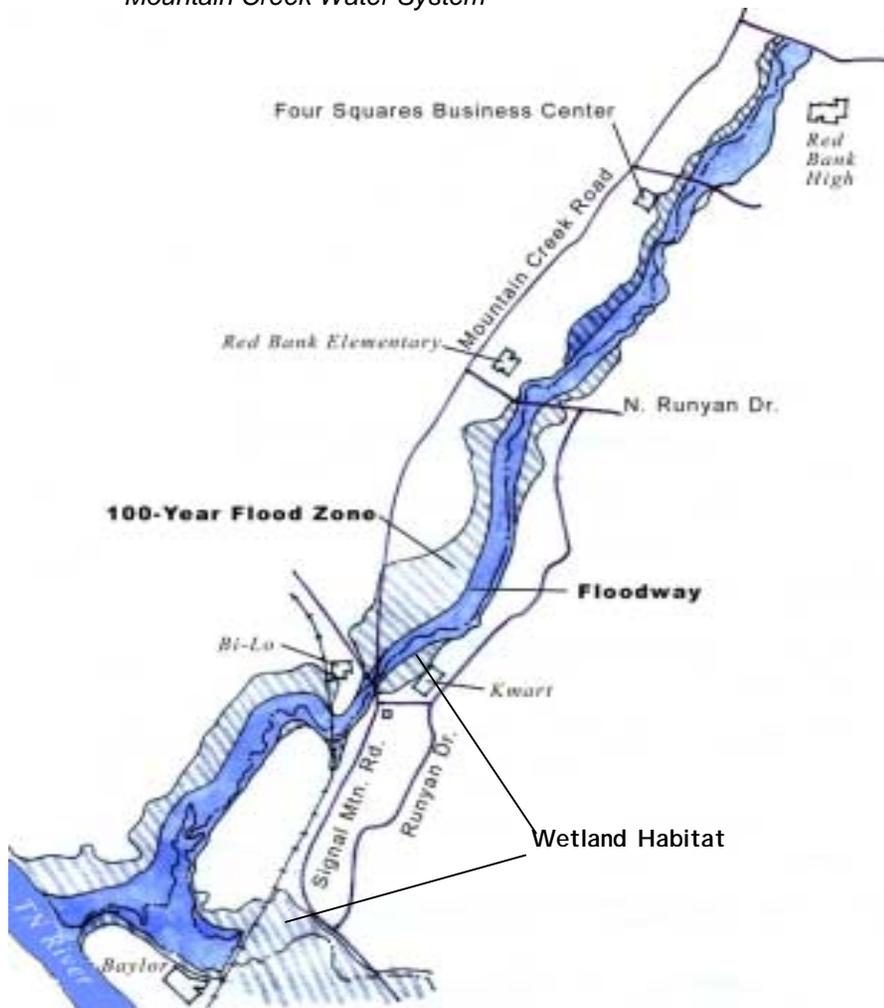
Pictures of Mountain Creek Stream(2002)

(Right) Resulting erosion continues to occur in several sections of Mountain Creek.

(Left) Low base flow and an eroded channel due to increases in storm water runoff.

Literature Cited: ¹Miller, D. and Linda Harris. 1999. *Protecting Water Resources of Hamilton County as Urban Development Occurs by Managing Watershed Impervious Cover*. Tennessee Valley Authority Chickamauga Watershed Team, Chattanooga, TN.

Mountain Creek Water System



Literature Cited: ²Schorr, M., Crews, E., Freeman, P. and Jeannie Long (UTC), Johnson, P. (SARI), and Doug Fritz (City of Chattanooga). *Assessment of Water Quality and Aquatic Macrofauna in Chattanooga Area Streams.*

Water Quality

Mountain Creek is a State of Tennessee 303(d) listed Stream. This designation means the creek's pollution exceeds the state standards for one or more water quality criteria. The listing indicates the pollution is due to Urban Runoff and storm sewers caused by land development. This situation results in habitat changes that affect biological integrity. Research recently conducted by The University of Tennessee Department of Biological and Environmental Sciences confirms the declining water quality of Mountain Creek.

Storm water contains a variety of pollutants including nitrogen, phosphorous, bacteria, metals, and oil. Some of which are harmful to humans and all of which are harmful to aquatic life¹ (both plant and animal). These pollutants can have a number of damaging effects even more severe when some pollutants are compounded together. Pollution effects may include toxic fish, *E. coli* hazards, loss of fish, loss of bank stabilizing vegetation, and loss of surrounding wildlife.



Accumulation of sediment occurs when the banks wash away because of excess volume and increased flow. An occurrence referred to as erosion. Erosion of the Mountain Creek channel is now estimated to be between 66-81%². This loose sediment becomes a pollutant as it collects in various locations causing a number of adverse effects, especially for sensitive areas such as wetlands.

Whether pollution comes from contaminants in runoff or sedimentation, the level directly relates to wildlife diversity. Wildlife is dependent on the resources within their habitat. As the natural resources begin to deplete, so do the natural assets.

Biodiversity

Mountain Creek has an array of habitats from wetlands and creek beds to fields and forests. Such an assortment provides habitat for an abundance of plants and animals.

Common wetland and riparian wildlife include various birds, turtles, fish, and mammals. The UTC report *Assessment of Water Quality and Aquatic Macrofauna in Chattanooga Area Streams*, documents several fish species.

Fields are unique habitats with a warm and dry character. These areas provide homes for insects, mice, snakes, and rabbits, as well as feeding areas for hawk, deer, and songbirds. Fields are also aesthetically pleasing because of their abundance of native wildflowers.

Bats, opossum, voles, fox, deer, and raptors seek forest homes. The tree canopy provides coverage from hot summer sun, leaf litter on the forest floor provides moisture, and dense or broken vegetation creates hiding places to escape predators.

In much of the area there are invasive, non-native species including privot and honeysuckle, fast growing shrubs, and *Gambusia affinis*, a tolerant dominating fish species. Despite their tolerance to harsh habitat characteristics, the non-native species out-compete native species. “Specialist” species have

Fish species collected during a UTC-TVA sampling March 2002

Common Name	Scientific Name
Largescale stoneroller	<i>Campostoma oligolepis</i>
Bigeye Chub	<i>Notropis amblops</i>
Spotfin shiner	<i>Cyprinella spiloptera</i>
Striped shiner	<i>Luxilus chrysocephalus</i>
Bluntnose minnow	<i>Pimephales notatus</i>
Creek chub	<i>Semotilus atromaculatus</i>
White sucker	<i>Catostomus commersoni</i>
Northern hog sucker	<i>Hypentelium nigricans</i>
Yellow bullhead	<i>Ameiurus natalis</i>
Western mosquito fish	<i>Gambusia affinis</i>
Redbreast sunfish	<i>Lepomis auritus</i>
Green sunfish	<i>Lepomis cyanellus</i>
Blugill	<i>Lepomis macrochirus</i>
Longear sunfish	<i>Lepomis megalotis</i>
Redear sunfish	<i>Lepomis microlophus</i>
Black Darter	<i>Etheostoma duryi</i>



Gambusia species



adaptations unique to a specific type of environment and are therefore quite sensitive to disruptions in the ecosystem. Invasive species alter an ecosystem and create stress for specialist species.

7. Built Environment Assessment

Residential

A large portion of the study area is used for residential purposes, including several major subdivisions and apartment complexes. 22% of the land is used for single-family residential and 9.8% is used for multi-family. Multi-family consists of apartments, condominiums, town homes, and group homes.

According to the U.S. Census Bureau, the population of this area was 4,737 in the year 2000. With 3,023 housing units in 2,480 acres, this produces a density of 1.2 units per acre.

Institutional

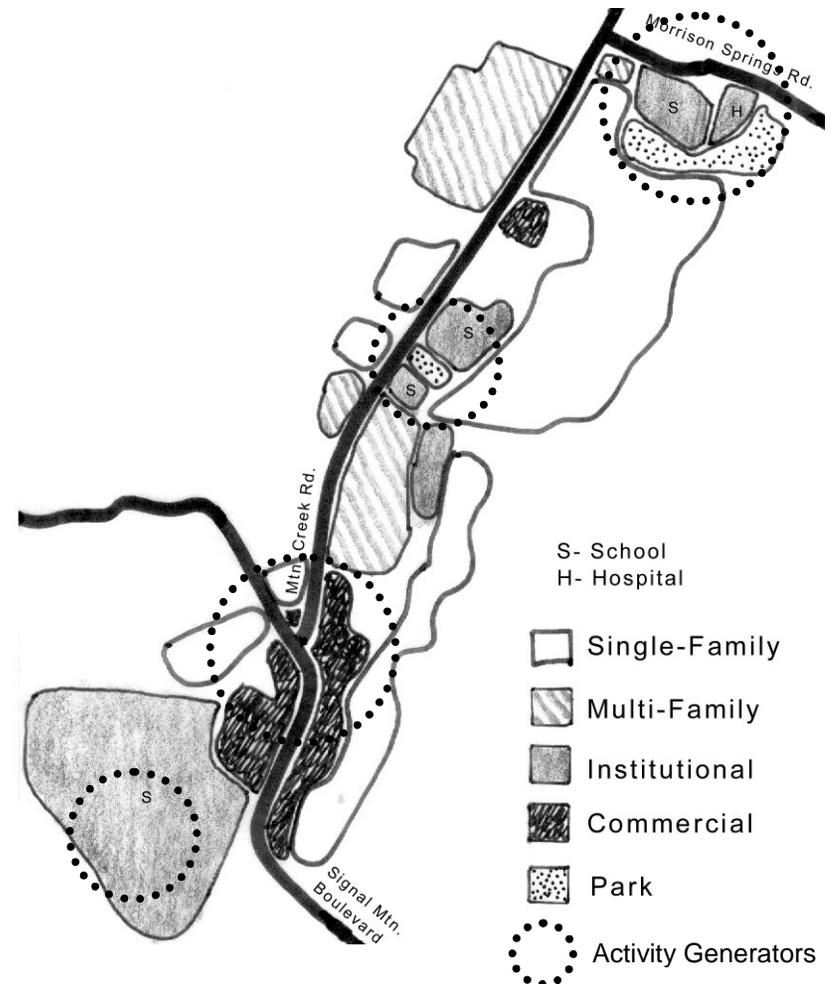
There are four schools in the study area. Red Bank High School is located on Morrison Springs at the north end of the study area. Red Bank Elementary and Scenic Land Schools are located on Mountain Creek Road approximately one mile south of the high school. Baylor School is located at the south end of the study area at the Tennessee River.

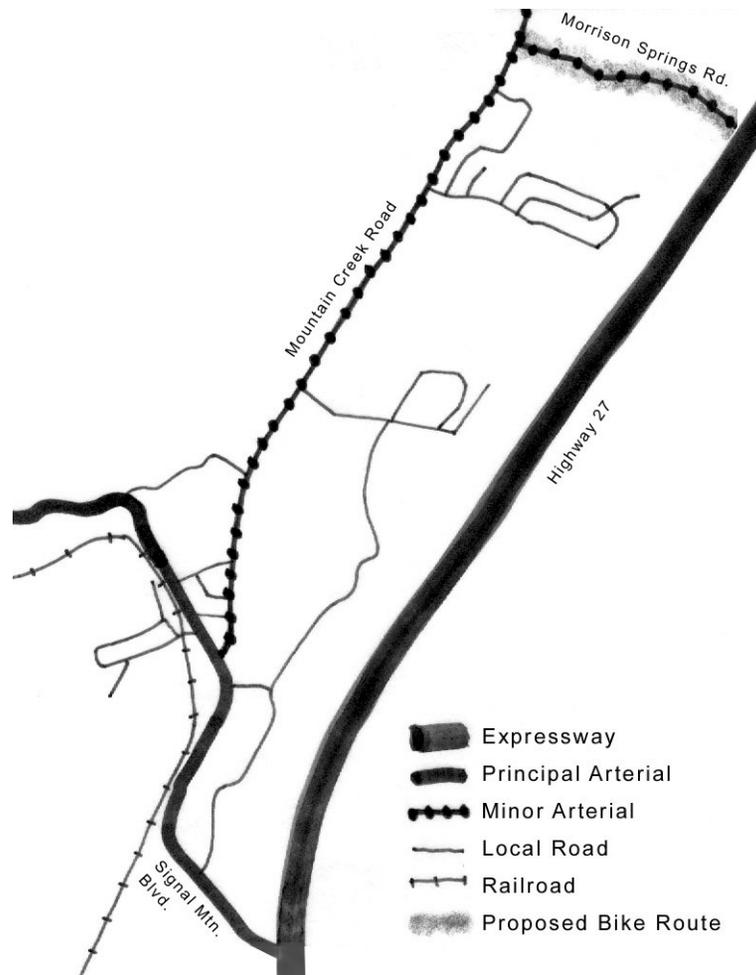
Erlanger North Hospital is also located adjacent to the high school.

Parks

Two public recreational facilities are also in the study area. Skipper Fairbanks Recreation Center is adjacent to Red Bank High School. This 47-acre site contains both active and passive recreation facilities including baseball fields and picnic

2002 Existing Land Use Map (generalized)





Local Road- Comprises all facilities not on one of the higher systems. It serves primarily to provide direct access to abutting land and access to the higher order systems. It offers the lowest level of mobility and through traffic movement usually is deliberately discouraged

shelters. There is also an 8-acre looped walking path located next to the Red Bank Elementary School.

Commercial

The main commercial node is located near the intersection of Signal Mountain Road and Mountain Creek Road. Several businesses and employers in this node make this a major activity generator for the community. There is also an office business center located between the elementary and high school.

Transportation

The Mountain Creek community is well served by a system of arterials and collector roads. According to the Metropolitan Planning Organization's (MPO) Functional Classification map, Mountain Creek Road and Morrison Springs Road are "minor arterials". Signal Mountain Road is classified as a "principal arterial". Most other streets are quiet and residential in nature.

Principal Arterial- Significant intra-area travel; such as between central business districts and outlying residential areas, between major inner city communities, or between major suburban centers should be served by this system. Principal arterials are not restricted to controlled access routes. For principal arterials, the concept of service to abutting land should be subordinate to the provision of travel service to major traffic movements.

Minor Arterial- Should interconnect with and augment the urban principal arterial system and provide service trips of moderate length at a somewhat lower level of travel mobility than principal arterials. These facilities place more emphasis on land access than the higher system. Minor arterials, ideally, do not penetrate identifiable neighborhoods.

There is a continuous sidewalk that was recently constructed on the east side of Mountain Creek Road that extends from Red Bank Elementary School to Red Bank High School. There are funds in the City of Chattanooga Capital Budget to continue this sidewalk all the way to Signal Mountain Road.

The Chattanooga Urban Area Bicycle Master Plan proposes Morrison Springs Road to be equipped with a 4-6 foot wide bike facility between the years 2006 and 2012.

Summary

Up until the 1970's, the Mountain Creek area has mostly been an agricultural and farming community. Changing development patterns have slowly reduced the number of open spaces and farm lands. These changing land uses have also had an impact on the health of Mountain Creek and its vicinity.

The various land use components located along the project corridor offer important greenway opportunities. Some uses, such as the parks and schools, can be linked directly to the greenway. Others uses would be within walking or biking distance to a greenway access point.

Average Daily Traffic counts in this area for the year 2001 are as follows:

Mountain Creek Road	12,700
Morrison Springs Road.....	15,000
Signal Mountain Road.....	27,800
Highway 27	24,800



Red Bank Elementary



Red Bank High School

Mountain Creek Greenway Master Plan **RECOMMENDATIONS**

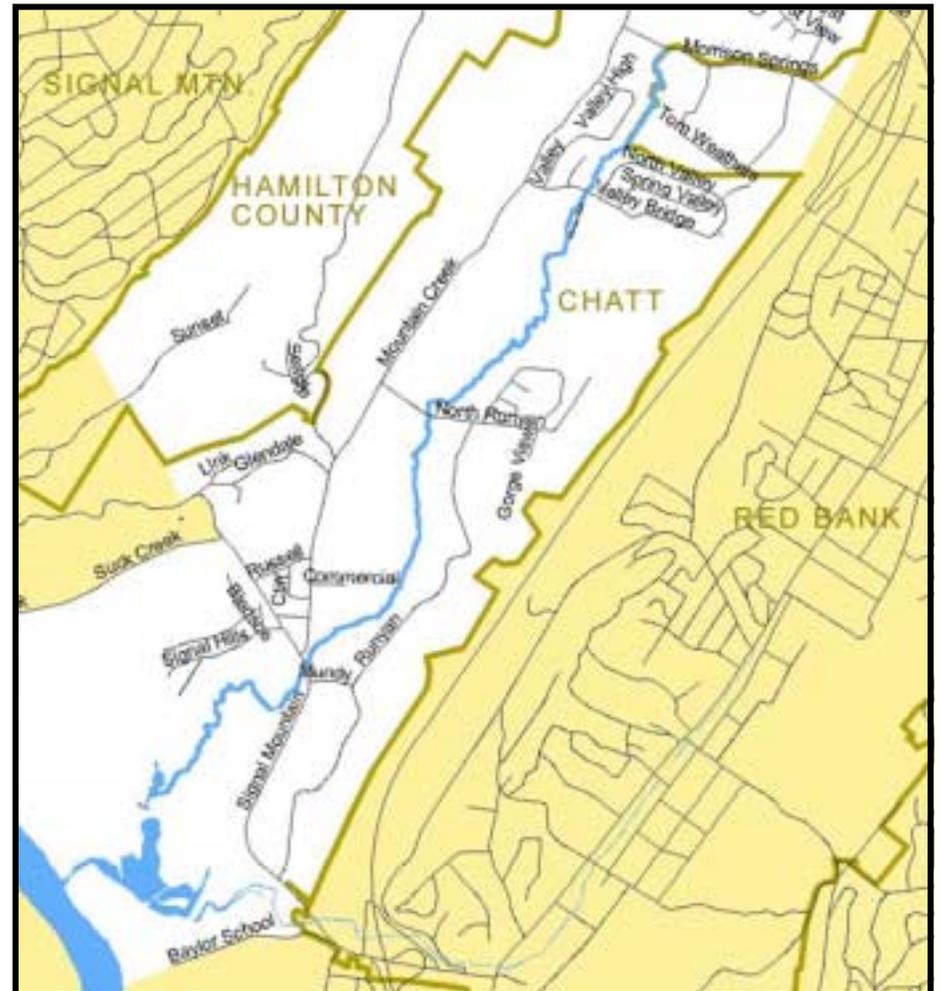
NOTE:

The following specific recommendations are for a location and related facilities of a proposed greenway in the Mountain Creek community. The recommendations are conceptual in design. The greenway routes shown are options. Other options may be pursued if other property owners offer the use of their land. The final greenway route cannot be completely determined until participating property owners volunteer to enter into property negotiations with the Trust for Public Land (TPL). Imminent domain will **not** be used for the creation of this greenway.

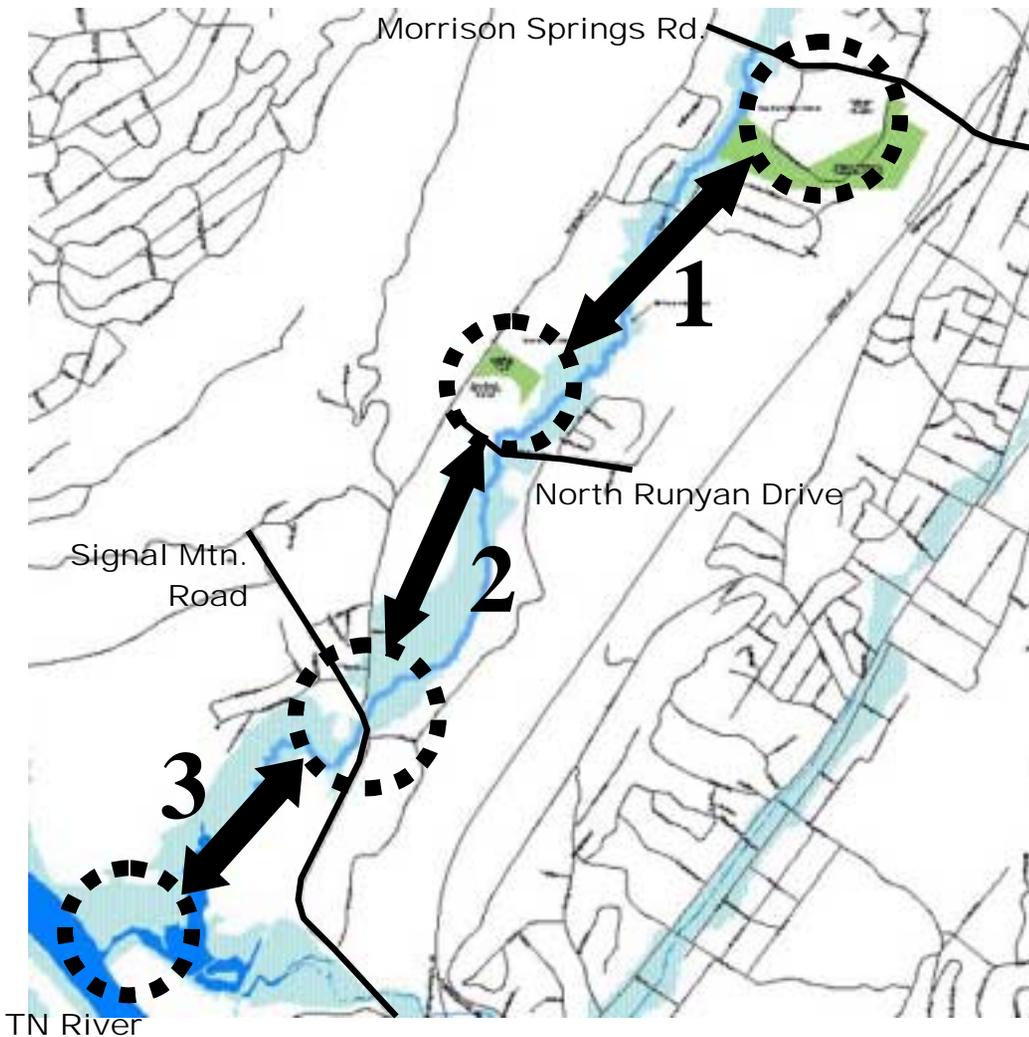
8. Master Plan Recommendations

Study Area

The study area for the Mountain Creek Greenway extends approximately three miles from the Tennessee River near Baylor School north to Morrison Springs Road as shown on the map at right. This is the area of focus for this plan and its recommendations.



Mountain Creek Greenway Study Area



Concept

The drawing at left shows four Activity Generators. The plan concept is to place public access points at the activity generators and link them with a multi-use trail creating a continuous greenway system. The links are indicated with the arrows in the drawing.

Phases

The study area has been divided into three phases based on the links mentioned in the plan concept above. This helps to make the project more manageable. Each phase places Mountain Creek at its center while taking surrounding land uses into consideration.

Phase 1 extends 1.25 miles south from Morrison Springs Road at Red Bank High School to North Runyan Drive near Red Bank Elementary.

Phase 2 extends 1 mile south from North Runyan Drive to Signal Mountain Road near the intersection with Mountain Creek Road.

Phase 3 extends 1 mile south from Signal Mountain Road near the intersection with Mountain Creek Road to the Tennessee River at Baylor School.



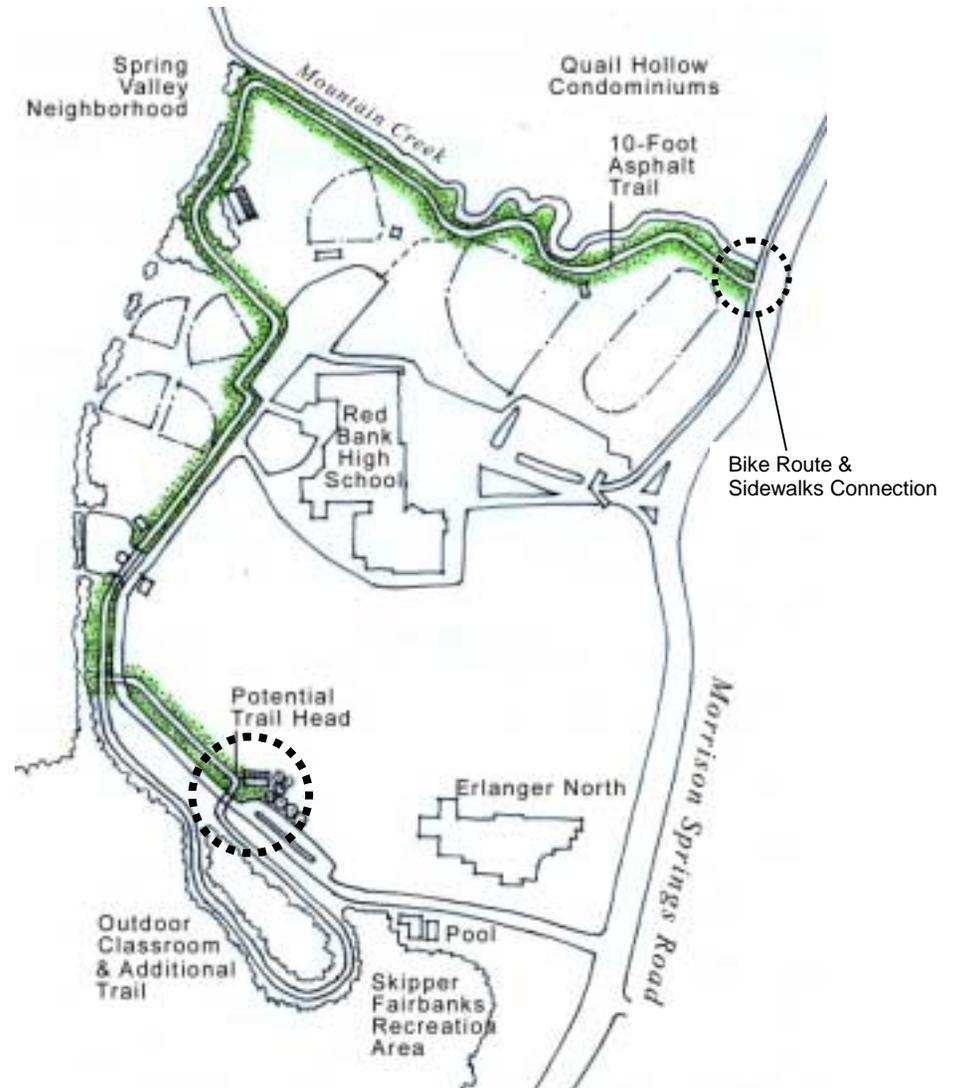
Phase 1

Greenway Location: This proposed greenway segment is located between Red Bank High School at Morrison Springs Road and Red Bank Elementary on the corner of Mountain Creek Road and North Runyan Drive.

Greenway Characteristics: Beginning at the west end of the existing Skipper Fairbanks Recreation Center and ball fields in Red Bank, the proposed greenway follows Mountain Creek north to Morrison Springs Road. At this point, it follows the existing sidewalk west to Mountain Creek Road and then south to the entrance of the Spring Valley subdivision. The greenway then follows the right-of-way on Valley Bridge Road some 600 feet. At this point, the greenway trails south behind the Four-Squares Business Center. This would offer employees of the business center to access the greenway on their lunch hour. The path then follows along on the west side of Mountain Creek for another 4,500 feet ending up at the existing walking trail adjacent to Red Bank Elementary School (see map on previous page). Except for the section on Valley Bridge Road, the trail is entirely within the floodplain.

Proposed Greenway Facilities:

One trail head should be located at the Skipper Fairbanks Recreation Center and ball fields in Red Bank. This trail head would be an important access point since recreation and open space activity is already occurring here. Existing parking lots could be utilized as well as existing restrooms, picnic tables and shelters. The greenway could tie in nicely with the existing sidewalk on Morrison Springs Road.



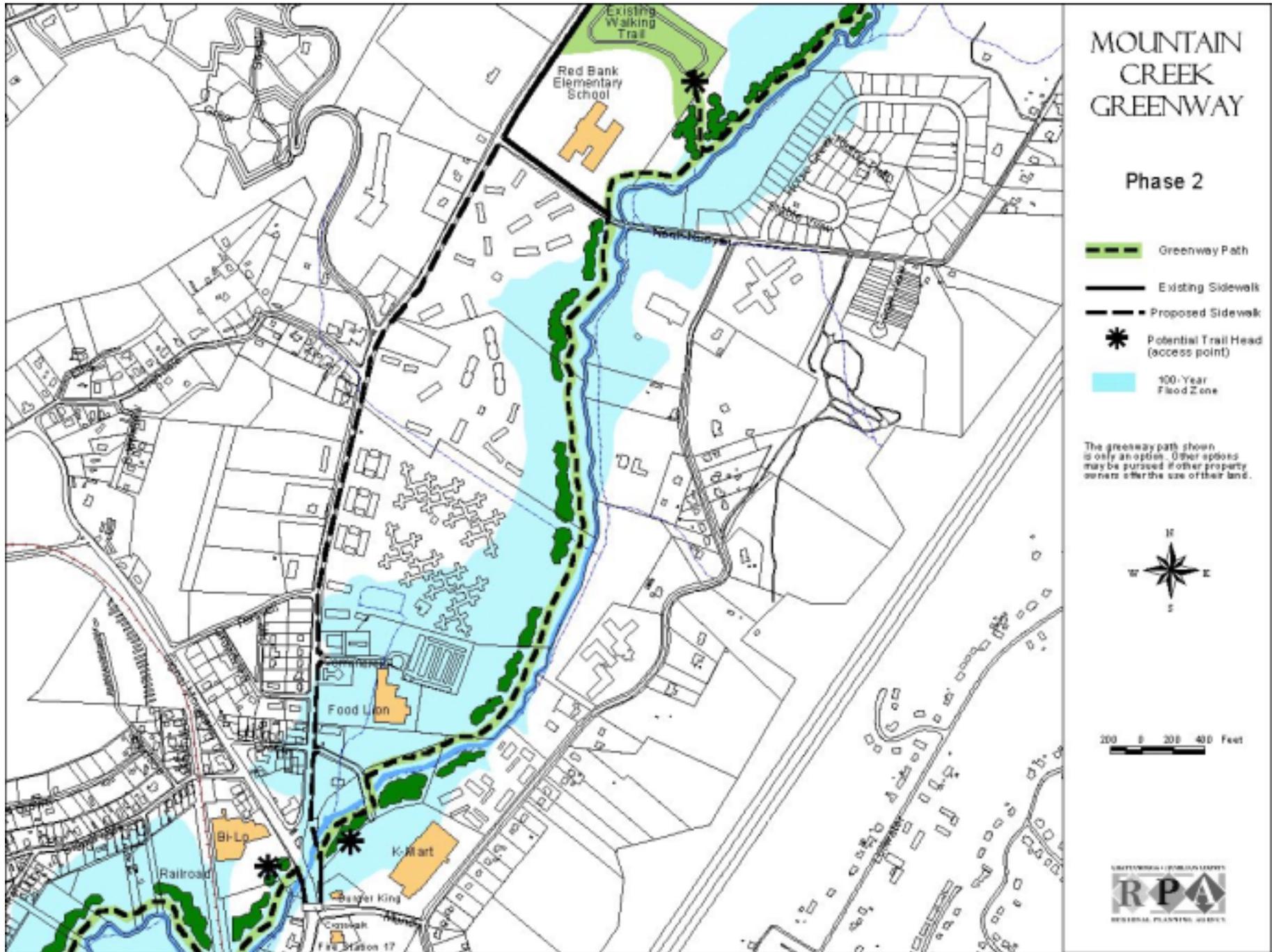
Potential Trail Head at Skipper Fairbanks Recreation Area and Red Bank High School



Potential Trail Head at Red Bank Elementary

Another trail head in this focus area could be located where the proposed greenway connects to the existing walking trail located at Red Bank Elementary School.

The Trust for Public Land (TPL) recommends that trails lying within a floodplain be made of asphalt. Therefore, this greenway segment will be constructed as a 10-foot wide asphalt trail located within the center of a 30-foot right-of-way. The trail will follow the general route as described in the text and maps of this document.



Phase 2

Greenway Location: This proposed greenway segment is located between Red Bank Elementary School at the corner of Mountain Creek Road and North Runyan Drive and Signal Mountain Road at the intersection of Mountain Creek Road.

Greenway Characteristics: The proposed greenway segment begins at a trailhead located near the existing walking trail adjacent to Red Bank Elementary School. It follows Mountain Creek south to a crosswalk at North Runyan Drive. The trail then follows south along Mountain Creek and within the floodplain. It passes behind several apartment complexes, offering trail access opportunities for these residents. The trail continues beside the creek to where it passes in between the Food Lion grocery store and K-Mart. From here, the creek passes underneath Signal Mountain Road. Construction will soon begin at this point to widen Signal Mountain Road from five lanes to eight lanes. At this point, the trail would connect to the existing sidewalk on the east side of Signal Mountain Road and approach a crosswalk at the traffic light to cross to the other side of the road. The total length of this segment is approximately 6,400 feet and is entirely within the floodplain. (see map on previous page)

Proposed Greenway Facilities:

It is recommended that the trail head at Red Bank Elementary also be used for this segment. Another trail head could be located at the intersection of Signal Mountain Road and Mountain Creek Road near K-Mart. This trail head would be an important greenway access point due to its location within the community's active commercial center. Through proper coordination and partnerships with adjacent property owners, existing parking lots could be utilized for greenway parking.



Potential Trail Head at Red Bank Elementary



Potential Trail Head at the intersection of Signal Mountain Road and Mountain Creek Road near K-Mart.

This would attract greenway users as well as customers for local businesses. Restrooms, picnic tables and shelters, bike racks, information signage, and natural landscaping should also be provided.

The greenway would connect with the existing sidewalk on the east side of Signal Mountain Road. A crosswalk installed at the traffic signal in front of Burger King and Fire Station No. 17 would allow the greenway route to continue west across and beyond Signal Mountain Road.

The Trust for Public Land (TPL) recommends that trails lying within a floodplain be made of asphalt. Therefore, this greenway segment will be constructed as a 10-foot wide asphalt trail located within the center of a 30-foot right-of-way. The trail will follow the general route as described in the text and maps of this document.



Phase 3

Greenway Location: This proposed greenway segment is located between Signal Mountain Road at the intersection of Mountain Creek Road and the Tennessee River at Baylor School.

Greenway Characteristics: This proposed greenway segment begins at a trailhead located at the Bi-Lo on Signal Mountain Road. It follows Mountain Creek south for approximately 800 feet where it passes underneath the Norfolk Southern Railroad bridge. The trail then follows south along Mountain Creek for another 6,000 feet within a heavily wooded corridor which eventually leads to the Tennessee River. Before it reaches the river, the greenway trail enters the Baylor School property. The trail and the creek then encounter Baylor Lake which is fed by both Mountain Creek and Stringer's Branch. The trail follows the western bank of the lake and skirts the southeast edge of the school's athletic fields until it joins the proposed Tennessee Riverwalk and the river bank. The trail would also connect to an existing "Blueway" at this point. A blueway is a designated, marked trail that follows the course of streams and rivers facilitating transportation and recreation. The total length of this segment is approximately 7000 feet and is entirely within the floodplain. (see map on previous page)

Proposed Greenway Facilities:

It is recommended that a trail head be located near the Bi-Lo grocery store at Signal Mountain Road. This trail head would be an important greenway access point due to its location within the community's active commercial center. Through proper coordination and partnerships with adjacent property owners, existing parking lots could be utilized for greenway



Potential Trail Head at the intersection of Signal Mountain Road and Mountain Creek Road near K-Mart.

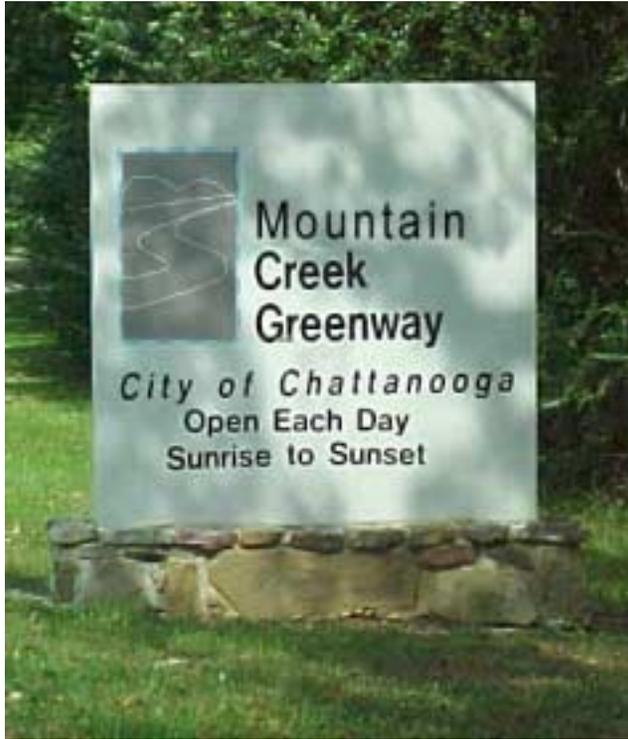
parking. This would attract greenway users as well as customers for local businesses. Restrooms, picnic tables and shelters, bike racks, information signage, and natural landscaping should also be provided.

Trail Heads

Trail heads are the public access points for the greenway. Each trail head should have a parking area and an entry area. The parking area should include restrooms and a drinking fountain. Picnic tables and shelters may also be provided. Entry areas should include bench seating, a bike rack, information signage, and natural landscaping.

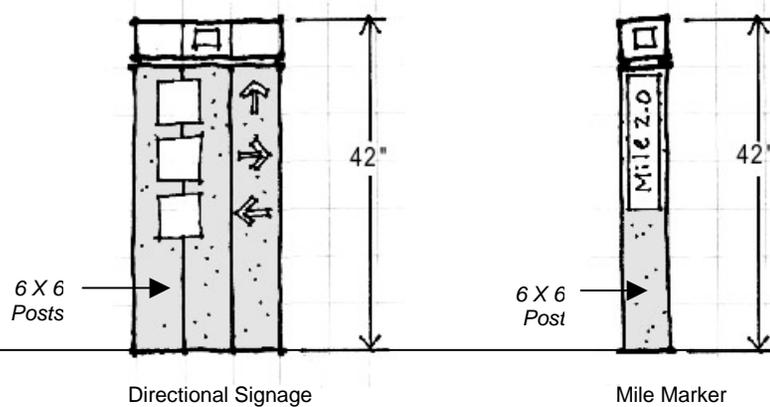


- 1 Parking Lot
- 2 Restrooms
- 3 Bike Rack
- 4 Picnic Facilities

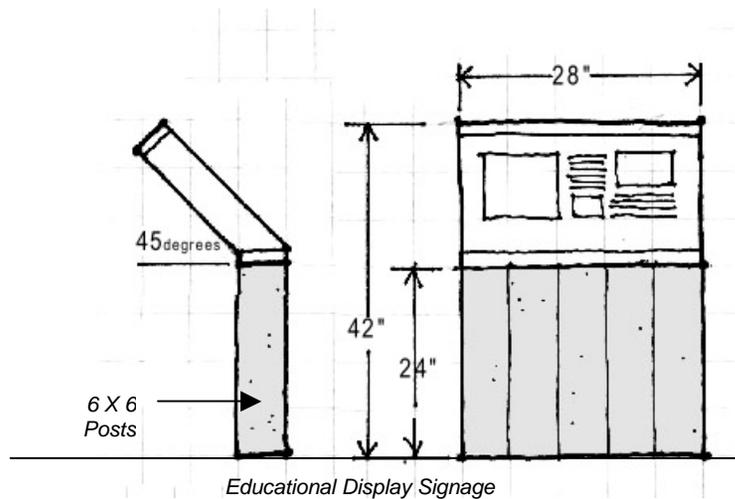


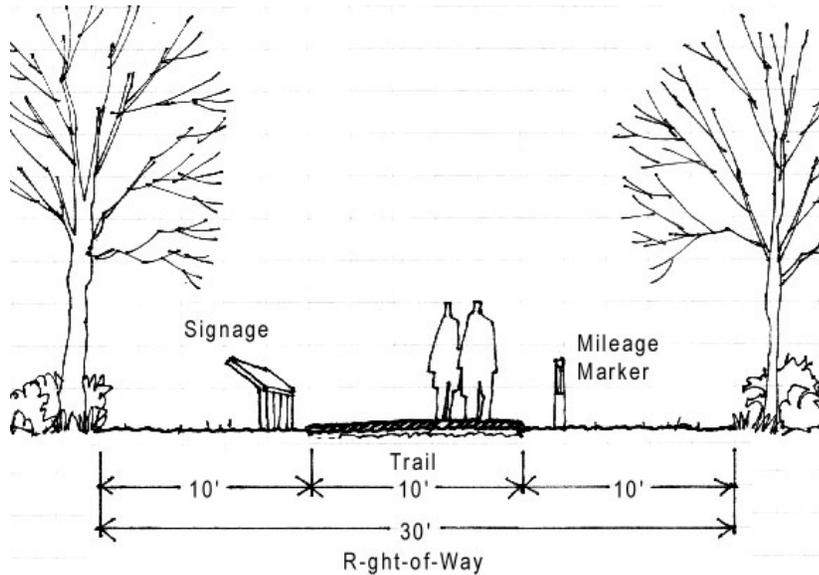
Trail Signage

Adequate signage must be installed at trail head entry areas and at various points along the trail. Signage must be visible and legible so that trail users are informed about the safe and appropriate use of all trail facilities. Signage includes post or pole mounted signs and pavement striping. Signage should also be divided into informational, directional, regulatory and warning signs. Trail signage should conform to the Manual on Uniform Traffic Control Devices and the American Association of State Highway Transportation Official Guide for the Development of Bicycle Facilities since the Mountain Creek Greenway will accommodate bicycle traffic.



Educational and historical display signage should also be installed throughout the trail system. The wayside exhibits should be constructed close to the main trail or at trail heads. Displays at various points should provide the trail user with information about the environment such as natural habits, wildlife, and plants. Information should also be provided about the history of the area. These displays can also provide areas where people can sit and relax.





Trail Design

Greenways and trails should be designed to maximize user enjoyment and satisfaction, while protecting natural and cultural resources to the fullest extent possible and meeting federal and state regulations.

Many greenways in Chattanooga are 10-foot wide asphalt trails inside of a 30-foot right-of-way. Some are natural or graveled paths while others are concrete. Much of this greenway will be constructed as a 10-foot asphalt trail since most of it lies within the floodway and 100-year flood zone.

Consideration should be given to adequate shoulder width, intersections, safety signage, access, sight distance, and pedestrian road crossings.

Landowner concerns for greenways and trails crossing or adjacent to their land should be accommodated where possible by providing fencing/ buffering and necessary security features to relieve safety and privacy concerns.

All foot traffic trails should try to comply with the Americans with Disabilities Act of 1990 and 1999 (ADA).

The trail should be designed to allow access of emergency response and maintenance workers.

Trail Users

The greenway will be a traditional non-motorized multi-use trail available for the following uses: hiking, walking, jogging, and bicycling.



Artist's rendering of trail head at Kmart trailhead

Most of the trail will also be accessible for people in wheelchairs.

The trail should connect to existing or proposed sidewalks, trails, and bicycle facilities.

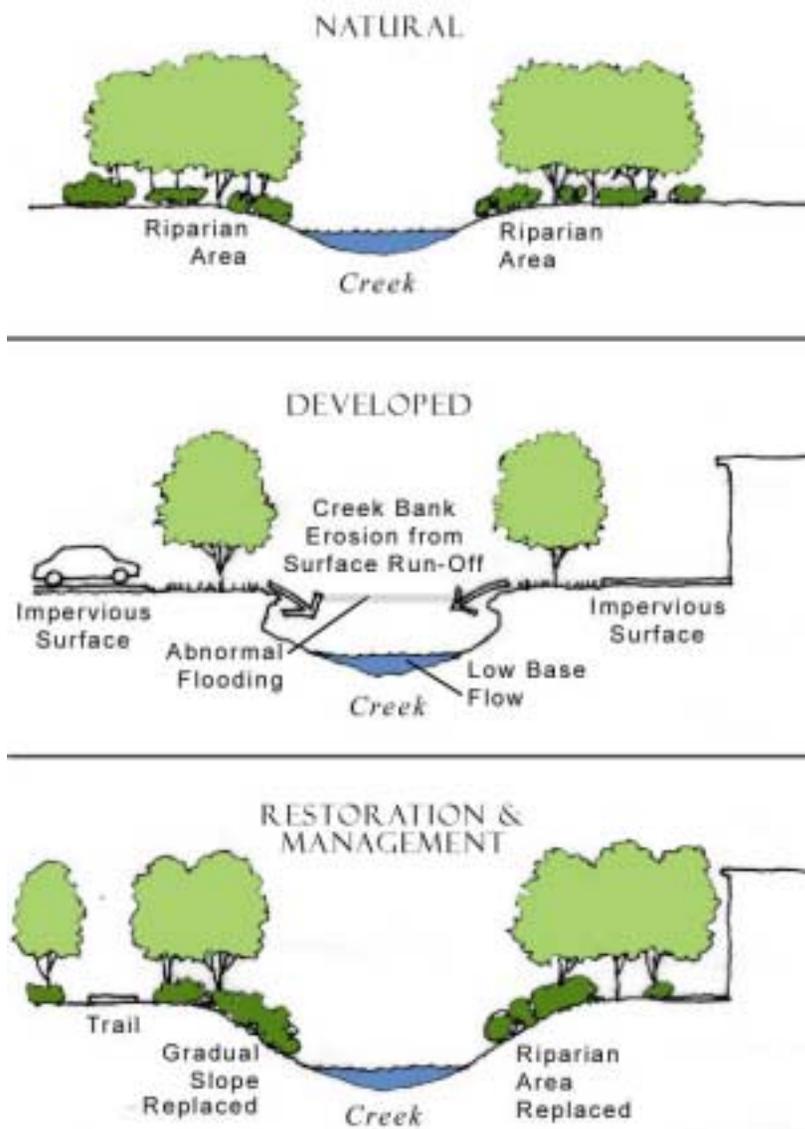
Non-traditional trail opportunities such as mountain biking, equestrian trails, and off-road motorized trails should be explored for other locations in the area.

Education

It is highly recommended that this trail be used for environmental and historical education. The greenway can greatly benefit the various schools connected to it by becoming an "outdoor classroom". The trail itself can be an outdoor classroom with display signage at various points to identify wildlife and plant species (see Trail Signage section).

Larger outdoor classroom areas can also be created near the trailheads at the Scenic Land School, Red Bank Elementary and Red Bank High School. Schools could also use the greenway to incorporate a health and physical fitness program into their curriculum.





Water Resource Protection

The physical characteristic of a stream or river changes dramatically when it experiences unnatural volumes of storm water runoff. Notice the different features from the illustrations at left. In the “Natural” setting, there is a riparian area (a creek’s buffer zone) consisting of low-lying vegetation mixed with trees and the water level is just below the top of the bank. This setting changes in the “Developed” drawing with the inclusion of impervious surfaces. The water level is lower, much of the riparian vegetation is gone, and the bank is eroded. The addition of impervious surfaces caused damage in the natural features, not to mention the possible effect on surrounding wildlife. The last illustration shows how Restoration & Management techniques can help to correct stream damage.

How can these natural and developed situations co-exist? Several recommendations are offered as follows:

- Preserve natural corridors and target riparian areas for protection and educational opportunities.
- Use the greenway as a natural buffer to remain between the stream and development. A buffer acts as a filter for pollutants and absorbs excess storm water to maintain normal flow rates.
- Encourage better land use decisions that reduce impervious surface and reflect conservation principals that will improve quality of life for all.
- Pursue stream project assistance grants.

- Encourage community citizens to get involved in the stream restoration projects and clean-up days such as River Rescue.

Successful accomplishments are a result of successful cooperation.



Tennessee River Rescue2002: Friends of Mountain Creek

9. Greenway Facility Safety and Security

The City of Chattanooga Parks and Recreation Department is responsible for greenway maintenance for portions of the greenway that lie within the city limits of Chattanooga.

The hours of operation are from sunrise to sunset. The City cannot close a greenway. However, the City *can* close any gates that exist (North Chick and Greenway Farm have gates, South Chick and Brainerd Levee don't).

There are few existing greenway specific rules. Current greenways are regulated by City of Chattanooga park rules:

- No alcohol
- No firearms
- No Motorized vehicles
- Dogs must be leashed etc.

Currently, the City Parks & Recreation Department mows an 8-10 foot swath on each side of the trail. No other maintenance is required except to repair vandalism and to replace components as they are damaged or wear out. The key here is "No Maintenance is Required"

The Brainerd Levee is a little different in that Public Works is responsible for the levee and the Parks & Recreation Department is responsible for the trail on the levee.

It is recommended that a Safety and Security program for the Mountain Creek Greenway be developed and implemented.

Important components of a **Safety & Security Program:**

1. Establishment of a Safety Committee or Coordinator.
2. Preparation of a Trail Safety Manual for employees and agencies.
3. Establishment of User Rules and Regulations.
4. Development of Greenway Emergency Procedures.
5. Preparation of a Safety Checklist for the trails.
6. Preparation of a Trail User Response Form.
7. A system for accident reporting and analysis.
8. Regular Maintenance and Inspection Program.
9. Site and Facility Development Review.
10. Public Information Program.
11. Employee Training Program for Safety and Emergency Response.
12. Ongoing Research and Evaluation of Program Objectives.

10. Estimate of Probable Construction Costs

The following construction estimates were provided by the City of Chattanooga Parks & Recreation Department and are divided into Phases 1, 2, and 3.

Phase 1

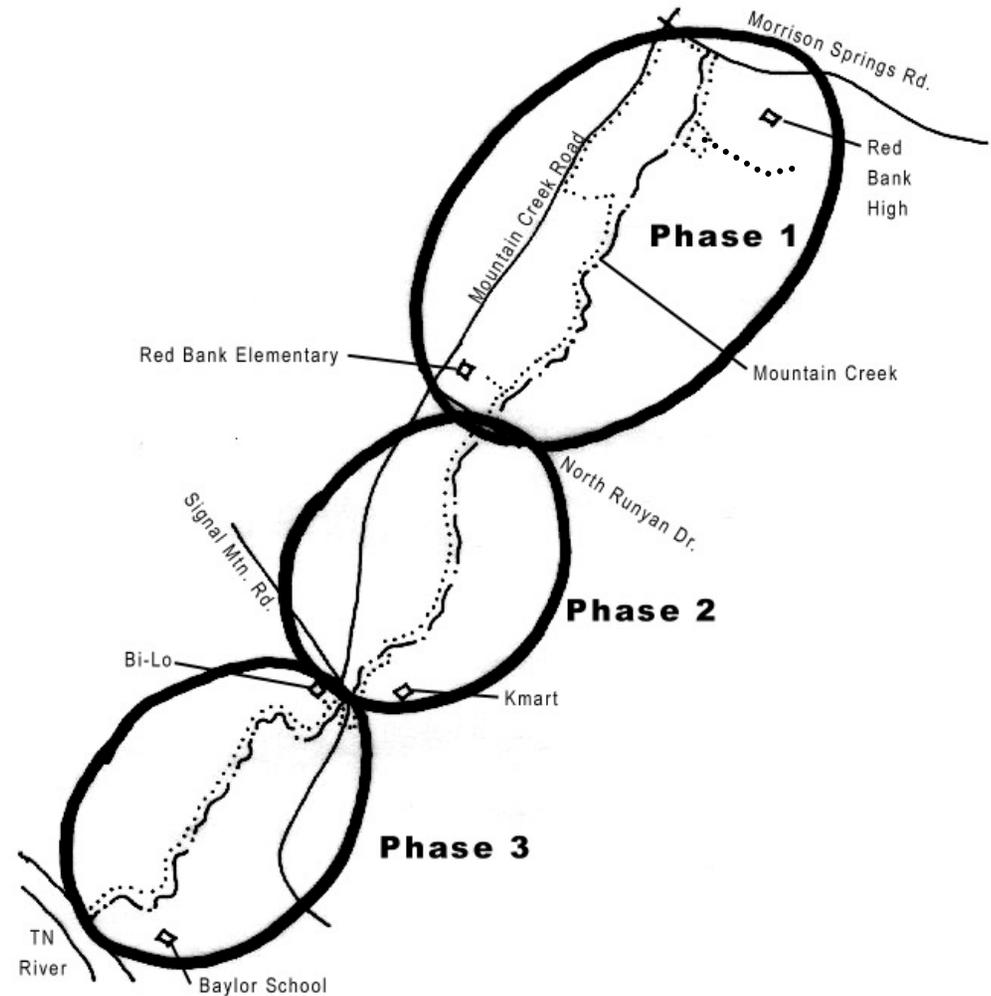
Beginning in the City of Red Bank at the Skipper Fairbanks Recreation Area, Phase 1 extends approximately 1.25 miles south from Morrison Springs Road at Red Bank High School to North Runyan Drive near Red Bank Elementary.

Phase 2

Beginning at the walking trail at Red Bank Elementary, Phase 2 extends approximately 1 mile south from North Runyan Drive to Signal Mountain Road near the intersection with Mountain Creek Road.

Phase 3

Beginning at Signal Mountain Road, Phase 3 extends approximately 1.25 mile south from the Bi-Lo to the Tennessee River at Baylor School.



Phase 1 Development Costs

Skipper Fairbanks Trail Head:

Landscaping minimal (grass, etc.)
Paved Parking (20 spaces) existing
Restroom existing
Bike Rack..... \$270
Bench Seating..... \$500 per bench
Major Trail Head Sign \$2,000

10-Foot Asphalt Trail (5,000 lf) \$75,000

Red Bank Elementary Trail Head:

Landscaping minimal (grass, etc.)
Gravel Parallel Parking (10 spaces) existing
Restroom (for septic, higher for sewer) \$80,000
Bike Rack..... \$270
Bench Seating..... \$500 per bench
Major Trail Head Sign \$2,000

10-Foot Asphalt Trail (4,500 lf) \$67,500
Concrete connector (600 lf- Valley Bridge Rd.) \$12,000

Trail Bench Seating..... \$500
Trash Receptacles \$350

Total \$240,890

Phase 2 Development Costs

Kmart Trail Head:

Landscaping..... minimal (grass, etc.)
Asphalt Parkingexisting
Restroom (for septic, higher for sewer)..... \$80,000
Bike Rack\$270
Bench Seating..... \$500 per bench
Major Trail Head Sign..... \$2,000

10-Foot Asphalt Trail (6,500 lf) \$98,000

Trail Bench Seating\$500
Trash Receptacles\$350

Total \$181,620

Phase 3 Development Costs

Bi-Lo Trail Head:

Landscaping..... minimal (grass, etc.)
Paved Parking (20 spaces).....existing
Restroom (for septic, higher for sewer)..... \$80,000
Bike Rack\$270
Bench Seating..... \$500 per bench
Major Trail Head Sign..... \$2,000

10-Foot Asphalt Trail (7,000 lf) \$105,000

Trail Bench Seating\$500
Trash Receptacles\$350

Total \$188,620

11. Implementation

Funding and building a greenway involves the efforts of many people. The Trust for Public Land (TPL) plays a crucial role in making greenways become a reality. The City of Chattanooga Parks & Recreation department contracts with TPL to secure right-of-ways and easements for greenway trails and facilities.

There are also a variety of ways that greenways can be *funded*. The City of Chattanooga typically allocates a certain dollar amount for greenways in its yearly Capital Budget. In addition to these funds, the following are also possibilities.

Recreation Trails Program (RTP)

Through the Transportation Equity Act for the 21st Century, approximately \$1,650,000 is available for recreation trail projects every other year. Eligible applicants include state, federal, and local government agencies and private organizations. Public/ private partnerships are also encouraged. Projects are funded at 80% with a 20% match requirement (qualifying in-kind matches are allowed). The intent of this program is to fund backcountry trail projects, such as a connection to an outdoor classroom at the Skipper Fairbanks Recreation Area in Red Bank.

Transportation Enhancement Fund

Through the Transportation Equity Act for the 21st Century (TEA-21), approximately \$15 million is available annually statewide to city or county governments and other state agencies to construct non-motorized pedestrian and bicycle trails that provide a transportation alternative. Trail projects that are primarily recreation in nature are not eligible. 80/20 match (cash only). July 1 is the annual application deadline.

Recreation Trails Program (RTP)

Eligible trail-related activities include:

1. Recreation trail acquisition, development or rehabilitation.
2. Multi-use/ Diverse-use trail projects that provide recreation for more than one user group (motorized, non-motorized or both), including rail-trails (40% of funds dedicated to this use).
3. Non-motorized trail projects, including: equestrian trails, hiking trails, mountain bike trails, and water trails (30% of funds dedicated to this use).
4. Motorized trail projects, including: off-road motorcycle trail, all-terrain vehicle trails, and off-road four-wheel drive trails (30% of funds dedicated to this use).

Transportation Enhancement Fund

Eligible trail-related activities include:

1. Provision of facilities for pedestrians and bicycles (alternative transportation, not internal park trails that are recreational in nature).
2. Scenic or historic highway programs (as part of designated system of historic or scenic highway).
3. Landscaping and other scenic beautification (connected to a transportation facility).
4. Preservation of abandoned railway corridors (including the conversion and use for pedestrian and bicycle trails).

