



TOWN OF BLACK MOUNTAIN Active Mobility Commission

Town Hall, 160 Midland Avenue, Black Mountain, NC 28711 and/or online

Date: November 21, 2023 Time: 6:00 **Regular Meeting**

*The agenda and all related documentation may be accessed electronically via Wi-Fi in Town Hall. From your laptop or smartphone, access the Town's website at www.townofblackmountain.org. Click on **Town Government** and select **Active Mobility** to download materials for all Town Council meetings.*

P Conserve resources; print only when necessary.

The Town of Black Mountain is committed to providing accessible facilities, programs and services for all people in compliance with the American with Disabilities Act (ADA). Hearing assistive devices are available at the door.

Should you need other assistance or accommodation for this meeting, please contact

The Planning Senior Admin at 419-9371, or by email at planning@tobm.org.

(828) 419-9371 / TDD (800) 735-2962

- I. **Call to Order** Chair
- II. **Quorum**
- III. **Public Comment**
Public Comment will also be permitted after each discussion.
- IV. **Agenda** -review and modify
- V. **Adoption of Minutes** Chair
- VI. **Old Business**
 - a. Review of Meeting with Josh Harrold
 - b. Report to Council for the coming year
- VII. **New Business**
 - a. Review of Greenway Master Plan
- VIII. **Discussion**
- IX. **Adjournment**



PUBLIC NOTICE **AVISO PÚBLICO**

BLACK MOUNTAIN ACTIVE MOBILITY COMMISSION

REGULAR MEETING **REUNIÓN ORDINARIA**

Tuesday, November 21, 2023, at 6:00 p.m.
Martes 21 de Noviembre de 2023, a las 6:00 p.m.

The Black Mountain Active Mobility Commission will meet for their monthly meeting on **Tuesday, November 21, 2023, at 6:00 p.m.** in the conference room of Town Hall.

La Comisión de Movilidad Activa de Black Mountain se reunirá para su meeting mensual **el martes 21 de Noviembre de 2023, a las 6:00 p.m.** en la sala de conferencias del Ayuntamiento.

The meeting is open to the public.
La reunión está abierta al público

Jennifer Tipton
Senior Admin

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La ciudad de Black Mountain se compromete a proporcionar instalaciones, programas y servicios accesibles para todas las personas en cumplimiento con la Ley de Estadounidenses con Discapacidades (ADA). Si necesita ayuda o un alojamiento en particular para esta reunión, comuníquese con Jennifer Tipton, Administradora Senior al (828) 419-9371 o por correo electrónico a Jennifer.tipton@tobm.org.

Posted to the Town Bulletin Board 10/31/2023
www.townofblackmountain.org

Active Mobility Commission Minutes

October 17th, 2023

I. Call to Order

Julie White called the meeting to order at 6:00 pm.

II. Quorum

Members Present: Kyle Cole, Julie White, Julia Weatherford, Michelle Knight, Kristie Bergna

Members Absent: Lisa Raleigh

Staff Present: Russell Cate, Jennifer Tipton

III. Public Comment

Public Comment will also be permitted after each discussion

IV. Agenda - review and modify

The agenda was reviewed, amended, and adopted.

V. Adoption of Minutes

The minutes of the August meeting were adopted by consensus.

VI. Old Business

a. Commission Ordinance

Submitted changes were adopted by Council. Julie White will be working to ensure that a procedure is in place for new projects to be brought to the Commission.

b. Review of Requests from Commission to Council

Parks and Recreation will be working on the trail program, Commission is not necessary for this. Ventures Trail bridge will be added to the greenway master plan after the feasibility study is complete. Sidewalks are still needed at Dougherty Street past the library, on Laurel Avenue from the golf course to the pool and the lower parking lot to the pool, and on Tomahawk Street from Craigmont Road to 9th Street. DOT does not want to remove debris from the barrels at the I40 overpass at the Oaks Trail. Julie will work with Josh to look at a plan to get volunteers to paint the tunnel white. Maintenance issues regarding silt and gravel at Lake Tomahawk are in progress with Anne Phillips, town stormwater technician, leading the charge on creating rain gardens and bio retention areas. New trail at Craigmont tennis courts has metal sticking up, Parks and Recreation have plans for paving this area. Vance Avenue sidewalk degradation issues have not been addressed yet. Sidewalk transition at Village Way is complete. Flat Creek greenway continues to have issues with roots pushing asphalt up on the path.

- c. Report to the Council for the coming year

New budget items need to be presented to the Council by February. Commission will look at getting onto the new Town Clerk's schedule in January to review yearly report. Discussion was held regarding asking for fewer new items with a notation that the new process in place will allow for the Commission to bring agenda items to the Council throughout the year. New items the Commission is looking at include: trail system maintenance budget and engineering for Ventures Trail bridge behind old BiLo over the Swannanoa River. Julia will research trail system maintenance budgets used by similar locations to come up with a reasonable annual maintenance budget proposal. The Ventures Trail bridge was asked for in last year's request, however the Council asked that this be rolled into the feasibility study which is currently in the RFQ stage. Michelle wants the Commission to discuss being looped into the proposed Montreat College development by the Oaks Trail. All Commission members are asked to look at the ideas discussed in this meeting and bring new ideas to the November meeting.

VII. New Business

- a. Black Mountain Greenway Valentine Run

Scheduled for February 10th and the Greenway Commission is looking for volunteers. Event is predicted to be larger than in years past.

VIII. Discussion

None.

IX. Adjournment

Julie adjourned the meeting at 6:45 pm.



Black Mountain Greenway **MASTER PLAN**

Benefits Stewardship Priorities

*Town of Black Mountain, NC
March 2019*



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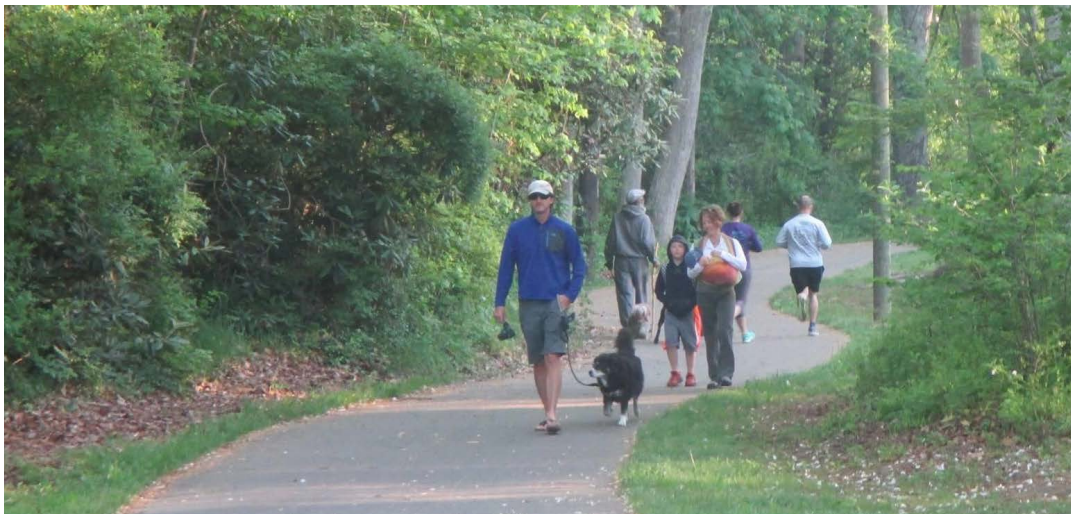
39 High Priority Greenways
 Flat Creek Greenway Phase 2
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Appendices - Reference Excerpts

- A - Black Mountain Recreation & Parks Dept. 2025 Master Plan
- B - Black Mountain by Bike, 2016
- C - Buncombe County Greenways & Trails Master Plan, 2012
- D - Land of Sky Regional Council Blue Ridge Bike Plan
- E - Town of Black Mountain Pedestrian Transportation Plan, 2016
- F - US 70 / Swannanoa River Greenway Feasibility Study, 2010



FLAT CREEK GREENWAY

- 15 The Town of Black Mountain Pedestrian Transportation Plan
Existing Pedestrian Network 2008, Figure 10
- 16 The Town of Black Mountain Pedestrian Transportation Plan
Proposed Pedestrian Network 2008
- 17 Black Mountain by Bike
Black Mountain Pedestrian Network 2014, Figure 20
- 19 Black Mountain Comprehensive Update 2014
Black Mountain Bicycle Network, Figure 11
- 20 Black Mountain Comprehensive Update 2014
Black Mountain Parks & Recreation, Map 6-1



US 70 CROSSING OVER SWANNANOA RIVER

List of Exhibits



The Town of Black Mountain Greenways Commission wish to recognize the following people and agencies who have contributed resources to move this Greenway Master Plan from concept to reality including periodic updates, like this one. Collectively, their forward thinking and support is appreciated by the not only the Commission but the patrons of our greenway and trail system.

Town of Black Mountain:

Board of Alderman
Planning Department
Recreation and Parks Department (including the Heath Initiative Committee)

Associated Agencies and/or Affiliated Organizations:

Buncombe County Greenway and Trails Commission
Catawba Lands Conservancy – Carolina Thread Trail
Federal Housing Administration
French Road River Metropolitan Planning Organization (MPO)
Friends of Connect Buncombe
Land of Sky Regional Council
NC Division of Bicycle and Pedestrian Transportation
NC Division of Parks and Recreation Trails Program
US Environmental Health

Associated Reference Documents:

Black Mountain by Bike, 2016
Black Mountain Comprehensive Plan Update, 2014
Black Mountain Veterans Park Master Plan
Black Mountain Rec. & Parks Dept. 2025 Master Plan
Buncombe County Greenways & Trails Master Plan, 2012
Land of Sky Regional Council Blue Ridge Bike Plan
EPA Green Infrastructure Case Studies:
Municipal Policies for Managing Stormwater with Green Infrastructure, 2018
NCDOT Evaluating the Economic Impact of Shared Use Paths, 2017
North Carolina The Great Trails State, A Guide for Exploring the Trails of North Carolina, 2016
Town of Black Mtn Pedestrian Transportation Plan, 2015
Upper Swannanoa River Watershed Management Plan, 2016
US 70 / Swannanoa River Greenway Plan, 2010



IN-THE-OAKS TRAIL

Acknowledgements



The Town of Black Mountain has a vision and a mission of being one of the most walkable communities in the region. Town members have repeatedly expressed their desire for the development of a greenway system that connects key elements within the Town. The current paths at Lake Tomahawk, Riverwalk Park, Veterans Park, and the Flat Creek Greenway are heavily used by citizens and visitors of Black Mountain. Pedestrian and bike traffic throughout Town is increasing. It is important part of healthy living - greenways and trails are a practical and effective way to provide opportunities for exercise. This Greenway Master Plan presents a system that connects the community in ways that meet the desires and needs of the citizens and visitors of Black Mountain.

We have an opportunity to provide for sustainable growth, alternate transportation, and friendly, enjoyable recreational amenities for our residents, our visitors, and community groups, including, but not limited to, the Health Initiative, Safe Routes to Schools, Chamber of Commerce, and Parks and Recreation Department activities/programs. The continued development of a Greenway System in Black Mountain has far-reaching benefits (see section herein devoted to “Benefits of Greenways”):

- Quality of Life Enhancement
- Alternative Transportation
- Greenspace Conservation and Restoration
- Economic

Black Mountain extensively sought public input for the development of the Town 2014 Comprehensive Plan Update. One of the Action items identified in the plan was to “Establish a Greenway System to connect All Areas of the Community”. The public’s desire for greenways and a walkable community was noted in the following stated visions:

#2: Getting Around – Sidewalks border nearly every street, and are connected to a community-wide network of trails, walking paths, and bikeways.

#4: Recreation, Parks, and Open Space – We see a well-developed system of walking and biking trails adjacent to our streams, enjoyed by hikers, bicyclists, and others. This greenway system connects an assortment of schools, parks, open spaces, and neighborhoods.

Black Mountain’s own 2015 Pedestrian Transportation Plan acknowledges under Goals and Objectives to “expand greenway system as a means for connecting parks, open space, and schools; increasing recreation options along stream corridors . . .” and goes on to recommend the following:

Authorize the Greenway Commission to work through an existing non-profit organization to form the public-private partnerships needed to develop the Black Mountain Greenway System.

Apply for funding as appropriate from government grant organizations.

Determine which subsection of Town administration will have oversight of the greenways system, including both construction and maintenance.

Adopt an ordinance to enforce trail rules and use restrictions.

The 2015 Pedestrian Transportation Plan’s further implementation recommendations included, “The Greenway Commission along with the Planning Board and Recreation and Parks Commission, should take on the role of on-road bicycle and pedestrian planning to provide a network of off-road and on-road facilities that connects people to places.”

Land of Sky Regional Council Greenways Initiative identifies as one of their four (4) high priorities for regional connections, “along the Swannanoa River, connecting Black Mountain, Swannanoa, and Asheville, and extending over to Old Fort in McDowell County”.

Introduction

“Connecting people and places safely and efficiently, with accountability and environmental sensitivity to enhance the economy, health, and well-being of North Carolina” - NCDOT Mission Statement

Mission of the Buncombe County Greenway & Trails Commission is “to support the development of an environmentally friendly system of connected trails and greenways to improve health, alternative travel, economic development, and recreation in coordination with towns, cities, communities, businesses, non-profit organizations, and adjacent counties”.

Excerpts from Buncombe County’s Greenway & Trails Masterplan states “well planned and well-designed greenways can stand the test of time as uses, users, and influences change . . . Frederick Law Olmsted could be considered the father of greenways in America through his work on incorporating natural features and trails into urban public works projects. In the late 1800’s Olmsted recognized the needs of different users of the time and the potential conflicts of those users along their recreation and transportation routes”.

The North Carolina (NC) Trails Program originated with the NC Trails System Act and is dedicated to helping citizens, organizations, and agencies plan, develop, and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback to river trails and off highway vehicle trails. The NCDOT’s 2017 Evaluating the Economic Impact Study notes that NC is positioning itself as the “Great Trails State” with prominent statewide and regional trail systems - i.e.: Mountains to Sea (1,000 miles), East Coast Greenway (continuous route along eastern coast), Carolina Thread Trail (220 miles).

The Hellbender 100 within the Pisgah National Forest, is a grueling tour of the massive Black Mountains and is only a part of the 460+ mile Hellbender Regional Network.

The support of the Town of Black Mountain, both in terms of money and staff time / expertise has been instrumental in getting this plan where it is today. Continuation of that support is critical for future development and success!

Continued public outreach efforts to educate the citizens about the wider expanse of this Master Plan will only enforce support from users and landowners whose properties may in some way be involved in future greenways. The Greenway Commission foresees businesses, civic groups, churches, local schools, and individuals participating and providing support for the development of the greenway system identified herein. With the assistance of our citizens and civic leaders, we will make this plan a reality!



LAKE TOMAHAWK LOOP



LAKE TOMAHAWK LOOP



Black Mountain is a town of approximately 8,000 people located in eastern Buncombe County, North Carolina and is a member of the French Broad River Metropolitan Planning Organization (MPO). As the popularity and possibilities for greenways has grown and expanded, facilities have been created to connect key areas and enhance recreational areas and opportunities.

Near the physical center of the Town in Lake Tomahawk, encircled by an existing, heavily-used walking path. Lake Tomahawk includes the Black Mountain pool, Lakeview Senior Center, tennis courts, playground, pavilion, and several gardens. Black Mountain Veterans Park is a multi-use park with softball fields, soccer pitch, 18-basket disc golf course, community garden, indoor soccer facility, and multiple trails. Veterans Park is connected to Vance Avenue to the east by half (1/2) mile paved In-The-Oaks Trail.

Black Mountain Primary School and Black Mountain Elementary School are located near the center of Town within a quarter (1/4) mile of each other. Owen Middle School and High Schools are located on the western edge of Town. Montreat College has a campus in the Town of Montreat to the north of Black Mountain and in Black Mountain itself just east of Veterans Park and adjacent to the Oaks Trail. To the north and east of Black Mountain are the Montreat Conference Center and the Ridgecrest Conference Center, both with many historic and important hiking trails. Many of these trails connect to the Blue Ridge Parkway and, thusly, to regional recreational opportunities.

The Town of Black Mountain Greenway Master Plan connects desirable destinations using identified opportunities for greenway corridors. The Master Plan connects the public schools to one another and to the major parks in Town. The two (2) campuses of Montreat College are connected to one another and to the center of Town. The Master Plan provides connections to neighboring communities and to regional and state greenways planned to the east and west of Black Mountain.

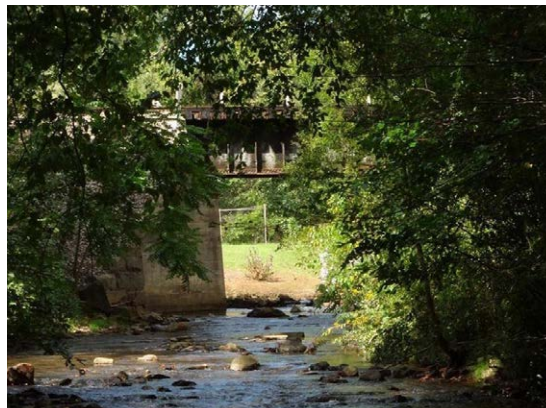
Public input sought during the 2005 development of this Master Plan for Black Mountain Recreation and Parks also indicated a strong desire from the public for safe bike paths in addition to separated greenways. The Health Initiative Committee surveyed the public, hoping to obtain opinions about the needs relating to the public pool . . . instead the greatest need identified was for more bike paths / greenways!

In 2011 – 2012, the Black Mountain Greenways Commission participated in an evaluation process to prioritize remaining greenway projects and identified the trails that are most- needed and most-feasible in the near future. Those priorities were reflected in the 2017 Master Plan. Also included in that Master Plan were references to the updated Town's Comprehensive Plan, which highlights plans and policies to best serve and improve the community.

Since then, a great deal of momentum has been generated in regards to the benefits and essentials for greenways / trails at the regional and state levels, in addition to change in opportunities and priorities, including significant work / documents that address the Black Mountain greenways / trails in particular, has led the Town's Greenway Commission to this 2019 update.



IN-THE-OAKS TRAIL



RIVERWALK GREENWAY

Background

“Greenway: a linear open space: a corridor composed of natural vegetation; used to create connected networks of open space that include traditional parks and natural areas.”

~ TBM Pedestrian Transportation Plan

The following excerpts from the Black Mountain Recreation and Parks Department 2025 Master Plan, completed and approved by the Board of Aldermen in December 2017, are pertinent to this update of the Greenways Master Plan:

Park Proposals and Recommendations:

7. A greenway system should be developed that connects all parks and that connects Black Mountain and Montreat. With the development of the In-the-Oaks property by Montreat College, the Town should partner with the college to develop a greenway/walking path between the Veterans Park and Cragmont and Lake Tomahawk Parks.

Priorities for Development:

2. Continue to develop the greenway system to tie all of the town's parks together through a series of walking and biking paths. This will enable our youth to access all facilities without having to travel along vehicular pathways.

State and National Trends in Recreation, Greenways and Trails:

A passive trend that holds a lot of promise is the desire for trails and the heavy use of those trails that do exist. Greenways top the list of requests from the 2013 Recreation Needs Assessment for Black Mountain. As more trails become available throughout the U.S. and people see the economic, social, and physical benefits of having these facilities, demand increase.

Earned Income Opportunities

Trail sponsors (partnerships) that adopt sections of the trails for maintenance and cleanup.



COMMUNITY GARDEN GREENWAY



IN-THE-OAKS TRAIL

Background Continued

Greenway segments are described and mapped on the following pages and identified as “completed”, “funded”, ‘high’, ‘medium’, or ‘low’ priority based on today’s understandings. Proposed routes are based on anticipated need(s) and represent current understandings and significance relative to other known regional and state trail projects.

The master plan is long range in nature. It is intended to provide a strategy for greenway growth by recognizing current gaps in connectivity. It is not a details planning or development documents. It will, however, serve as a guide and framework for evaluation: supporting future decision-making and pursuit of funding opportunities.

Once funding has been procured and there is community support for a specific greenway, final alignment will be determined through a technical planning process. Assessment of alternate routes to what is shown herein may be possible to achieve a particular goal, especially as a result of the public input process. In greenway planning, this will primarily include, but will not be limited to:

- an assessment and evaluation of the existing conditions to properly inform and start a dialogue with landowners, other affected public agencies or private companies, and the community-at-large
- a public involvement process by way of stakeholder meetings, surveys, and other applicable means of engagement to identify any design obstacles and further refine alignment for the particular greenway design
- noticed public meeting(s) and input from the Greenway Commission, Planning Board, and Board of Alderman; in addition to any affected public agency or private company and Town of Black Mountain staff

Through the process, landowners, stakeholder, and the community-at-large will all have the opportunity to review and provide comment on a draft plan before the final alignment is adopted by the Greenway Commission, Planning Board, and Board of Alderman.

The result will be a greenway design which encompasses the needs and wishes of the Black Mountain community.



FLAT CREEK GREENWAY



AASHTO: American Association of State Highway and Transportation Officials; a nonprofit, nonpartisan association representing associated departments in 50 states (*TBM Pedestrian Transportation Plan*)

ADA: American Disabilities Act of 1991; civil rights protections to individuals with disabilities including equal opportunities in public accommodations . . . state and local government services (*TBM Pedestrian Transportation Plan*)

ATN: Alternative Transportation Network; connected system for travel using transportation other than private cars, such as walking, bicycling, rollerblading, et al (*TBM Pedestrian Transportation Plan*)

Barrel: structure designed hydraulically to take advantage of submergence to increase hydraulic capacity

Bicycle Facilities: a general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling; ie parking/storage facilities, shared roadways not specifically designated for bicycle use, bicycle lanes, paved shoulders, and sidepaths. (*TBM Pedestrian Transportation Plan*)

Bikeway: a route designated by NCDOT as suitable for recreational and/or commuter bicycling.

Black Mountain Parks and Greenways Foundation: uses individual and corporate philanthropic donations to develop and maintain parks, grounds, programs, and facilities throughout town. (*Black Mountain Recreation and Parks Department 2025 Master Plan*)

Connectivity: logical and physical interconnection of functionally related points so that people can move among them. (*TBM Pedestrian Transportation Plan*)

Connector: a greenway / trail, often a multi-use greenway /trail, which connects two (2) other greenways / trails or locations.

Conservation Easement: a legally binding agreement not to develop part of a property, but to leave it “natural” permanently or for some designated very long period of time regardless of ownership transfer. (*TBM Pedestrian Transportation Plan*)

Corridor: a spatial link between two (2) or more destinations. (*TBM Pedestrian Transportation Plan*)

Culvert: structure allowing water to flow under a road or trail

Drainage way: low-lying land along creeks or rivers, often in the 100-year floodplain or floodway that must remain undeveloped except with variances or exceptions from state, county, and federal regulations.

EPA: Environmental Protection Agency

FHWA: Federal Highway Administration

Fitness Trail: a pathway upon which users jog or walk between stations to perform various exercise tasks

Greenspace: land that has not been developed or has returned to its natural state.

Greenway:

- an open, natural or landscape corridor, often of relatively extended length, along creeks, utility easements, abandoned railroads, and publicly-owned property
- typically allows for two-way, multi-use traffic
- a continuous path with a stabilized surface that is designated for pedestrian and non-motorized vehicle use; frequently enhanced with benches, signs, water fountains, art/sculpture, and other applicable amenities
- trails, open pathways, sidewalks, and bike lanes that build corridors to connect our parks and businesses, schools, and neighborhoods, towns, and cities (*Buncombe County Greenways & Trails Master Plan*)
- a course for pedestrian and bicyclist use through linear open space, often times along a natural corridor, river, or stream

- shared use path, separate from a road, and can handle multiple uses at one time . . is not always paved (*Black Mountain Greenway Commission 02-20-18*)

- public infrastructure that provides important functions to not only offer transportation alternatives, but to protect public health, safety, and welfare:

- filtering pollutants from stormwater and providing an essential habitat for native vegetation that serves to cleanse water of sediment
- provide viable routes of travel for cyclists and pedestrians; serve as alternative transportation corridors for urban and suburban commuters
- serve the health and wellness needs of a community, providing close-to-work access to quality outdoor environments where residents can participate in doctor prescribed or self-initiated health and wellness programs (*TBM Pedestrian Transportation Plan*)

Greenway Corridor:

- off-road, multi-use facilities that provide excellent source for alternative transportation and recreation, typically take advantage of linear stream corridors, easements, and other tracts of open space; integrated with and serve as an off-road extension of the on-road pedestrian network (*TBM Pedestrian Transportation Plan*)

- linear open spaces connecting recreation, cultural, and natural areas; providing attractive views, open space preservation, and convenient recreation opportunities

Linear Park: an area developed for one or more varying modes of recreational travel such as walking, hiking, horseback riding, canoeing. Usually, linear parks are developed to provide a safe route to connect recreational facilities, schools, and residential neighborhoods. The acreage and service area of a linear park is variable and subject to existing natural and man-made features, the existence of public right-of-way, and the public demand for this type of park. In some cases, a feature, such as a stream or river, and the recreational use is a secondary objective. Linear parks are needed to provide safe transportation routes for walkers, joggers, and bicyclists. (*Black Mountain Recreation and Parks Department 2025 Master Plan*)

MPO: Metropolitan Planning Organization (of French Road River)

MSD: Metropolitan Sewage District

NCDOT: North Carolina Department of Transportation

ORAR: Outdoor Recreation Access Route that connects accessible elements

Path: more generic, usually does not allow for multi-use; often of compacted dirt (*Greenway Commission Minutes 02-20-18*)

Pedestrian Network: framework of recommended facilities like, but not limited to, pedestrian corridors, sidewalks projects, intersection improvements, and greenways (*TBM Pedestrian Transportation Plan*)

ROW – Right-of-Way

SUP: Shared Use Path, also known as greenways or trails, are unique facilities physically separated from motor vehicles that allows a shared space in which bicyclists, pedestrians, and sometimes equestrian or other non-motorized users can travel; often constructed within an independent ROW and may follow a waterway, railroad, or utility corridor (*NCDOT Evaluating the Economic Impact of Shared Use Paths*)

TBM: Town of Black Mountain



The already completed greenways and the regional bikeways around Black Mountain are utilized daily by hundreds of residents and visitors. The popularity of these facilities is a resounding endorsement of the benefits they provide.

The 2017 Evaluating the Economic Impact of Shared Use Paths document completed by NCDOT and NC Division of Bicycle and Pedestrian Transportation “provides evidence of the economic benefits of a collaborative multi-modal transportation system, further making the case for bicycling and pedestrian facilities . . . now with solid North Carolina-specific data to back it up” proclaimed Julie White, NCDOT Deputy Secretary for multi-modal transportation in April 2018. See further information herein under the “Economic” paragraphs.

Further note, the NC Statewide Pedestrian and Bicycle Plan proclaims that investing in greenways adds many benefits to a community at relatively low cost by:

- Promoting physical, mental, and social well-being by providing outdoor places to relax, exercise, and socialize
- Providing easy walking or bicycling connections between neighborhoods, schools, parks, and trails
- Increasing property values, promoting tourism, and fostering local businesses by encouraging multi-modal traffic
- Improving overall quality of life
- Reducing traffic congestion
- Improving air quality

NC Statewide Pedestrian and Bicycle Plan was based on a five (5) ‘pillar’ format of (1) mobility, (2) safety, (3) economics, (4) health, and (5) stewardship / environmental. The Town of Black Mountain Greenways Commission includes “sociological benefit” and “community involvement” as critical additional ‘pillars’.

This update outlines plans for additional greenways that will make such benefits available on a much wider scale and enhance connectivity with existing sections. The following benefits of a greenway system in Black Mountain are further articulated in this section:

- Quality of Life Enhancement
- Alternative Transportation
- Greenspace Conservation and Restoration
- Economic

Quality of Life Enhancement

Greenways connect neighborhoods to each other and to schools, parks, nature preserves and shopping areas. They bring people together – folks can stop and talk to each other and get to know each other in ways that are impossible when they are confined to an automobile. Greenways provide rich and poor, young and old, and everyone in between with the environment to exercise or commute in an active, healthy way. As health improves, so does the self-esteem and community.

Alternative Transportation

From an environmental standpoint, traveling on a greenway is the most desirable choice. No fuel is burned, no pollutants are emitted, and fewer parking lots are needed. Greenways reduce our dependency on fossil fuels. They are a shelter from the gauntlet of vehicle traffic. Greenways assist vehicle drivers by taking some of the traffic off roads, thus relieving congestion and reducing wear and tear on the highway infrastructure.

Greenways offer the non-driving public, folks who may be too young, too old, impaired, or who simply choose not to drive [an estimated thirty percent (30%) of the population] a safe, enjoyable, dignified way to get around town.

Greenways offer safe connections to public transportation. They connect neighborhoods to schools and civic facilities. Hundreds of car trips could be eliminated daily.

Benefits of Greenways

Greenspace Conservation and Restoration

Open space constantly falls victim to commercial and residential development. Yet, on the fringes of development there are numerous areas and corridors whose natural beauty can be preserved or restored. Creating greenways along creeks and undeveloped land will protect biological diversity, water and air quality, and the natural beauty of our surroundings.

Greenway development will allow users to visit historical, archaeological, educational, and environmental sites that were previously inaccessible or even forgotten. Markers along the greenway will be easily readable and will allow walkers, joggers, and cyclists to enjoy the sites in a way simply not available from motorized transportation.

Economic

Places to eat and shop near the greenway are likely to see increases in business. It is much easier to simply step into a business than it is to find a parking space. In addition, there will be more customers, many of whom will be out-of-town guests / visitors, for local retail shops and restaurants including those that provide clothing and equipment for walking, skating, jogging, and cycling. New businesses may also spring up and real estate values will be enhanced.

TBM Planning Department notes that community health amenities such as greenways are attractive to site selection firms and support recruitment and retention for existing companies.

NCDOT in their 2017 Evaluating the Economic Impact of Shared Use Paths document further noted:

There is a growing realization and appreciation of the significant economic stimulus that results from large-scale physical improvement projects such as construction of pedestrian and bicycle infrastructure.

It is assumed that current tourism associated with bicycle and pedestrian activity will increase forty percent (40%): twenty percent (20%) from the addition of more greenways and twenty percent (20%) from increased connectivity, improved activities, and enhanced promotion of existing greenways.

The first approximation of the type and magnitude of economic impact suggests that there are a number of ways in which investment in bicycle and pedestrian infrastructure generates very real and very large economic returns, to the state and to its residents and businesses.



RIVERWALK PARK



RIVERWALK PARK



Greenways & Sidewalks

Sidewalks provide valuable links for the Greenway Master Plan. Constructed by the Town of Black Mountain and the NCDOT, the existing sidewalks provide connections where greenways are not always feasible. Adding more sidewalks as the Town has been doing over the past several years and are presently being designed and installed, gives citizens and visitors more access to both the greenways network and other pedestrian-friendly Town amenities. Planning for more sidewalks supports the vision of the Greenways Commission. Pursuing this vision will be an ongoing effort to fashion Black Mountain as one of the most non-vehicle connected town in North Carolina.

In pursuit of this vision, the Town and Board(s) / Commission(s) need to think creatively and realistically if this vision is to become a reality. Building sidewalks with curb and gutter may be ideal, but funding is rarely available. By adopting a policy that encourages expanding shoulders on all roads up to four feet (4') wide anywhere within the Town limits will add to our inventory or paths that could be used as unpaved walkable areas. As funding becomes available, these "paths" could be paved. In addition, whenever NCDOT repairs a road, their planners should be encouraged to widen the road and add a painted bicycle and pedestrian lane on at least one side of the road. The commitment of our Town's Board of Alderman to support and expand non-vehicle travel will be the key to greenway system success!

Comprehensive planning by the Town of Black Mountain in 2015 produced the Pedestrian Transportation Plan. Several key points are referenced and included in several sections herein.

Key perspective to designing greenways is the American Disabilities Act of 1991. Applicable documents to be utilized when designing new greenways include, but may not be limited to:

- 2009 ANSI A 117.1 and Chapter 11
- 2010 ADA Standards
- 2012 North Carolina Building Code 1104.02 and 1109.14.3
- 2013 Federal Outdoor Area Standards
- North Carolina Administrative Code 105.1



RIVERWALK PARK

"Federal Housing Administration in 2012 noted that "separated walking infrastructure can also reduce the rate of non-intersection pedestrian accidents by eighty-eight percent (88%)."

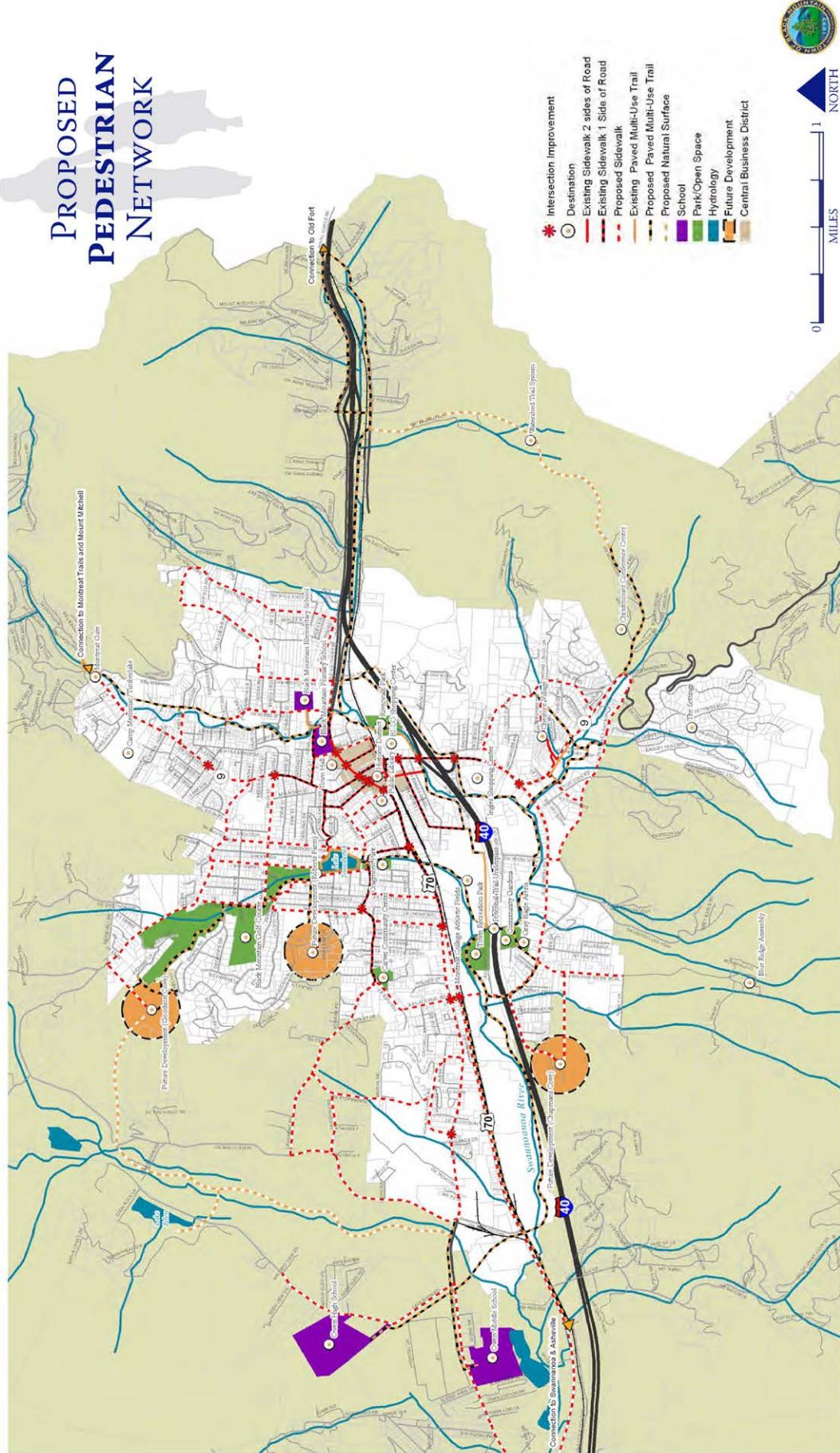
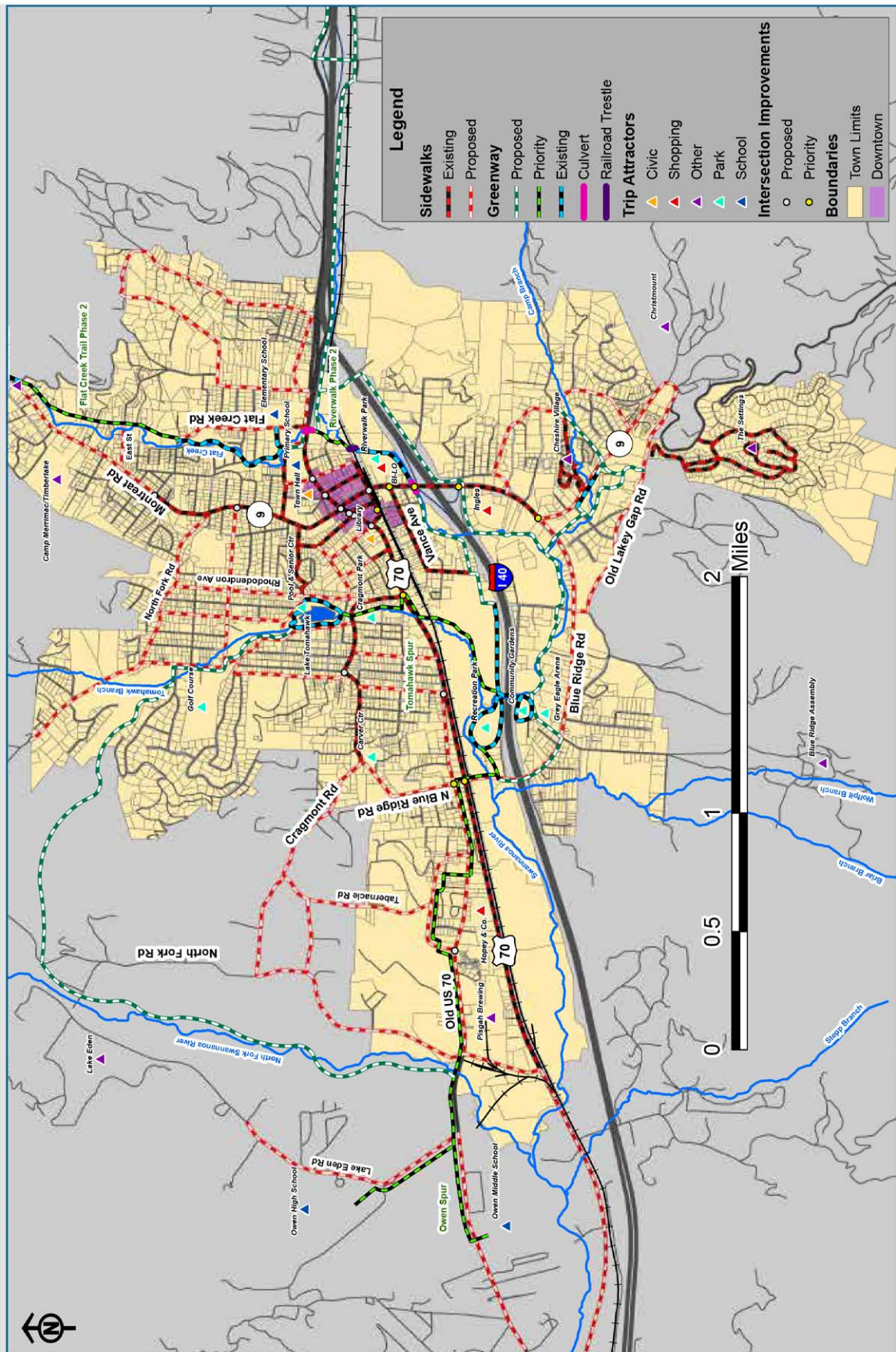


Figure 10—Black Mountain Pedestrian Network (2014 Black Mountain Comprehensive Plan Update)





Western North Carolina is blessed with a network of roads that, along with a moderate climate, allows year-round bicycling for pleasure, sports, and commuting. The best of these roads have been identified by cyclists and cycling organizations. NCDOT has designated them as “bikeways” by putting up signs saying “Share the Road”.

Bikeways provide accessibility to areas in Swannanoa, Grovemont, Lake Eden Road, Cragmont Road, North Folk Road [including its two (2) spurs that extend to the edge of the North Folk watershed], Lake Tomahawk, Laurel Circle, Montreat Road, Montreat Township, Flat Creek Road, Cotton Avenue, Portman Villa Road, Ridgecrest, Blue Ridge Road, Lakey Gap Road, and Highway 9.

There will be a natural interaction between these existing, very popular bikeways and the developing Black Mountain greenway system. Each will provide a different facet of a system that will encourage friendly, enjoyable recreation, as well as alternative transportation choices.

The signed Depot-to-Depot route through Black Mountain helps bicyclist find their way from the Old Train Depot to the Point Lookout trail, which is a three and a half (3.5) mile multi-modal trail that begins near the Buncombe/McDowell County line and proceeds east to Old Fort along the old US Highway 70 ROW.

The Black Mountain by Bike Plan, Land of Sky Regional Council Blue Ridge Bike Plan, and the NC Division of Bicycle and Pedestrian Transportation support the appropriate development for a system of regional/state bikeways.

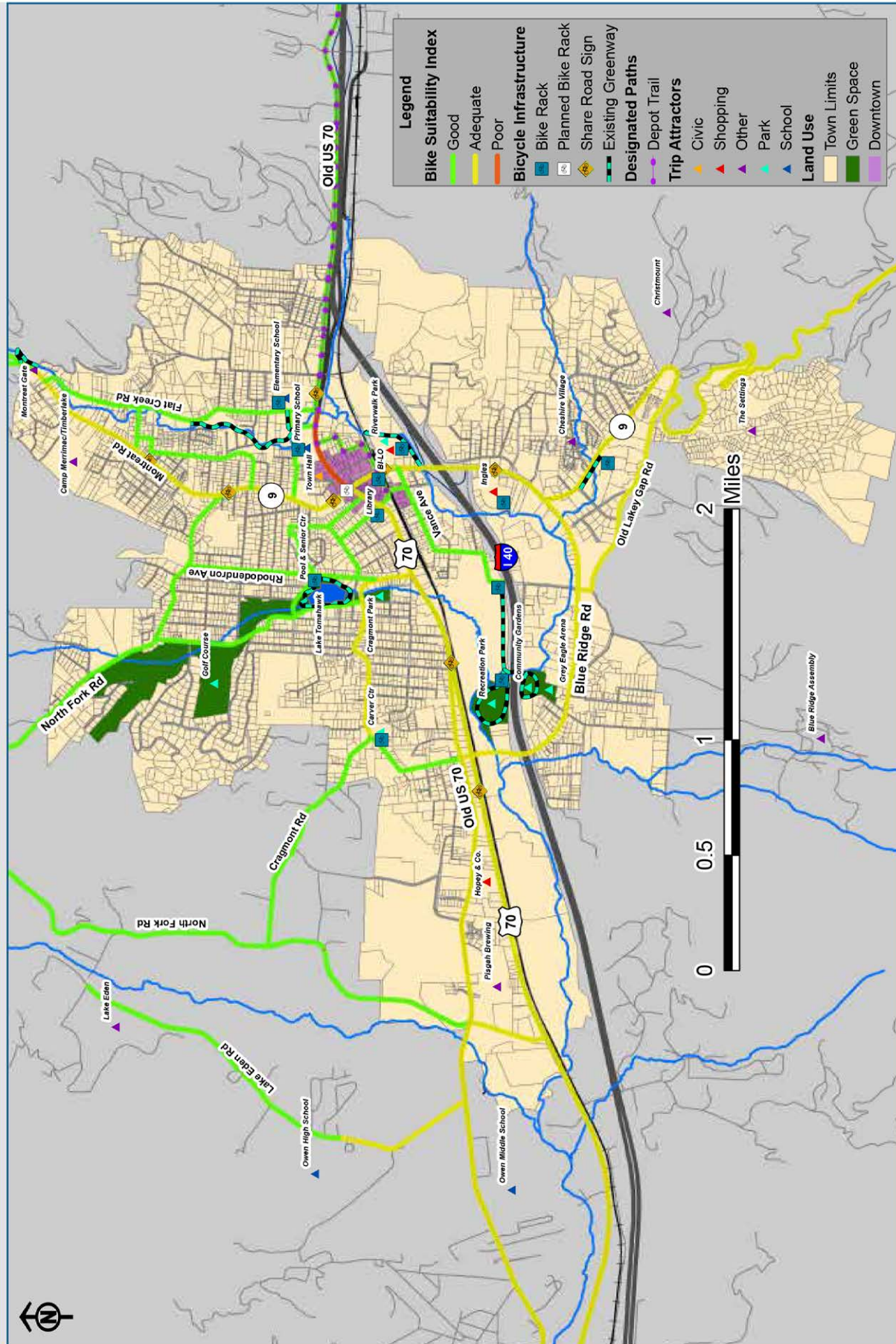


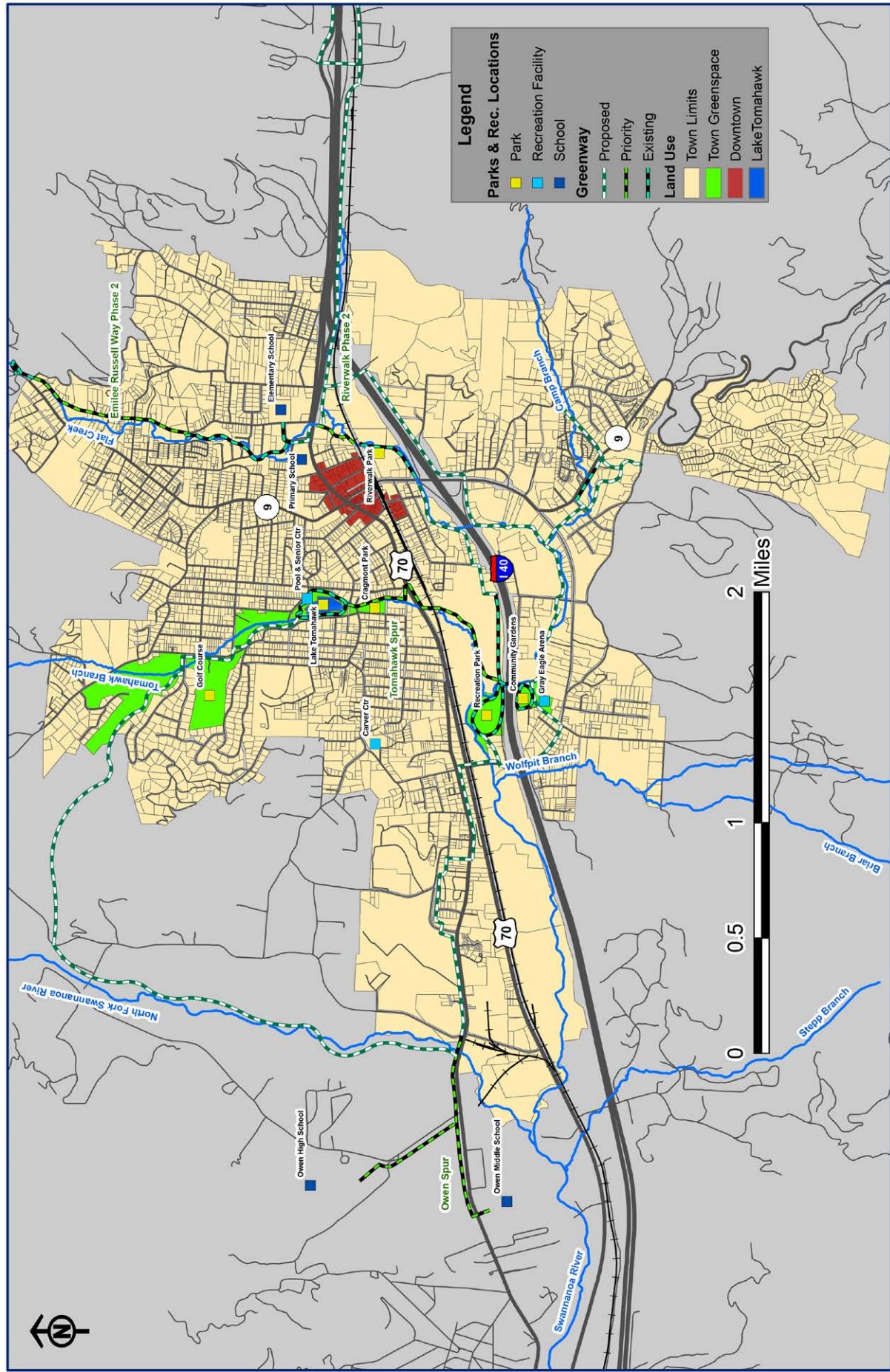
IN-THE-OAKS TRAIL

“In 2010, the US Environmental Health noted “current pedestrian and bicycle commuters will be safer using dedicated pedestrian and bicycle roadways: studies have shown that marked bike lands can reduce crash rates by fifty percent (50%) when compared to unmarked roads..”

Regional Bikeways

Figure 11—Black Mountain Bicycle Network (2014 Black Mountain Comprehensive Plan Update)





Map 6-1 Black Mountain Parks & Recreation



On the federal level, the Environmental Protection Agency (EPA) in 2010 produced *The Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure*. The twelve (12) cities surveyed determined that while “a strong motivation for these policies and programs is innovation in stormwater management, many communities are moving past the era of single objective spending and investing in runoff reduction and stormwater management strategies that have multiple benefits . . . green infrastructure approaches have a range of benefits for the social, environmental and economic conditions of a community” as further summarized below:

Environmental: increase carbon sequestration, improve air quality, additional recreation space, efficient land use, improve human health, flood protection, drinking water source protection, replenish groundwater, improve watershed health, protect or restore wildlife habitat, reduce sewer overflow events, restore impaired waters, restore impaired waters, meet regulatory requirements for receiving waters

Economic: reduce hard infrastructure construction costs, maintain aging infrastructure, increase land values, encourage economic development, reduce energy consumption and costs, increase life cycle cost savings

Social: establish urban greenways, provide pedestrian and bicycle access, create attractive streetscapes and rooftops that enhance livability and urban green space, educate the public about their role in stormwater management, urban heat island mitigation

Greenways located along waterways and in undeveloped open space provide numerous opportunities for preserving greenspace and educating the public about protecting biological diversity, water quality, and natural beauty. The creation of natural corridors and greenspaces in developed areas is an integral part of appropriate and eco-friendly-sensitive environmental planning.

Greenways and undeveloped open space also provide opportunities to visit and experience historical sites that might otherwise be inaccessible by vehicular traffic. The Black Mountain region is rich with history and the locations of many of our significant sites are well documented. Educational markers encourage conservation of our historical resources and foster a deeper appreciation of our cultural heritage.

In addition to noteworthy cultural features, this section’s primary concentration is on the following ecological attributes:

- Greenway Development Along Drainage Channels
- Water Quality and Riparian Buffers
- Storm Water Management
- Streambank Restoration

Greenway Development Along Drainage Channels

Greenways are frequently located adjacent to rivers and streams since these natural resources offer one of the few contiguous corridors remaining in development areas. This is especially true of the greenway system proposed herein for Black Mountain. Seven (7) of the segments herein are adjacent to, at least in part, to existing waterways.

Maintaining a high level of water quality in these watercourses is paramount, as these rivers, streams, creeks form the headwaters of the Swannanoa River, a significant contributor to the French Broad River watershed.

Greenways located along these watercourses and drainage channels must be planned and designed to provide for the appropriate natural buffer between the greenway surface and the waterway. Such buffers will protect the natural ecology of the watershed system while minimizing damage from any associated erosion sediment.

Benefits of greenways along natural waterways and strategic drainage channels include:

- Acquisition and protection of environmentally sensitive areas.
- Improvement of vegetation quality by removing invasive species and restoring native plant communities.
- Development of protected natural corridors – providing safe and suitable avenues for daily movement and seasonal mitigation of valued wildlife.
- Improvement of water quality by diverting stormwater into constructed filtration systems.
- Enhancing public awareness of sensitive ecological systems through good stewardship and educational opportunities.

Stewardship Principles

Water Quality and Riparian Buffers

Greenways are important assets to an overall environmental restoration and preservation plan for riparian areas. Greenway construction provides many opportunities to enhance water quality.

Whereas most conventional development allows stormwater to flow directly into waterways, often across impervious surfaces and through defoliated areas, greenways are constructed such that they provide wetland filtration basins that are designed to intercept potentially polluted run-off from adjacent lands before the water reaches a principal watershed component.

Restoring native vegetation to stream banks, as part of a greenway improvement, provides further protection of the waterway. Wetland vegetation filters the water and slowly releases it back into the ground, thereby recharging the aquifer below ground. The width of the riparian buffer between the greenway surface material and the waterway and the depth and extent of wetland filtration basins are functions of slope steepness, soil structure, proximity to impervious surfaces, and other site conditions, as determined during the planning stage of a greenway.

Storm Water Management

Storm water management measures attempt to control the negative aspects of excessive storm water on related water bodies in which it flows. Environmentally sensitive greenway design is based on identifying and preserving the site's natural drainage patterns, including, but not limited to:

Avoiding natural drainage areas when possible and minimally disturbing such areas as feasible.

Using bridges or boardwalks to span large swales without impacting natural water course banks.

Preserving small drainage swales by installing a culvert at existing grade and building the greenway surface safely over the culvert.

Constructing "treatment wetlands" as necessary. This will allow the storm water to flow into a applicably planted wide shallow channel / wetland, slowing the rate of storm water release and filtering sediments and pollutants out of the storm water and allowing for groundwater infiltration.

Streambank Restoration

Streambank restoration is the structural and vegetative means of stabilizing a bank of a stream or watercourse. This could be for preventative measures or repair due to unstable or excessive erosion. Such erosion is often due to:

- (a) increased volume of water, especially with storm water surges,
- (b) increased sediment in the water, causing abrasion along the sides of the channel, and
- (c) lack of appropriate vegetative cover or erodible soil structure due to clearing or overuse of the streambank by animals or people.

Streambank restoration is a procedure that identifies the source of the erosion then stabilizes the bank through revegetation and/or structural means depending on the existing condition of the stream or watercourse bank.

Slope stabilization is economically and efficiently effected by revegetating the bank with native plants which can tolerate periodic flooding and are typically found in the region of the stream. Their roots will hold the soil in place and the vegetation will slow water velocity. The shade from the plants will keep the water temperature from rising and the vegetative structure will provide habitat for fish or amphibian species.



FLAT CREEK GREENWAY



Greenways, bike paths, and walking paths all require regular care and maintenance. This should be at the same respected level applied to parks and recreational facilities visited by the public. Poorly maintained greenways will appear uninviting, undesirable, unsuccessful, and dangerous.

Professional maintenance care, supplemented by volunteer efforts, would be the most reliable program for greenways. Depending on the greenway, the applicable maintenance may include, but not be limited to:

- Frequent/regular mowing, hard surface and or clearance/height trimming, including removal of any dead or dying plants

- Weed control on any hard surface provided for walking, biking, or the like

- Trash removal from containers provided along the trail system

- Removal of invasive plants and poisonous plant material

- Updating or repair of any signage or pavement painted markings

- Clearing of any culverts and like structures for storm water management

- Site furniture or amenities should be in safe condition without damage

A maintenance agreement, plan, and designation within the Town budget should be developed and annually renewed; along with funds set aside for emergency or unexpected repairs. Grant proposals could be submitted. An alternative could be private sector funds collected and set aside as a maintenance endowment.

Addressing the security needs of public greenways / trails is essential to success. The proximity of visual development to a greenway access points helps reduce criminal activity. Areas adjacent to trails are perceived of as less remote, less concealed. The introduction of a greenway into a neighborhood and retail area brings people out of their homes or businesses and increases community awareness, thus reducing criminal activity.

Greenways / trails also give enforcement officers additional advantage points from which to patrol. As greenways develop and are patronized, people will interact with local police officers patrolling on foot or on bicycle – officers will also get to know the users. Contact is much more likely between a bicycle patrol officer and a trail user than a person inside their home/business and a patrol car.



LAKE TOMAHAWK LOOP



LAKE TOMAHAWK LOOP

Maintenance & Security



The following is a listing of probable funding / grant programs at the time of this document revision. The Town of Black Mountain annually engages in a budget process with information provided to the Board of Alderman who determines allocations.

American Greenways Eastman Kodak Awards (private corporation)
BUILD - Better Utilizing Investments to Leverage Development (USDOT)
CBDG – Community Block Development Grant (national/federal program)
CIP – Capital Improvement Project funding
CMAQ – Congestion Mitigation and Air Quality (national/federal program)
Conservation Alliance (non-profit organization)
CWMTF – Clean Water Management Trust Fund of NCDOT
Duke Energy Foundation (private funding)
HSIP – Highway Safety Improvement Program (national/federal program)
HWTF – Health and Wellness Trust Fund (state program)
LWCF – Land and Water Conservation Fund (state funding)
National Endowment of the Arts
NCDOT Bicycle and Pedestrian Program
NCDOT Recreation Trails Program
NC Adopt-a-Trail Grants
NC Division of Water Quality (319 program grants)
NC Farmland Preservation Trust Fund
NC National Heritage Trust Fund
NCPARTF – North Carolina Parks and Recreation Trust Fund
NCWRP – NC Wetlands Restoration Program
Pigeon River Fund (private foundation)
REI Trails Grant Program
RTCA – River Trails and Conservation Assistance (National Park Service)
RTP – Recreational Trails Program (national/federal program)
SR2S – Safe Routes to School program (national/federal program)
STP – Surface Transportation Program (national/federal program)
TIP (NCDOT) – Transportation Improvement Program; is an ongoing program which includes asking localities to present their transportation needs to state governments; a federally mandated funding source with a ten (10) year projection list of potential projects where federal dollars flow through the State and out to municipalities. 'Incidental' projects are those that can be incorporated into a scheduled roadway improvement project. 'Independent' projects are those that can stand alone such as a greenway, not related to a particular roadway.
USDA Natural Resource Conservation Service Wetlands Reserve Program

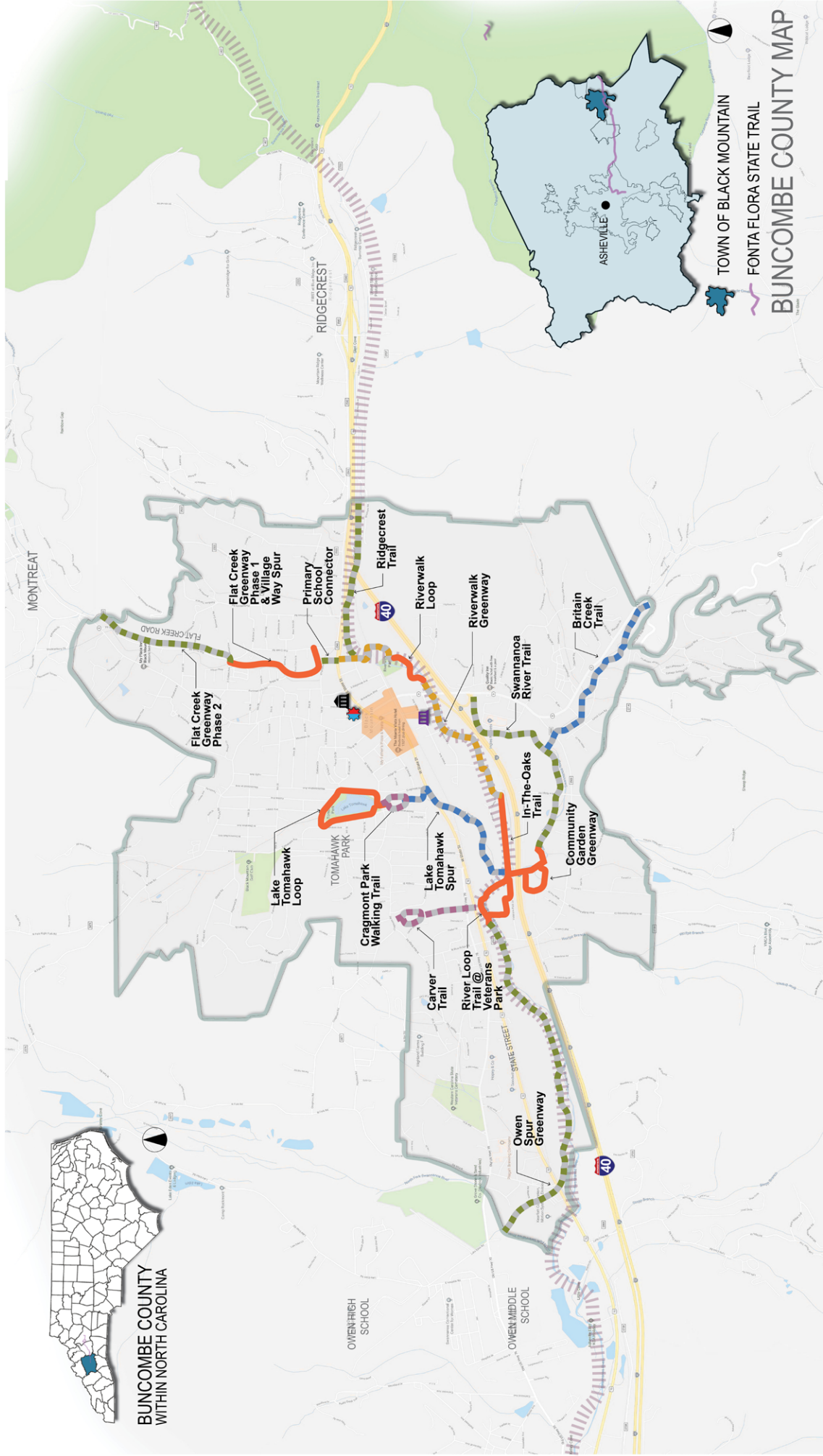


LAKE EDEN ROAD AT OWEN HIGH SCHOOL

Potential Funding Sources



BUNCOMBE COUNTY
WITHIN NORTH CAROLINA



LEGEND

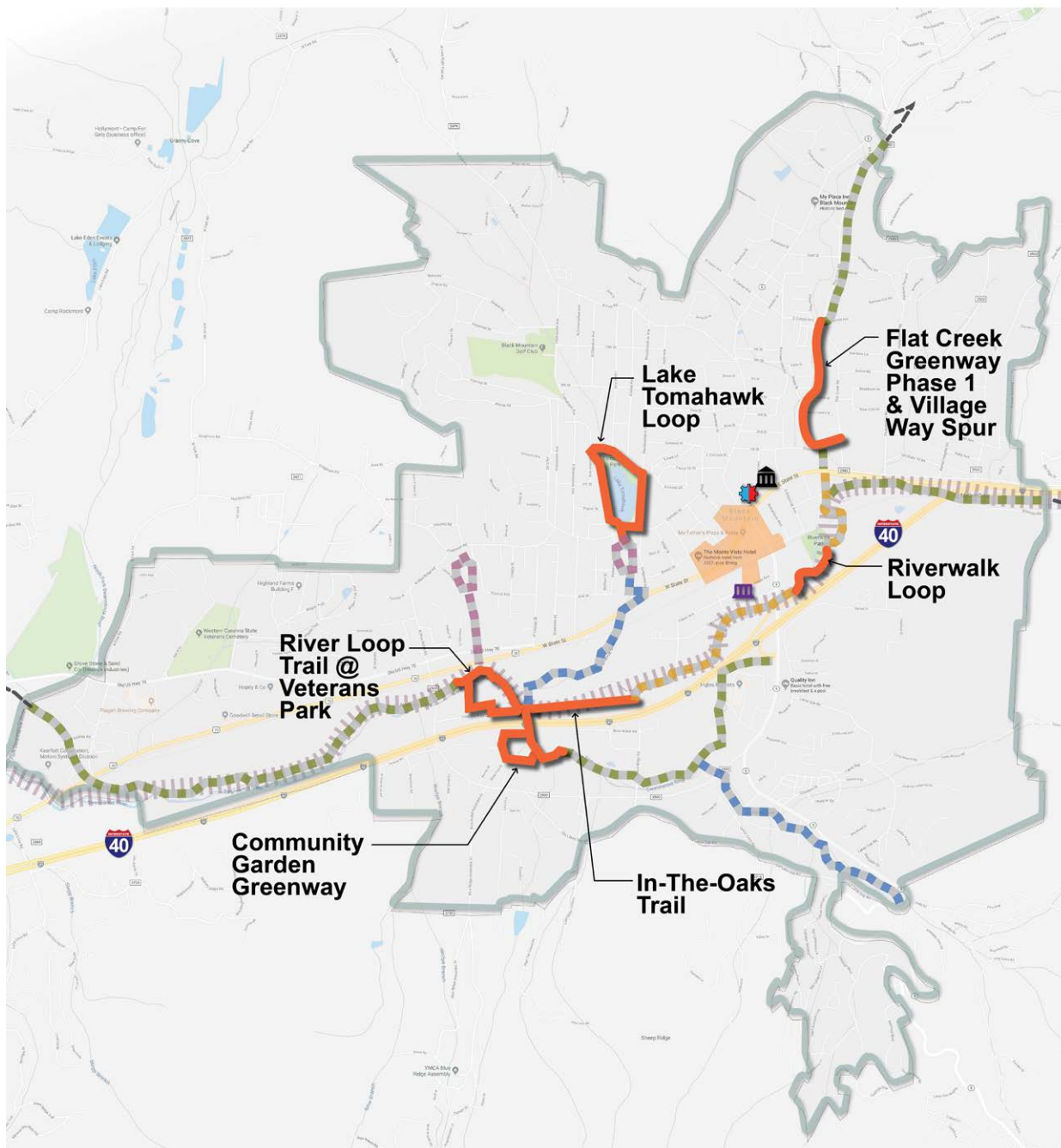
- COMPLETED GREENWAYS
- FUNDED GREENWAYS
- HIGH PRIORITY GREENWAYS
- MEDIUM PRIORITY GREENWAYS
- LOW PRIORITY GREENWAYS
- GREENWAYS OUTSIDE JURISDICTION
- BLACK MOUNTAIN TOWN HALL
- BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
- BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
- BLACK MOUNTAIN BUSINESS DISTRICT
- TOWN LIMITS
- FONTA FLORA STATE TRAIL

Overall Greenway Map

TOWN OF BLACK MOUNTAIN, NC



DRAFT, 2019/03/10



LEGEND

	COMPLETED GREENWAYS		BLACK MOUNTAIN TOWN HALL
	FUNDED GREENWAYS		BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
	HIGH PRIORITY GREENWAYS		BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
	MEDIUM PRIORITY GREENWAYS		BLACK MOUNTAIN BUSINESS DISTRICT
	LOW PRIORITY GREENWAYS		TOWN LIMITS
	GREENWAYS OUTSIDE JURISDICTION		FONTA FLORA STATE TRAIL

Completed Greenways

COMMUNITY GARDEN GREENWAY

Completed 2011

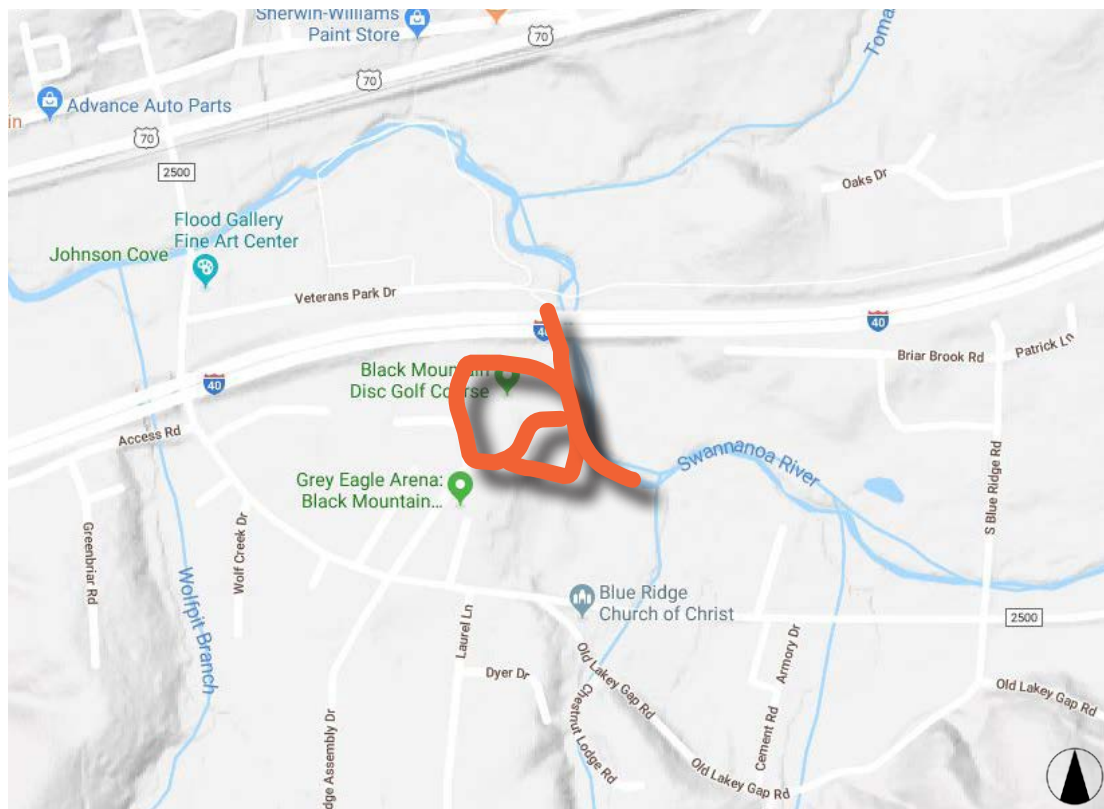
Approximately 0.25 miles



The Community Garden Greenway connects Black Mountain Veteran's Park to the Dr John Wilson Community Garden and the 'back 9' of the disc golf course with a spur up to the Grey Eagle Arena. This Greenway provides a safe and easy connection between communities north and south of I-40. Approximately one-half (1/2) mile in length, this section of the Greenway connects under the interstate to In-The-Oaks Trail and existing River Loop Trail at Veteran's Park.

Along the river, the trail is shaded by large poplars and maples, but soon opens to a small meadow and then arrives at the Community Gardens and Grey Eagle Arena, passing by over 100 fruit and nut trees/shrubs cared for by the community garden volunteers.

As of 2018, the Community Garden Greenway includes 'The Alchemy of Dawn', a visually appealing and mentally stimulating art piece, by local resident, Julia C Burr. The piece was made possible by an anonymous donor.



FLAT CREEK GREENWAY PHASE 1 & VILLAGE WAY SPUR

Completed 2011

Approximately 0.5 miles

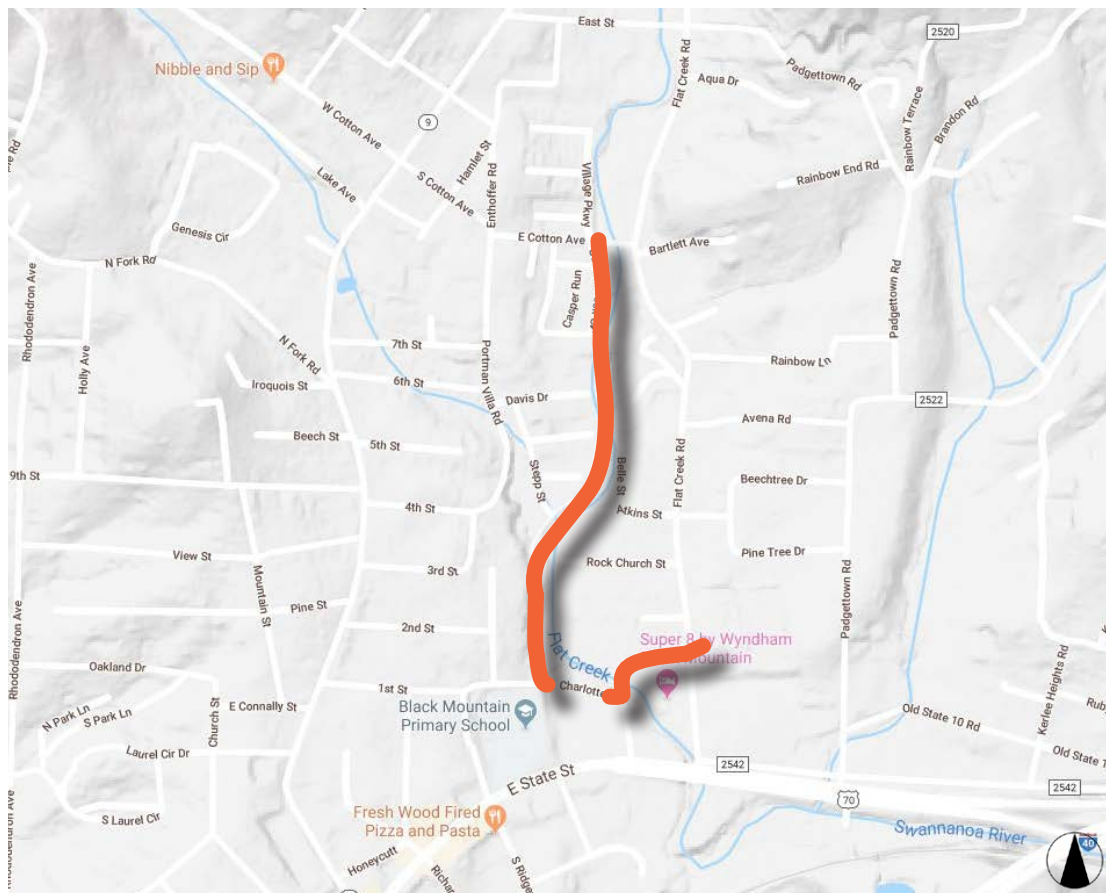


The Flat Creek Greenway Phase 1 extends mostly north-south from Charlotte Street behind the Primary School to Cotton Avenue at the north end. Phase 1 included a stream restoration project for Flat Creek. At the bridge crossing of Flat Creek, the Village Way Spur follows Village Way Road and connects to Black Mountain Elementary School via sidewalk.

Flat Creek Greenway offers residents in the nearby neighborhoods easy walking or biking access to the Primary and Elementary Schools, athletic fields, shopping center, and several local restaurants. The Primary School extensively uses this segment of the Greenway to hold outdoor classes; in particular for studying the ecology of Flat Creek.

When completed with proposed Phase 2, the Flat Creek Greenway will stretch almost one (1) mile, connecting the Town of Montreat to downtown Black Mountain and the proposed Ridgecrest Trail to the east of town.

See Flat Creek Greenway Phase 2 description in the section herein for High Priority Greenways.



IN-THE-OAKS TRAIL

Completed 1999

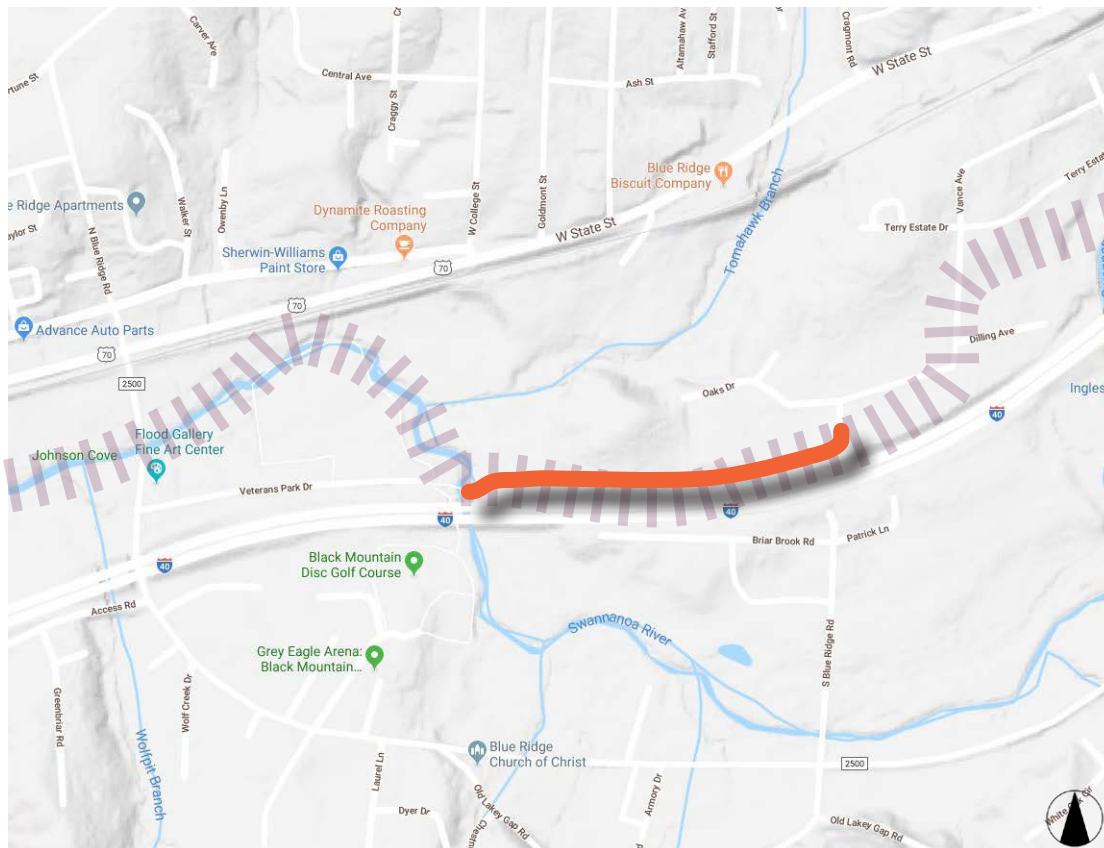
Approximately 0.5 miles



In-The-Oaks Trail connects Black Mountain Veteran's Park to the sidewalks in the heart of downtown and to the proposed Grey Eagle Trail section of the Community Garden Greenway, skirting the town along the river. It crosses the Swannanoa River at the edge of the park via a bridge and follows the edge of Montreat College's In-The-Oaks, through a shady pine forest, near the Swannanoa River not far from I-40. This greenway will connect to the Riverwalk Greenway using the proposed Grey Eagle Trail, providing miles of connectivity.

Existing amenities include a donation of right-of-way by In-The-Oaks Episcopal Conference Center and a well-constructed and maintained paved route with benches and trash receptacles. This completed section of the greenways trail system is heavily utilized, despite lacking complete connectivity to downtown Black Mountain.

In-The-Oaks Trail will become part of North Carolina's Fonta Flora State Trail.



Approximately 0.5 miles

RIVER LOOP TRAIL @ Veteran's Park

Completed 1998

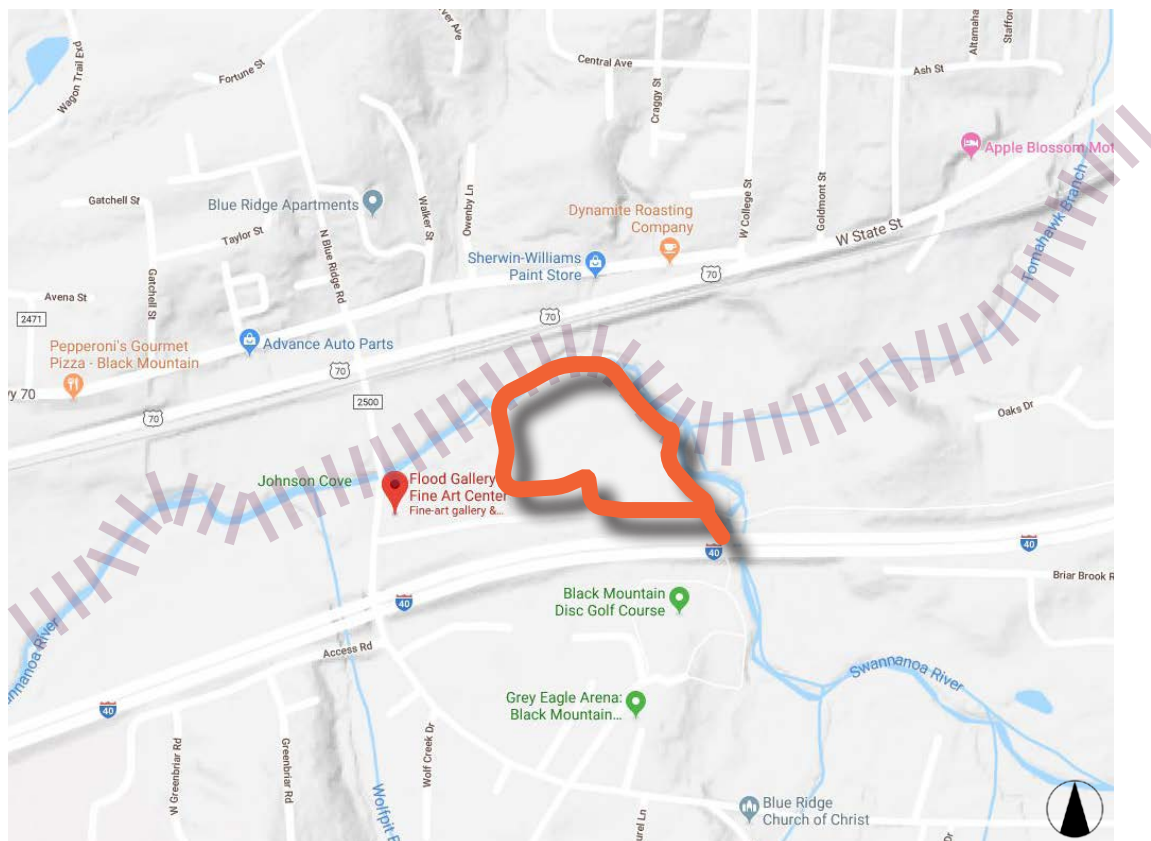
Approximately 1.6 miles



River Loop Trail at Veteran's Park circles around amenities in the northwest corner of the park, north of I-40. Drainage issues in the area contribute to annual erosion of the trail into the Swannanoa River. Stream bank restoration and compliance with ADA are primary concerns for continued use.

The October 2016 Black Mountain Veteran's Park Master Plan noted immediate need for the portion of the trail in the northwest corner to be rehabilitated.

The section of the River Loop Trail along the Swannanoa River will become part of the North Carolina Fonta Flora State Trail.



RIVERWALK LOOP

Completed 2003

Approximately 0.6 miles

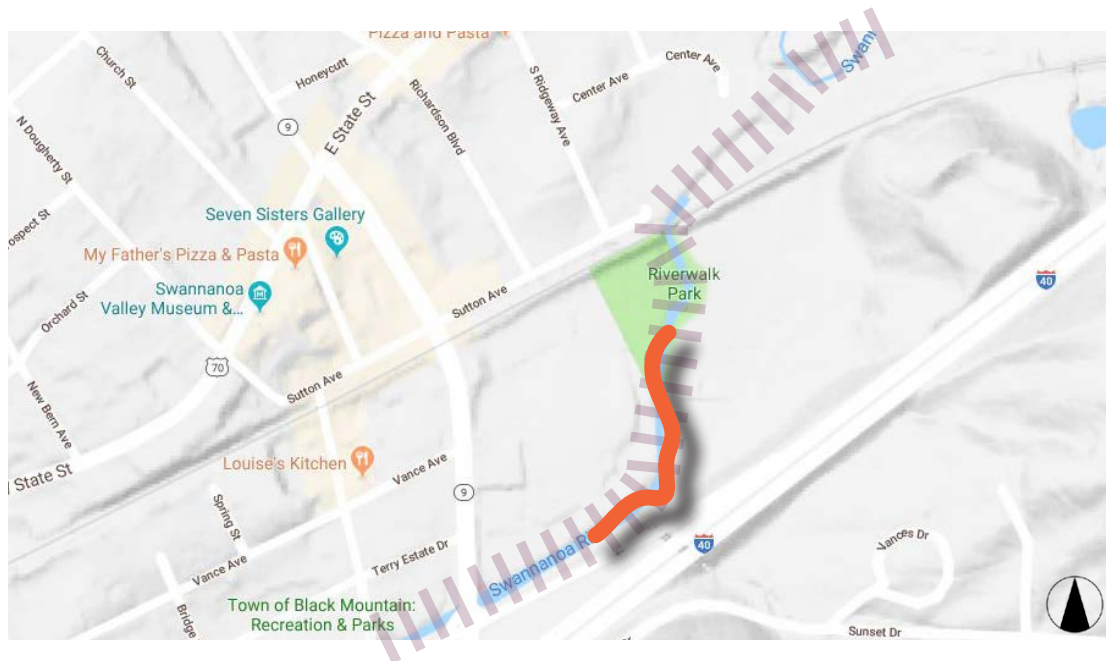


Riverwalk Loop is a feature within the two (2) acre Riverwalk Park along the Swannanoa River, off Highway 9. Construction of the park was a community effort with TBM, Warren Wilson College, and RiverLink*, along with the volunteer efforts of local school programs and the Town's Urban Forestry and Beautification Committees.

The neighborhood park includes picnic areas, play equipment, a dog park, wildflower meadow, and wetlands. A piece of art by local resident Julia C. Burr, entitled 'The Nest', highlights the importance of this Loop for birds and other pollinators. It was the first piece of public art for the TBM Greenway system and was made possible by anonymous donor.

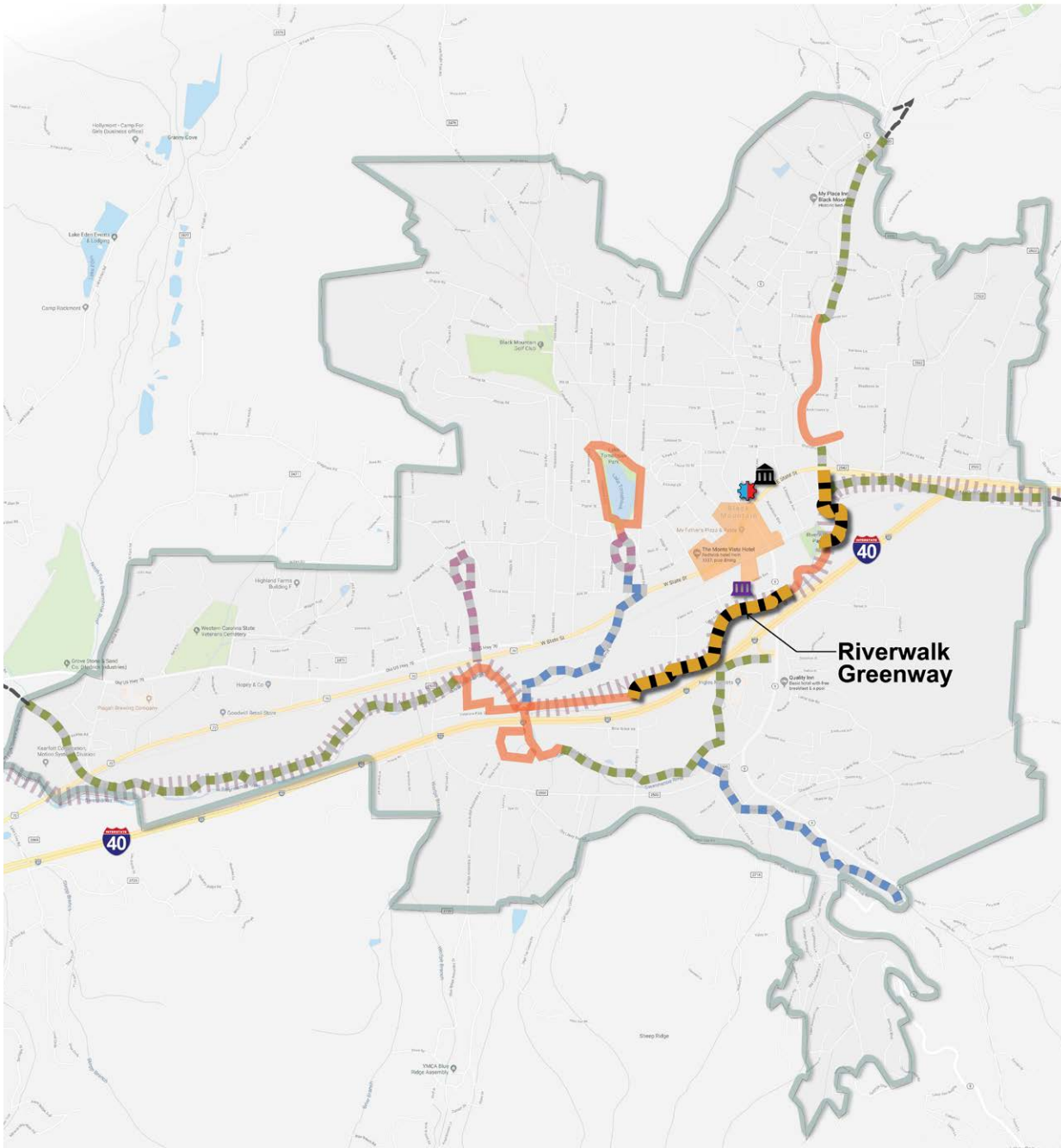
Portions of the existing trail that align with the proposed greenway will be paved, and once incorporated with the Riverwalk Greenway, Riverwalk Loop will be part of a major greenway 'connector' for the Town and part of North Carolina's Fonta Flora State Trail.

See Riverwalk Greenway description in the section herein for Funded Greenway.



**RiverLink was founded in 1986 to support the environmental and economic revitalization of the French Broad River and its watershed as a place to live, learn, work and play. RiverLink accomplishes its mission by providing permanent public access to the river through conservation and recreation easements, reclaiming contaminated lands for public use and enjoyment, and greenway development.*





LEGEND

	COMPLETED GREENWAYS		BLACK MOUNTAIN TOWN HALL
	FUNDED GREENWAYS		BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
	HIGH PRIORITY GREENWAYS		BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
	MEDIUM PRIORITY GREENWAYS		BLACK MOUNTAIN BUSINESS DISTRICT
	LOW PRIORITY GREENWAYS		TOWN LIMITS
	GREENWAYS OUTSIDE JURISDICTION		FONTA FLORA STATE TRAIL

Funded Greenway

RIVERWALK GREENWAY

Funded Greenway

Approximately 1.5 miles



Riverwalk Greenway was first identified as a priority by the TBM Greenways Commission in 2002. Since then, iterations of the corridor have been identified in the US 70/Swannanoa River Greenway Feasibility Study (2010), Buncombe County Masterplan (2012), TBM Comprehensive Plan (2014), and TBM Bike Plan (2016). The project has been ranked as a high priority in several of these plans and studies. Once completed, the Riverwalk Greenway will serve as a connector for these regionally significant trails and a part of the North Carolina Fonta Flora State Trail connecting Morganton to Asheville (approximately 100 miles total).

In generalities, the Greenway is an intensive and complex section that is proposed to cross under both US 70 and Highway 9, as well as under the Norfolk Southern rail line, just east of the Swannanoa River. It will also cross the Swannanoa River in two (2) locations via bridges. Demand to cross the Swannanoa for a third time is currently in consideration depending on the preferred alignment. The Greenway will also provide connectivity to the downtown core via a 'Depot Spur' from the TBM Office Facility on Black Mountain Avenue.

Currently the goal is to finalize greenway design plans, gain regulatory approvals, and identify necessary rights of ways/easements so that the project will be ready to advertise for construction services. The project is funded through the US Federal Highways Administration (FHWA), and is a NCDOT's State Transportation Improvement Program (STIP), Locally Administered Project (LAP).

The current design and engineering phase is anticipated to take approximately two (2) years. Scope includes landowner outreach, ROW appraisals, design approvals, public meetings, utility coordination, hydrologic and hydraulic modeling, bridge/underpass structural design, geotechnical study, transportation management plans, and environmental permitting approvals.

Once completed, Riverwalk Greenway will link the Flat Creek Greenway and Primary School Connector with the In-the-Oaks Trail, River Loop Trail, and Owen Spur Greenway / Swannanoa River Trail – total of approximately 8.5 miles. The Riverwalk Greenway is anticipated to be open to the public in 2022.

(See map on next page)



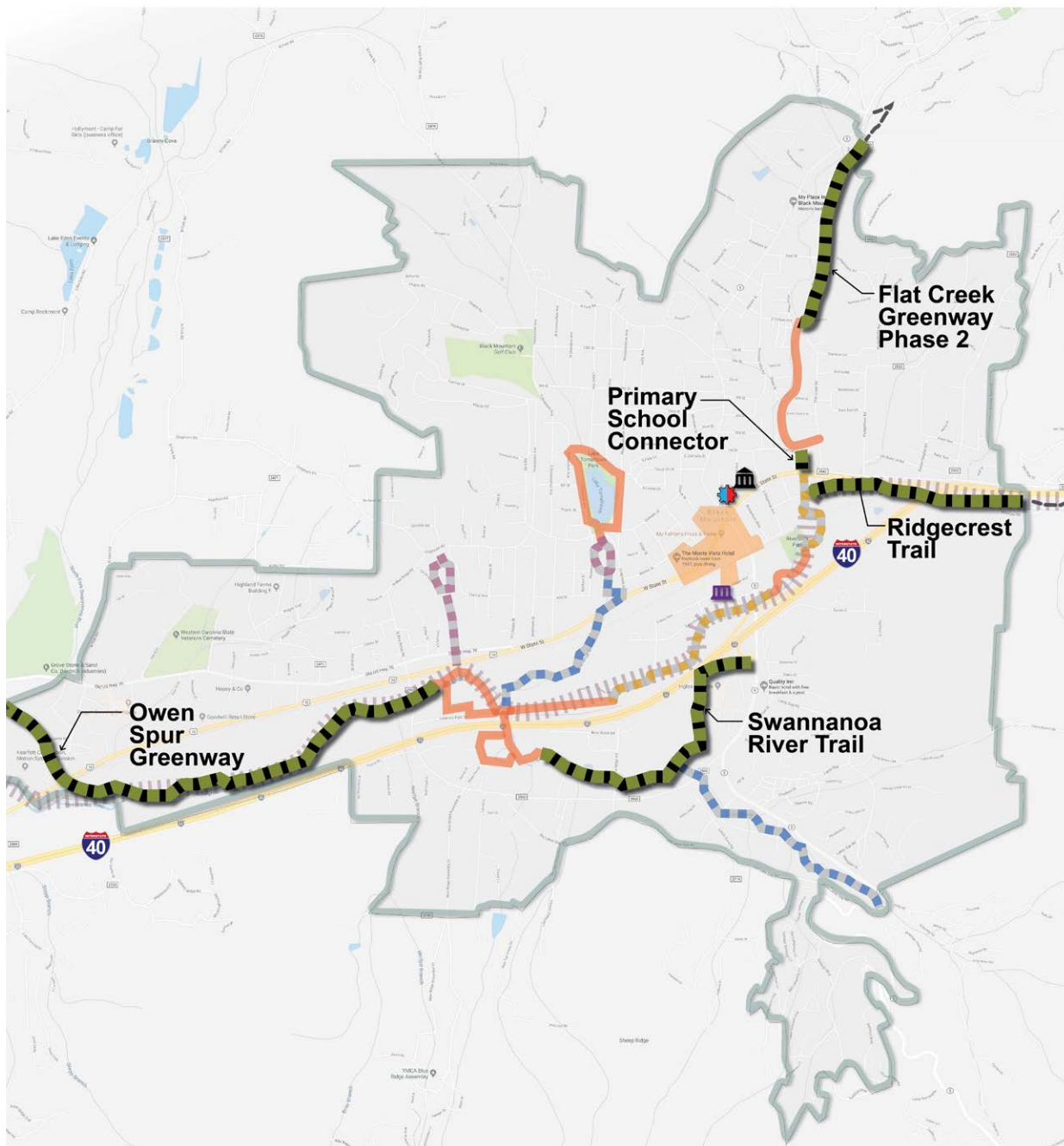
RIVERWALK GREENWAY

Funded Greenway

Approximately 1.5 miles



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.



LEGEND

	COMPLETED GREENWAYS		BLACK MOUNTAIN TOWN HALL
	FUNDED GREENWAYS		BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
	HIGH PRIORITY GREENWAYS		BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
	MEDIUM PRIORITY GREENWAYS		BLACK MOUNTAIN BUSINESS DISTRICT
	LOW PRIORITY GREENWAYS		TOWN LIMITS
	GREENWAYS OUTSIDE JURISDICTION		FONTA FLORA STATE TRAIL

High Priority Greenways

FLAT CREEK GREENWAY PHASE 2

High Priority

Approximately 0.4 miles



This is the last section of the greenway network before reaching the Montreat Gate. There is a possibility of utilizing MSD ROW in some locations. Although the MSD has previously given permission to use the sewer line ROW along Flat Creek, the density of housing and its close proximity to the creek suggest that it would be best to follow the existing road for the majority of greenway alignment – fairly level with medium traffic volume.

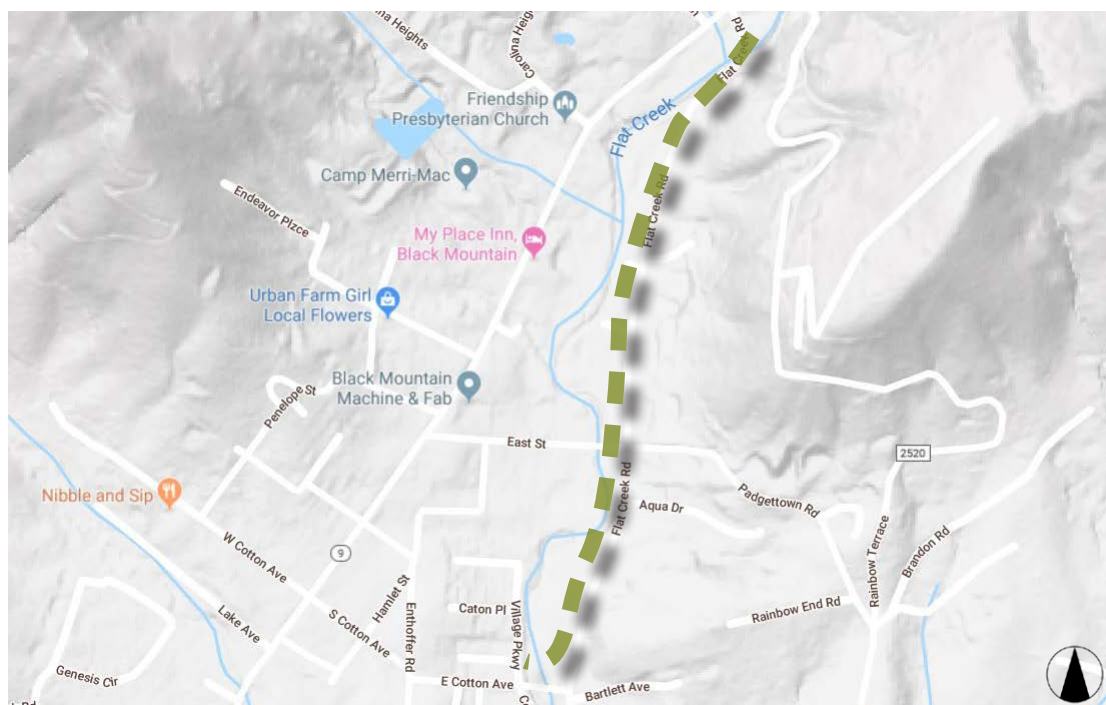
Future repaving or widening should include adding designated bike and pedestrian lanes. At the north end, the trail leaves Flat Creek Road and follows the creek and existing trails within Montreat Township to become visible behind the Montreat gate/entrance sign.

Flat Creek Greenway Phase 2 has been identified in NCDOTs STIP, as an engineering project scheduled to “construct new multi-use path from the existing Flat Creek Greenway Phase 1 trailhead near State Street and Charlotte Street to existing Riverwalk Greenway near Riverwalk Park and extension west of NC9 near existing culvert”.

Phase 2 will connect the Town of Montreat to downtown Black Mountain. It will connect Montreat College's north and south campuses, allowing students safer travel between campuses and Black Mountain residents and visitors to enjoy additional recreation and entertainment. At least one (1) bridge will need to be built to cross Flat Creek.

From Black Mountain to Montreat Phase 2 also provides the opportunity to connect TBM to Pisgah National Forest and the Blue Ridge Parkway. This route is utilized for the renowned Mount Mitchell Challenge. It will reduce vehicle conflicts, traffic pattern impacts.... providing a safer experience for trail users.

See further information included herein from the Black Mountain by Bike Plan... this Greenway section ranked 61/100 as to user priority in the document.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

OWEN SPUR GREENWAY

High Priority

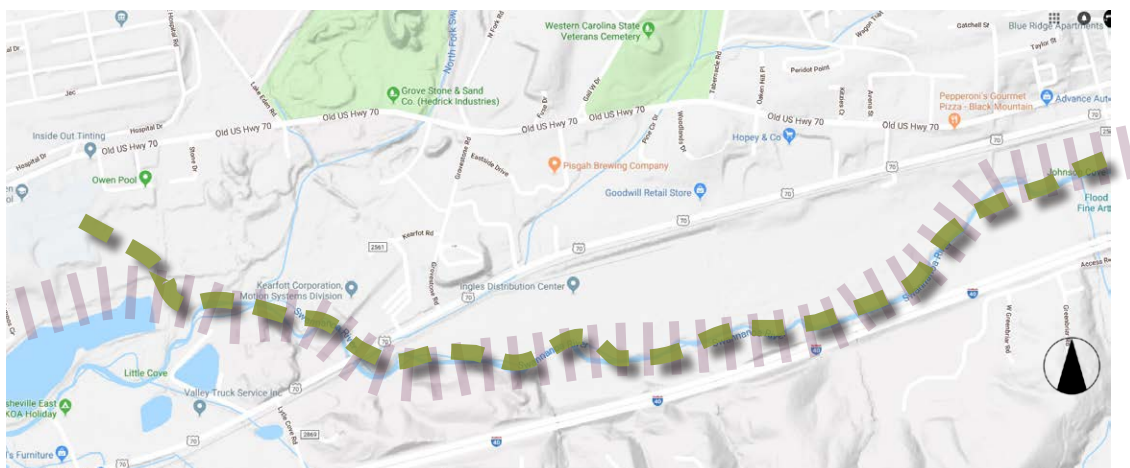
Approximately 2.0 miles



The Owen Spur Greenway will connect the River Loop Trail at Veterans Park to Owen High School, Owen Middle School, Owen District Pool, Swannanoa 4H Camp, and the Black Mountain Home for Children. Major advantage of this connector is that it will follow an abandoned section of railway line, potentially utilizing the existing trestle to cross the north branch of the Swannanoa River. The main trail will cross US 70 at the intersection of Lake Eden Road and will end at the Town of Black Mountain boundary. This Greenway section ranked 60/100 as to user priority in the Black Mountain by Bike Plan. A major portion of the Owen Spur Greenway will become part of the North Carolina Fonta Flora State Trail.



US 70 CROSSING OVER SWANNANOA RIVER



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

PRIMARY SCHOOL CONNECTOR

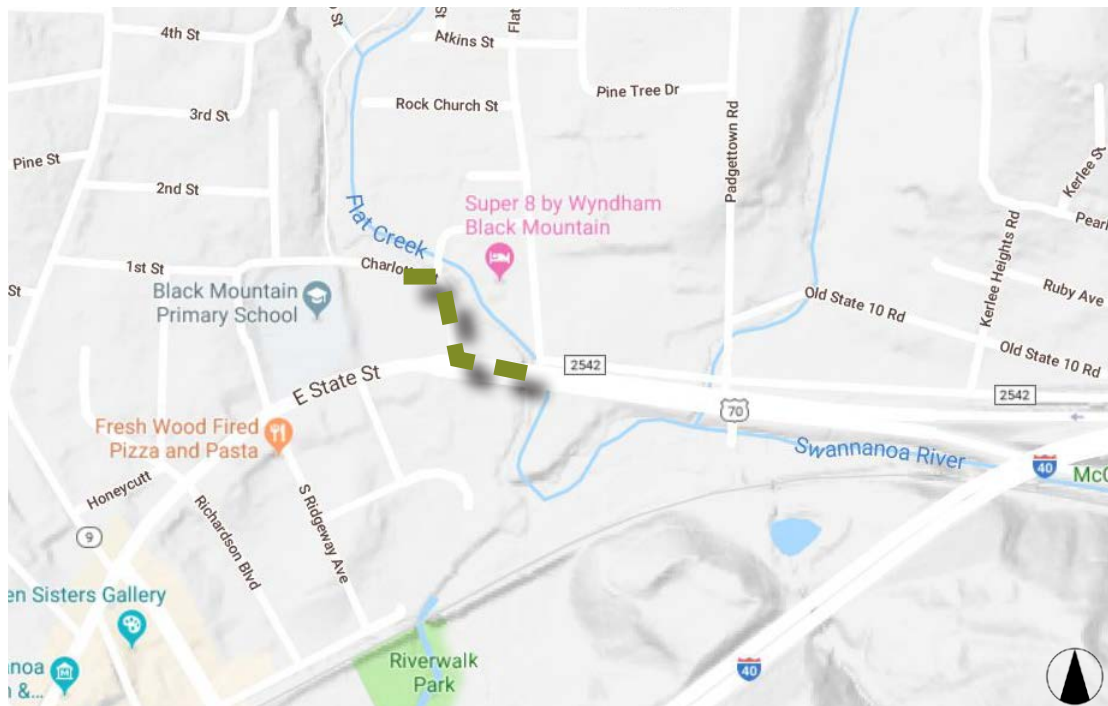
High Priority

Approximately 0.25 miles



This quarter mile section connects the Riverwalk Greenway and Flat Creek Greenway (including Phases 1 and 2).

Combined these three (3) pathways provide access from Montreat to the Ridgecrest Trail to the east. It also connects the elementary school to the Riverwalk Greenway, including Riverwalk Neighborhood Park. The Flat Creek Greenway Phase 1 and Village Way Spur are currently in place and connects the Elementary and Primary Schools to each other. Other existing amenities include paths and road in the lower part of the Spur / Trail and MSD permission in the upper part.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

RIDGECREST TRAIL

High Priority

Approximately 1.8 miles



Ridgecrest Trail will link the Town of Black Mountain to the community of Ridgecrest. The proposed alignment has the Ridgecrest Trail branching off from the Riverwalk Greenway where Flat Creek converges with the Swannanoa River. This Trail will follow the north side of the river using the existing MSD easement, will pass under I-40 bridge, and tie into old Highway 70 extension.

This connector will provide a link between the Ridgecrest Conference Center and the summer cottages of Ridgecrest to the Town of Black Mountain. The Trail passes near several historical landmarks, including the site of the Perley and Crockett Lumber Mills in addition to the passenger train depot for the Mount Mitchell railroad.

See Appendix E for further information from the US 70/Swannanoa River Greenway Feasibility Study completed in 2010.

Ridgecrest Trail will become part of North Carolina's Fonta Flora State Trail; connecting Black Mountain to lake James and Point Lookout.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

SWANNANOA RIVER TRAIL

High Priority

Approximately 1.6 miles



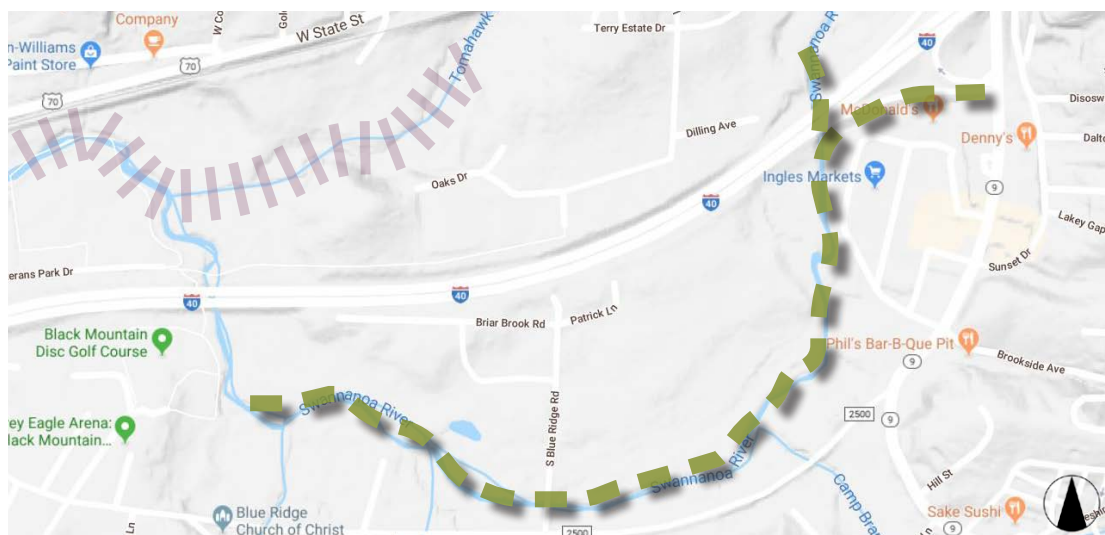
The Swannanoa River Trail is one (1) of only three (3) corridors identified that would be located on the South side of I-40. Name is derived from generally following along the Swannanoa River, which if able to be adjacent, could provide users the opportunity to experience a riverine ecosystem, while taking in scenic views of both the Swannanoa Range to the south, and Craggy Mountains of Pisgah National Forest to the north.

Whether by easements from private property owners, or bike and pedestrian roadway improvements along Blue Ridge Road, the corridor will serve a large population of residents and visitors to destination locations such as the YMCA Blue Ridge Assembly (average of 30,000 visitors annually as of 2012) and the future Avadim headquarters, anticipated to employ 551 people (projected as of 2018).

Swannanoa River Trail would be the connector between the Community Garden Greenway and the Britain Creek Trail. Near the northern terminus (behind the existing Ingles supermarket), utilization of the existing barrels that convey the Swannanoa River under I-40 would afford access to the Riverwalk Greenway and the North Carolina Fonta Flora Trail; avoiding the need for pedestrians to use the sidewalk along Highway 9 that crosses under the I-40, thereby avoiding precarious intersections and adjacency to high speed traffic.

A feasibility study for this corridor was conducted in 2008, which identified a potential alignment which primarily utilized a combination of encumbered conditions including, but not limited to, floodplain/floodway and utility easements such as a transmission line and sanitary sewer.

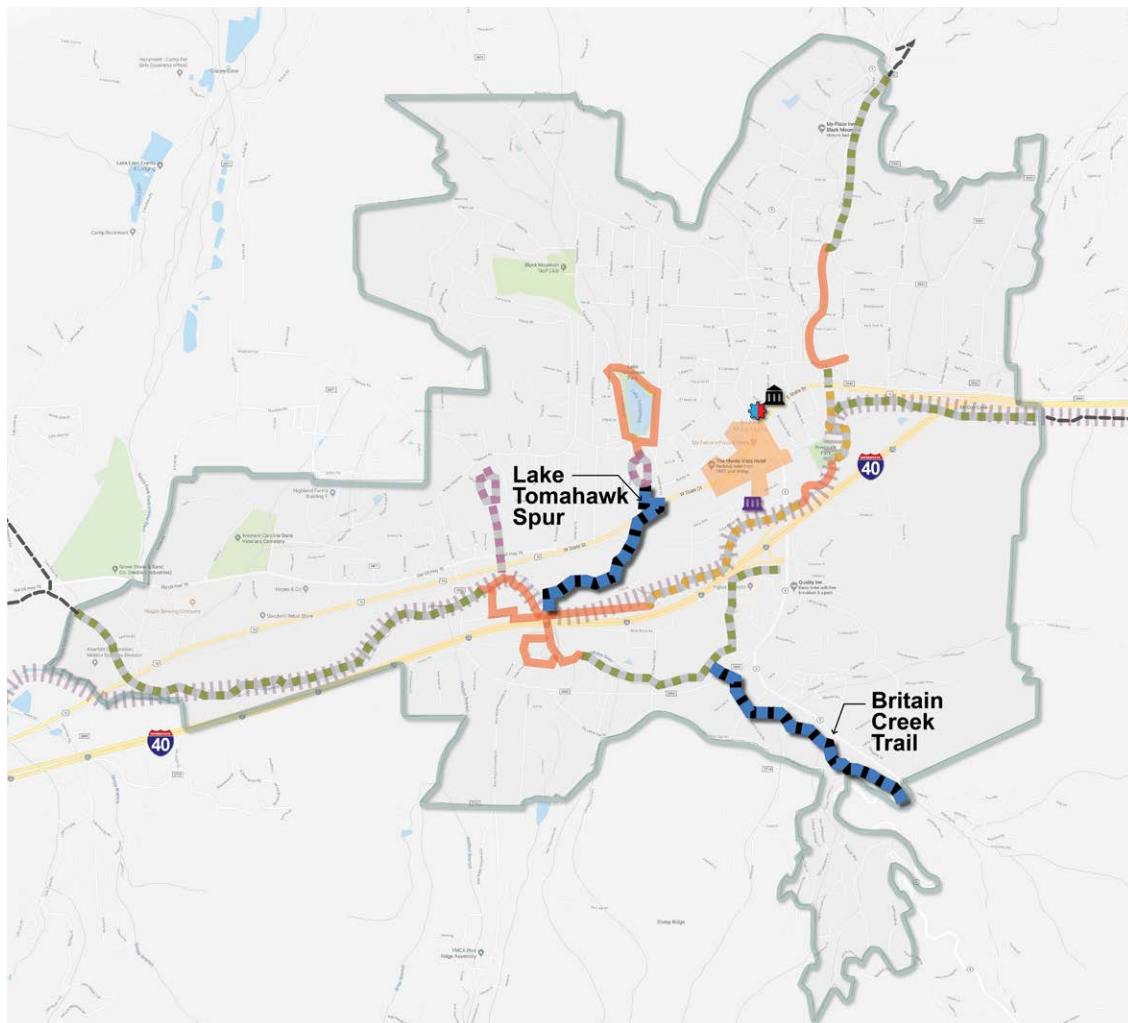
This greenway section ranked 51/100 as to user priority in the Black Mountain by Bike Plan. See Appendix F for further information from the US 70/Swannanoa River Greenway Feasibility Study completed in 2010.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.



Medium Priority Greenways



LEGEND

	COMPLETED GREENWAYS		BLACK MOUNTAIN TOWN HALL
	FUNDED GREENWAYS		BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
	HIGH PRIORITY GREENWAYS		BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
	MEDIUM PRIORITY GREENWAYS		BLACK MOUNTAIN BUSINESS DISTRICT
	LOW PRIORITY GREENWAYS		TOWN LIMITS
	GREENWAYS OUTSIDE JURISDICTION		FONTA FLORA STATE TRAIL

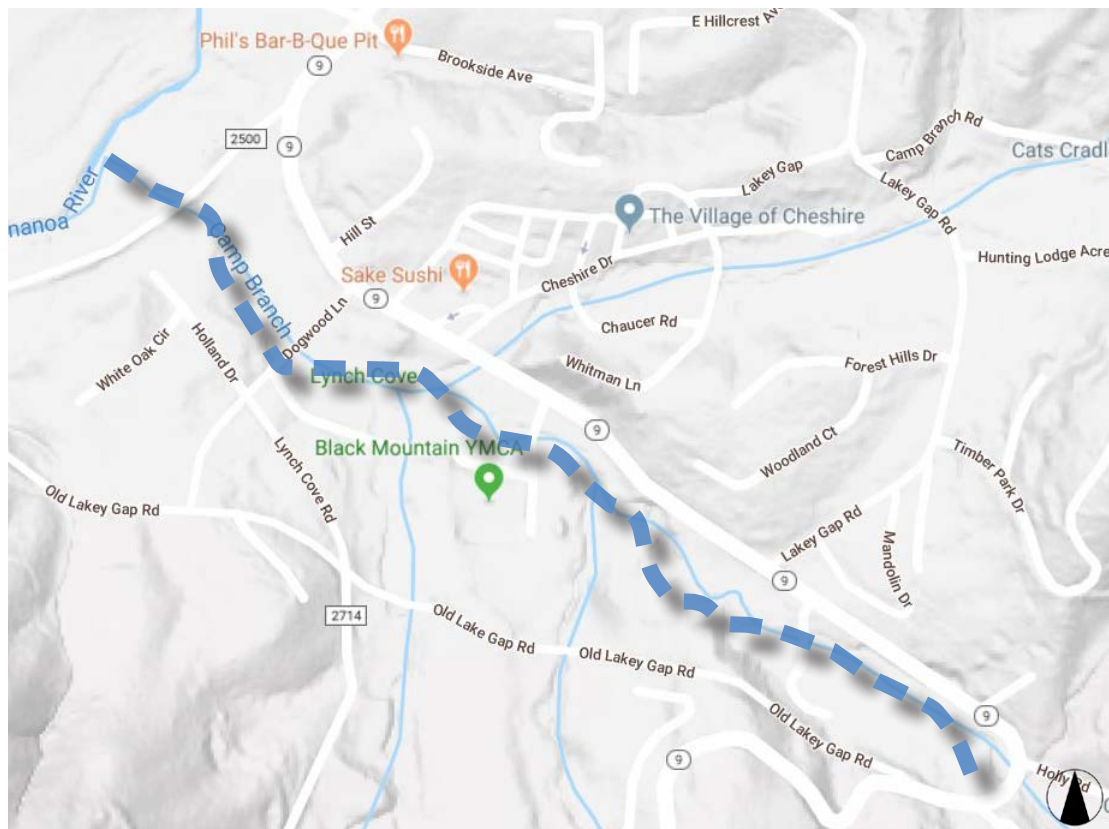
BRITAIN CREEK TRAIL

Medium Priority

Approximately 1.0 miles



Britain Creek Trail will connect the entrance of Christmount and neighborhoods adjoining Highway 9 with the Black Mountain YMCA and Ingles shopping area via the Swannanoa River Trail. This Trail will also expand the overall Town's pedestrian and bicycle network to the south and east creating future connection to Blue Ridge Road and parks within the Town system. For the majority of its alignment, the Trail will run adjacent to Britain Creek, which flows out of Christmount and joins Camp Branch before flowing into the Swannanoa River.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

LAKE TOMAHAWK SPUR

Medium Priority

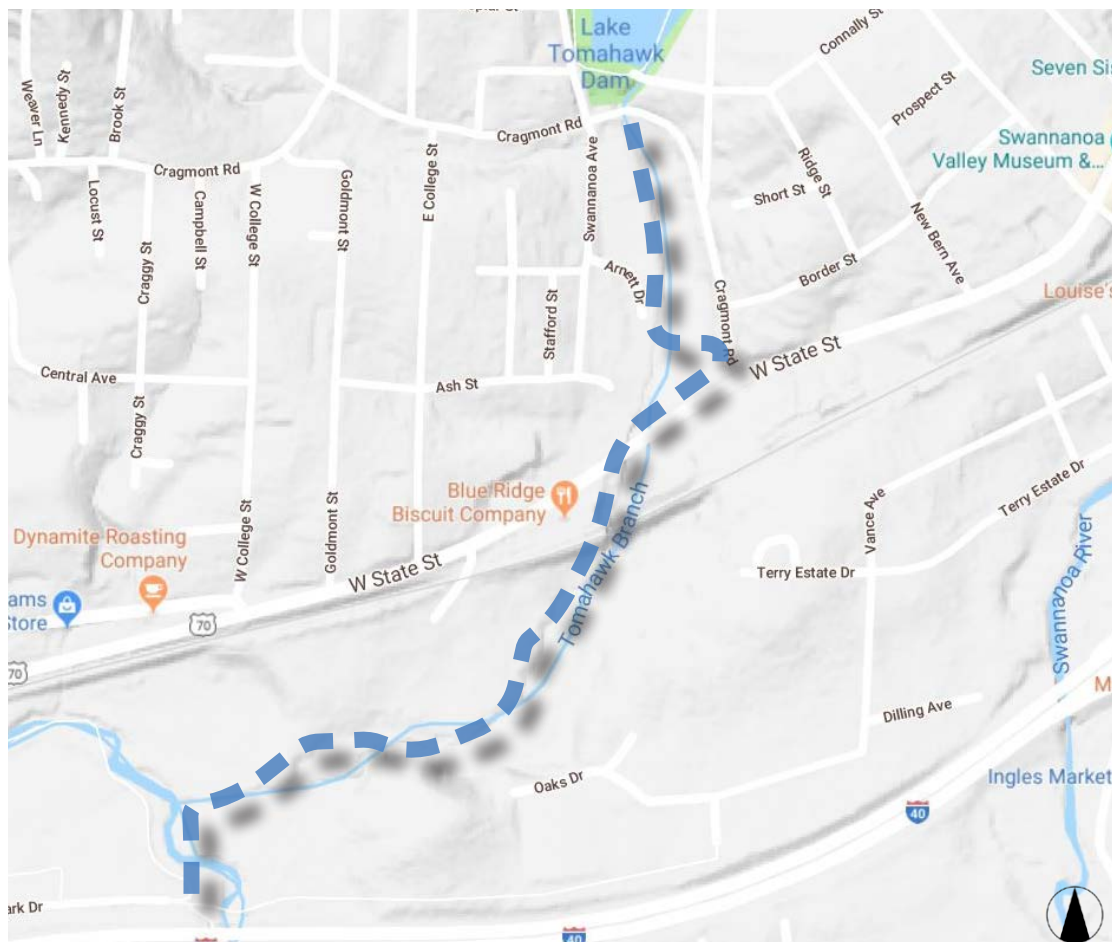
Approximately 0.8 miles



Lake Tomahawk Spur will connect two (2) major recreational areas – River Loop Trail at Veteran's Park and Lake Tomahawk Loop. From its junction with the In-The-Oaks Trail, this Spur follows the MSD ROW through the In-The-Oaks property, crossing under the railroad tracks and continuing to follow the ROW to the intersection with Cragmont Road. Crossing US Highway 70 at the Cragmont traffic light, the Spur bears west onto Ash Street, then north again on Park until reaching Cargmont Park walking trail and Lake Tomahawk Loop. By using both Ash and Park Streets' unopened, dedicated ROWs, the heavily trafficked Cragmont Road would be avoided.

The Trail thus follows MSD ROW almost the entire distance from Veterans Park to Lake Tomahawk Park. Challenges include crossing the railroad tracks and two (2) busy intersections at two (2) crossings of Cragmont Road.

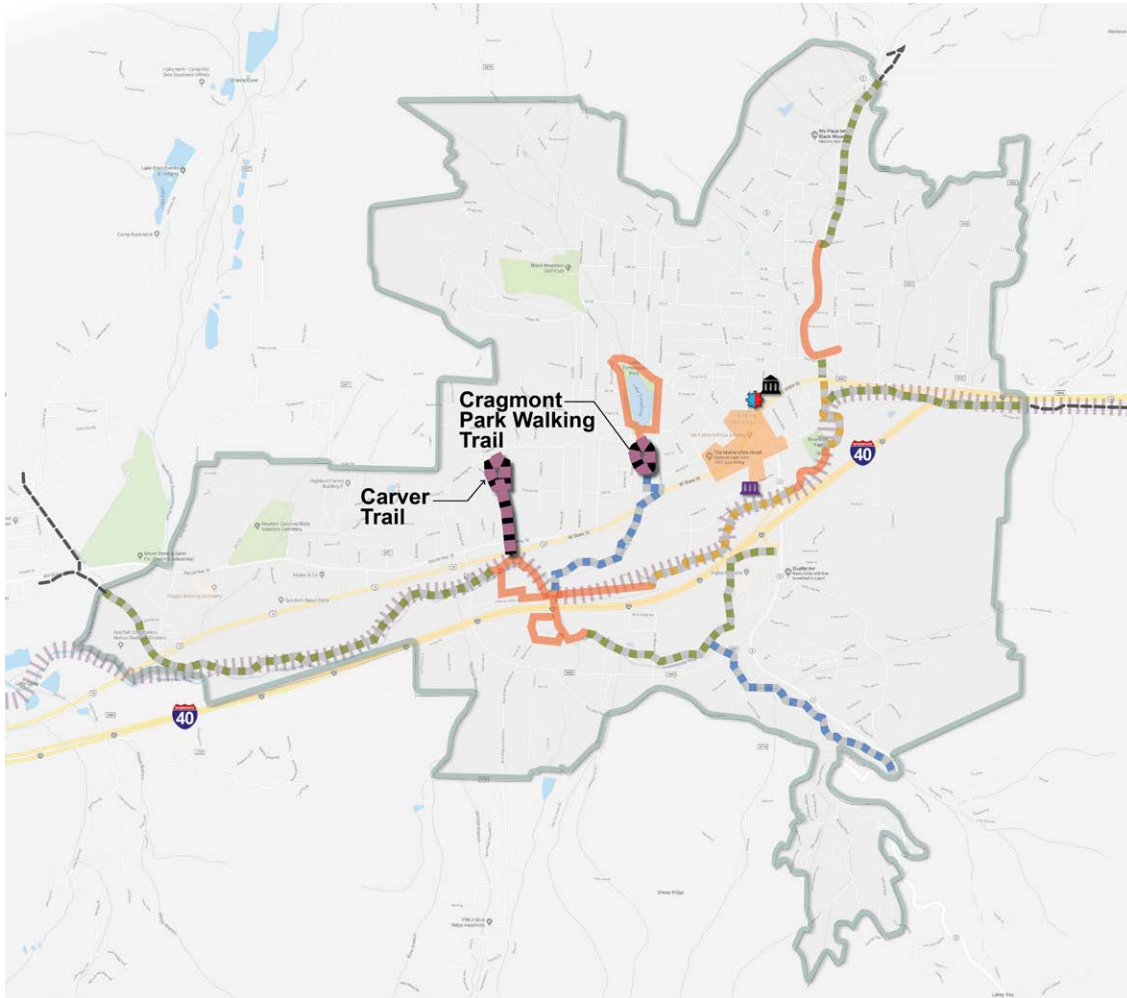
This Greenway section ranked 58/100 as to user priority in the Black Mountain by Bike Plan.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.



Low Priority Greenways



LEGEND

	COMPLETED GREENWAYS		BLACK MOUNTAIN TOWN HALL
	FUNDED GREENWAYS		BLACK MOUNTAIN PUBLIC SERVICES, RECREATION & PARKS
	HIGH PRIORITY GREENWAYS		BLACK MOUNTAIN POLICE & FIRE DEPARTMENTS
	MEDIUM PRIORITY GREENWAYS		BLACK MOUNTAIN BUSINESS DISTRICT
	LOW PRIORITY GREENWAYS		TOWN LIMITS
	GREENWAYS OUTSIDE JURISDICTION		FONTA FLORA STATE TRAIL

CARVER TRAIL

Low Priority

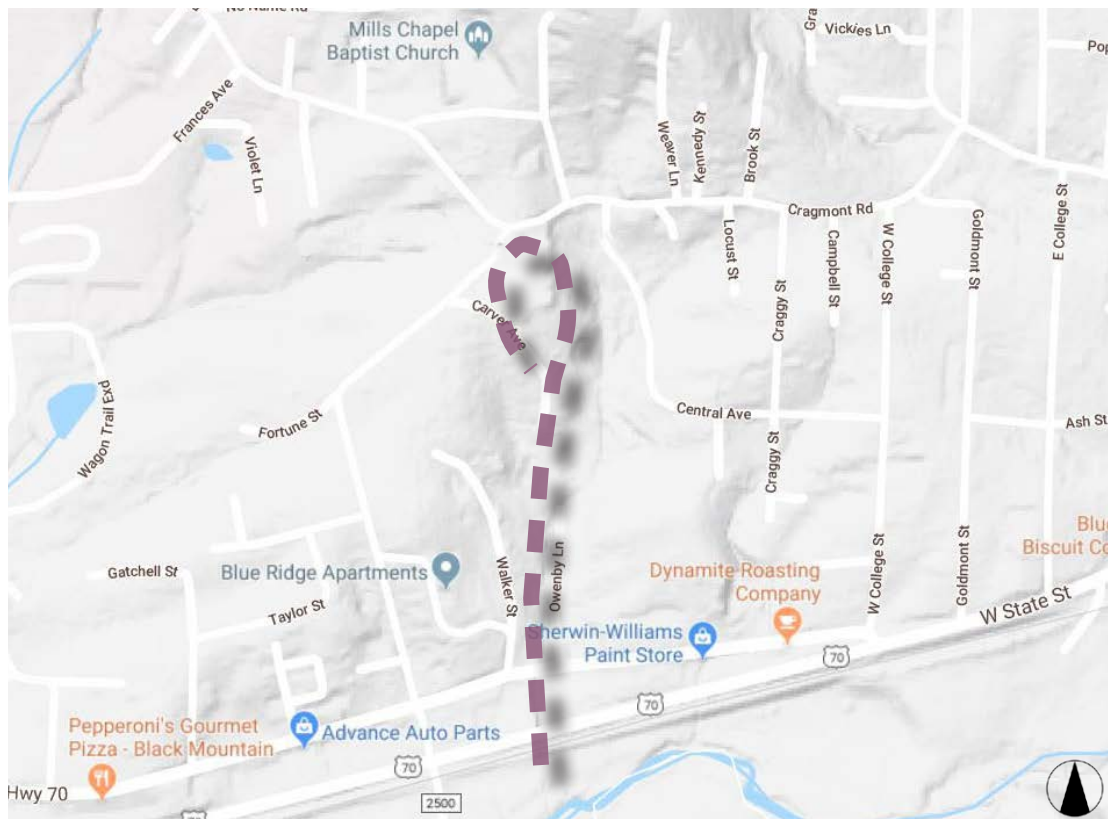
Approximately 0.5 miles



Currently in initial planning and pre-implementation stages, Carver Trail will primarily be a woodland path, allowing for enjoyment and use of the woods at Carver Community Center. This loop will connect to the sidewalk on Cragmont Avenue on the north end and Carver Community Center playground on the south end.

The Trail will allow school kids (and others) to explore nature in a safe walking space. In addition, the Trail will allow residents of the Blue Ridge Apartments to easily access Carver Community Center, including the Carver Community Garden, safely.

In the future, this Trail will have a spur that connecting to Old US Highway 70 and across US Highway 70 to Recreation/Veterans Park or the Swannanoa River Trail. Final alignment may depend on landowners approval, final placement of other greenways / trails, and possibly the future NCDOT Blue Ridge Road I-40 Interchange.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.

CRAGMONT PARK WALKING TRAIL

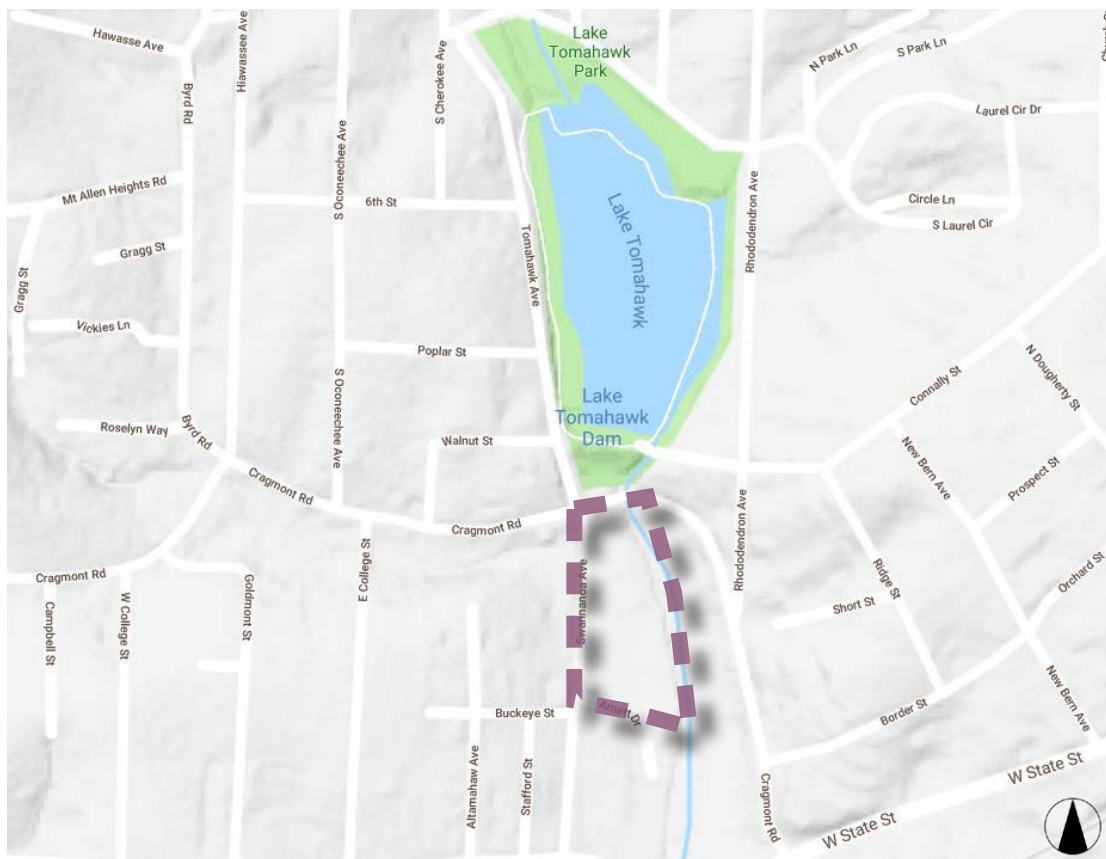
Low Priority

Approximately 0.5 miles



Cragmont Park was originally Youth Center Park. This four (4) acre neighborhood park is south of Lake Tomahawk at Cragmont Road and Swannanoa Avenue (extension of Tomahawk Avenue). The property was originally acquired by the Town in 1933 and redeveloped in 1978. In 1979 the Town received a Land and Water Conservation Fund Grant to develop the property for recreation purposes, including two (2) tennis courts, two (2) basketball courts, and an open field used for softball, football, soccer or the like, league practice.

In the Black Mountain Recreation and Parks Department 2025 Master Plan, notation was expressed for the need of a walking trail similar to (and possible extension of) the Lake Tomahawk Loop aggregate fine path around the perimeter of the park.



Illustrative portrayal of proposed greenway segment or connector is a representative alignment only and should not be construed as conclusive. Once funding is procured, citizens and landowners will be able to participate and voice their concerns during the public planning process.



APPENDIX 'A'

ASSOCIATED REFERENCE DOCUMENT

BLACK MOUNTAIN RECREATION & PARKS DEPT. 2025 MASTER PLAN

APPENDIX 'B'

ASSOCIATED REFERENCE DOCUMENT

BLACK MOUNTAIN BY BIKE 2016

APPENDIX 'C'

ASSOCIATED REFERENCE DOCUMENT

BUNCOMBE COUNTY GREENWAYS & TRAILS MASTER PLAN 2012

APPENDIX 'D'

ASSOCIATED REFERENCE DOCUMENT

LAND OF SKY REGIONAL COUNCIL BLUE RIDGE BIKE PLAN

APPENDIX 'E'

ASSOCIATED REFERENCE DOCUMENT

TOWN OF BLACK MOUNTAIN PEDESTRIAN TRANSPORTATION PLAN 2016

APPENDIX 'F'

ASSOCIATED REFERENCE DOCUMENT

US 70 / SWANNANOVA RIVER GREENWAY FEASIBILITY STUDY 2010

Appendices Index



**BLACK MOUNTAIN RECREATION AND PARKS DEPARTMENT
2025 MASTER PLAN**

Presented to:
THE TOWN OF BLACK MOUNTAIN, NORTH CAROLINA



**Black Mountain
Recreation & Parks**

By:
Casey Conner, Director
Black Mountain Recreation and Parks

Representing
Recreation Department Staff
Recreation Commission

ASSOCIATED REFERENCE DOCUMENTS:
**BLACK MOUNTAIN RECREATION &
PARKS DEPT. 2025 MASTER PLAN**

Appendix 'A'

Table 6: Areas of Importance

NEED	Yes	No	Will use
Sidewalks	90	10	93
Walking trails	87	13	94
Year-round restroom facilities	87	13	90
Special events	85	15	86
Neighborhood parks	83	18	83
Connected greenways	80	20	84
Picnic pavilions	80	20	75
Parking	79	21	85
Greenways	77	23	82
Upgrading of existing facilities	76	24	64
Designated bike lanes	74	26	65
Community garden	73	27	43
Swim time for adults	71	29	56
Bicycle trails	70	30	66
Disabled access	68	32	37
Bicycle lanes	68	32	69
Accessible facilities	67	33	54
Deal with water runoff	66	34	65
Water exercise classes	65	35	58
Dog park	58	42	46
Fishing facilities	56	44	41
Restrooms at tennis complex	53	47	40
Greenhouse	53	47	48
Bike borrowing programs	51	49	39
Outdoor basketball courts	51	49	34
Aerobics	48	52	34
Community kitchen	48	52	29
Summer camp	45	55	22
Campgrounds	44	56	39
Rental spaces	39	61	23
Tennis courts	37	63	22
Indoor basketball courts	36	64	15
Tennis facilities	33	67	24
Tennis clinics support	30	70	9
Baseball fields	29	71	13

Attendance of Facilities and Participation in Programs

(Top 5)

- 1. Parks such as Tomahawk Park, Black Mountain Recreation Park**
- 2. Greenways**
- 3. Community centers such as Carver**
- 4. Athletic fields**
- 5. Centers such as the senior center**

Facilities Opinions

- The existence of well-maintained parks adds to the quality of life in the community (95%)
- In general, I feel that Black Mountain is a healthy place to live (91%)
- Black Mountain can be made into a more “walkable” city (87%)
- There is a need for more walking facilities in Black Mountain (82%)
- In general, the recreation facilities that I have visited satisfy my needs (72%)

Management Learning Laboratories

Top Needs

(70% and more)

- *Sidewalks*
- *Walking trails*
- *Year-round restroom facilities*
- *Special events*
- *Neighborhood parks*
- *Connected greenways*
- *Picnic pavilions*
- *Parking*
- *Greenways*
- *Upgrading of existing facilities*
- *Designated bike lanes*
- *Community garden*
- *Swim time for adults*
- *Bicycle trails*

Management Learning Laboratories



ASSOCIATED REFERENCE DOCUMENT:
BLACK MOUNTAIN BY BIKE 2016

Appendix 'B'

Key findings included the following:

- 80% of respondents would bicycle more often if there were more greenways
- 60% cycle at least once a month
- Over 83% bicycle for recreation or fitness, but only 43% bicycle for transportation to nearby destinations
- A surprisingly high 17% report commuting to work by bike. Demographic Questions reveal that 36% work in Black Mountain, and another 10% work within 10 miles of Black Mountain
- There are very few children of any age bicycling to school
- Over three fourths of respondents or their household members ride less due to the total lack of bicycle lanes or shoulders
- Bicycling events and activities would encourage 40% to bicycle more often

Figure 3 summarizes the most popular proposed greenway trails that would increase bicycling accessibility and ridership. Flat Creek Phase 2 to Montreat is the most popular, followed closely by Riverwalk/Dog Park to In-the Oaks Trail.

Figure 3—Which proposed greenway trails will do the most to promote bicycling in Black Mountain?

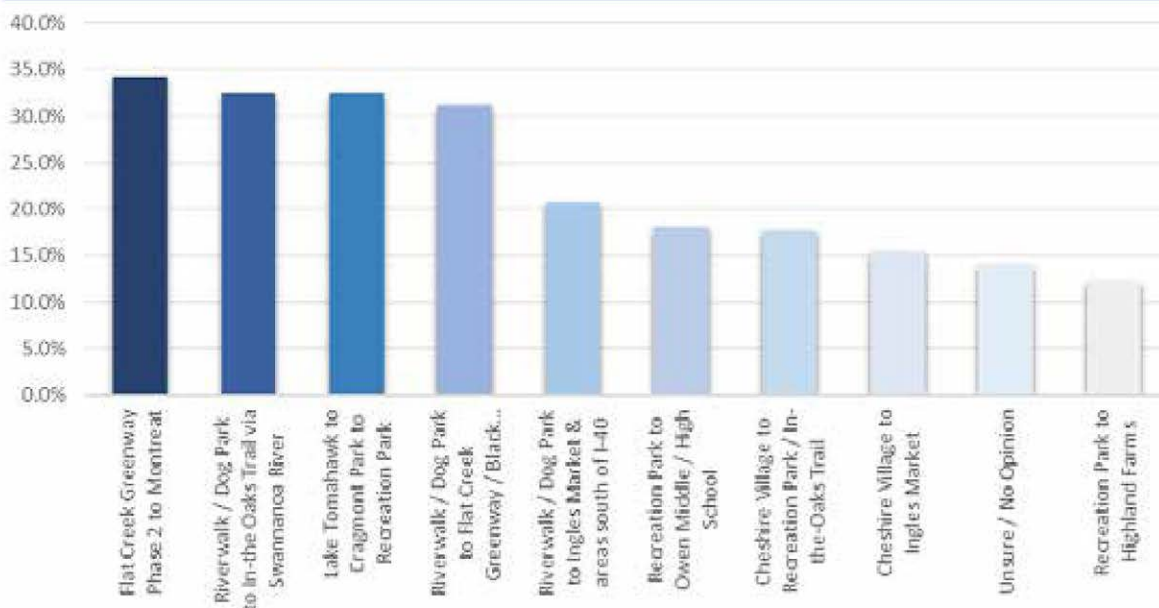


Figure 20—

Projects

Ranked

By Score

(Near-Term)



Rank	Project	Type of Improvement	Total Points (100 max.)
1	RiverWalk Greenway Phase 2, Flat Creek Greenway to River Walk Dog Park	Multi-Use Trail	89
2	RiverWalk Greenway Phase 3, Dog Park to In the Oaks Trail via Swannanoa River	Multi-Use Trail	79
3	Montreat Rd (NC 9) from State St (US 70) to Montreat limits	Shared Lane Marking/Signage	68
4	State St (US 70), from Cragmont Rd to Ridgeway Ave	Shared Lane/Bike Lane	68
5	State St (US 70), from west Town Limit to Cragmont Ave	Shared Lane Marking/Signage	67
6	State St (US 70), from Ridgeway Ave to East Town Limit	Shared Lane/Bike Lane	65
7	Tomahawk Lake to Carver Center Neighborhood Greenway (various streets)	Shared Lane Marking/Signage	63
8	Flat Creek Greenway Phase 2, Cotton Ave. to Town of Montreat limits	Multi-Use Trail	61
9	Flat Creek to Tomahawk Lake Neighborhood Greenway (various streets)	Shared Lane Marking/Signage	60
10	Owen Spur Greenway, Rec Park to Owen Middle/High School	Multi-Use Trail	60
11	Broadway Ave (NC 9) from State St (US 70) to Blue Ridge Rd	Bikeable Shoulder/Bike Lane	58
12	Tomahawk Branch Greenway, Lake Tomahawk to Rec Park via Cragmont Park	Multi-Use Trail	58
13	Old US 70, from State/College Intersection to Owen Middle School	Bikeable Shoulder/Bike Lane	51
14	Swannanoa River Greenway, Rec Park to RiverWalk Greenway	Multi-Use Trail	51
15	Ridgecrest Connector Greenway, from RiverWalk to Kitsuma	Multi-Use Trail	51
16	Blue Ridge Rd, from Old US 70 to Rec Park Entrance	Bikeable Shoulder/Bike Lane	46
17	Blue Ridge Rd, from Rec Park Entrance to NC 9	Bikeable Shoulder/Bike Lane	45
18	Carver to Highland Farms Greenway	Multi-Use Trail	44
19	Cheshire to Swannanoa River Greenway, via Camp Branch/Britton Creek	Multi-Use Trail	40
20	Flat Creek Rd/Padgettown Rd Neighborhood Greenway	Shared Lane Marking/Signage	39
21	North Fork Road, Montreat Rd (NC 9) to Old US 70	Shared Lane Marking/Signage	36

Project 1



Riverwalk Greenway (Phase 2) Flat Creek Greenway to Riverwalk Dog Park



PROJECT DESCRIPTION

One of the more challenging greenway sections within Black Mountain, Riverwalk Phase II will connect existing Flat Creek Greenway (at the North end) to the Bi-Lo Dog Park, and into an existing segment of the Riverwalk Greenway.

A feasibility and conceptual design phase has recently been completed. The next phase, which will include Norfolk Southern schematic review and landowner outreach is began in 2015.

COST ESTIMATE

\$1.2 Million

LENGTH

0.46 Miles

USERS (see page 4 for more info)



ECONOMIC POTENTIAL

Completing this greenway and updating signage raises Black Mountain's stature as an active living destination & makes businesses more accessible.

INTERSECTIONS:

- State Street (US 70): The greenway is planned to be routed underneath this road. During design, connections to sidewalks and planned bicycling facilities should be incorporated to connect the route and make it safe and easy for people biking on State Street to access the greenway. Wayfinding signage should be placed on this and other nearby streets, as well as signage for pedestrians wishing to access the greenway from downtown.

CHALLENGES:

- Crossing the Swannanoa River twice
- Creating an underpass for a five lane highway (US Highway 70)
- Crossing under Norfolk Southern Railroad's rail line (and right of way).

INFLUENCES:

- Existing Flat Creek Greenway
- Proximity to Downtown
- Access to Food

CONNECTIONS:

- Flat Creek Greenway
- Existing Riverwalk Greenway
- Serves as integral component to overall connectivity

Project 1



Riverwalk Greenway (Phase 2) Flat Creek Greenway to Riverwalk Dog Park

Rendering of proposed greenway as it travels through an underpass



MAKING IT HEALTHIER

The proposed greenway links an existing greenway and neighborhoods it touches to a school, park and food outlets. It doesn't get much healthier than that. Greenways like this one help entice the "No Way, No How" riders to give it a try. Accent the greenway with other active living features such as community gardens and fix-it stations. The interface with the street should be designed to maximize safety of those using the route as this is typically overlooked during design with many interfaces defaulting to sidewalk-only templates instead of multi-use trail needs.

Potential Design Treatments & Accents



Mile markers are a useful feature along greenways to help orient users to their location and better understand how far they've biked, walked or jogged.

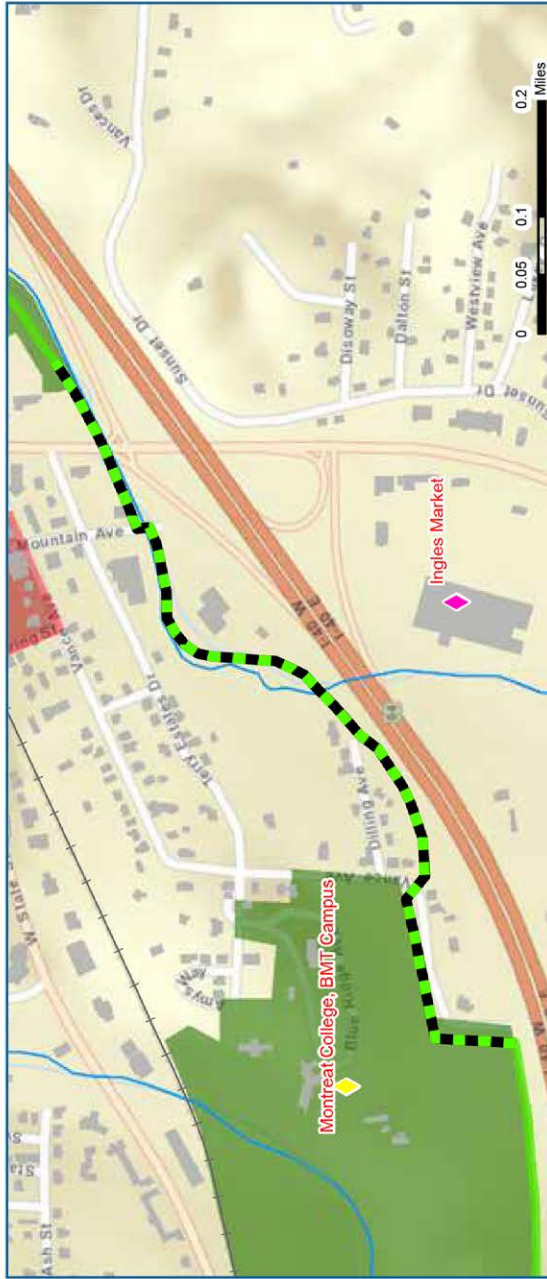


Trail Crossing warning sign in Asheville, NC.

Project 2



Riverwalk Greenway (Phase 3) Dog Park to In the Oaks Trail via Swannanoa River



PROJECT DESCRIPTION

Phase III will connect the existing segment of Riverwalk Greenway to the Oaks Trail, and the route has been preliminarily identified as following the Swannanoa River. Property acquisition is necessary along most of the route.

When combined with recommendations from the Swannanoa Flood Mitigation Study to create a wetland/impoundment, this section of greenway has potential to help create an interpretive greenway which can become an iconic destination and an ecological uplift for habitat.

INFLUENCES:

- Existing Riverwalk Greenway
- Proximity to Downtown
- Access to Food
- In the Oaks area and nearby neighborhoods.

CONNECTIONS:

- Oaks Trail
- Existing Riverwalk Greenway
- Serves as integral component to overall connectivity

INTERSECTIONS:

- Broadway Ave (NC 9): The greenway is plan to be routed underneath this road. Connections to sidewalks and planned bicycling facilities should be made to connect the route and make it safe and easy for people biking on NC 9 to access the greenway. Wayfinding signage should be placed on this and other nearby streets, as well as signage for pedestrians wishing to access the greenway from downtown.

CHALLENGES:

- NC 9 crossing.
- Constrained conditions due to building encroachment close to the Swannanoa River corridor and other private property limitations that limit achieving optimal design.

COST ESTIMATE

\$650,000

LENGTH

0.81 Miles

USERS (see page 4 for more info)



ECONOMIC POTENTIAL

Completing this greenway adds to the Depot to Depot trail and helps attract more visitors to the area.

Project 8



Flat Creek Greenway Phase 2



PROJECT DESCRIPTION

The existing section of Flat Creek Greenway is likely the most utilized greenway in Black Mountain and runs north from Black Mountain Primary School to Cotton Avenue. Phase 2 will serve to connect Black Mountain to the Town of Montreat, which, by utilizing Montreat's trail infrastructure, will ultimately connect into Pisgah National Forest and beyond.

The greenway would be characterized by riparian forests and views from the valley floor, and will likely see high user traffic.

INFLUENCES:

- Extension of highly used greenway
- Corridor between towns
- Access to schools
- Flat Creek Greenway

INTERSECTIONS:

- Montreat Road terminus: Special design considerations should be given at the northern terminus of the greenway at Montreat Road or another local street. Ingress/egress ramps from the street should be designed to match the width of the greenway and special signage and pavement markings should be added to alert motorists to trail users.

CONNECTIONS:

- Montreat
- Existing Flat Creek Greenway
- Pisgah National Forest

CHALLENGES:

- Multiple land owners means buy-in is required from many people with diverse opinions.
- Constrained condition in section between river and roadway will make it difficult to build trail to ultimate desired width or with wide vegetated buffers.

COST ESTIMATE

\$750,000

LENGTH

0.79 Miles

USERS (see page 4 for more info)

S&F

E&C

IBC

ECONOMIC POTENTIAL

Completing this greenway makes Montreat more accessible to visitors and residents.

Project 8



Flat Creek Greenway Phase 2

Example of a greenway that might at times run parallel with Flat Creek Road



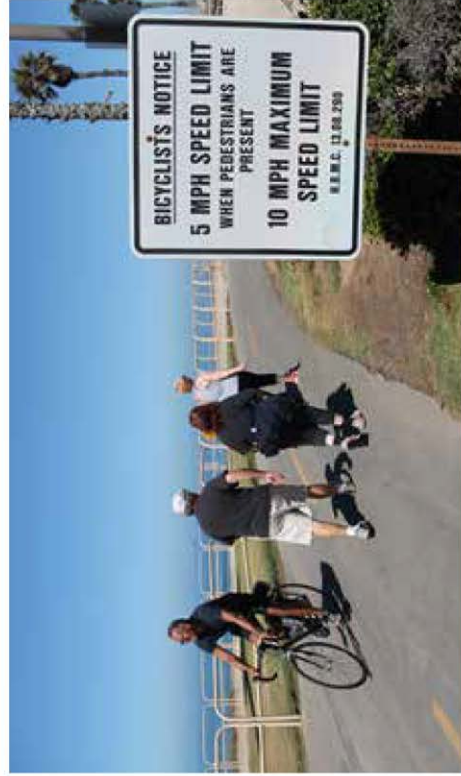
MAKING IT HEALTHIER

Managing the likely high volume of users and diverse types of bicyclists on this route due to challenges to constructing bike lanes on Montreat Road (parallel to greenway) is important. Proper bicycling etiquette should be advised so users are not intimidated by groups of bicyclists or high speed bicyclists. This should be a neighborhood-based facility where low speed walkers and bicyclists are a priority. Signage and the design of the greenway need to contribute to this prioritization of user types.

Potential Design Treatments & Accents



Signs encouraging bicyclists to call out "on your left" help build a greenway culture respective of all users.



Suggesting speed reduction for bicyclists when pedestrians are present is positive messaging. Enforcing speed limits is difficult.

Chapter 4: Building a System for People Who Bike

Black Mountain By Bike

Project 9



Flat Creek to Tomahawk Lake Neighborhood Greenway



PROJECT DESCRIPTION

The Flat Creek Greenway to Tomahawk Lake Neighborhood Greenway creates a bicycle boulevard on local residential streets. This is recommended due to limited availability of right-of-way to build bike lanes or a greenway to link these destinations.

The route options include following Stepp, Portman Villa and 3rd St to reach Montreat Road. 1st Street from the Primary School is another route. The route then follows Pine, Connally Oakland/Park and Laurel Circle to reach Tomahawk Lake. A median with pedestrian refuge was recommended in the Safe Routes to School Action Plan for the NC-9 crossing and should be included in this project.

INFLUENCES:

- Flat Creek Greenway
- Tomahawk Lake
- Neighborhoods
- Black Mountain Primary School
- Future greenway connections

CONNECTIONS:

- Walking path around the lake
- Other connecting neighborhood greenways in this plan
- Future Flat Creek Greenway extension

INTERSECTIONS:

- Montreat Road: Crossing Montreat Road by bike (and potentially traveling a short distance along it or the sidewalk) presents a safety concern and psychological barrier. Recommendations for increased markings and signage along Montreat Road will help. Push buttons need for signal.
- Laurel Circle: Intersections with Laurel Circle has some sight distance concerns. Improving signage and trimming foliage will help.

CHALLENGES:

- Crossing Montreat Road remains the biggest challenge given that a short segment must be travelled along this route and poor LOS along the route. Signage and crossing treatments are needed to allow users to move safely. Full signals should be considered to allow for the short movement.

COST ESTIMATE

\$50,000

LENGTH

1.1 Miles

USERS (see page 4 for more info)



ECONOMIC POTENTIAL

Neighborhood greenways are visible indicators of community priorities and promote stable communities.

Project 7



Tomahawk Lake to Carver Center Neighborhood Greenway



PROJECT DESCRIPTION

The Tomahawk Lake to Carver Center Neighborhood Greenway creates a bicycle boulevard on local residential streets in lieu of bike lanes or a greenway, which are not possible due to property and topographical constraints (see Challenges).

Following Laurel Circle, Cherokee or Tomahawk, 6th St., Hiwassee or Oconeechee, and Cragmont/Fortune, this route should make motorists aware of bicyclists with the goal of slowing motorist speeds to allow for safe travel. Shared lane markings, signage and traffic calming accomplish these goals.

INFLUENCES:

- Tomahawk Lake
- Carver Center
- Neighborhoods
- Golf Course
- Future greenway connections

INTERSECTIONS:

- Cragmont & Hiwassee or Oconeechee: Provide shared lane markings and wayfinding for bike routes to ensure bicyclists know where to follow the route and alert motorists.
- Cragmont & Byrd: The geometry of this intersection creates challenges for turning bicyclists and sight distance for motorists entering the road. Ensure foliage is trimmed to maximize sight distance and provide warning signs to watch for bicyclists.

CONNECTIONS:

- Walking path around the lake
- Other recommended neighborhood greenways in this plan
- Future greenway to In the Oaks

CHALLENGES:

- Neighborhood greenways can start small with shared lane markings and signage. This will help users identify the route but does not address concerns over motorist speeds. More elaborate traffic calming measures, such as speed humps, chokers, chicanes and median islands at intersections will do more to slow traffic to speeds that make the route more suitable for riders of all ages and abilities. This requires more study.

COST ESTIMATE

\$40,000 (markings & signage)

LENGTH

1.3 miles

USERS (see page 4 for more info)

S&F E&C IbC

ECONOMIC POTENTIAL

Linking destinations via non-motorized modes helps residents save money.

Project 10



Owen Spur Greenway



PROJECT DESCRIPTION

Owen Middle School and High School are both located approximately 2 miles west of the Rec Park. The intent of the Owen Spur is to connect these schools into the greenway network. Two potential alignments have been identified to serve as this connection.

The more scenic and “off-line” (green/black) route involves natural and right of way constraints, but only involves a few landowners. The alternate route (green/white) would involve cooperation of multiple private land owners, buildings, and several roadway intersections. Further conceptual study is needed to determine which routes option is most feasible.

INFLUENCES:

- Access to Rec Park
- Access to existing greenway
- Access to schools

INTERSECTIONS:

- State Street (US 70): Provide dedicated crossing of this highway via a protected crosswalk, special signals and z-crossing (as shown in image on next page)
- Old US 70: Provide dedicated greenway crossing and signal at this street crossing.

CONNECTIONS:

- Oaks Trail/Rec Park
- Schools
- Serves to connect beyond Black Mountain to the West

CHALLENGES:

- Landowner willingness to engage in property acquisition or easement proceedings.
- Roadway intersections are numerous and will require special signalization.

COST ESTIMATE

\$2 Million

LENGTH

2+ Miles

USERS (see page 4 for more info)



ECONOMIC POTENTIAL

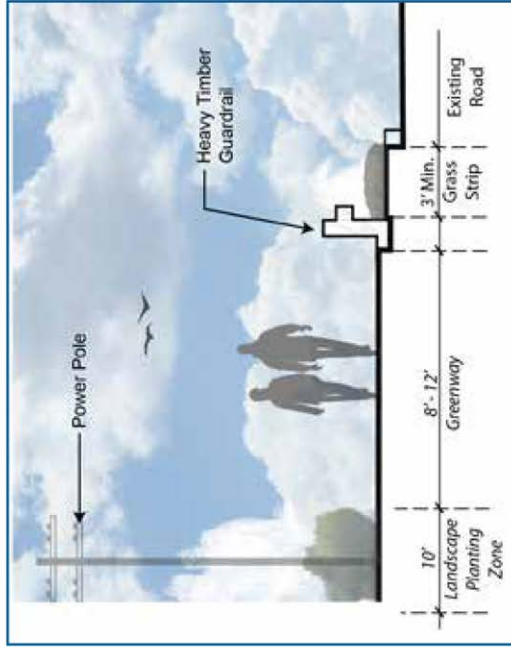
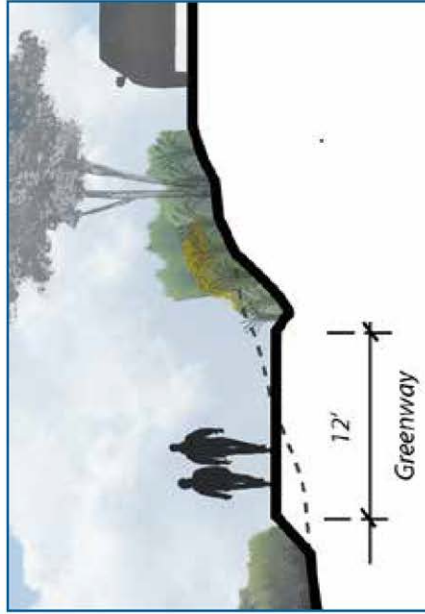
Connects to Asheville to Black Mountain planned greenway, which has incredible economic potential to attract bicycle tourism.

Project 10



Owen Spur Greenway

Options for the Owen Spur Greenway include a traditional greenway (left) or a sidepath alongside a road (right) that should be separated by a vertical rail if a 5-foot buffer from the top of the curb line is not feasible.



MAKING IT HEALTHIER

Linking the schools complex to the other parks and greenways provides an opportunity to promote lifelong healthy living habits for school-age children. A route that reduces street intersections is most preferred for safety and health reasons.

Such a greenway provides an opportunity for outdoor classrooms and more diverse learning experiences than are currently available at the school complex. Careful consideration must be given to highway crossings if this greenway is to be safe for users of all ages and abilities.

Potential Design Treatments & Accents



A z-crossing of a greenway through a major road prioritizes the safety of all users. Signals may be added.



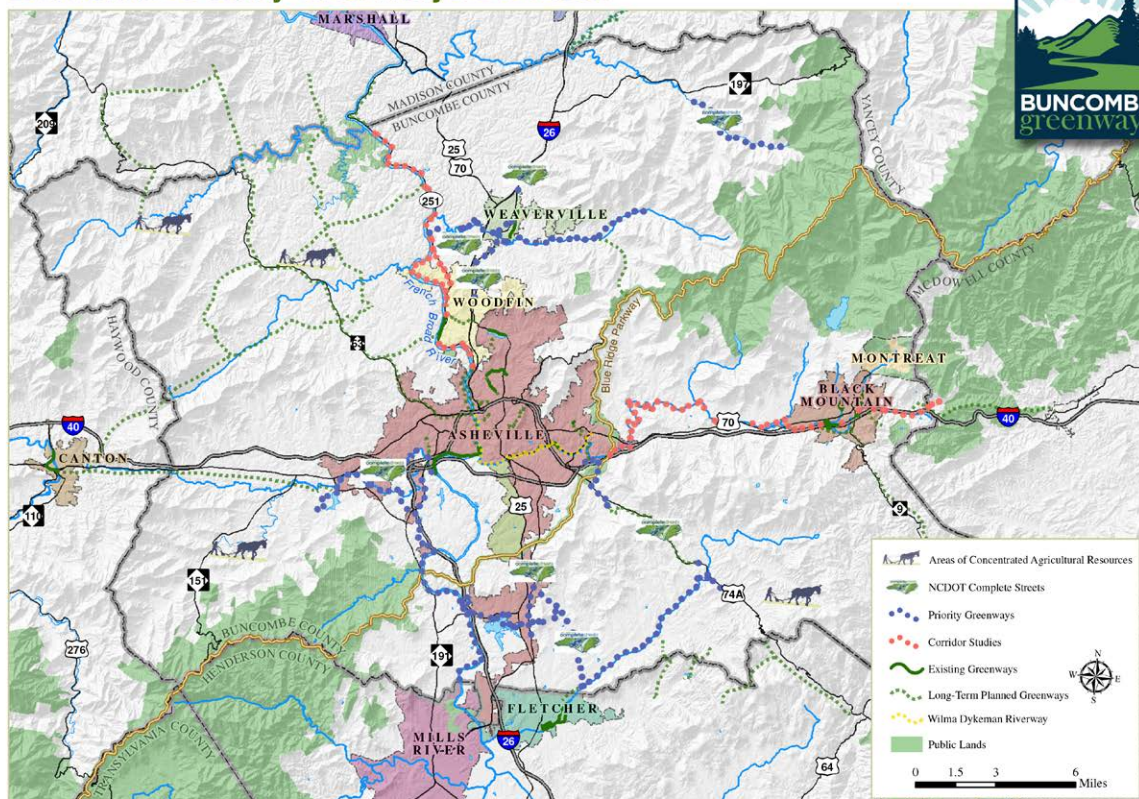
Enhance the greenway near schools to increase opportunities for outdoor learning experiences.

Figure 22—Long-Term Projects

Project	Project Description	Length	Cost Estimate*
11. Broadway Ave (NC 9) from State St (US 70) to Blue Ridge Rd	Install shared lane markings and signage north of the railroad tracks. Narrow travel lanes or consider road diet to add bike lanes from the railroad tracks to south of I-40. Add bike lanes or bikeable shoulders from I-40 to Blue Ridge Road.	0.9 miles	\$100,000 (shared lane markings) to more than \$500,000 for bikeable shoulders
12. Tomahawk Branch Greenway, Lake Tomahawk to Rec Park via Cragmont Park	Construct a greenway along the creek, across State St (US 70) and the railroad to link the parks. A major crossing upgrade is required at State Street and a culvert or tunnel under the railroad would create the shortest route and not conflict with the tracks.	Up to 1 mile	Varies greatly based on tunnel and crossing feasibility
13. Old US 70, from State/College Intersection to Owen Middle School	Construct a bikeable Shoulder or bike lane along the route. Right-of-way is a major challenge on the route and the addition of an additional 8- to 10-feet of pavement could have impacts to adjacent properties.	2.4 miles	Up to \$1 million (construction cost only; right-of-way cost unknown)
14. Swannanoa River Greenway, Rec Park to RiverWalk Greenway	Construct greenway along the north side of the river (preferred) to link the planned RiverWalk Greenway to the Rec Park. This roughly 2-mile route provides a greenway linkage south of I-40 to serve neighborhoods and future growth in that area.	2 miles	\$2 million
15. Ridgecrest Connector Greenway, from RiverWalk to Kitsuma	Construct greenway or sidepath to link Black Mountain to Ridgecrest and the Kitsuma Peak Trail head. This will require coordination and partnership with county and Ridgecrest officials but should be a long-term goal.	3.5 miles	\$3.5 million
16. Blue Ridge Rd, from Old US 70 to Rec Park Entrance	Construct a minimum 5-foot wide bikeable shoulder or bike lane. A more optimal solution is a sidepath or cycle track to better move people through the area if there is a future interchange. The 2000 Blue Ridge Road interchange feasibility stated no special accommodations were necessary. This should be changed when/if DOT analyzes the interchange in more detail or replaces the bridge.	0.2 miles	\$200,000
17. Blue Ridge Rd, from Rec Park Entrance to NC 9	Construct a minimum 5-foot wide bikeable shoulder or bike lane. The 2000 Blue Ridge Road interchange feasibility stated no special accommodations were necessary. This should be changed when/if DOT analyzes the interchange in more detail. Shoulder widening could be considered if the road is resurfaced.	1.3 miles	\$500,000
18. Carver to Highland Farms Greenway	Construct a greenway trail from the Carver Center to Highland Farms along the road or on a dedicated alignment to link the destinations and the planned neighborhood greenway.	1 mile	\$1,000,000
19. Cheshire to Swannanoa River Greenway, via Camp Branch/Britton Creek	Construct a greenway trail that link Cheshire to the planned Swannanoa River Greenway along the creeks.	0.6 miles	\$600,000
20. Flat Creek Rd/Padgettown Rd Neighborhood Greenway	Mark shared lanes and installed signage to create a neighborhood greenway along these routes and linking Flat Creek Rd to Padgettown Road on Avena Rd or Rainbow Lane. Based on success of other neighborhood greenways, consider other traffic calming treatments.	Up to 2.3 miles	Up to \$100,000
21. North Fork Road, Montreat Rd (NC 9) to Old US 70	Mark shared lanes and install signage along this route to raise awareness of the presence of bicyclists. Seek opportunities to create some type of shoulder in a future resurfacing project by NCDOT.	4.8 miles	Up to \$200,000

* Cost estimates are based on planning level figures for construction/implementation in 2015 dollars. Land acquisition costs are unknown at this time since more specific alignments and land impacts are also unknown. Assume additional 10-15% of the construction cost for design services (not included in project cost as it will require separate scoping).

Buncombe County Greenways Overview



ASSOCIATED REFERENCE DOCUMENTS:

BUNCOMBE COUNTY GREENWAYS & TRAILS MASTER PLAN 2012

Appendix 'C'

Community Influences & Destinations



Biltmore Forest

Influences & Destinations

- Large estate lots
- Blue Ridge Parkway
- Biltmore Estate
- Mountains-to-Sea Trail
- Carolina Day School



Black Mountain

Influences & Destinations

- Downtown & Lake Tomahawk
- Greenways, parks & garden
- Montreat College & The Oaks
- Swannanoa River
- Elementary & Primary School
- Ridgcrest
- Point Lookout Trail
- Retreats & camps
- Catawba Falls & Headwaters
- NC Highway 9 & US 70



Montreat

Influences & Destinations

- Montreat College
- Hiking trails
- Mt. Mitchell
- Downtown Black Mountain
- Point Lookout Trail
- Ridgcrest
- Black Mountain



Weaverville

Influences & Destinations

- Downtown Weaverville
- Nature Park
- Lake Louise & Reems Creek
- Vance Birthplace
- Blue Ridge Parkway
- North Buncombe schools
- Woodfin & North Asheville
- Windy Gap
- French Broad River



Point Lookout Trail to Old Fort.



Woodfin

Influences & Destinations

- YMCA Woodfin
- Woodfin Elementary School
- Riverside Park
- French Broad River
- Weaverville & North Asheville
- Woodfin Community Center
- Reynolds Village



Greenway at Woodfin's Riverside Park.

What we heard...

Context & Identity

- Acknowledge community identity and placemaking potential of greenways.
- Build upon community culture and themes.
- Incorporate art
- Engage youth & older adults.
- Recognize that support will vary among communities.
- Create “cool” communities.



Partnerships & Economic Development

- Develop a plan of action to keep the public sector engaged.
- Define what is already in place.
- Know the needs of the private sector.
- Reach out to schools, non-profits and land conservancies.
- Incentivize greenways investment.
- Work with law enforcement.



Access & Connectivity

- Provide direct connections from greenways to gathering places.
- Enhance neighborhoods through greenway connectivity.
- Prioritize schools, parks and natural areas.
- Understand the need for safety features at access points.
- Connections to transit are increasingly important.



Land Acquisition & Management

- Identify appropriate techniques.
- Develop a fee in lieu program for greenways development.
- Place requirements on development as with sewer, roads and water.
- Eminent domain is not preferred.
- Work to preserve large parcels.
- Get ahead of growth.

Funding Strategies

- Pursue a dedicated source of revenue.
- Communities should recognize a common interest in funding greenways.
- Identify less-restrictive (e.g. non-federal) funding sources.
- Coordinate funding to lessen burden on small towns.
- Development-based requirements can allay some costs.

Health Impacts

- Be equitable by constructing greenways in communities that benefit the most.
- Build upon the creativity, spirituality & salubrious lifestyles of people.
- Understand the impacts of safe practices & design on health.
- Recognize the positive role greenways play in stress relief, family dynamics, & mental health.
- Design and access matter.

What we heard...

Design

- Consider life-cycle maintenance costs in design and construction.
- Understand the need for visibility and how that relates to security for users.
- Explore different surface types based on context.
- Use local materials and green techniques.
- Recognizing the proper context for amenities is important.



Environment & Ecosystems

- Enhance floodplains and riparian zones.
- Restore streams along greenway routes.
- Connect people to natural features.
- Preserve “wild areas” and design greenways accordingly.
- Identify partners who can provide environmental benefits along with greenways and trails.



Responsibility & Liability

- Define how it affects towns, partners, volunteers and others.
- Develop agreements to lessen liability for private property owners.
- Establish, follow, and enforce policies for use.
- Protect volunteers.



Programs & Education

- Reach out to people of all ages and abilities.
- Build upon existing programs led by various non-profits.
- Coordinate with schools, universities, and colleges.
- Create demonstration projects.
- Develop training programs for greenway usage & maintenance.

Volunteers & Advocacy

- Keep volunteers and advocates engaged.
- Develop an Adopt-A-Trail program in cooperation with schools, retreat centers, neighborhood associations and non-profits.
- Actively promote greenways through various channels.
- Understand the impacts of tourism.

Utilities, NCDOT & Railroads

- Ensure these entities understand a desire to make them a partner.
- Identify easements and right-of-way that can benefit greenways.
- Engage them early in the planning and design of new greenways.
- Make sure they are at the table.
- Understand their business model.

US 70 / Swannanoa River Greenway

The greenway proposed along the US 70 and Swannanoa River Corridor is an 18-mile route with an eastern terminus at the Point Lookout Trail in McDowell County and a western terminus at Azalea Park in East Asheville—the eastern terminus of the Wilma Dykeman RiverWay Plan. A detailed corridor study was completed in 2010.

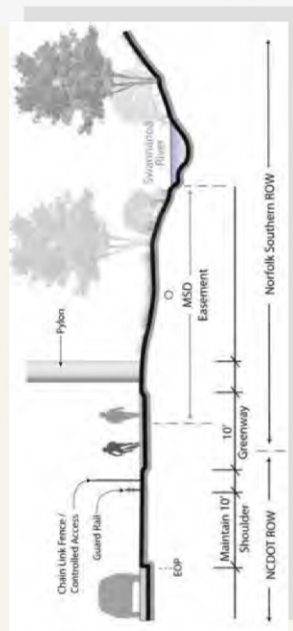


Influences: The trail generally runs along the Swannanoa River with section adjacent to US Highway 70. Key communities along the route include:

- Ridgcrest & Black Mountain
- Warren Wilson College
- Azalea Road Connection / Azalea Park
- Swannanoa Community
- Oteen/East Asheville
- Blue Ridge Parkway

The US 70 Swannanoa River Greenway has the potential to connect to population centers, public schools, Warren Wilson College, surrounding neighborhoods, several parks, other greenway trails, business, and shopping. In addition, pedestrian and bike safety has plagued certain areas within this corridor. This corridor would provide options for future users to safely and easily access the greenway offering a non-motorized transportation alternative. The planned greenway also crosses the Mountains-to-Sea Trail at the Blue Ridge Parkway.

Typology: The proposed route bisects diverse natural and manmade environments, which prompted the corridor study to recommend 6 cross section options based on constraints and opportunities. In general, a 10' asphalt trail (sample cross-section above) was the preferred treatment, with the exception of the area near Warren Wilson College



Likely Users



The User Experience: The proposed route traverses a diverse set of natural features along the Swannanoa River and makes connections to existing hiking trails at Warren Wilson College, the planned greenway within the City of Asheville to Azalea Park, numerous existing & planned greenways in Black Mountain, and the Point Lookout Trail in McDowell County. Potential exists for day trips taken from one end to another with incorporation of local farming, restaurants and brewpubs.

Potential Partners:

- Municipalities
- Warren Wilson College
- RiverLink
- NCDOT, Utilities, & Railroad
- Ridgcrest Assembly
- Blue Ridge Parkway



Fields at Warren Wilson College (left) and US Highway 70 (right) were major influences in the US 70 / Swannanoa River Greenway study.

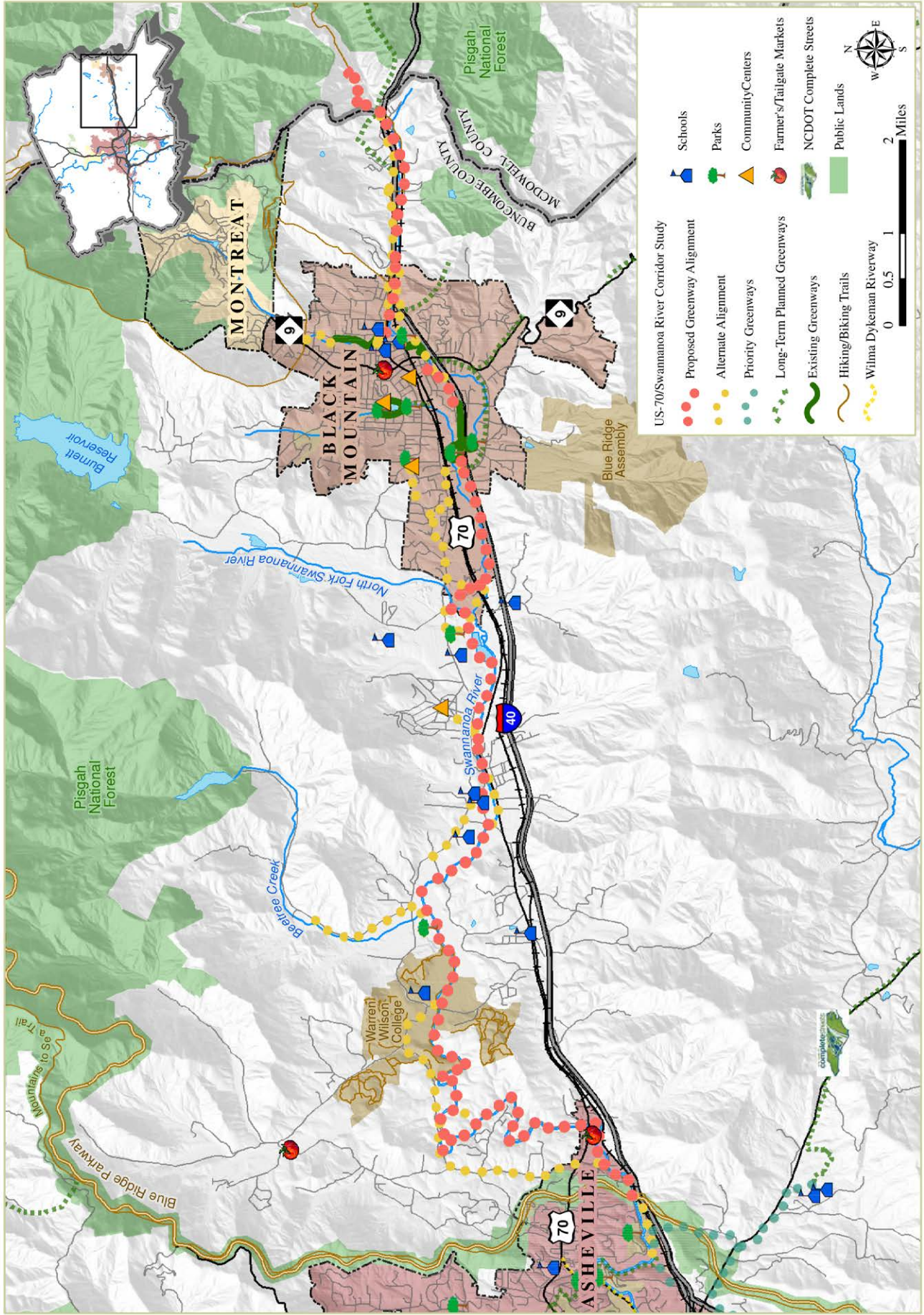
Major Challenges

Topographic/Natural Landforms, including steep terrain, and floodway impacts, such as river and tributary crossings. These features create right-of-way constraints in sections that are adjacent to US 70 or other roadways.

Existing Infrastructure forms physical barriers for development, including existing roadways and buildings, an active railroad, utility lines (wire-based, sewer & water), and drainage structures.

US 70 / Swannanoa River Greenway

DRAFT





ASSOCIATED REFERENCE DOCUMENTS:

LAND OF SKY REGIONAL COUNCIL
BLUE RIDGE BIKE PLAN

Appendix 'D'

The City of Asheville has a policy to sweep bicycle lanes twice as often as regular streets get swept. There is no policy for snow clearance, since snow in Asheville is infrequent and rarely stays on the ground more than 24 hours.

Education, Enforcement and Encouragement. The City of Asheville has four bicycle-mounted police officers assigned to downtown Asheville. The Asheville Bicycle and Pedestrian Task Force has been working with the Asheville Police Department to implement outreach to cyclists, which includes stopping bicyclists riding unsafely to recommend modifications (e.g. helmets, lights) and pass out lights. The lights for the most recent program have been donated by the Western North Carolina Bicycle Dealers Association.

TOWN OF BLACK MOUNTAIN

Located east of Asheville, the Town of Black Mountain has a walkable downtown and is an attractive destination for retirees and for recreation and dining. Warren Wilson College and the unincorporated area of Swannanoa are located between the City of Asheville and Black Mountain; the Town of Montreat and Montreat College are located to the north of town center.

Existing facilities. Black Mountain currently has no bike lanes, however there are 2.5 miles of greenways installed in town, with Garden Trail being one of the latest additions. Work is underway to extend the Flat Creek Greenway towards Montreat.

Banner for Black Mountain's Cycle to Farm Ride
[Http://cycletofarm.org/](http://cycletofarm.org/)

Mountain Mobility and Asheville Transit buses that serve Black Mountain have bicycle racks. There are no bicycle parking racks installed at bus stops.

Plans and Policies. Black Mountain does not have a dedicated bicycle and pedestrian planner. The Town Health Programs allocates some staff time to bicycle and greenway work (about 5-10% of a FTE). Black Mountain Greenways Commission meets on a regular basis, and local advocates are involved in bicycle issues and discussions through the Black Mountain Greenways Commission.

The Town of Black Mountain adopted a Recreation Master Plan and a Greenways Master Plan (2008).

The Town has not adopted a complete streets policy or similar policies. Black Mountain does not have any development ordinances requiring installation of bicycle parking racks in new development.

Education, Enforcement and Encouragement. The Town of Black Mountain was able to qualify for a Safe Routes to School grant and held two bicycle rodeos for school children. On average, one bicycle rodeo event is held per year with 50-100 participants. Black Mountain also participates in Strive Not to Drive week promotion and activities, and offers a lower entry fee to bicyclists at the town pool.

In the summer of 2012, the first "Cycle to Farm" fully-supported bicycle ride took place, a 63-mile ride connecting Black Mountain



Regional Priority Corridor 7 US 70 FROM ASHEVILLE TO BLACK MOUNTAIN

FEATURES:

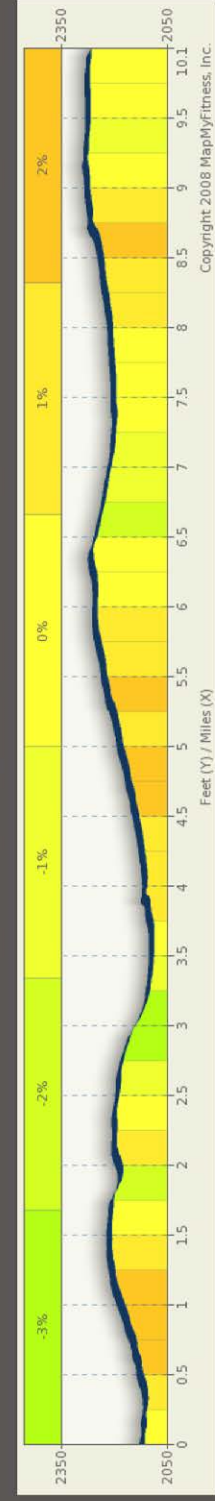
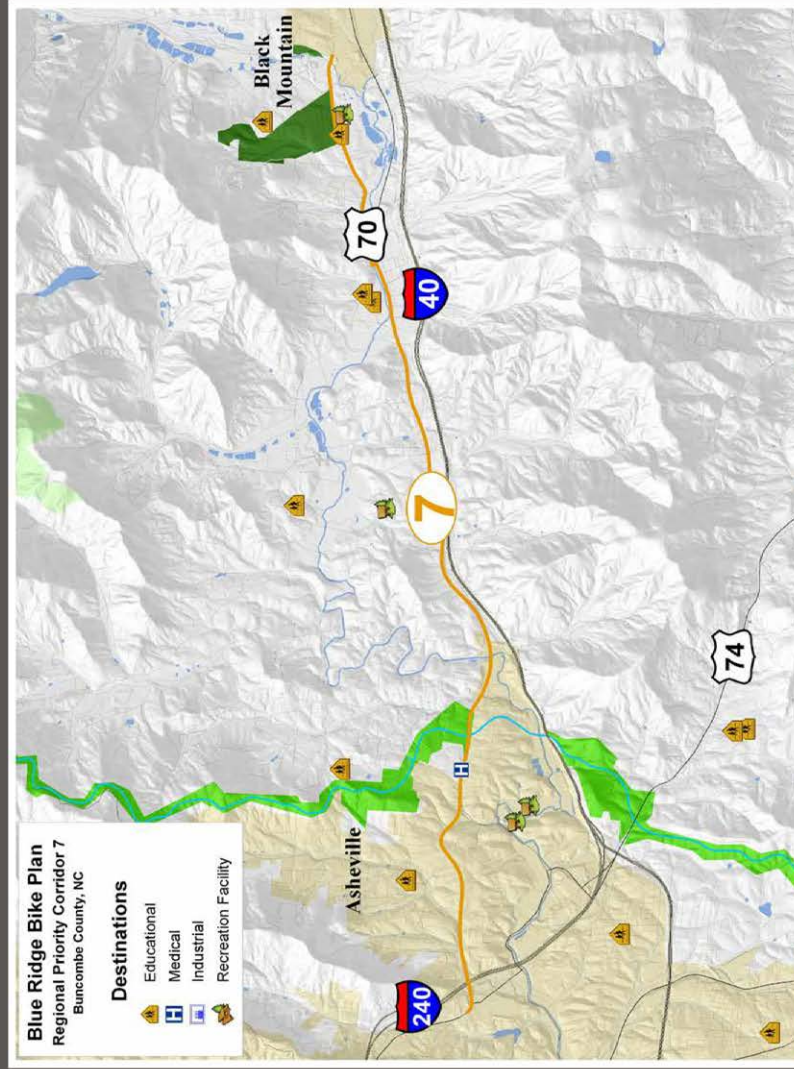
Length: 9.96 miles
Cost: \$2.998 million
plus \$75*

COMMUNITIES:

Asheville
Black Mountain
Swannanoa

This 10-mile route links Asheville to downtown Black Mountain via US Highway 70 and the Old US 70 route along the only non-interstate east-west connection in eastern Buncombe County. The corridor recommendations include bikable shoulders and signage for the full distance. The corridor links the Tunnel Road/Mall area of Asheville to the Blue Ridge Parkway, the Swannanoa community and the town of Black Mountain. Nearby destinations include Warren Wilson College, Azalea Park and the VA Medical Center. Buncombe County has conducted a feasibility study for a parallel greenway along much of US 70 to link the Wilma Dykeman RiverWay to the Point Lookout Trail in McDowell County.

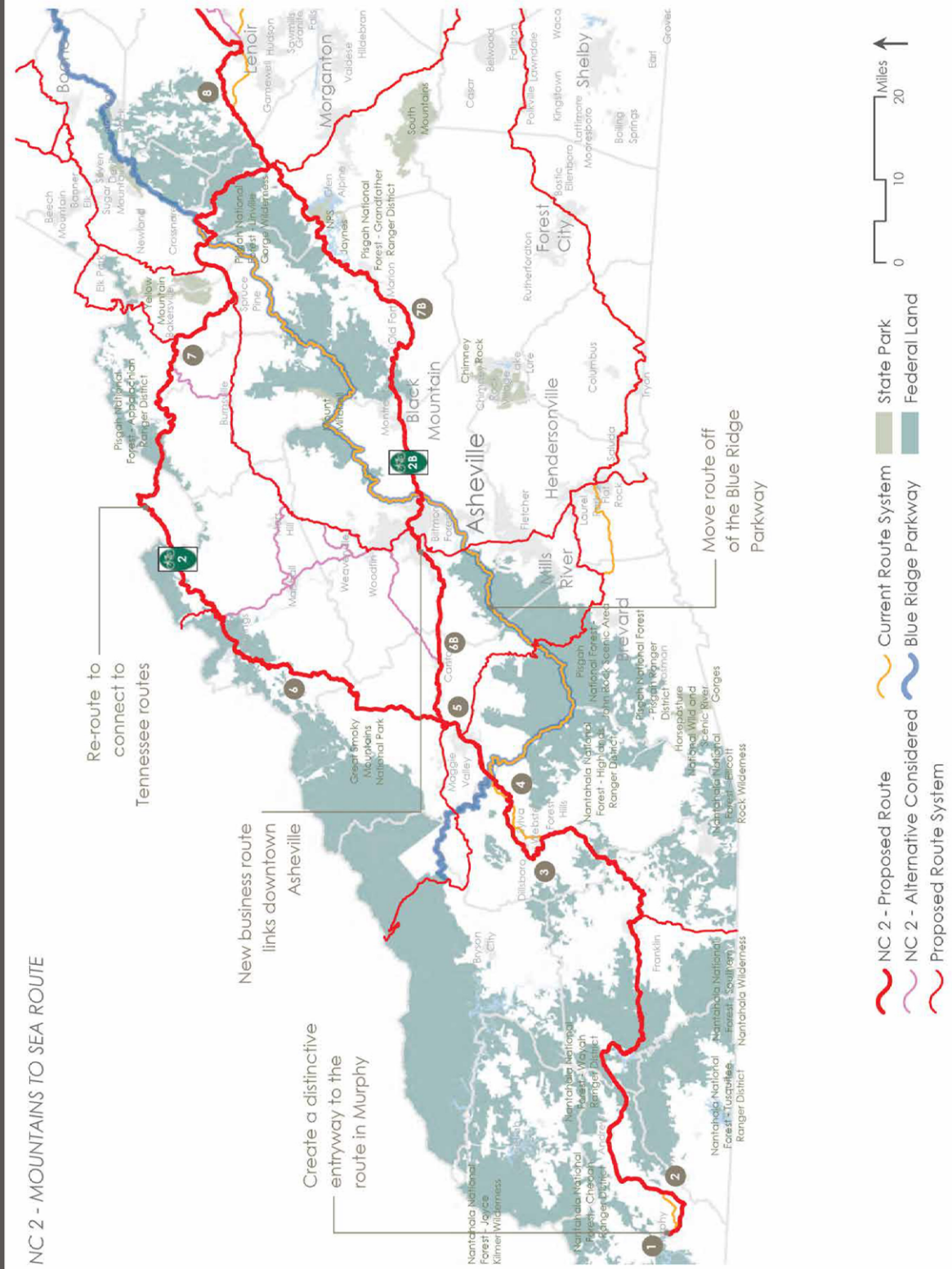
* For a feasibility study (US 70 at I-240 transition)



NC 2 - MOUNTAIN TO SEA ROUTE

WalkBikeNC details the re-route of NC 2 - Mountain to Sea Route in the table shown on page 40 and the map below.

NC 2 - MOUNTAINS TO SEA ROUTE



Blue Ridge Bike Plan



THE TOWN of BLACK MOUNTAIN



PEDESTRIAN TRANSPORTATION PLAN

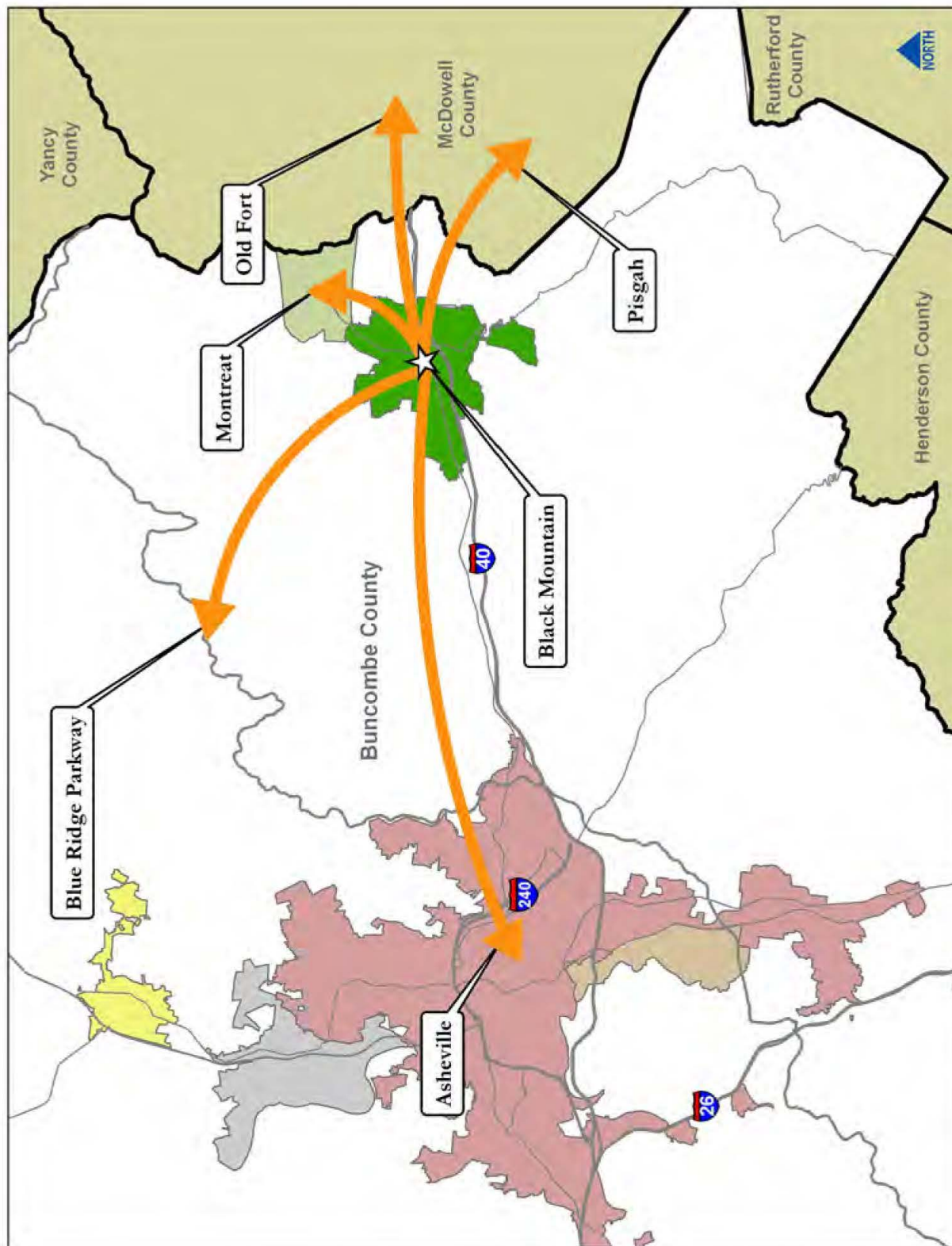


*Prepared for the Town of Black Mountain, NC
Prepared by Greenways Inc*

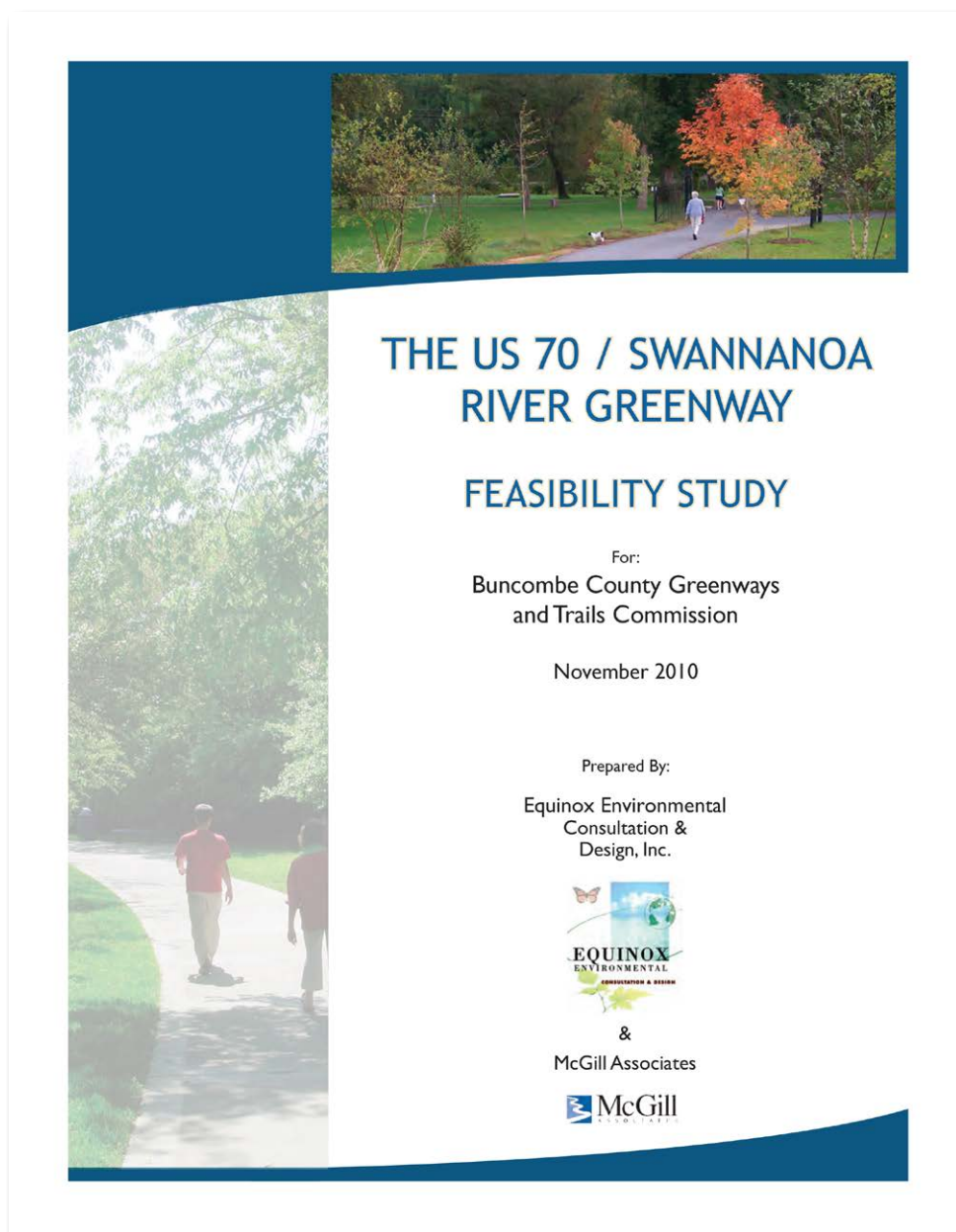
ASSOCIATED REFERENCE DOCUMENTS:

TOWN OF BLACK MOUNTAIN PEDESTRIAN TRANSPORTATION PLAN 2016

Appendix 'E'



The regional connectivity map. The Town should pursue regional greenway connections. These connections can have a positive impact on recreation and tourism opportunities.



ASSOCIATED REFERENCE DOCUMENTS:

US 70 / SWANNANOA RIVER GREENWAY FEASIBILITY STUDY 2010

The Five Focus Areas

Focus Area 1: Ridgecrest & Black Mountain

Black Mountain has developed a Greenway Master Plan completed in August of 2002, prepared by the Greenways, Walkability and Biking Task Force which the Town has been implementing for a number of years. They also have several greenway segments that have been planned, designed, and built. The Feasibility Study connects to these existing and proposed trails. Black Mountain's biggest challenge is the number of areas where an easement along NCDOT or railroad right-of-way is needed. The recommended greenway alignment includes potential access points for the trail and primary and secondary routes. The preferred greenway alignment route passes through downtown. Because of conflicts with buildings, on-road parking, in addition to the rights-of-way, a range of options including sidewalks, lane widening, bike lanes, and off-road sections are recommended.

Ridgecrest (Point Lookout Trail to Petty Bridge)

From Point Lookout Trailhead, the greenway should follow Old US 70 along the Ridgecrest property to Yates Avenue Bridge. The lanes on Yates Avenue Bridge should be reduced to accommodate multi-use access. After the Yates Avenue Bridge, the greenway is to connect to Tripoli Trail via the Boscobel House property, utilizing either the Ridgecrest campground property or a road expansion of Yates Avenue to Dunsmore Bridge. After an at grade railroad crossing west of the Dunsmore Bridge the preferred greenway alignment is located to the south side of I-40 between Old US 70 East and the Swannanoa River (See Appendix C: Maps 1-2). This section of the greenway will have a combination of on-road and off-road sections.

At grade railroad crossings can be safety hazards if not designed properly. This would require a realignment of the road to allow a safer crossing for the greenway or a widening of the trail to allow bicycles to cross as close to 90 degrees as possible. If the option to widen the greenway to allow a 90 degree crossing is pursued, warning signs should be used that state "bikes cross at right angle" to provide sufficient warning. As well, the use of filler strips between the rails should be explored with Norfolk Southern. This is a challenge area due to the fact that for "every at-grade pedestrian railroad crossing allowed, Norfolk Southern wants to decommission three more". The preferred greenway should be located within the NCDOT ROW and parallel Old US 70 East. The fence line within a portion of this section is located adjacent to the road and serves as the NCDOT controlled access and will require relocating the fence line.

Black Mountain East/Petty Bridge (Petty Bridge to Flat Creek Road Proposed Roundabout)

The petty bridge is a critical part of the greenway and is one of the challenge areas for the greenway corridor. It is a challenge area due to spatial constraints of the bridge abutment, on-ramp/road, river and the NCDOT fence line which will require one of the following alternatives illustrated in the cross sections (See Appendix D: Possible Cross Sections #1-3). NCDOT will allow passage of a greenway under the Petty Bridge but recommends doing so without having to request relocation of the fence line which serves as an NCDOT Controlled Access. However, it will not be possible to locate the greenway alignment without relocating the controlled access, which will require NCDOT authorization from Raleigh. To further compound the complexity of this location, Norfolk Southern's right-of-way in this location is 100', essentially located immediately behind the existing guardrail next to the roadway. The preferred alignment will require approval from NCDOT, MSD, and Norfolk Southern. As a side note, a review by Norfolk Southern for a greenway that crosses railroad tracks is costly. Therefore significant efforts to limit crossing of the railroad with the primary route of the greenway/trail corridor have been studied throughout this project.

In the French Broad River Metropolitan Planning Organization's (MPO) US 70 Corridor Study, narrowing of US 70, east of the Flat Creek and Padgett Road intersections was recommended. This reduced cross section would provide ample space for the preferred greenway alignment as it passes under the Petty Bridge and moves towards Black Mountain. If this road work is not pursued the greenway could follow the MSD easement that parallels US 70 in this section of the corridor.

Downtown Black Mountain (Roundabout to the In-The-Oaks Trail)

The preferred greenway alignment will pass through downtown and connect to the existing In-the-Oaks Trail, from Flat Creek where a roundabout is proposed as part of the US 70 Corridor Study. It would follow the river and connect to Sutton Avenue which would tie into the sidewalk along Highway 9. The greenway would cross at the intersection of Highway 9 with Vance Avenue. The greenway would then follow the alignment of the “Polk Connector” identified in the Town of Black Mountain Greenway Master Plan which parallels a portion of the MSD sewer easement and utilizes existing rights-of-way. The trail would tie into the In-the-Oaks trail and the trail around the ball fields at Recreation Park. The greenway system through the Town would be predominately comprised of a sidewalk system with bike lanes to continue the greenway system. The sidewalk system is appropriate for this town center location for the greenway. There are several alternative routes for this section of the greenway system (See Appendix C: Map 3).

Black Mountain West (In-The-Oaks Trail to Grovestone Road)

The preferred greenway alignment as the greenway leaves Recreation Park heading west is to follow the Swannanoa River along the south side of the river (See Appendix C: Map 4). This would require passing through private property and creating a trail alignment that would avoid potential vehicle conflicts with the Ingles warehouse. This alignment would pass through wetlands and would provide a different user experience as a boardwalk system would be needed to sensitively traverse the wetland habitat. As well, a sidewalk has been recently built along US 70 and this should serve as the beginning of the sidewalk system that should parallel US 70 and provide an alternative alignment throughout the entire corridor.

Another option is to reduce US 70 by one lane at various stretches between Black Mountain and Oteen in order to accommodate a multi-modal trail facility that runs parallel to US 70 and within the right-of-way. This could be done by selectively eliminating the center lane that runs the course of the roadway between Cragmont Road in Black Mountain and Azalea Road in Asheville and implementing an access management plan. The design concept for this section would include a physical separation from the multimodal trail system such as a median which could also provide an environmental benefit by serving as a stormwater treatment area. The trail could become a sidewalk connection at urbanized areas within Swannanoa and Oteen where turning movements increase.

If it can be illustrated in a traffic model that a decrease of roadway width along US 70 would not decrease its capacity rating, then NCDOT might allow a re-design of the US 70 cross section to allow a trail within US 70 right-of-way. Therefore a trail alignment along US 70 has been provided with the intention for this greenway to be part of an MPO study to evaluate this option in their Traffic and Congestion Management System Planning (See Appendix H: Evaluation of Lane Reduction).

A final alternative provided includes the use of ROW along Tabernacle Road and Highlands Farm Road, in which the greenway would pass along Highland Farms and the Black Mountain Center. All alternatives tie into the Grovestone/Hedrick Industries property.

Significant Opportunities

- Existing I-40 ROW extends to Old US 70 E Hwy providing ample space for a greenway trail
- Government owned parcels along preferred alignment
- Connecting to Village Way and Flat Creek Greenway
- Several alternatives through downtown exist
- Support from Grovestone/Hedrick Industries property for a greenway
- Connecting to In-the-Oaks Trail

Significant Challenge Areas

- On-Grade Norfolk Southern Railroad Crossing near Dunsmore bridge
- Petty Bridge & NCDOT Controlled Access within this area and along Old US 70 East
- Need for a multiple ROW agreements from both NF Southern & NCDOT along several sections
- Passing under Highway 9 along the Swannanoa River

Recommendations:

- Back country railroad crossing permitting will be time consuming and new crossings are discouraged by Norfolk Southern. It is recommend that fencing be provided along the rails for some distance each side of the railroad crossing to keep greenway uses on the path. Also, pedestrian cross arms may be required. Work with Norfolk Southern to gain permission for an on-grade crossing near the Dunsmore Bridge. The use of bollards, signage and flangeway fillers will provide a safe intersection for trail users that will not interfere with train operation. It is important that the trail be designed to cross the railroad at a right angle. This will prevent trail users' bicycle or wheelchair wheels from getting trapped in the rail flangeway as well.
- Work with NCDOT to allow the greenway within the Controlled Access and relocate fence line that delineates the controlled access (Petty Bridge and sections adjacent to I-40)
- Start to acquire land for the greenway section starting with the largest landowners as a first priority including Ingles, and the Black Mountain Commerce Park, if these landowners are not willing to work with the County towards the provision of a greenway easement then the alternative options should be pursued.
- The greenway system through downtown Black Mountain should be predominately comprised of a sidewalk system with bike lanes to continue the greenway system.
- The regional greenway study should be included in the French Broad River MPO's (FBRMPO) Long Range Transportation Plan (LRTP) as a specific project that is modeled and studied for a road diet along US 70. The French Broad River MPO is currently updating its Long Range Transportation Plan (LRTP) that examines current and future transportation system needs in the FBRMPO region. The time horizon for the updated plan goes up to 2035. This option should be pursued regardless of the other greenway options as it could be a multimodal component to this regional greenway corridor. Specifically the traffic model should evaluate a four lane cross section that has the following:
 - Six lanes immediately in front of the current Ingles Warehouse entrance;
 - Limited access points to the south because of the railroad between Black Mountain and Asheville;
 - Limited access points to the north between Black Mountain and Swannanoa; and
 - Already been reduced to a three lane cross section within downtown Black Mountain.
- Grovestone/Hedrick Industries are potential supporters of the greenway project. A greenway easement should be secured for this property. Hedrick Industries will need a preliminary map indicating the preferred alignment, so they can review it and provide comments (See Appendix E: Map I).

Focus Area 2: Swannanoa

Buncombe County Greenways and Trails Commission has identified Swannanoa as the first priority area for a greenway in the County. The first segment of this project is called the "Pool to Park" segment and runs from the Owen Pool to Owen Park. The Swannanoa Pride Community Coalition and the Asheville Flood Damage Reduction Task Force, developed a conceptual Phase One Study for Owen Park to Owen Pool, this project takes this study a step further. The Swannanoa corridor contains significant parcels of undeveloped land along the river and a number of schools and County facilities along or near the river, such as schools, a park, a pool, and FEMA buyout lands. In the Swannanoa sector, the greenway route follows the river and MSD right-of-way as much as possible. In areas where remaining next to the river is difficult,

identification of alternative routes have been provided with the goal of returning to the river as soon as possible. Due to past efforts in Swannanoa including an attempt for incorporation and a Vision process by NC State, a voice of “no change” has been expressed by a few proponents of changing Swannanoa, which includes the greenway. In these cases, this information was considered in the development of the preferred alignment. The recommended alignment for the Pool to Park segment includes primary and alternative alignments, location for bridge crossing, identification of pocket parks and access areas, and spurs to local schools and other public buildings/parks.

Swannanoa East (Grovestone Road to Whitson Ave Bridge)

From Owen Pool and Owen Middle School, the preferred greenway alignment runs westward. The suggested trail alignment connects to Ridgewood Park, a County-owned property, that can provide public access to the greenway as well as other greenway facilities including trailhead parking. The preferred greenway would then follow the Swannanoa River with the secondary route serving as a sidewalk along US 70. A spur trail that connects to Owen High School, the 4H Camp and Camp Rockmount is also provided.

Central Swannanoa (Whitson Ave Bridge to Boulder Creek Park)

As the greenway corridor continues along the north side of the river a crossing is proposed across from the Grovemont neighborhood on a FEMA Buyout parcel (See Appendix C: Map 6). An on-road section that runs along Old US 70 to the Whitson Bridge does not have sufficient space to accommodate greenway facilities. Prior to the bridge crossing a spur trail that connects the Grovemont neighborhood to the commercial district is proposed. This is needed as there is an existing and well worn path in the narrow shoulder of Old US 70 which is a safety hazard. Once the greenway crosses to the south side of the river across a proposed bridge, it continues to the Whitson Bridge. The Whitson Bridge is a challenge area (Appendix D: Possible Cross Section #4 and Appendix E: Map 2) and will require a Traffic Impact Analysis. This intersection would require additional design and engineering to provide a safe pedestrian link. Another reason for a re-design of this intersection is the site of the former Beacon Plant which has been identified for future redevelopment. A spur trail connecting to the south side of US 70 is proposed to help support new business ventures. A sidewalk along US 70 from Whitson Avenue to Riverwood would also promote better walkability and connectivity for residents.

From Whitson Bridge the preferred greenway alignment follows Old US 70 connecting to the Community School & Garden and W.D. Williams Elementary School (See Appendix D: Possible Cross Section #5). The greenway would then cross the river via a pedestrian bridge parallel to the Riverwood Bridge and connect to Boulder Creek Park. Our site assessment revealed that the current Riverwood Bridge is not wide enough for a greenway trail and would require a pedestrian bridge (See Appendix E: Map 3). Boulder Park can serve as a pocket park providing greenway access and trailhead parking. From this point the greenway follows the MSD sewer easement located on the south side of the Swannanoa River. An alternative alignment has been provided after crossing the Whitson Bridge which follows the MSD sewer easement located to the north of the river; there are some spatial challenges however including the limited space available between the top of the bank, the building, and the river.

Swannanoa West/Warren Wilson College (Boulder Creek Park to Owen Park)

The preferred greenway alignment continues along the south side of the river and connects to Davidson Road, at this location the greenway will cross to the north to be located on the same side of the river as Charles Owen Park (See Appendix C: Map 7). Charles Owen Park is the largest park along the greenway corridor in Swannanoa and will serve as a major access point for the greenway corridor. The park will provide parking and already offers amenities such as pavilions, lighted baseball fields, basketball courts, restrooms, playground, picnic tables, grills, and a walking and bird watching trail. The Swannanoa River is a fish hatchery supported river, and the two lakes at Owen Park are open for lakeside fishing. River access should also be considered at this park to provide a location for boaters to put-in or take-out. The greenway would tie into the existing loop trail along the river. From this location the greenway would continue and pass through Warren Wilson College.

Significant Opportunities

- Within the Swannanoa section, there are six schools, two parks, a community pool, and four County-owned properties that should be incorporated into the greenway.
- Providing key connections to schools and parks (options for Safe Routes to School grants)
- Providing key connections to Grovemont and Beacon Village
- New Crosswalks to promote safer pedestrian environment

Significant Challenge Areas

- Bridges & River Crossings
- Development along the Swannanoa River
- Strip Development Pattern for bicycle lanes
- Property Ownership
- Safety

Recommendations:

- In this sector, the greenway route should follow the river and MSD right-of-way as much as possible (See Appendix D: Possible Cross Section #6);
- Since the Buncombe County Greenways and Trails Commission has identified Swannanoa as the first priority area for a greenway in the County, landowner outreach should start in this section;
- A Traffic Impact Study should be pursued to explore a road diet along US 70 and address modifications to the Whitson Bridge, the intersection for safe pedestrian crossing, and road modification for a sidewalk connection to Beacon Village;
- A proactive and organized approach to landowner outreach is needed as soon as the County is in the position to approach property owners;
- A focus in this corridor should be placed on safety and making safe connections for pedestrians and bicyclists. Due to the number of turning lanes a simple bicycle lane is not recommended unless a lane closure is possible along the north side of US 70. The lane closure, if approved by NCDOT, would allow for a median separation from the traffic and provide additional reaction time to minimize conflicts from turning vehicles passing through the bicycle lane. As well in such a scenario reducing the number of turning movements by consolidating driveway cuts would also provide a safer environment for a bicycle lane on the north side of US 70. There are fewer conflicts with turning lanes along the south side of US 70 in which a bicycle lane may be possible;
- Provide sidewalks on both sides of US 70 from Whitson Avenue to Riverwood Road. The sidewalks when possible should have a five foot median separation between the road and the sidewalk;
- Several crosswalks at intersections should be provided including Whitson Avenue, Patton Cove Road, and Riverwood Road to provide safer pedestrian connections.

Focus Area 2: Black Mountain-Ridgecrest

