



Town of Connelly Springs

**THE RIVER TRAIL OF BURKE COUNTY
FEASIBILITY STUDY**

JUNE 2023

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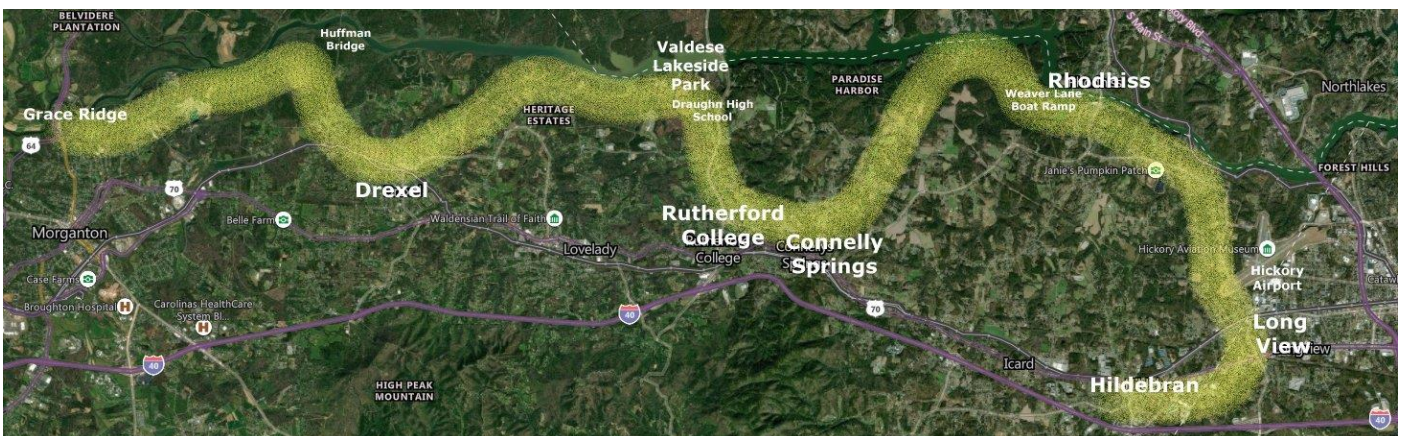
1 - EXECUTIVE SUMMARY

Recreational amenities (such as trails) have a clear relationship with economic development. Trails, greenways, and multi-use paths provide connections between local businesses, cities and towns – and often contribute to downtown revitalization efforts. Businesses that are dependent on tourism experience growth through increased visibility and visitation. Businesses are also able to provide important services to trail users – such as food and lodging, outdoor equipment, running, hiking and bicycle supplies, and repair services. Trails, green spaces, and outdoor recreation opportunities have taken on a new importance in recent years following the Covid-19 pandemic as more people seek outdoor experiences. Outdoor recreation is also a key factor in recruiting new employees to the region, because the presence of recreational amenities indicates a civic commitment to establishing and maintaining a high quality of life for local residents.

This Feasibility Study, funded by the North Carolina Office of State Budget and Management, analyzes potential non-motorized trail alignments extending from Morganton to Hickory. Creating a trail in this section of Burke County along the Catawba River would create connections in the Fonta Flora Trail, the Mountains to Sea Trail and the Overmountain Victory Trail. The trail discussed in this study, which has been a priority for local officials, trail advocates and local and state agencies for several years – would improve mobility options and increase access to recreational opportunities throughout the study area.

This study examines trail alignment opportunities and constraints, environmental factors and cultural histories. Potential trail alignments were discussed with local governments in the study’s coverage area, and public input played a vital part in this study’s completion. A key priority of this study was to ensure that the final recommended alignment would be appealing to users and provide direct connections – while also limiting the disturbance of culturally significant and environmentally sensitive areas. The study concludes by recommending a trail alignment that has been directly informed by public input and an extensive review of on-the-ground challenges and opportunities.

In addition, this study examines potential cooperative trail management opportunities, regulatory requirements, funding opportunities and other next steps in order to realize the vision of a completed Burke River Trail. The study also outlines potential trail support facilities, including parking areas, signage and interpretative trail themes to enhance the user experience along the future trail. This study also examines how the community can work together to build local support in order to realize the completion of this significant achievement in the development of Burke County’s trail network.



2 – PROJECT PURPOSE AND STUDY AREA OVERVIEW

2.1 - PROJECT BACKGROUND AND PURPOSE

The purpose of this study is to recommend a preferred alignment for a non- motorized, contiguous trail connection extending from Morganton to Hickory. Completing this trail would improve transportation and recreation opportunities for local communities and enhance existing public access areas by creating connections that appeal to a wider variety of users.

Burke County is located in western North Carolina and is bordered by McDowell County to the west, Caldwell County to the northeast, Avery County to the north, Catawba County to the east, and Rutherford and Cleveland Counties to the south. Overall, the topography of Burke County is rugged, with more level areas located along the Catawba River Valley in the central section of the county (the Piedmont Plateau).

The topography of the northern part of Burke County is shaped by the Appalachian Mountain Region, and the southern part of the county is shaped by the formation of the South Mountains. About a quarter of the land in Burke County is held in conservation through a combination of Federal, State, and local entities. The Pisgah National Forest extends into the northwest section of the county while the majority of the South Mountains are under State ownership.

The Catawba River is the main water way in the county It has several major tributaries - many of which are located along the proposed Burke River Trail. Burke County is home to Lake Rhodhiss and Lake James, which are human made impoundments located along the Catawba River. These lakes are primarily used for hydropower generation operations but also serve as water supply reservoirs and public recreation destinations.

The major interstate highway in Burke County is I-40, which runs east-west. Other major roads in the county include U.S. 70, U.S. 64, N.C. 181, and N.C. 18. Municipalities within Burke County include Morganton (the largest municipality and county seat), Glen Alpine, Drexel, Valdese, Rutherford College, Connelly Springs, and Hildebran; as well as portions of Rhodhiss, Hickory, and Long View.

The total land area of the County is 505 square miles. The current population is 87,570 based on the 2020 Census.

Given its proximity to the Catawba River and several municipalities in eastern Burke County, the Burke River Trail study area presents numerous opportunities to develop new outdoor recreation opportunities, enhance environmental conservation efforts and connect communities. However, there are challenges that must be considered, including rugged topography, the existence of privately held land, trail maintenance and management responsibilities and the lack of alternative east-west routes.

2.2 – PUBLIC INPUT MEETINGS

From February to April 2023, public input meetings were hosted by the towns of Hildebran, Long View, Rhodhiss, Rutherford College, Connelly Springs, and Drexel. The meetings were all scheduled and promoted in February. The public was encourage to attend any meeting, including meetings held at locations that were outside of their places of residence. The meetings were publicized on social media, in the local papers' community calendars, in post offices and via methods used by each town (emails, flyers, and social media). Direct mailings were sent to addresses along key corridors in Rutherford College, Rhodhiss and Hildebran. The average attendance per meeting was 12 people.

Each meeting started with a slide show presentation with an overview of the RTBC and general information about trail easement agreements, the benefits of trails, and crime on trails. Following the presentation, attendees asked questions and marked large maps with their ideas for the trail route. Concerns were not about the trail in general, but about the trail potentially traversing private property. Those concerns are being addressed in individual meetings with landowners.

In addition to the official meetings, several newspaper articles have been published about the RTBC. Reporters from The Paper and The Hickory Daily Record each attended a public input meeting and wrote articles. Three articles were submitted to local publications and were published. In addition, the RTBC was promoted at a booth during the Burke County Trails event in March. A large trail map and flyers were available to the public at the booth, and two guided hikes were held at the western terminus of the proposed trail.

2.3 – BURKE COUNTY DEMOGRAPHICS

POPULATION GROWTH (1970-2012)

The 2000 Census count for Burke County was 89,145 persons. Burke County's lost population (87,570) in the 2020 Census. This may be due to inability of Census workers to reach some residents who did not fill out Census forms online due to issues with Covid-19. The table below compares population changes between 2000 and 2020 for Burke County, the Hickory Metropolitan Statistical Area or MSA (Alexander, Burke, Burke and Catawba Counties), North Carolina and the United States. Results from the 2020 Census indicate a 3.7% population decline in Burke County over the past decade, while the Hickory MSA experienced a loss of 221 people, a 0.1% decrease. North Carolina's population grew 9.5% between 2010 and 2020 to 10.4 million. The number of persons in the United States has increased 7.4% from 308.7 million in 2010 to 331.4 million in 2020.

Table 1. Population Comparison, 2000-2020							
Location	2000 Census	2010 Census	Change 2000-2010	% Inc.	2020 Census	Change 2010-2020	% Inc.
Burke County	89,145	90,912	1,767	2.0	87,570	-3,342	-3.7
Hickory MSA	341,851	365,497	23,646	6.5	365,276	-221	-0.1
NC	8,049,313	9,535,483	1,486,170	18.5	10,439,388	903,905	9.5
US	281,421,906	308,745,538	27,323,632	9.7	331,449,281	22,703,743	7.4

Source: 2020-2020 Census, US Census Bureau

As of 2020, Whites are the largest race group in Burke County. Over 86.9% of the County's population is White. African American is the County's largest minority group, comprising 6.5% of Burke County's 2020 population.

Table 2 - Burke County Population by Race/Ethnic Group, 2010-2020		
Race/Ethnic Group	2020 Census	% of Pop.
Total Population	87,611	100.0%
White	71,343	86.9%
African American	4,152	6.5%
American Indian	318	2.4%
Asian American	3,181	4.1%
Two or More Races	5,084	5.8%
Some Other Race	5,183	5.9%
Hispanic (Any Race)	6,024	6.9%
White, (Not Hispanic)	81,587	93.1%

Source: 2021 American Community Survey, US Census Bureau.

Age group population data for Burke County from the 2021 ACS is displayed in Table 3. The older age groups in Burke County have had the some of the most significant population gains since 2010 due to the aging of the "Baby Boomers." The number of people in the 65 to 74 age group make up 12.7% of the population. The number of people in the 25 to 54 age group make up the most significant portion of the population.

Table 3 - Burke County Population by Age Group, 2010 Census to 2015-2019 American Community Survey (ACS)		
Age Group	2010 Census	% of Population
Under 5 Years	4,087	4.7%
5 to 9 Years	3,585	4.1%
10 to 14 Years	4,867	5.6%
15 to 19 Years	5,257	6.0%
20 to 24 Years	5,526	6.3%
25 to 34 Years	10,110	11.5%
35 to 44 Years	10,068	11.5%
45 to 54 Years	11,904	13.6%
55 to 59 Years	5,294	6.0%
60 to 64 Years	7,941	9.1%
65 to 74 Years	11,109	12.7%
75 to 84 Years	5,485	6.3%
85 Years and Over	2,378	2.7%
Total	87,611	100%

Source: 2021 American Community Survey, US Census Bureau.

The impacts of the decreasing older labor force populations on median age can be seen in Table 4. Between 2000 and 2010, the median age in Burke County rose by 4.3 years to 41.2. Burke County’s median age has increased since 2010 to 46.2 years. The Town’s median age is currently higher than the Hickory MSA, North Carolina and the United States.

Table 4 - Median Age, 2000 Census to 2015-2019 ACS					
Location	2000 Census	2010 Census	% Change	2016-2020 ACS	% Change
Burke County	36.9	41.2	11.7	46.2	12.1
Hickory MSA	36.7	40.5	10.4	43.3	6.9
NC	35.3	37.4	5.9	39.1	3.7
US	35.3	37.2	5.4	38.5	2.4

Source: 2000, 2010 Census and 2015-2019 American Community Survey.

The NC Office of State Management and Budget has generated age group projections for Burke County (Table 5). The population of the 65 to 74, 75 to 84 and 85 years and over age cohorts will continue to grow over the next 20 years as the “baby boomers” grow older. The loss of 25 to 44 year-olds in the County from 2000 to 2010 will lead to population declines in the 55 to 59 and 60 to 64 groups through 2041. The population of the age 20 to 24 and 25 to 34 cohorts is anticipated to decrease by more than 12.5% and 2.2% respectively between 2021 and 2041.

Table 5 - Burke County Population by Age Group, 2021-2041				
Age Group	2021 Estimate	2041 Projection	Change 2021-41	% Change 2021-41
Under 5 Years	4,448	4,667	219	4.9%
5 to 9 Years	4,474	4,919	445	9.9%
10 to 14 Years	5,082	5,298	216	4.3%
15 to 19 Years	6,475	6,446	-29	-0.4%
20 to 24 Years	6,281	5,494	-787	-12.5%
25 to 34 Years	11,120	10,877	-243	-2.2%
35 to 44 Years	9,492	12,427	2,935	30.9%
45 to 54 Years	11,469	12,042	573	5.0%
55 to 59 Years	6,713	5,051	-1,662	-24.8%
60 to 64 Years	6,509	5,241	-1,268	-19.5%
65 to 74 Years	11,125	11,149	24	0.2%
75 to 84 Years	6,118	9,240	3,122	51.0%
85 Years and Over	2,232	3,845	1,613	72.3%
Total	91,538	96,696	5,158	5.6%

Source: NC Office of Management and Budget, 2022.

HOUSEHOLD INCOME

Burke County household income data from the 2021 American Community Survey (ACS) is revealed in the table below. About 21% of Burke County’s households in 2021 earn less than \$25,000 a year, while 26.7% of households earn between \$25,000 and \$50,000 per year. Another 30.9% of households had incomes from \$50,000 to \$100,000 per year. About 21.9% of Burke County’s households make more than \$100,000 per year.

Table 6.		
Burke County Income Statistics, 2015-2019 ACS		
Households	2015-2019 ACS	% of Households
Total Households	35,709	100.0
Households Earning Less than \$25,000	7,512	21.0
Households Earning between \$25,000 and \$50,000	9,345	26.7
Households Earning between \$50,000 and \$100,000	11,029	30.9
Households Earning more than \$100,000	7,823	21.9
Median Household Income	\$55,529	

Source: 2021 American Community Survey, US Census Bureau.

According to the Census website, the Bureau “uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than family’s threshold, then that family and every individual in it is considered in poverty.” Results from the 2015-2019 ACS for Burke County show that 18.1% of the population were at or below the poverty level. The County’s poverty rate was higher than the Hickory MSA, North Carolina or the United States poverty rate.

Table 7 – Poverty Rate Comparisons 2015-2019 ACS			
Location	All Persons	Under Age 18	Over Age 65
Burke County	18.1%	26.7%	9.2%
Hickory MSA	14.9%	21.0%	9.3%
NC	14.7%	21.2%	9.1%
US	13.4%	18.5%	9.3%

Source: 2015-2019 American Community Survey (ACS), US Census Bureau.

EMPLOYMENT

Employment by industry of Burke County residents from the 2021 American Community Survey is shown in the table below. About 25.1% of total employment in 2015-2019 was in the manufacturing industry. Another 20.7% of employed persons worked in the education and health care industry. About 12.1% of Burke County workers were in the retail trade industry.

Table 8 - Burke County Employment by Industry, 2015-2019 ACS		
Industry	2015-2019 ACS	% of Employed Population
Employed Population	40,016	100.0
Agriculture	994	2.5
Construction	2,246	5.6
Manufacturing	10,043	25.1
Wholesale Trade	596	1.5
Retail Trade	4,828	12.1
Transportation/Warehousing/Utilities	1,239	3.1
Information	239	0.6
Finance/Insurance/ Real Estate	1,796	4.5
Professional Services	2,240	5.6
Education and Health Care	8,284	20.7
Arts/Entertainment/Recreation	1,874	4.7
Other Services	1,847	4.6
Public Administration	3,790	9.5

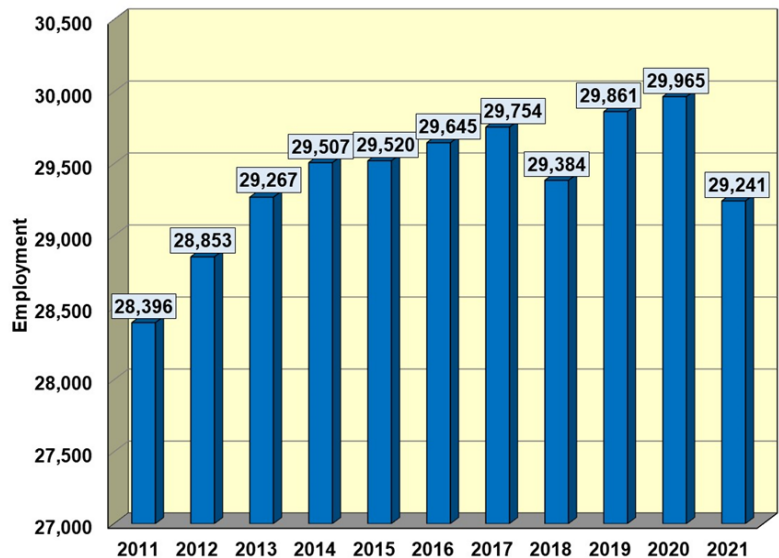
Source: 2021 American Community Survey, US Census Bureau.

Data on the total number of jobs in Burke County is unavailable, but employment data is available for Burke County. Between second quarter 2011 and second quarter 2021, Burke County employment grew from 28,396 to 29,965. The Covid-19 pandemic has caused employment in Burke County to drop by more than 700 workers to 29,241. It is likely that many of job losses from the pandemic have been recovered since second quarter 2021.

Over the past decade (defined as second quarter 2011 to second quarter 2021), the biggest employment losses in Burke County have occurred in justice, public order and safety activities (320) and printing and support activities (51). The largest employment gains occurred in general merchandise stores (271), and administration of human resource programs (187).

Figure 3.

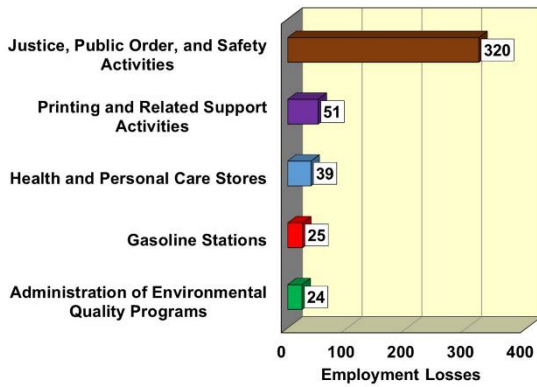
Burke County Employment, 2nd Qtr. 2011-2021



Source: NC Labor and Economic Analysis Division, 2022.

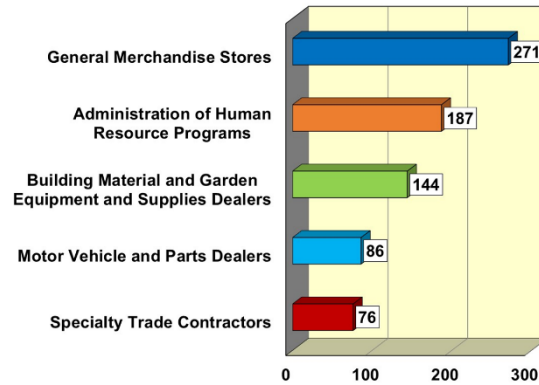
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Figure 4.
Burke Co. Employment Losses by Industry Sector,
2nd Qtr. 2010-2021



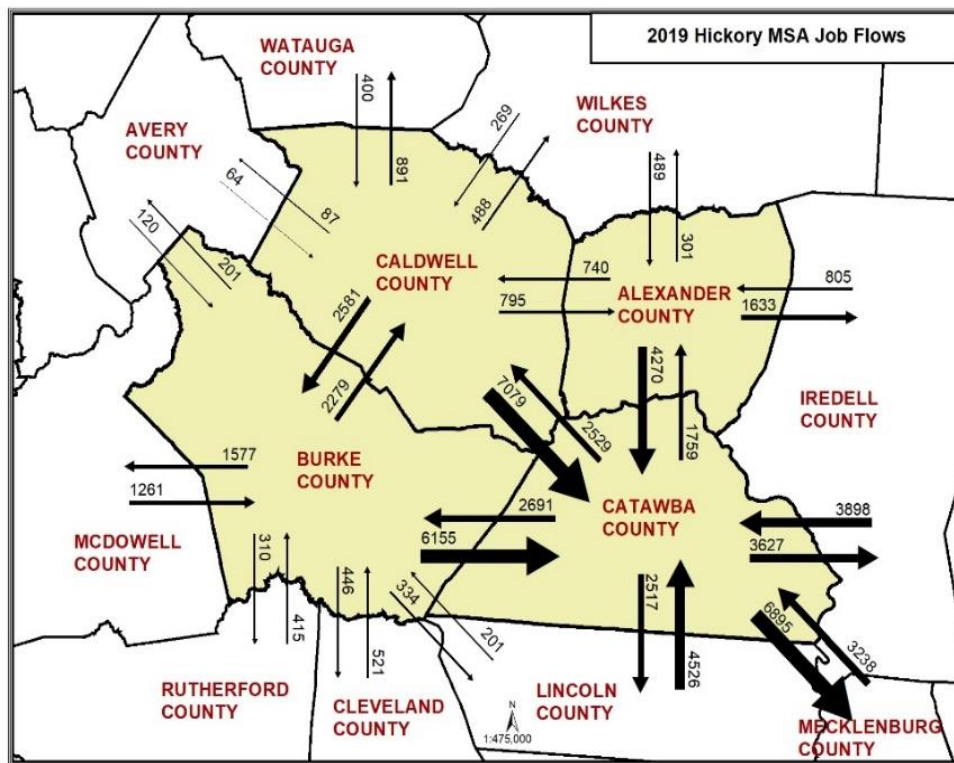
Source: NC Labor and Economic Analysis Division, 2022.

Figure 5.
Burke Co. Employment Gains by Industry Sector,
2nd Qtr. 2010-2021



Source: NC Labor and Economic Analysis Division, 2022.

Data from the 2015-2019 American Community Survey indicate that 88.4% of working Burke County residents drive to work, while 0.9% worked from home. The mean travel time for work is 21.1 minutes, indicating that many Burke County works are likely commuting to Hickory, Morganton, Lenoir for employment. The work flows map below indicates that many Burke County workers commute to Catawba County.



EDUCATIONAL ATTAINMENT

Data from the 2015-2019 American Community Survey indicates that 81.6% of Burke County’s population age 25 and older has an educational attainment level of high school (or equivalent) or higher, with 16.4% having a bachelor’s degree or higher. Burke County has a lower high school or higher and bachelor’s degree or higher (over age 25) educational attainment rate than the Hickory MSA, North Carolina and the United States.

Table 7 – Poverty Rate Comparisons 2015-2019 ACS		
Location	High School or Higher	Bachelor’s Degree or Higher
Burke County	81.6%	16.4%
Hickory MSA	83.7%	19.6%
NC	87.8%	31.3%
US	88.0%	32.1%

Source: 2015-2019 American Community Survey, US Census Bureau.

HOUSING

Census results for Burke County show a gain of 3,452 homes between 2000 and 2010, with a net loss of 1,354 housing units from 2010 to 2020. Burke County’s 9.2% percentage housing growth between 2000 and 2010 was lower than the Hickory MSA, North Carolina and the United States. Burke County’s housing change rate between 2010 and 2020 (-3.3%) was lower than housing change rates in Burke County, Hickory MSA, North Carolina and the United States.

Table 8. Change in Total Housing Units, 2000-2020							
Location	Census 2000*	Census 2010	Change 2000-2010	% Inc.	Census 2020	Change 2010-2020	% Inc.
Burke County	37,427	40,879	3,452	9.2	39,525	-1,354	-3.3
Hickory MSA	144,874	162,613	17,739	12.2	163,160	547	0.3
NC	3,523,944	4,327,528	803,584	22.8	4,708,710	381,182	8.8
US	115,904,641	131,704,730	15,800,089	13.6	140,489,736	8,785,006	6.7

Source: 2000-2020 Census, US Census Bureau.

The percentage of renter-occupied units in Burke County decreased slightly between the 2010 Census (27.7%) and the 2015-2019 ACS (26.1%). As of 2015-2019, Burke County had a lower percentage of renter-occupied housing than the Hickory MSA, North Carolina or the United States.

Table 9. Percent Renter-Occupied Units, Census 1990 to the 2015-2019 American Community Survey (ACS)				
Location	1990 Census	2000 Census	2010 Census	2015-2019 ACS
Burke County	25.2	25.9	27.7	26.1
Hickory MSA	25.3	25.7	26.6	28.2
NC	28.6	27.2	33.3	34.8
US	35.8	33.8	34.9	36.0

Source: 1990-2010 Census and 2015-2019 ACS, US Census Bureau.

A significant increase in the median value of owner-occupied housing units in Burke County occurred between the 2000 Census and the 2006-2010 American Community Survey (ACS) (26.7%). Median housing value grew 10.9% to \$120,700 between the 2006-2010 ACS and the 2015-2019 ACS. Burke County median home values grew from \$108,800 in 2006-2010 to \$120,700 in 2015-2019. Median home values gained 11.0% and 15.7% in the Hickory MSA and North Carolina respectively from 2006-2010 to 2015-2019. The 2015-2019 ACS Burke County median owner-occupied housing value was lower than the Hickory MSA, North Carolina and the United States median owner-occupied housing value.

Table 10.					
Median Value of Owner-Occupied Units, 2000 Census to 2015-2019 American Community Survey (ACS)					
Location	2000	2006-2010 ACS	% Change	2015-2019 ACS	% Change
Burke County	\$85,900	\$108,800	26.7	\$120,700	10.9
Hickory MSA	\$93,500	\$118,600	26.8	\$131,600	11.0
NC	\$108,300	\$149,100	37.7	\$172,500	15.7
US	\$119,600	\$188,400	57.5	\$217,500	15.4

Source: 2000 Census, 2006-2010 and 2015-2019 ACS, US Census Bureau.

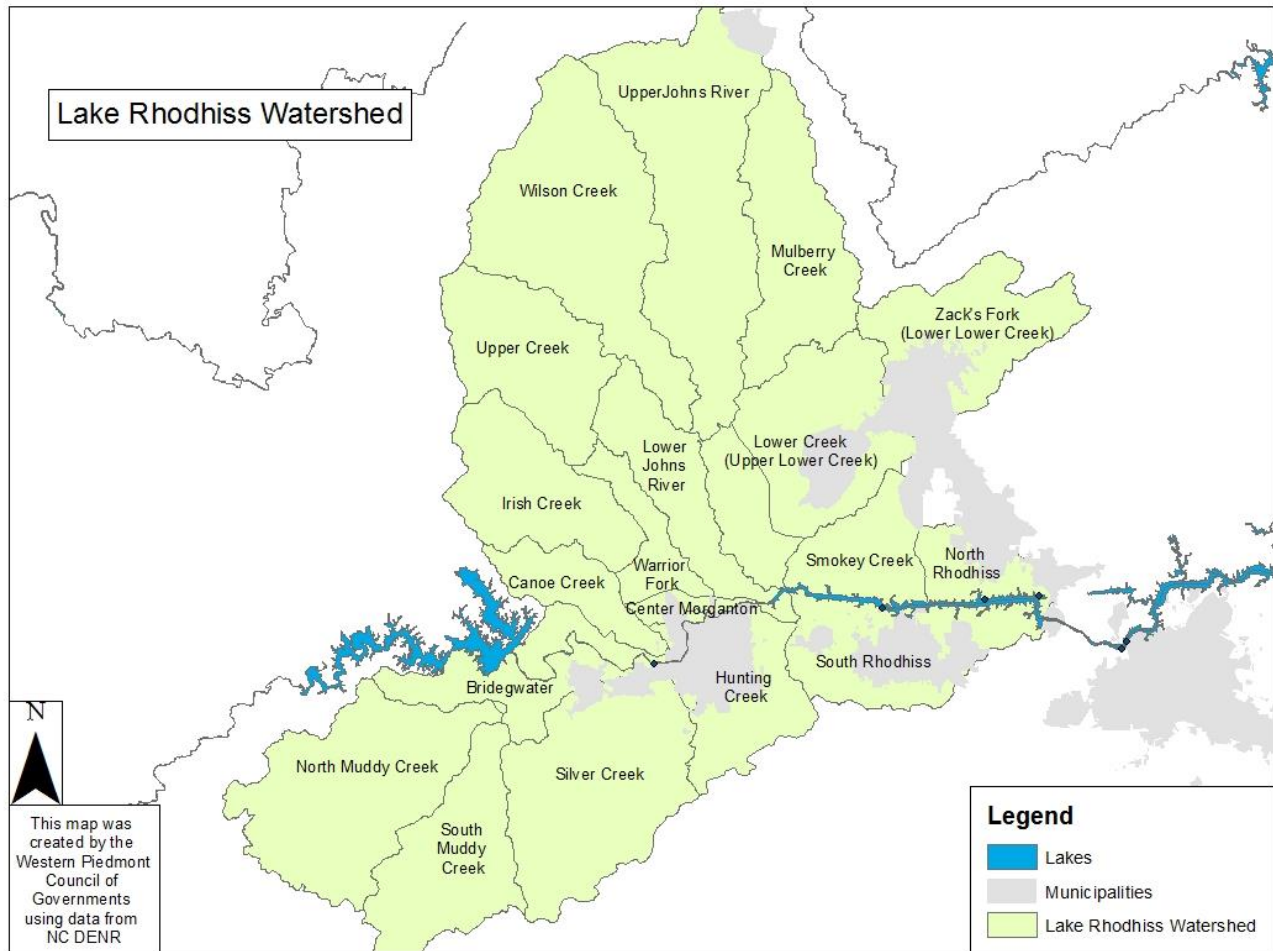
2.4 – LAKE RHODHISS WATERSHED

Lake Rhodhiss is a 3,515-acre reservoir located on the Catawba River in Burke County. This lake, which lies within Burke and Caldwell Counties (and is a run-of-the-river reservoir) is located downstream of Lake James and upstream of Lake Hickory. It was impounded in 1925 by Duke Energy for the purpose of generating hydroelectric power. Four municipalities (Morganton, Granite Falls, Lenoir, and Valdese) have public water intakes located along the lake. In addition to providing habitat for fish and wildlife species, the lake is also used for industrial water supply and recreational purposes.

The watershed area of Lake Rhodhiss is 710 square miles, and the lake has the greatest watershed/surface area ratio of any North Carolina impoundment along the Catawba River. This means that there is a lot of land surface area compared to relatively little lake surface area, leading to a greater chance for water in the lake to accumulate contaminants. Topography and soils vary considerably within the watershed. The northern portion of the watershed is rural, undeveloped and contains substantial federal land holdings. The watershed’s urban areas are generally concentrated in Lenoir and Morganton, and along the I-40 and U.S. 70 corridors between Morganton and the unincorporated Icard area of eastern Burke County. Development activities are generally concentrated along these corridors.

Much of the northwestern portion of the watershed is located within the Pisgah National Forest and many of its headwater tributaries are native trout waters designated as High Quality Waters. The 23 miles of Wilson Creek, from its headwaters on Grandfather Mountain to its confluence with the Johns River, is designated as a National Wild and Scenic River. The Johns River watershed contains some high quality areas, but also has widespread agricultural land use along the river valley.

Figure 2-1 – Lake Rhodhiss Watershed



2.5 - ADJACENT TRAIL PROJECTS AND LINKAGES

Over the past eight years, approximately 20 miles of trails have been constructed for the Fonta Flora State Trail (FFST) around Lake James. Burke County has successfully leveraged grant funding to complete much of this work. Part of the FFST's route is also shared the Overmountain Victory National Historic Trail (OVT), and plans are to continue the trail to the City of Morganton which will have sections of both the OVT and the FFST. Within the City of Morganton, most sections of the trail network are completed except for some sidewalk sections.

The River Trail of Burke County (RTBC - shown on the map as the Burke River Trail) is part of an ongoing trail planning effort that is focused on linking the communities along the Catawba River. Planning and implementation of the RTBC is underway in several of these communities. Another new planned trail located south of I-40 is the Wilderness Gateway State Trail. This proposed trail will link the South Mountains (and areas to the west) with areas in Catawba County. The trail will also include a connection to the Town of Valdese and the River Trail of Burke County.

The RTBC will provide a vital non-motorized link between several isolated communities (Drexel, Valdese, Rutherford College and Connelly Springs), enhance public access to numerous scenic and natural areas and complete an important connection in the statewide Fonta Flora State Trail (FFST). The RTBC will also provide a link between the Fonta Flora

Trail and the Overmountain Victory Trail, creating a continuous non-highway route for touring cyclists and hikers extending from Morganton to Hickory.

Blueways are designated waterway routes that are used for recreational activities including canoeing, paddleboarding, and kayaking. River and stream access points are locations where people have permission to launch a canoe, kayak, or other vessels into a waterway. Access points can be located along greenways, at riverside parks or on properties near bridges or dams.

The Upper Catawba River Trail Blueway extends from Black Bear Access on Lake James to Lookout Access on Lake Lookout Shoals. This 82-mile river trail has 24 access points and four portages along the route. The Upper Catawba River Trail Section 2 runs alongside the future RTBC and has 14 river access points.

Figure 2-2 – Adjacent Trail Projects

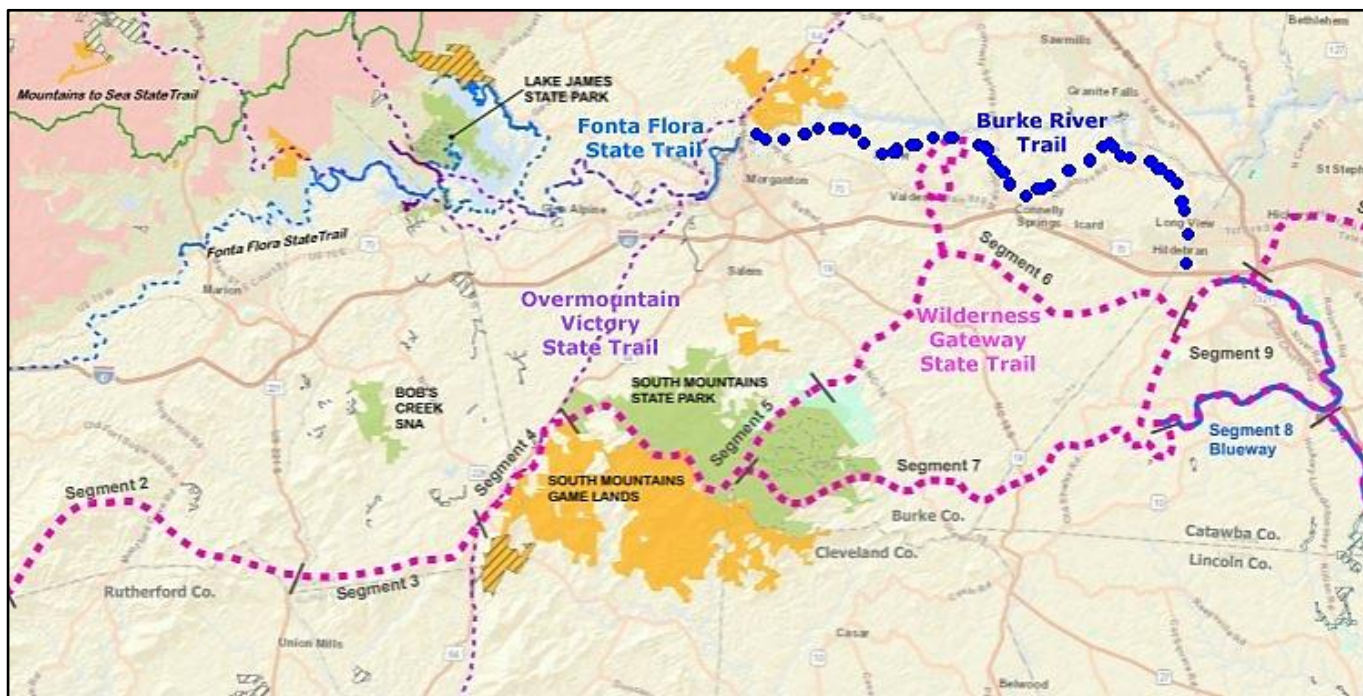
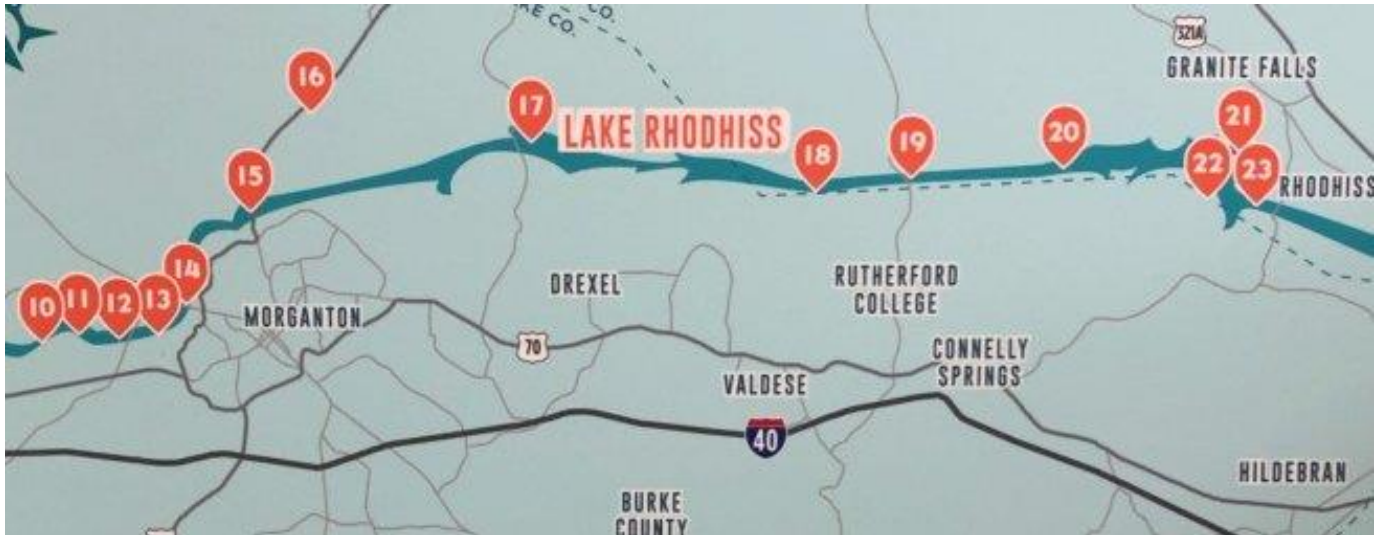


Figure 2-3 – Lake Rhodhiss River Access Points (Upper Catawba River Trail Section 2 Signage)



River Access Points	
Access Number	Location
10	Watermill Road
11	Morganton Weir
12	Morganton Weir Dam Portage
13	Greenlee Ford
14	River Village
15	Rocky Ford
16	John's River (Spur)
17	Huffman Bridge
18	Valdese Lakeside Park
19	Castle Bridge
20	Connelly Creek
21	Lakeside Park in Granite Falls
22	Rhodhiss
23	Rhodhiss Portage

2.6 – TRAIL AND PATH TYPES USED ALONG THE BURKE RIVER TRAIL

The Burke River Trail will incorporate a range of facilities and surface types along its route, depending on the context of the area. Trail material and type could be influenced by factors like accessibility, user experience, cost constraints given the terrain, proximity to automotive traffic, and ease of future maintenance.

Natural surface, for example, may be more suitable for hilly and highly forested parts of the trail, as well as through areas of environmental sensitivity, while major routes along roadways may be served more appropriately by a side path.

The Burke River Trail currently projects four types of trail – natural surface, side path, paved greenway, and sidewalk. In some areas, these facilities may already exist in some form and can be incorporated into the route. In other areas, they may need to be constructed or improved.

NATURAL SURFACE TRAIL

A natural surface trail is an unpaved pathway used predominantly for pedestrian activity like running, walking, or hiking, though cyclists and equestrians may be able to use them as well. Some natural surface trails are compliant with the Americans with Disabilities Act and accessible to those using wheelchairs, though many are not. Natural surface trail is the easiest type of trail to create and maintain. Natural surface trail can often be built at very low cost and by volunteers, as it consists primarily of brush clearing, grading, and correcting drainage and erosion issues.

Natural surface trail may be most appropriate in hilly areas or in areas of environmental sensitivity. It may also be more appropriate in areas of trail likely to see a lower volume of continuous user traffic. The actual surface of a natural surface trail can vary. Natural earth, gravel, wood chips, and other materials can be used depending on the expected user traffic, cost constraints, and terrain variability.



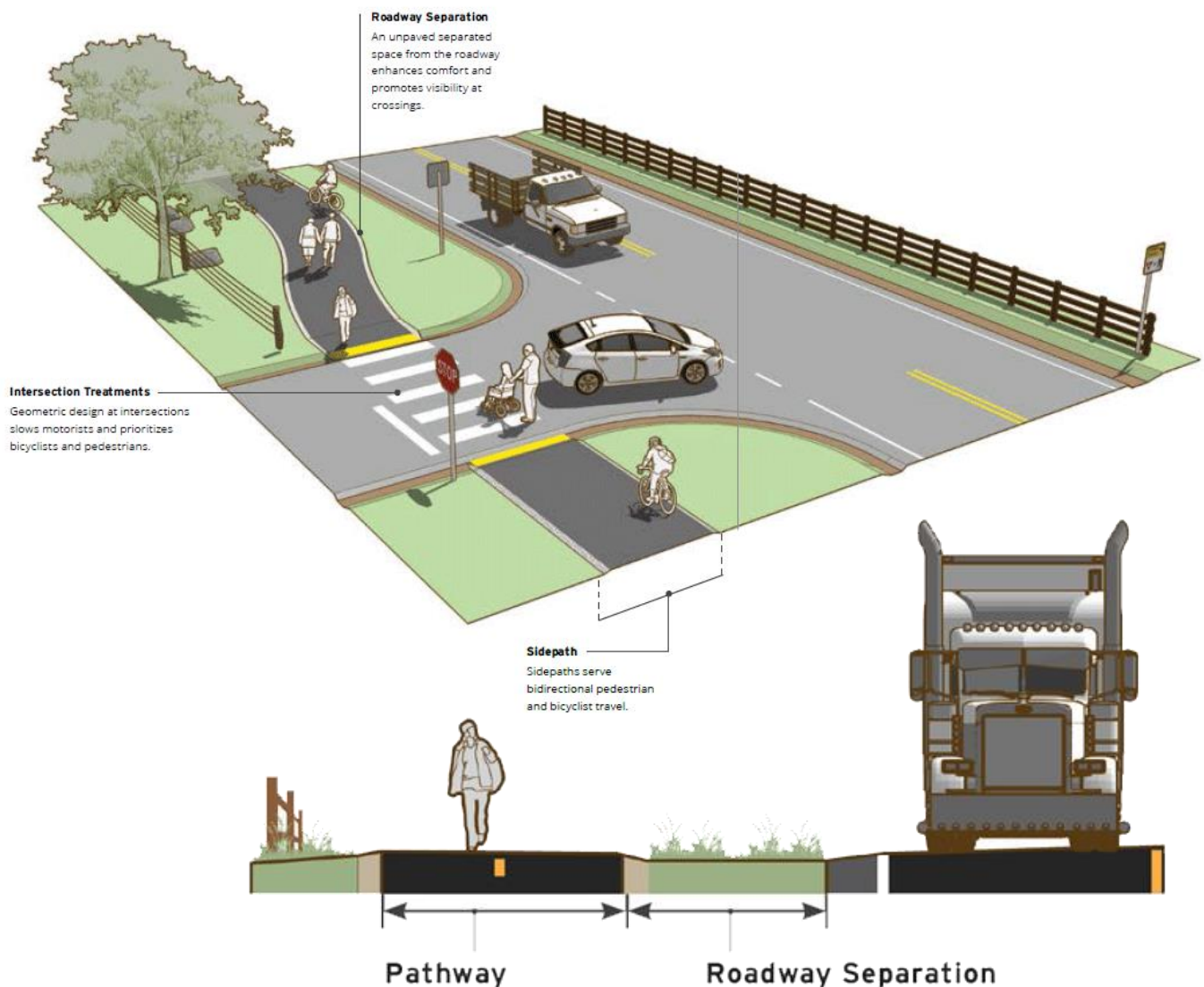
Natural Surface Trail, Example from Greensboro NC

SIDE PATH

A side path is a paved, separated route for non-motorized travelers, often running directly adjacent to a roadway. Side paths are distinct from greenways in that they are integrated directly into the existing road and street system, and are larger than sidewalks, so that they can serve more people on different travel modes coming from both directions.

Side paths are great for providing convenient, quick and safe routes between major points of interest, like schools, grocery stores, places of work, medical offices, civic buildings and parks. Side paths are often one of the best facilities to place in areas that are already served by roads and have moderate traffic, because they can provide a separated, safe route without significantly impacting the existing conditions in the area.

Side paths are usually constructed of either asphalt or concrete. Asphalt is less expensive, but has a shorter maintenance life before it must be repaired or replaced. Concrete is more expensive, but has a longer lifespan of around 25 years. Because side paths follow road routes and are integrated directly into the existing network, special care must be taken at intersections to ensure safety and visibility for trail users.



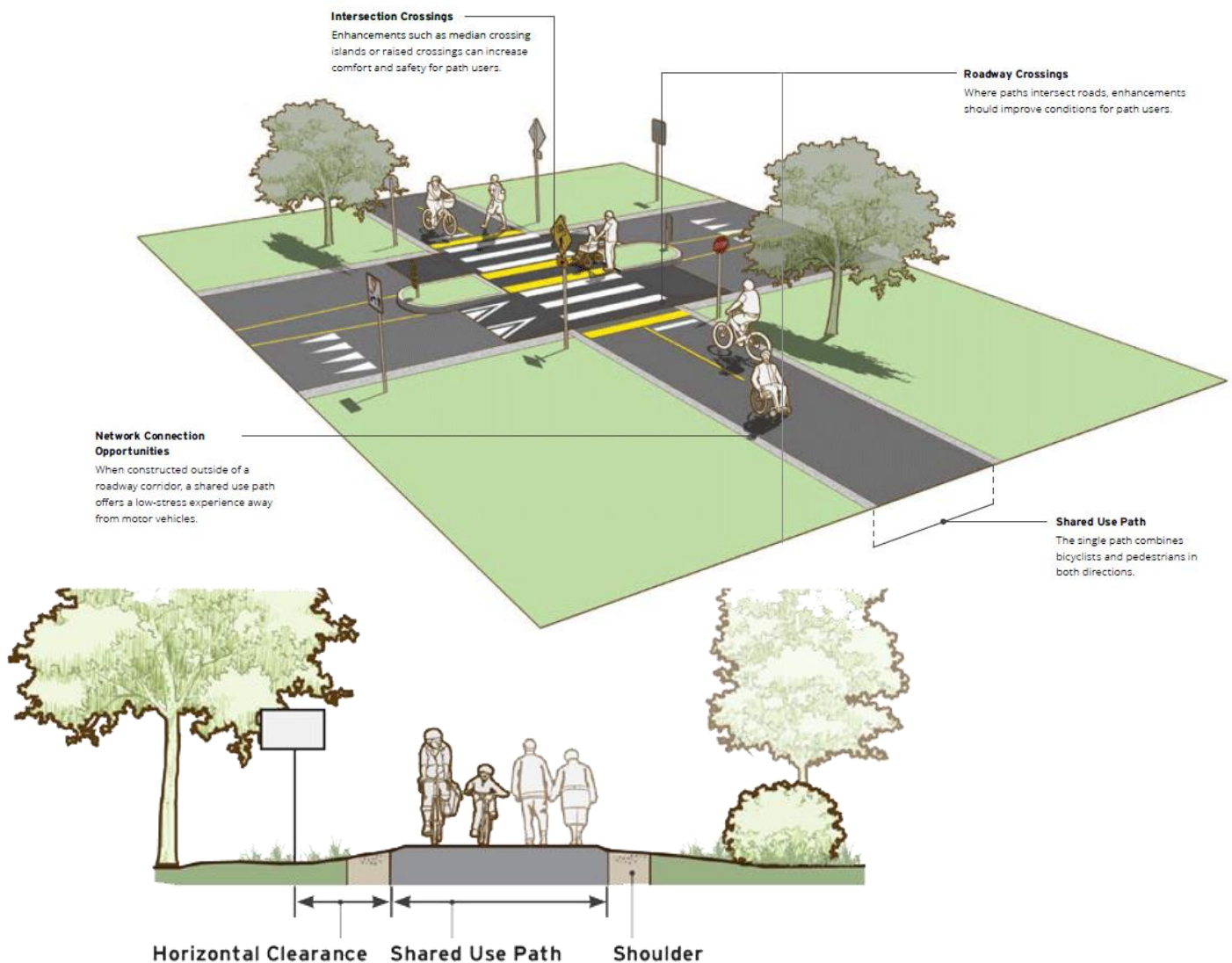
PAVED GREENWAY

Paved greenways provide a completely separated and dedicated space for shared use of the trail by users of all types, including those walking, jogging, using a wheelchair, skating, cycling or using any other means of non-motorized transportation.

Greenways are dedicated corridors taking advantage of connectivity and green space; they form their own path, taking advantage of opportunities for connection across land and through natural space, rather than by following the existing roadway network in the same way a side path or sidewalk would.

Greenways provide a safe, calm and enjoyable connection between destinations as a means of transportation and recreation. Because they are located away from motorized traffic, they are appealing to a wide range of users, from families taking young children for a bike ride, to older citizens on an evening stroll, to young professionals cycling to work. Greenways are often used as tourism attractions as well for this reason.

Greenways are often paved with concrete due to its long lifespan, but other materials can be used, including asphalt. In some areas, greenways can still meet accessibility standards even if unpaved by using crushed cinder or similar material, so long as it is regularly maintained.



SIDEWALK

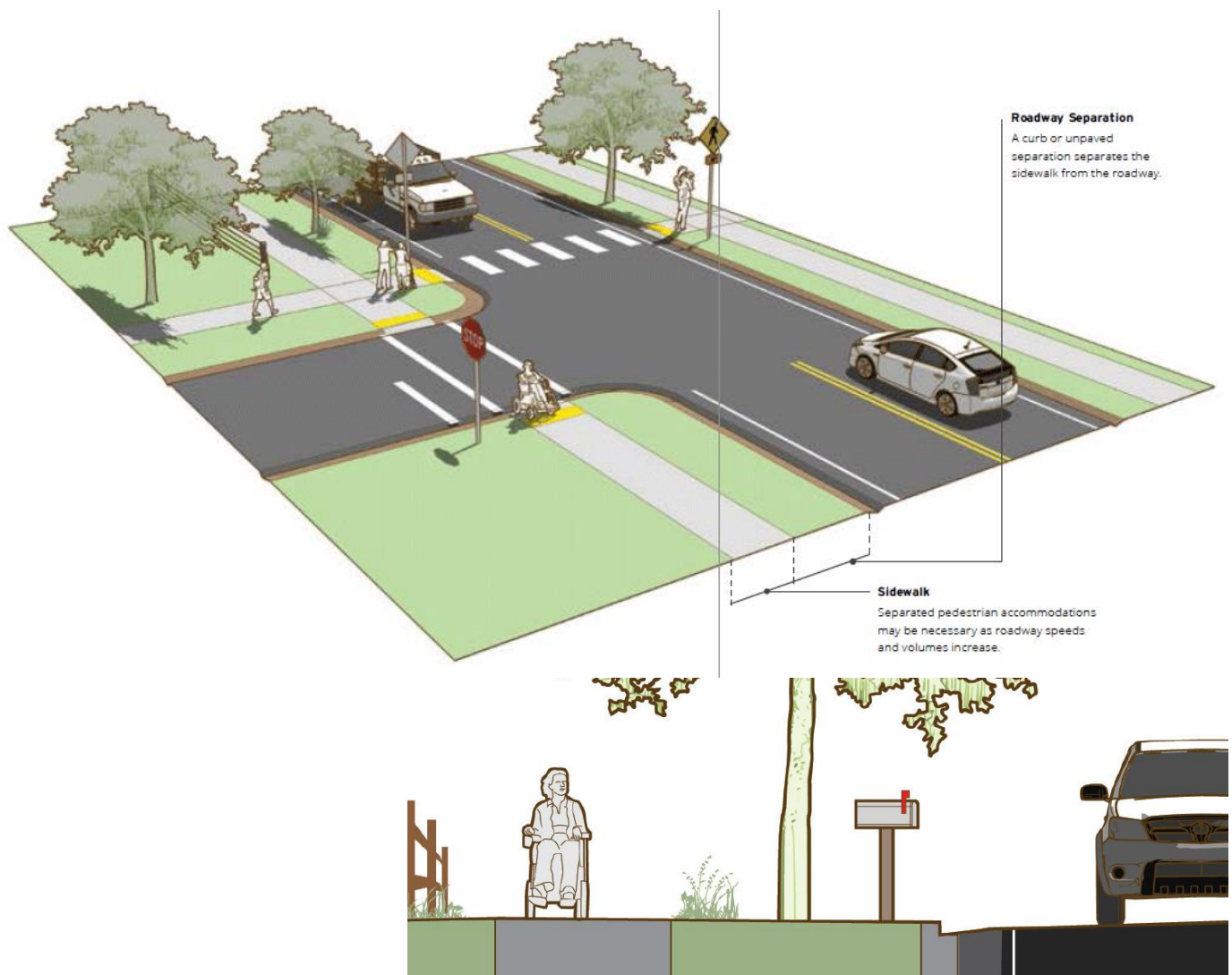
Sidewalks are the most common pedestrian facility across our communities, providing space for pedestrians along an existing roadway or across a property. Existing sidewalk can be incorporated into the Burke River Trail to form a full network of connected, separated pedestrian facilities.

Concrete sidewalk is the standard, ideally with separation between the curb of the street and the sidewalk through a planted median. In some cases, existing conditions may permit the sidewalk to connect directly to the curb, particularly along streets with limited traffic and good sight lines.

When maintained, sidewalks can be accessible and ADA compliant, usable for those walking, jogging, or using wheelchairs. They are smaller than side paths and greenways, usually a minimum of five feet, though they may be up to ten feet or even larger in some areas.

Sidewalks are generally not appropriate for vehicle travel, which is best reserved for greenways and side paths. Riders can walk their bikes, scooters, or other vehicles while using sidewalks.

Because sidewalks are closest to vehicle traffic, they should be designed carefully to minimize potential conflicts, particularly at intersections. Bulb-outs, signage, and clearing intersections of visual obstructions, as well as clearly defined crosswalks with high-visibility paint, can create a safe sidewalk network along the trail.



3 – PRIORITIZATION IN THE RIVER TRAIL OF BURKE COUNTY STUDY AREA

3.1 – STUDY AREA OVERVIEW, METHODOLOGY, AND PARCEL SCORING

A main purpose of this analysis is to create a system that ranks potential conservation and recreation opportunities within the study area. The RTBC Study Area consists of 14,005 parcels across Burke County. The boundary outline follows the Burke and Caldwell County line to the north, the Burke and Catawba line to the east, US 70 to the south, and US 64 to the west.

The BRT study area is around 63 square miles in size and includes a section of the Catawba River, and areas of Drexel, Connelly Springs, Hickory, Hildebran, Icard, Long View, Morganton, Rhodhiss, Rutherford College, and Valdese. The development of the Plan's ranking system relied on data from various sources. This chapter describes the methodology used in developing the prioritization scoring process and shares information about the scoring results.

WPCOG staff used several criteria based on the study's objectives to develop the parcel scoring methodology. Staff assigned maximum and weighted scores to each criteria and applied the scoring to the prioritization process. Table 3-1 describes the criteria behind the parcel ranking approach. Table 3-2 breaks down the prioritization point systems.

Staff used the WPCOG's Geographic Information System (GIS) to score parcels in the study area. GIS products used included ArcMap 10.6.1, a mapping software from Environment Systems Research Institutes (ESRI), and GIS data was provided by government entities and other organizations to award criteria points. Below are the GIS data inputs and their sources:

- Burke County parcels, land use, and additional managed areas provided by Burke County GIS Department
- Local historic districts and boundaries provided by the North Carolina Historic Preservation Office
- National Land Cover Database (NLCD) 2016 provided by Multi-Resolution Land Characteristics Consortium
- Natural Heritage Element Occurrences (NHEO), Natural Heritage Natural Areas (NHNA), and Managed Areas provided by North Carolina Natural Heritage Program
- Streams & River locations provided by the North Carolina Center for Geographic Information and Analysis (CGIA)
- Surface Water Classifications provided by the North Carolina Department of Environmental Quality

Figure 3-1 – Study Area Boundary

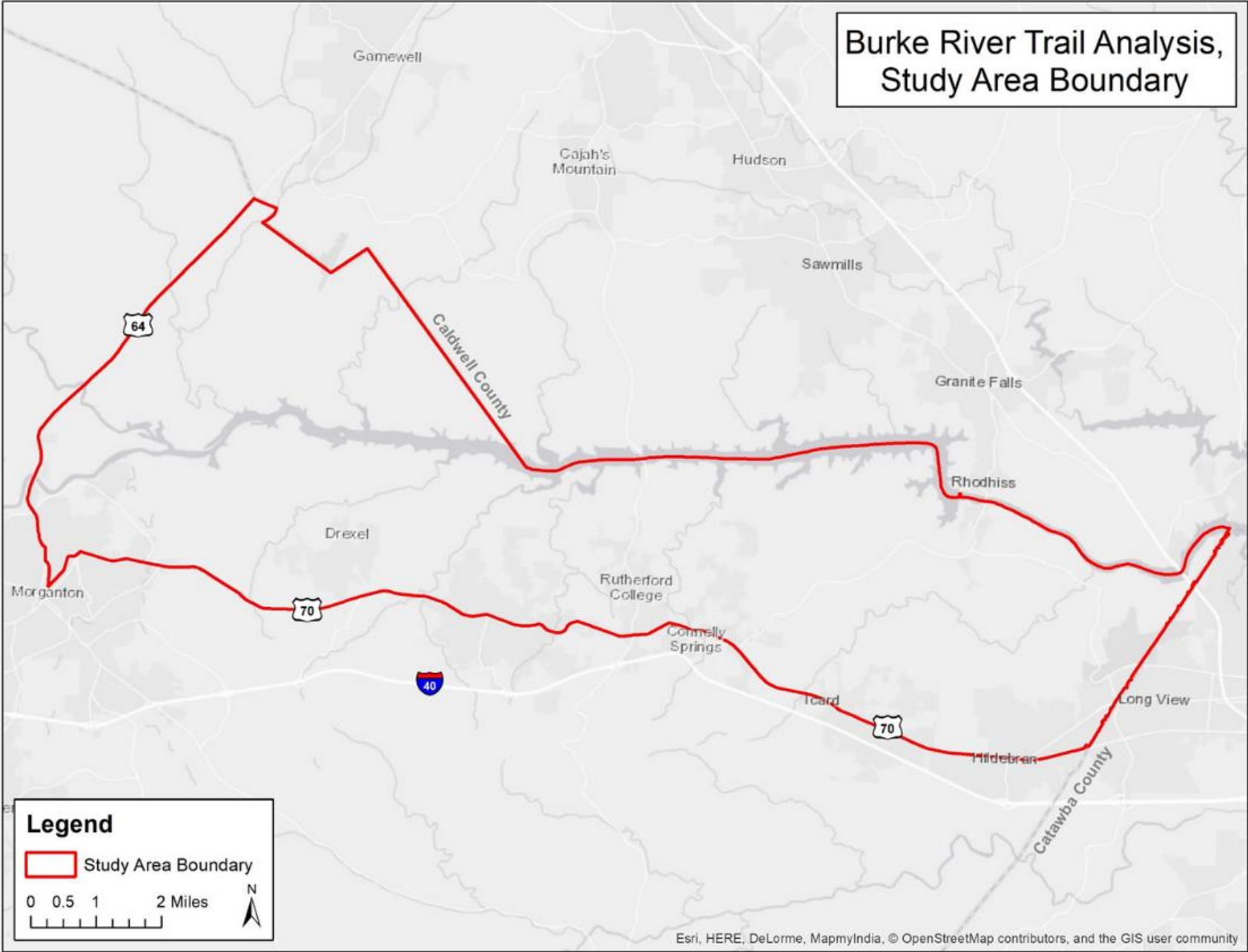


Figure 3-2 – Study Area Parcels

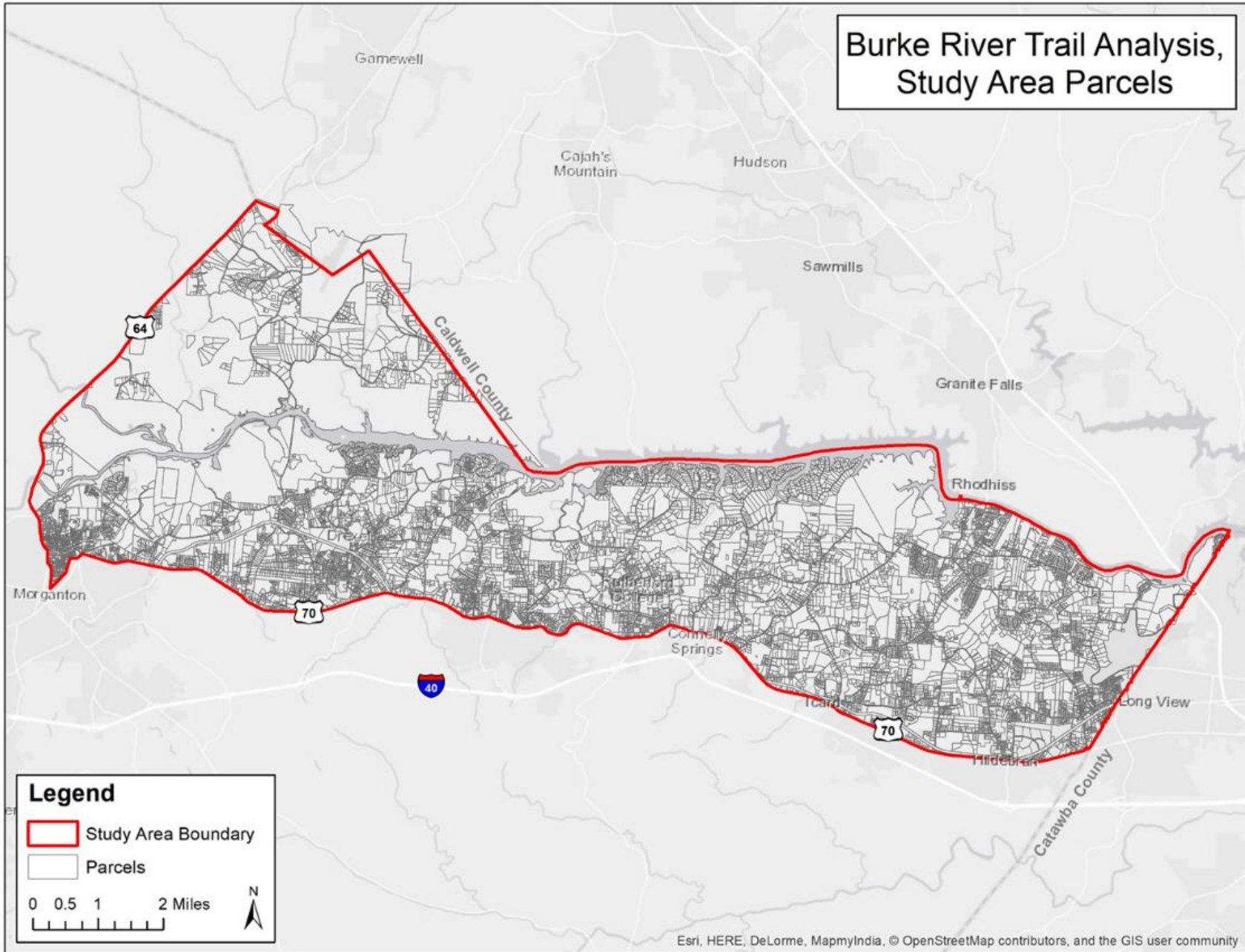


Table 3-1 Criteria and Criteria Explanations

Criteria	Criteria Explanation
Managed Areas	Managed areas are private and public lands that include local parks, registered heritage areas, conservation easements; are located within a historic preservation boundary, or are owned by the State, Burke County, or any of the municipalities within. Parcels received points based on proximity to managed areas.
Land Size	Land size is the total size of a parcel in acres. Parcels received points based on their acreage. The larger the parcel, the more points received.
River and Stream Bank	River/stream banks are located alongside a river or stream. Parcels received points based on the total number of feet of the intersecting river/stream bank.
Existing Land Cover and Land Use	Land cover is the physical presence of vegetation, asphalt, water, bare ground on the Earth's surface. Land use is the function of land and how it could be used. Parcels received points based on the percentage of their woodland (deciduous forest, evergreen forest, mixed forest, etc.) composition. Parcels also received points based on whether or not they are undeveloped (agriculture, open space, park, etc.) and developed (commercial, office, residential, etc.).
Existing Walking Amenities	Existing walking amenities includes existing state trail corridors, local government greenways and walking trails.
Blueways	Blueways are waterway routes used for water recreation and transportation like canoeing, paddleboarding, and kayaking. Parcels received points based on foot length of intersecting blueways.
Existing Planned or Proposed Trails	A trail is a path or route through a forest, atop a mountain, or the countryside. Future planned and proposed trail networks like the Carolina Thread Trail and Wilderness Gateway State Trail create future recreation opportunities within the study area. Parcels received points based on the foot length of intersecting planned trails.
Rivers and Streams Access	River and Stream access points are places where people have permission to launch a canoe, kayak, or other vessels into a waterway. Potential access points can be located inside riverside parks or properties nearby a bridge across the river. Parcels received points based on their proximity to potential access points.

Table 3-2 Criteria and Weighted Scores

Criteria and Maximum Score	Points
Managed Areas (Maximum 15 Points)	
Adjacent to managed area	15
Within a half-mile of managed area	10
Within one-mile of managed area	5
More than one-mile from managed area	0
Land Size (Maximum 20 Points)	
Greater than 100 Acres	20
Between 50 and 100 Acres	10
Between 25 and 50 Acres	5
Less than 25 Acres	0
Rivers and Streams Bank (Maximum 15 Points)	
Greater than 3,000-ft. of intersecting bank	15
Between 1,500-ft. and 3,000-ft. of bank	10
Less than 1,500-ft. of intersecting bank	5
No bank	0
Existing Land Cover and Land Use (Maximum 20 Points)	
Greater than 75% woodland without dwelling unit or other permanent structure	20
Greater than 75% woodland with dwelling unit or other permanent structure	15
Between 50% and 75% woodland without dwelling unit or other permanent structure	15
Between 50% and 75% woodland with dwelling unit or other permanent structure	10
Between 25% and 50% woodland without dwelling unit or other permanent structure	10
Between 25% and 50% woodland with dwelling unit or other permanent structure	5
Less than 25% woodland	0
Existing Walking Amenities (Maximum 15 Points)	
Greater than 500-ft. of intersecting pedestrian facilities	15
Between 100-ft and 500-ft. of intersecting pedestrian facilities	10
Less than 100-ft. of intersecting pedestrian facilities	5
No pedestrian facilities	0
Existing, Planned or Proposed Trail (Maximum 15 Points)	
Intersects trail	15
Within a quarter-mile of intersecting trail	10
Within half-mile of intersecting trail	5
More than half-mile from intersecting trail	0

3.2 – PARCEL SCORING RESULTS

For the parcel scoring process, parcels could receive up to a total of 100 points. The analysis examined the 14,005 parcels within the study area that were marked as managed or unmanaged areas. WPCOG used the scoring results for 13,777 unmanaged areas for the study. The 228 managed area parcels were not included in the presentation of the results because these parcels already have some conservation protection.

Figures 3-3 through 3-12 on the following pages display the criteria visually. The final results are display on the map in figure 3-13 by showing criteria scoring results by parcel location. These scores provided the initial data to determine what the future alignment of the trail could be.

Figure 3-4 – Managed Areas Data Sources

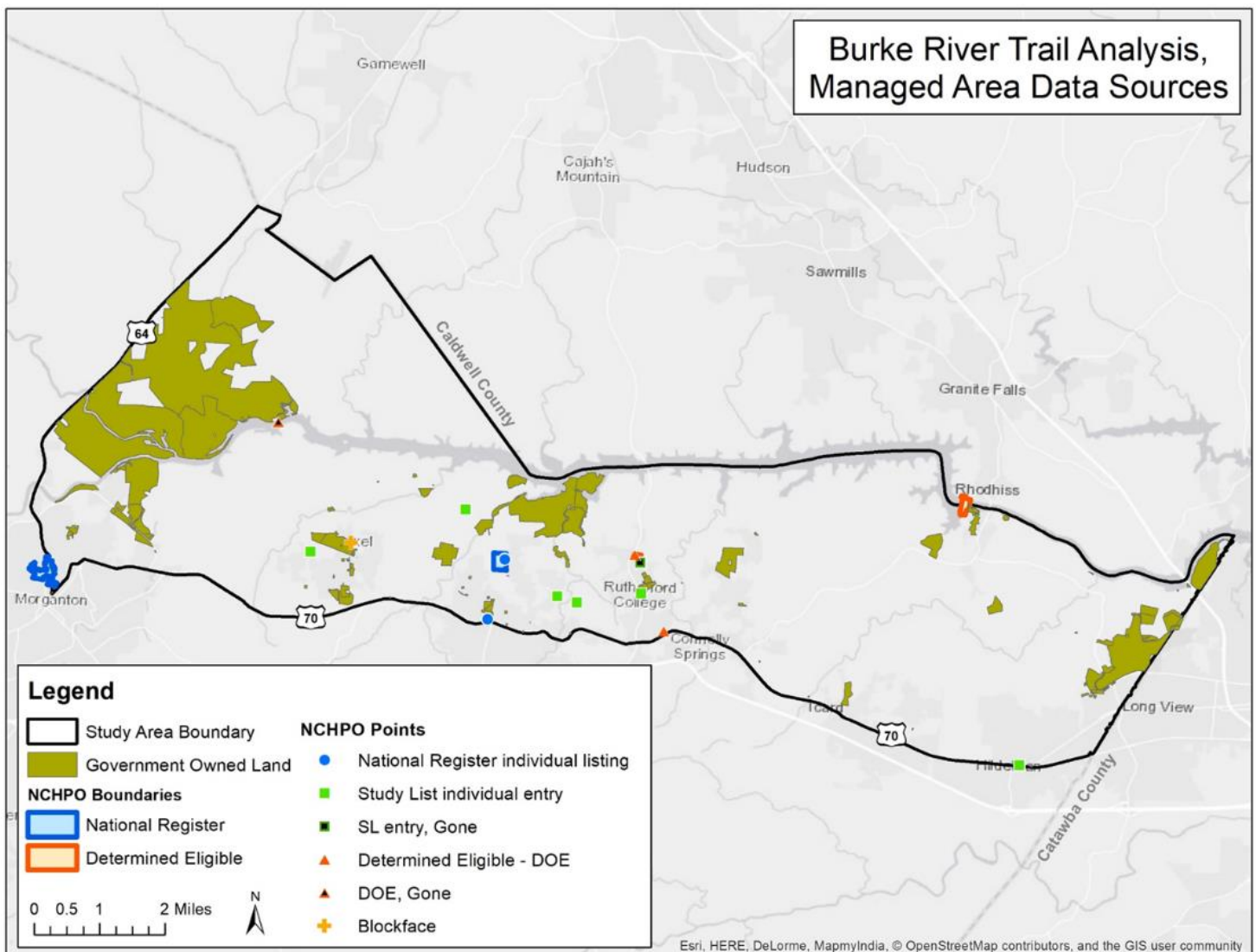


Figure 3-5 - Managed Areas Points

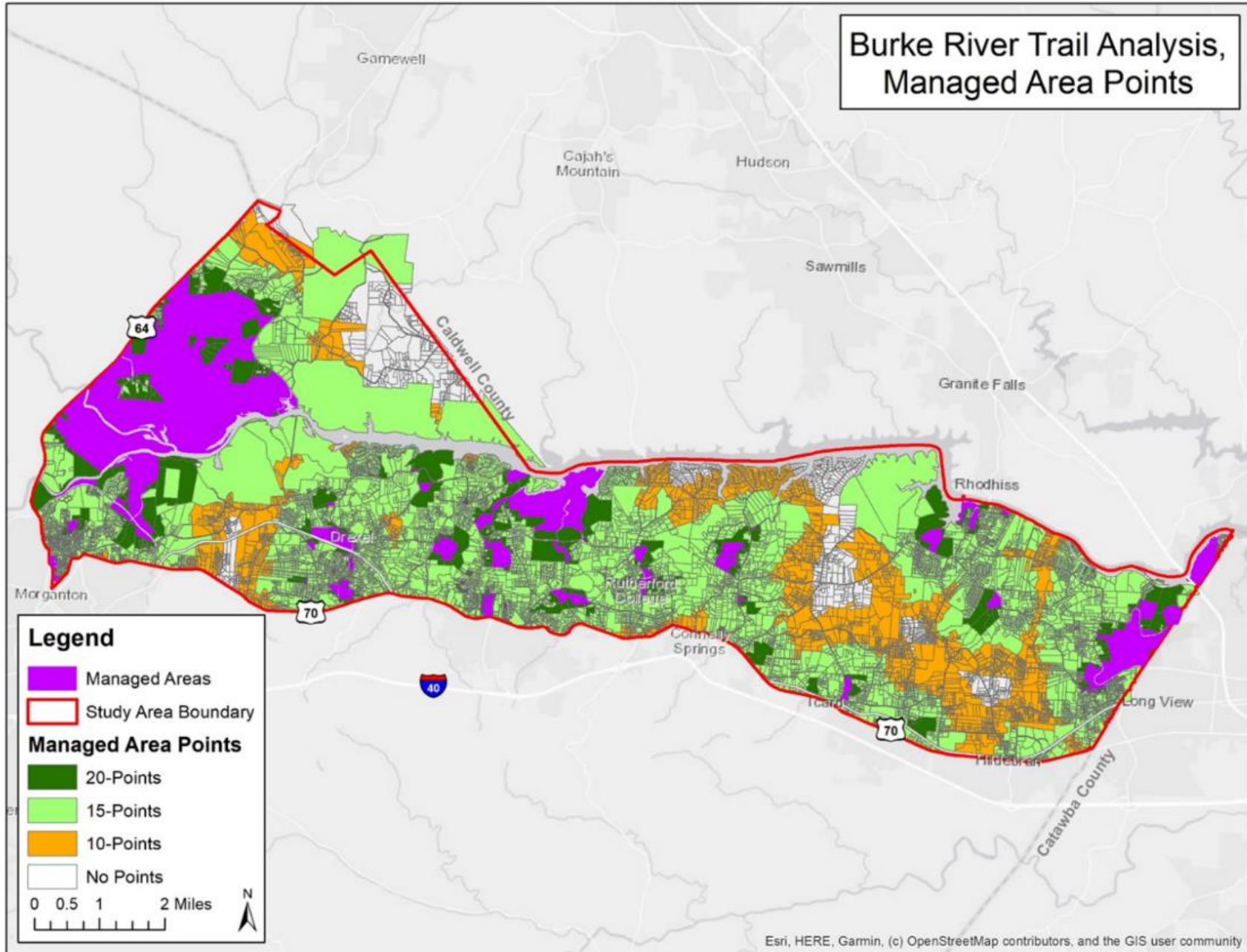


Figure 3-6 - Land Size Points

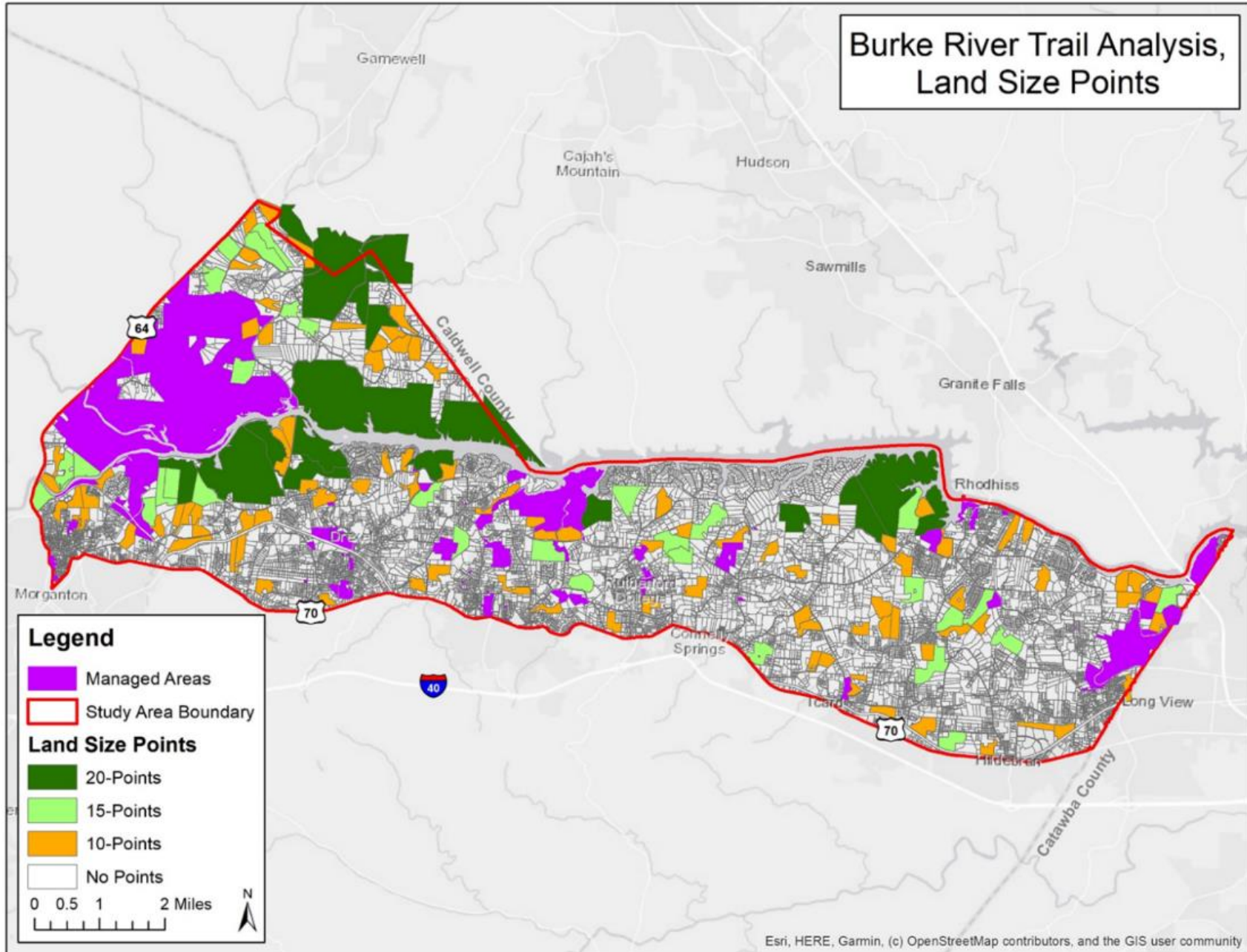


Figure 3-7 – Rivers and Streams

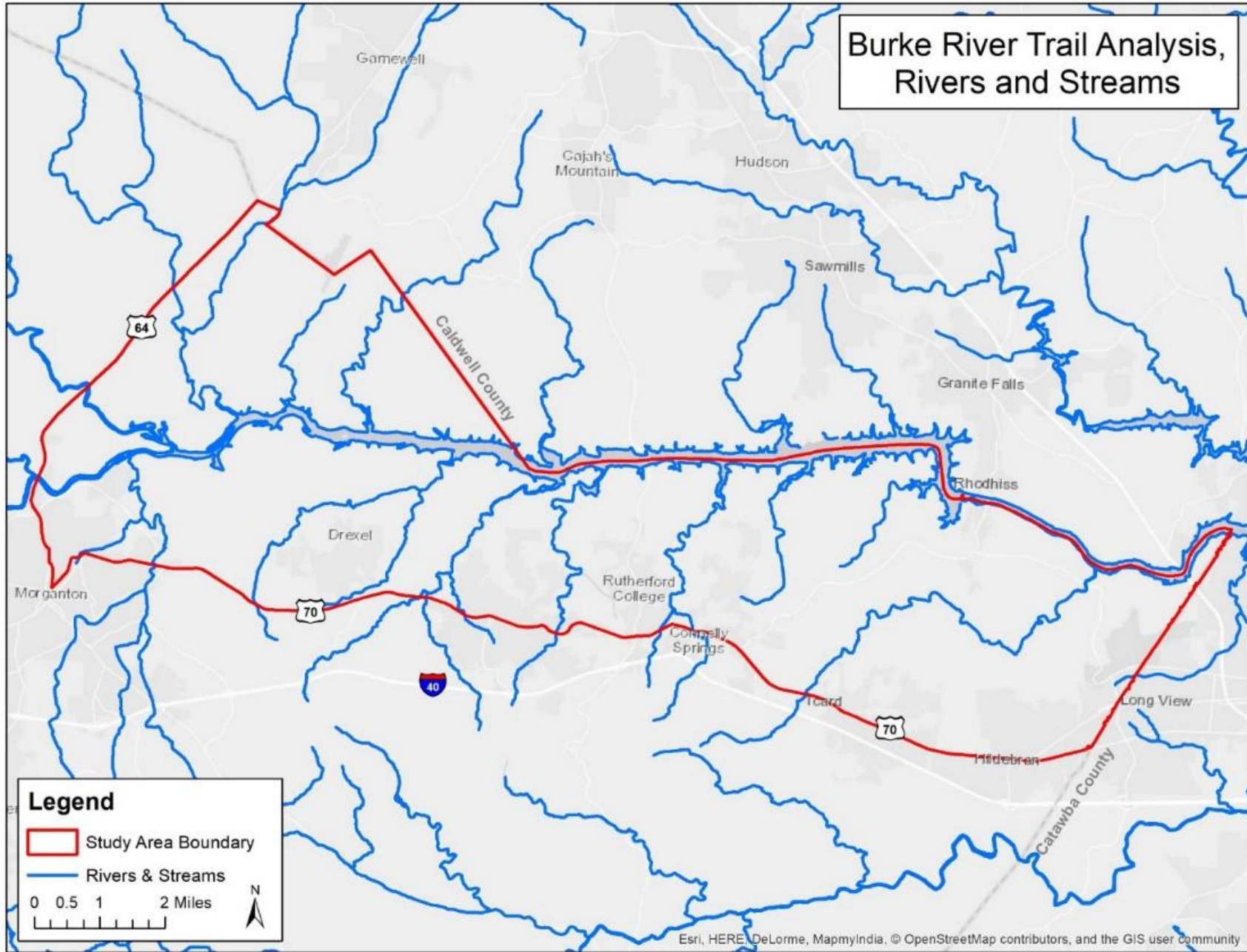


Figure 3-8 – Streams Bank Points

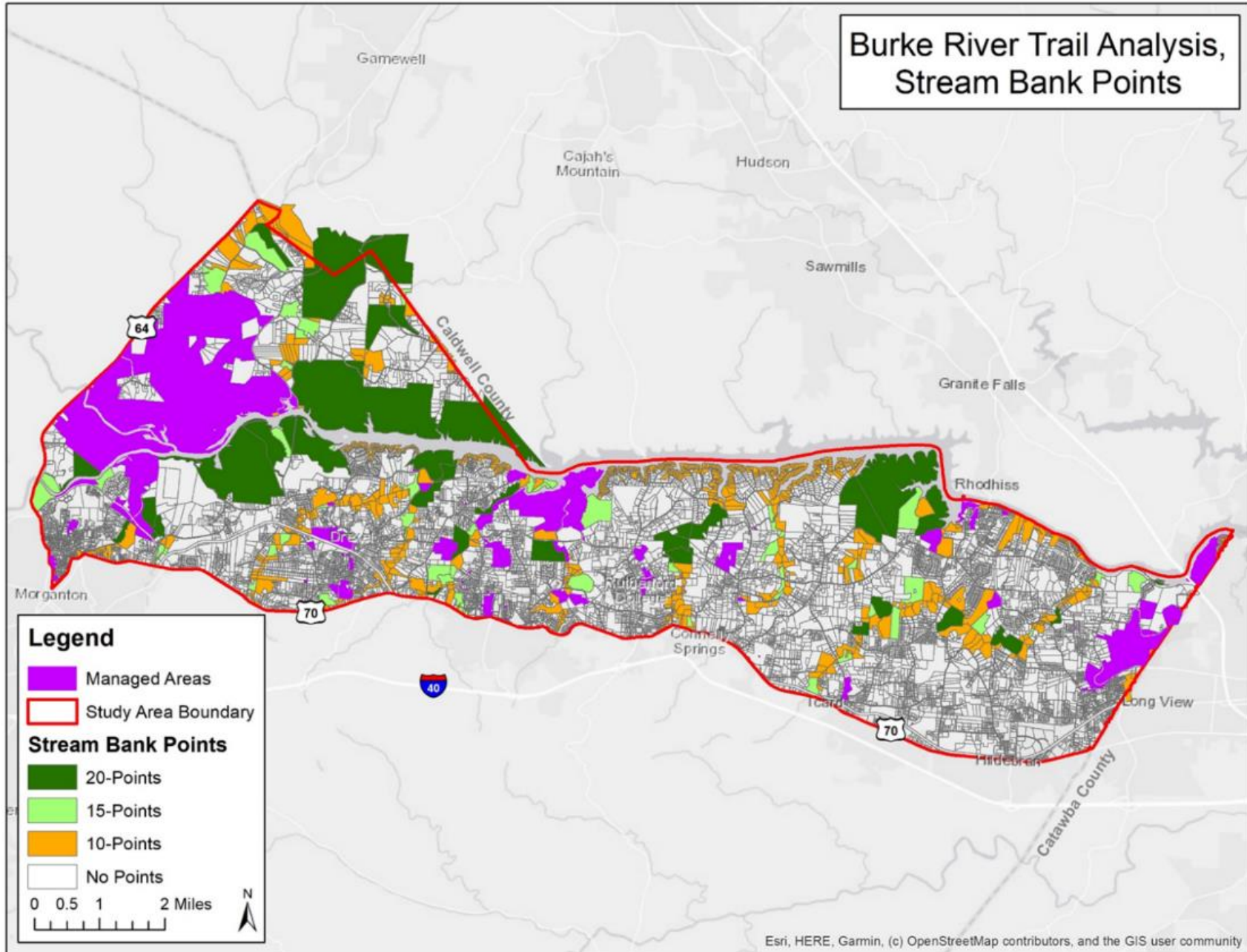


Figure 3-9 – National Land Cover Database (NCLD) 2016.

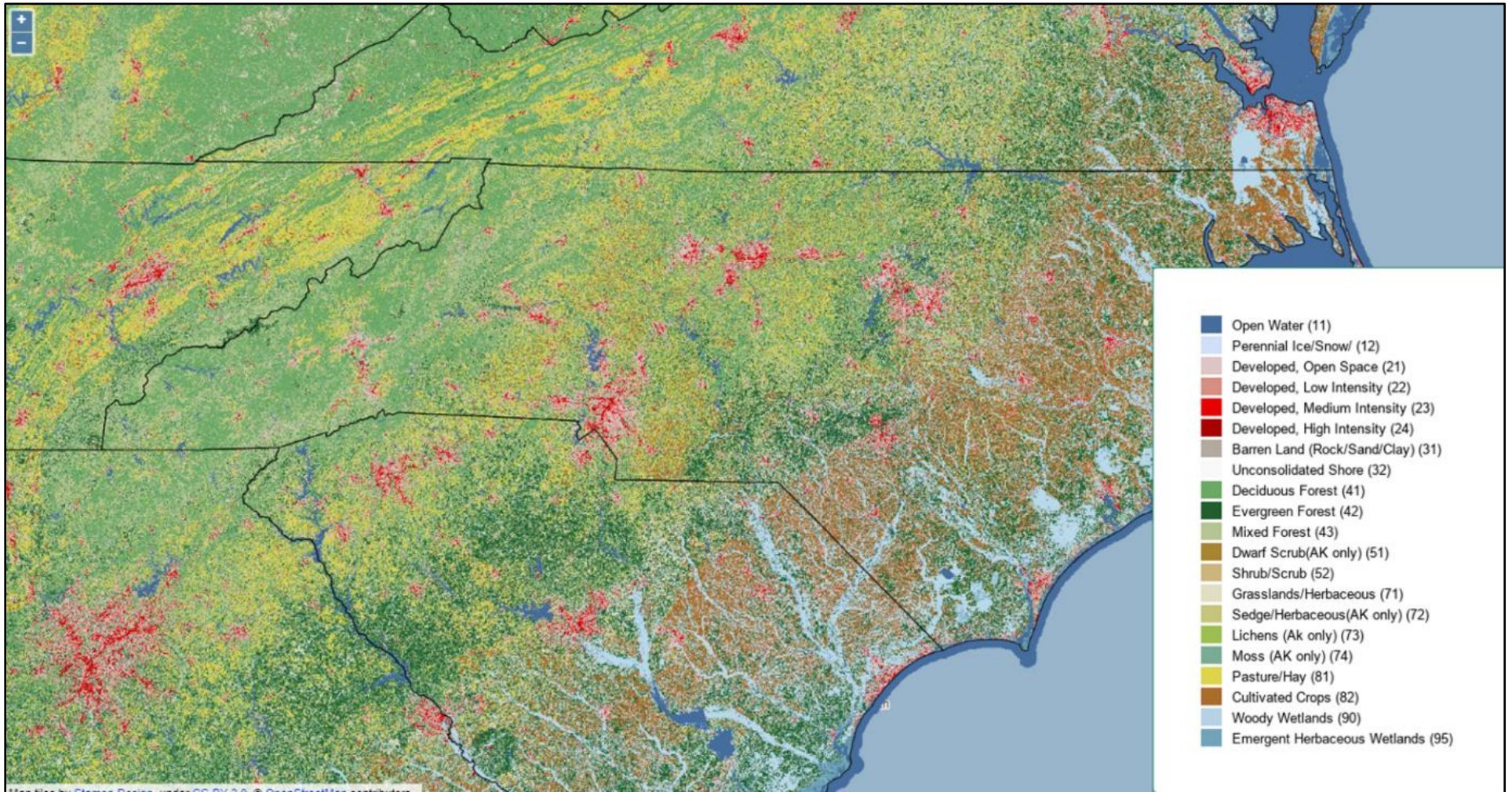


Figure 3-10 – Land Cover Points

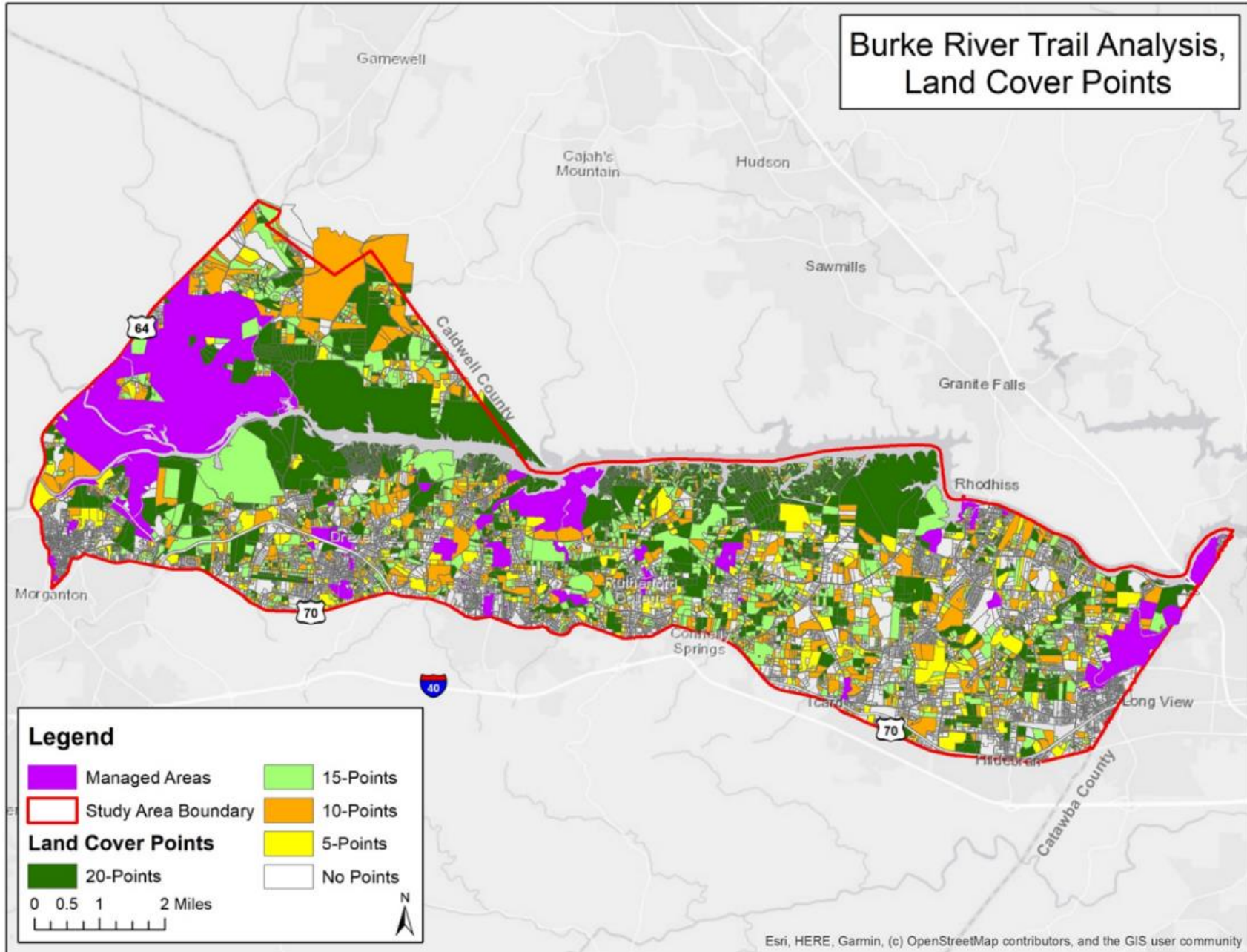


Figure 3-11 – Existing and Planned Trails

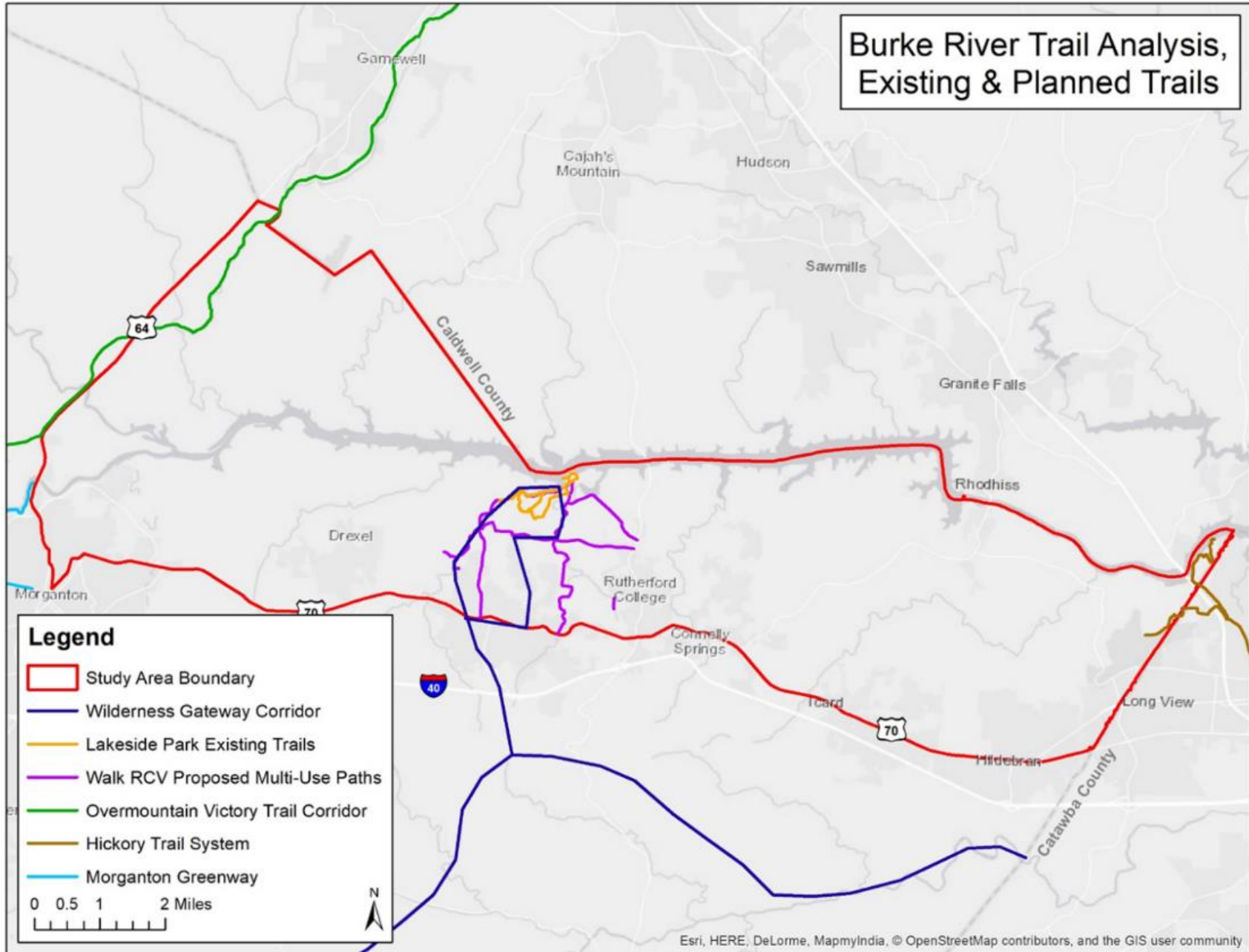


Figure 3-12 – Proximity to Trails Points

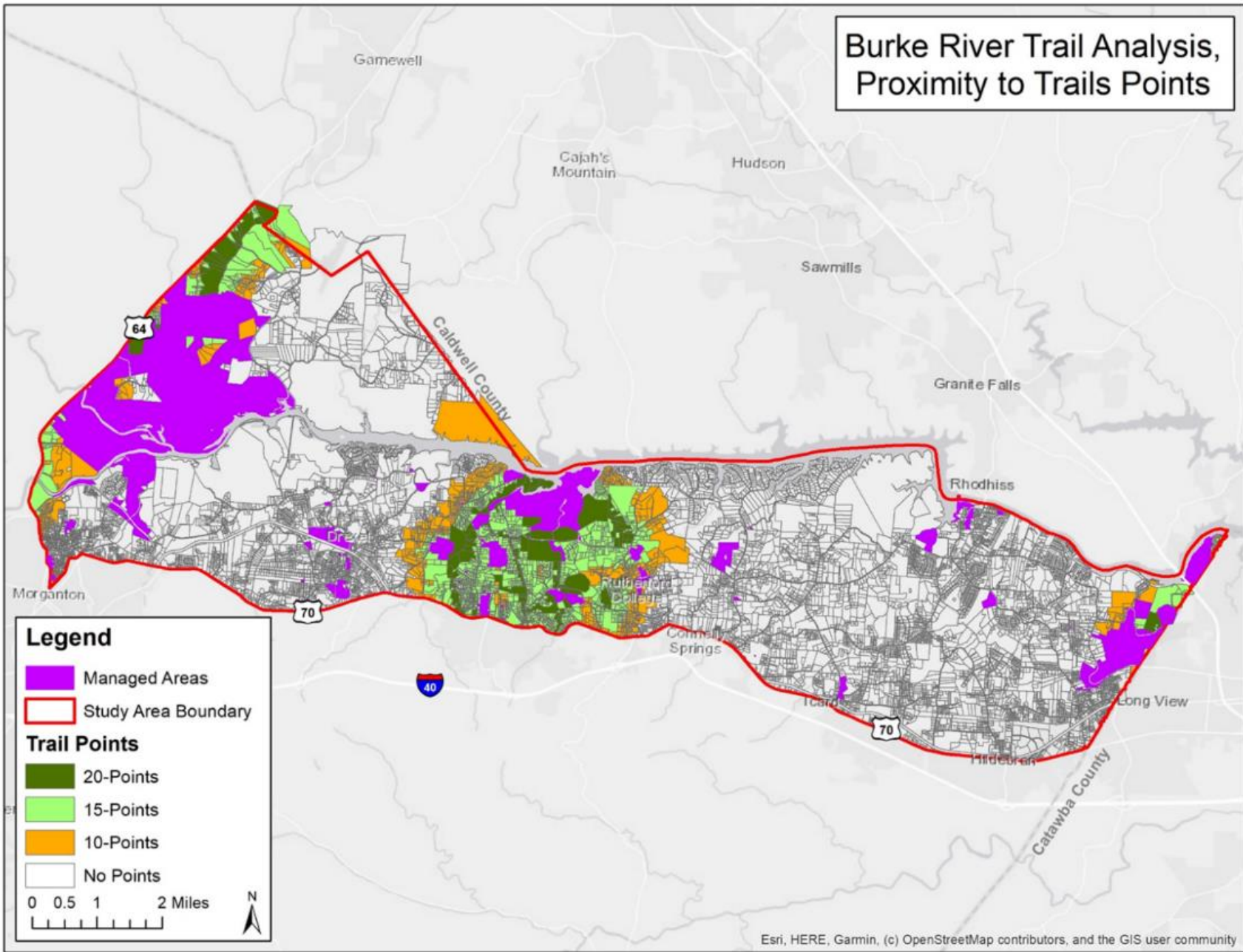
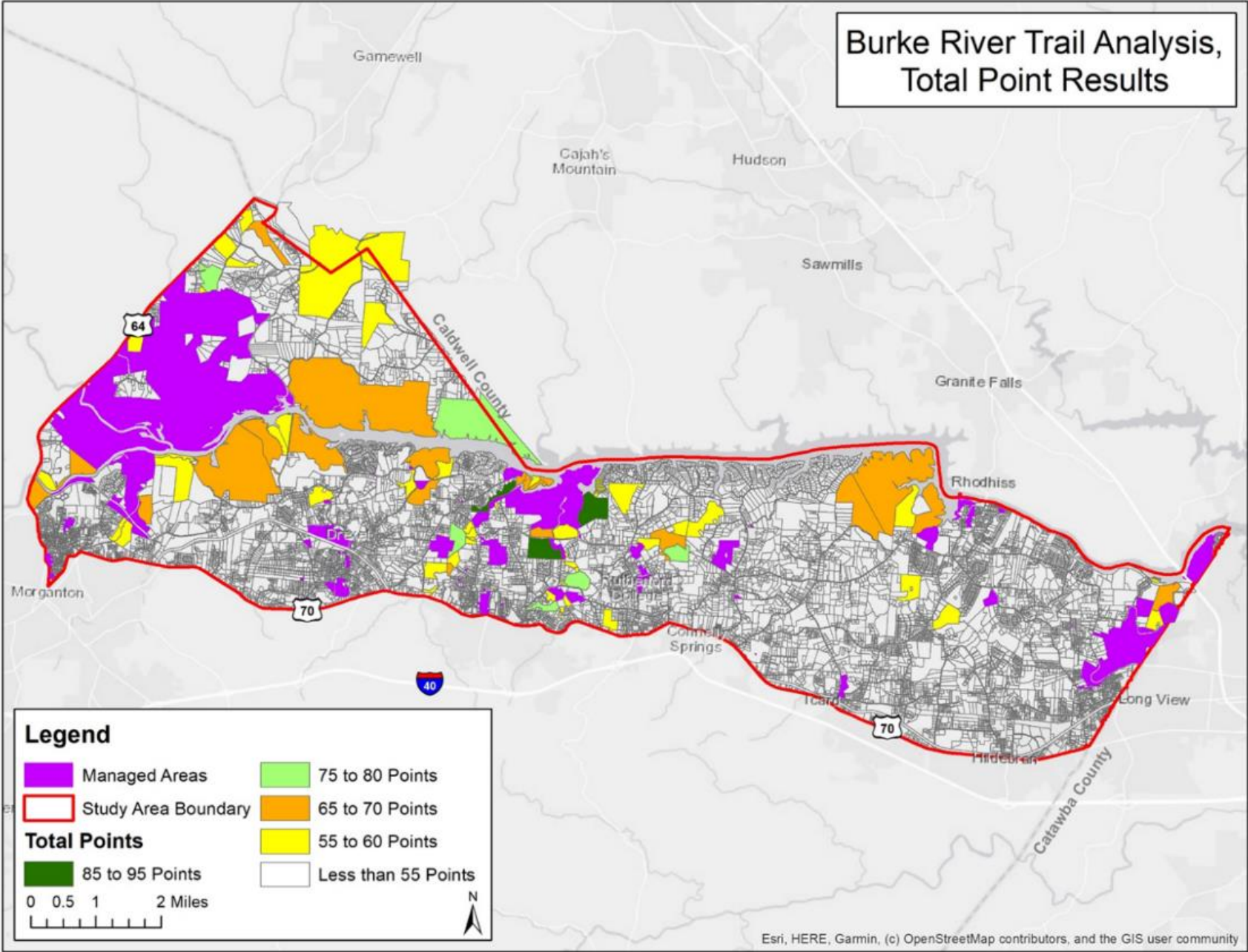


Figure 3-13 – Total Points Results



4 – TRAIL ALIGNMENT AND ALTERNATIVES FOR LOCAL GOVERNMENTS

4.1 - MORGANTON

The River Trail of Burke County's western terminus is at the Rocky Ford Parking Access in Morganton, which currently serves as a Fonta Flora State Trail trailhead. This four-mile section of the RTBC mostly follows the river.

TRAIL CONNECTIONS

Fonta Flora State Trail (4 miles paved greenway west) to RTBC – one ends and the other begins. The FFST will eventually extend to Asheville.

Hunting Creek runs to Broughton Hospital and beyond. A feasibility study has recently been completed for the Hunting Creek Greenway (providing connections to Broughton, NCSSM – Morganton, WPCC and the J. Iverson Riddle Center south of I-40. This trail could continue to the Overmountain Victory State Trail and/or the Wilderness Gateway State Trail creating loop options for hikers and bikers.

TRAILHEAD OPPORTUNITIES

City of Morganton is considering refurbishing this trailhead to include paved parking, restrooms, a picnic area, a kayak launch and other amenities.

The WPCC training center parking lot will be available [in the future](#) for public parking and access to the RTBC. The site may also include a memorial to those who died while serving as an EMT or Firefighter.

PARCELS OF INTEREST

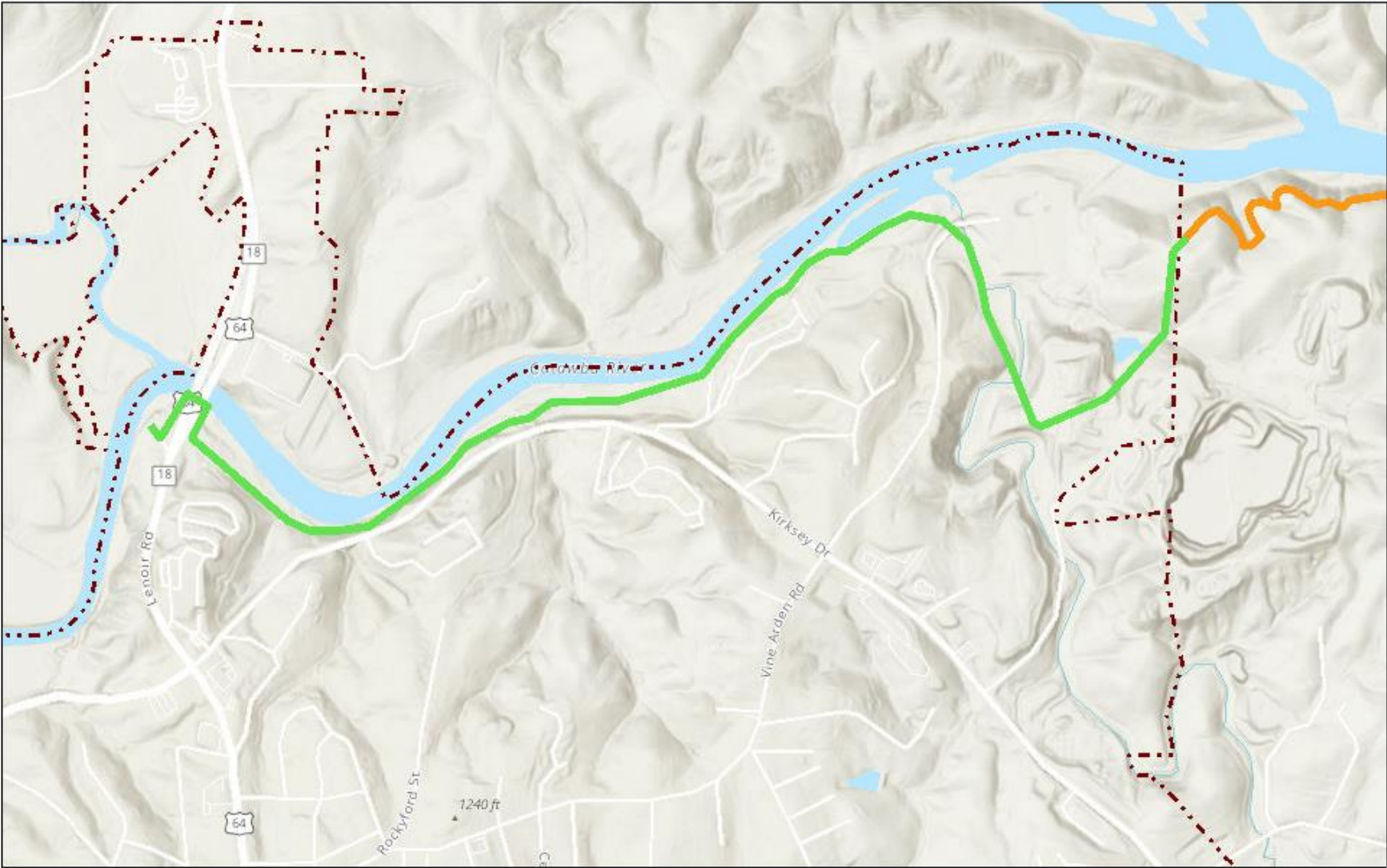
1. **Parcel 1 (0.6 miles):** Grace Ridge – This retirement community, owned by UNC Health Blue Ridge, is willing to allow the RTBC to cross their property along the river. Having access to the Morganton Greenway along a safe connection under the Hwy 64-18 (Lenior Rd) bridge would provide residents with an easier way to get exercise or go shopping. The goal for this parcel is to construct a 10-12-foot-wide ADA surface (paved or crushed cinder), but in the interim the sewer easement roadway may be walkable.

The City of Morganton will hold the trail easement for UNC Health Blue Ridge. As of this plan's writing, a Memorandum of Understanding is being drafted to allow project design work to begin.

2. **Parcels 2-3 (0.7 miles):** City of Morganton – 4-foot-wide natural surface trail will continue along the river to the Riverview Apartments.

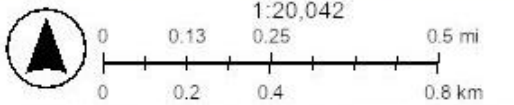
3. **Parcel 4 (0.3 miles):** Riverview Apartments, owned by a New Hampshire company and managed by Keystone, is interested in developing a Memorandum of Understanding with the city of Morganton. Keystone views the trail as a desirable amenity for residents and has provided their parcel plat to help in the planning process. The City of Morganton will hold the trail easement for the apartments. A Memorandum of Understanding is being drafted to allow project design work to begin.
4. **Parcel 5 (0.3 miles):** City of Morganton – possible future WPCC Emergency/White Water Rescue Training Center. May allow public recreational use. [The City of Morganton are in talks](#) with WPCC regarding trail design.
5. **Parcel 6 (1 mile):** City of Morganton – Wastewater Plant and Skeet Range. For safety from chemicals used at the water plant and flyer bullets used at the skeet range, this trail would deviate to the south in this area and follow Hunting Creek Greenway. The trail would then return to the river before the next parcel.
6. **Parcel 7 (0.7 miles):** Vulcan has expressed excitement about the RTBC. A potential route has been walked and mapped and is being discussed. Burke County will hold the trail easement and talks are taking place between the County and Vulcan.

Morganton River Trail



6/27/2023

- Burke River Trail Proposed Route
- Paved Greenway
 County Boundary
- Natural Surface
 City Limits
 World Hillshade



Esri, NASA, NGA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS.

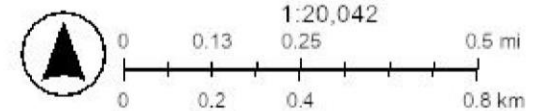
Morganton Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Paved Greenway
- Burke Parcels
- World Imagery
- Low Resolution 15m Imagery

- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations



NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US



Morganton Greenway

4.2 - DREXEL

The Drexel section of the RTBC begins at the eastern boundary line of the Vulcan property in Morganton and extends to downtown Drexel. The east side of this trail section will be located along Secrets Creek, which later turns into Howard Creek (Prost Creek near the River). Only a short section of the trail will be in the Town of Drexel's jurisdiction. Other parts of the trail will be located in Burke County and the Town of Valdese.

TRAIL CONNECTIONS

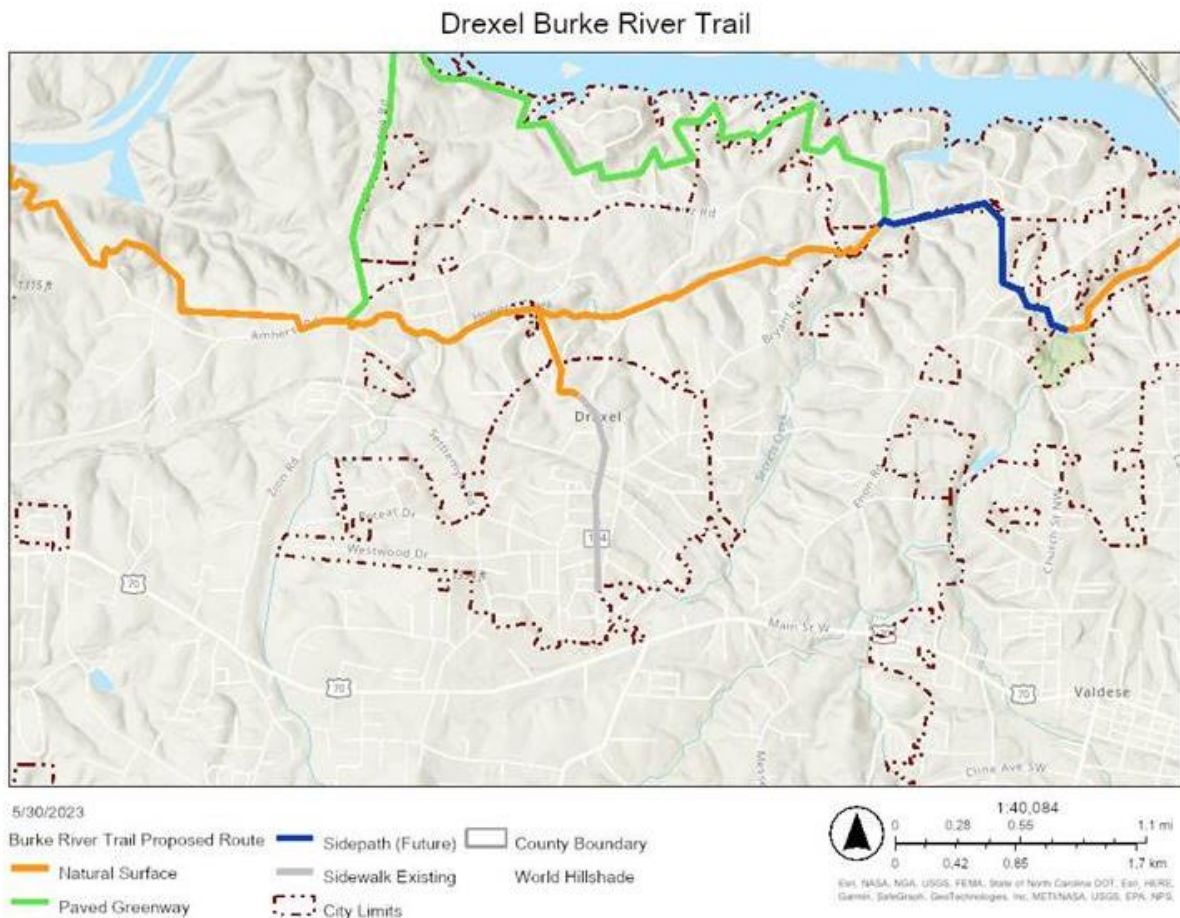
Wilderness Gateway State Trail east of Hallyburton Academy

TRAILHEAD OPPORTUNITIES

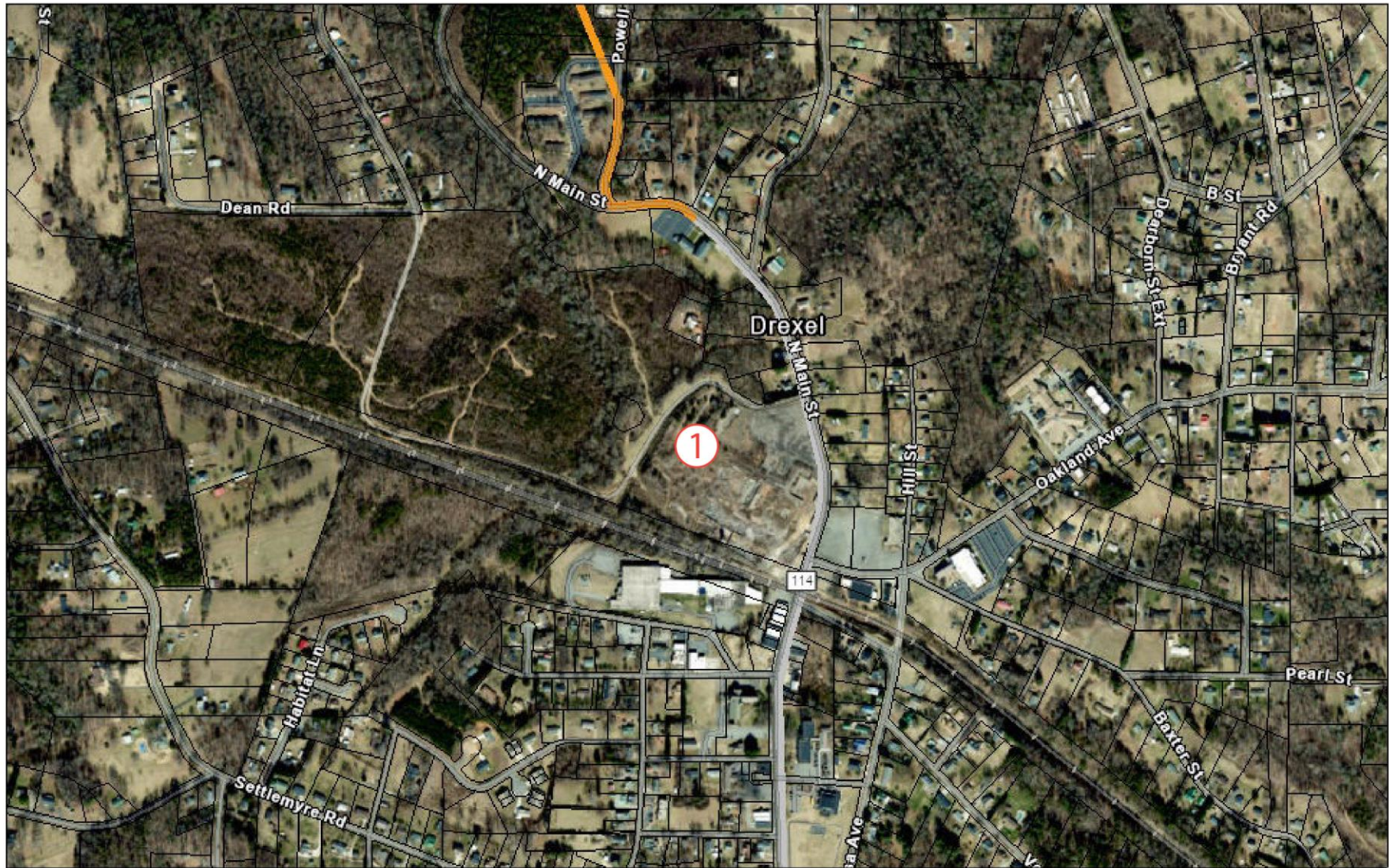
Downtown Drexel Park and the R.O. Huffman Center

PARCELS OF INTEREST

1. A new opportunity exists at the Drexel Heritage Redevelopment Site for a business park with a trail. In meetings with town officials, staff and the community have mentioned the same key locations along Drexel's Main Street that should be connected to the Redevelopment Site's trail: the Drexel Barbershop (a gathering place for bluegrass musicians), Downtown Park, and the R.O. Huffman Center (which has a playground and an indoor recreation center).
2. The potential also exists for developing a future walking loop trail connecting the R.O. Huffman Center, picnic shelter, Boy Scout hut, elementary school, and community fairgrounds.



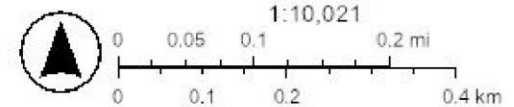
Drexel Parcels



6/23/2023

- Burke River Trail Proposed Route Burke Parcels
- Natural Surface World Imagery
- Sidewalk Existing Low Resolution 15m Imagery

- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations



Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS

4.3 - VALDESE

The Valdese Greenway is the first completed section of the RTBC, and is a key centerpiece for establishing trail connections to Drexel and Rutherford College. Extending from McGalliard Falls Park to Valdese Lakeside Park, this 2-mile greenway is a mix of crushed cinder and grass.

Potential trail routes from the west to McGalliard Falls Park are being studied. Much of the property along the river in this section is within the Town of Valdese's planning jurisdiction. Some of the parcels in this area have been developed into waterfront homes, while others have remain undeveloped but are subdivided for future residential development.

COMPLETED TRAIL

There are 2 miles of completed trail in this section (two miles of ADA compliant crushed cinder. A 155-foot suspension bridge is located on the trail.

TRAILHEADS

Trailheads are located on each end of this trail. The McGalliard Falls Park trailhead has parking, restrooms, a picnic shelter. The Valdese Lakeside Park trailhead has parking, restrooms, picnic tables, a dog park, and an overlook.

TRAIL CONNECTION

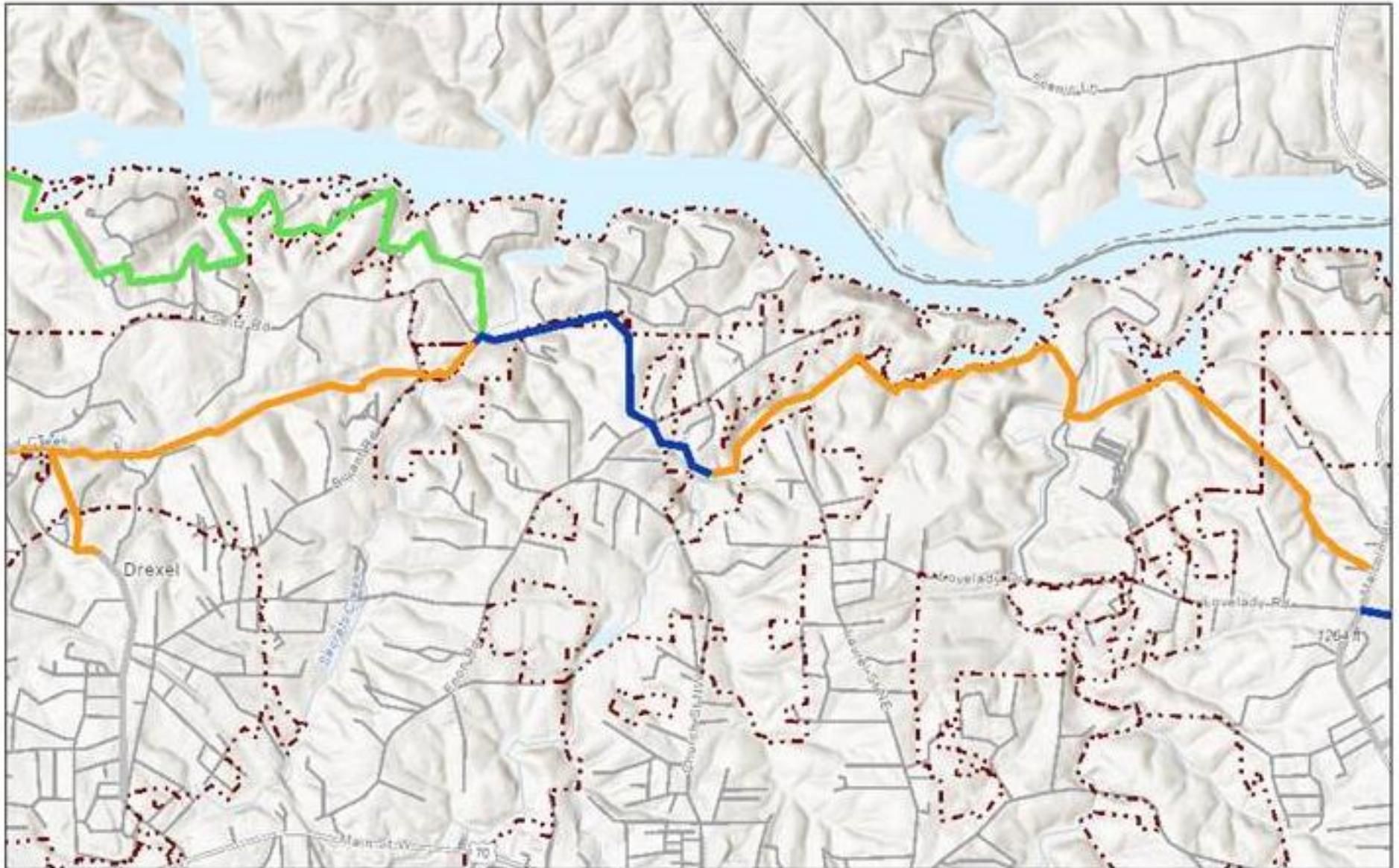
The Wilderness Gateway State Trail (WGST - a planned trail linking Bakers Mountain to South Mountains and Chimney Rock) is co-located with RTBC along the Valdese Greenway. The planned WGST will provide a future connection to downtown Valdese.

Using regional and state trails, there is an opportunity for the development of a larger loop trail in this area. The WGST has a planned connection to Valdese Lakeside Park. This connection would create a loop route between Hildebran, Henry Mill Village, the South Mountains, and Valdese. Developing a larger loop trail is a compelling possibility because loop trails are highly sought-after by outdoor enthusiasts seeking multi-day or weeklong experiences.

PARCELS OF INTEREST

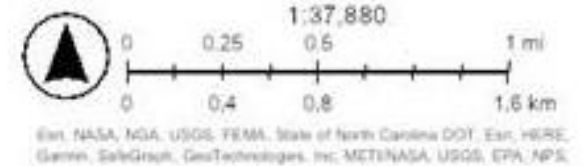
1. **Burke County Public Schools Parcel (0.5 miles):** An opportunity exists to develop a cross country running course and outdoor classroom on this parcel. Burke County Public Schools has approved a trail easement, which will be held by the Town of Valdese. The trail route has been built by the Natural Land Alliance.
2. **Natural Land Alliance (0.5 miles):** - A private developer has proposed a new subdivision on this parcel that would include 240 new market rate units - single-family detached homes, town homes and patio homes. Upon completion, this development would result in \$62M in new revenue for the Town (based on \$250K per unit). The developer believes that a regional trail will be valued by new residents.

Valdese Burke River Trail



6/5/2023

- | | | |
|----------------------------------|-------------------|-----------------|
| Burke River Trail Proposed Route | Sidepath (Future) | County Boundary |
| Natural Surface | Sidewalk Existing | World Hillshade |
| Paved Greenway | City Limits | |



Valdese Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- Burke Parcels
- World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery

Citations
4.8m Resolution Metadata

1:20,042

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

4.4 – RUTHERFORD COLLEGE

Once known for its outstanding seminary school, the Town of Rutherford College has a rich history in education and a quaint hometown feel. The Town has a new Greenway Park located next to Town Hall. Input received from the community, staff and Town Council indicates that Greenway Park and Town Hall should be designated as connection points for the RTBC. WPCOG staff obtained input by mailing letters to landowners along the proposed trail corridor, through public input meetings at Town Hall in September and April 2023, by conducting a presentation to the Rutherford College Planning Board, through individual meetings with landowners and by walking properties. These efforts have been helpful in narrowing down the possible route options for the western route of the path.

TRAIL CONNECTIONS

The RTBC will extend to Rutherford College Town Hall south along Malcolm Boulevard. Though not an official trail, future NCDOT plans call for a new sidepath extending along Malcolm Boulevard across new Castle Bridge into Caldwell County. Once in Caldwell County, trail users can access a NCWRC boat ramp and a marina with boat and cabin rentals.

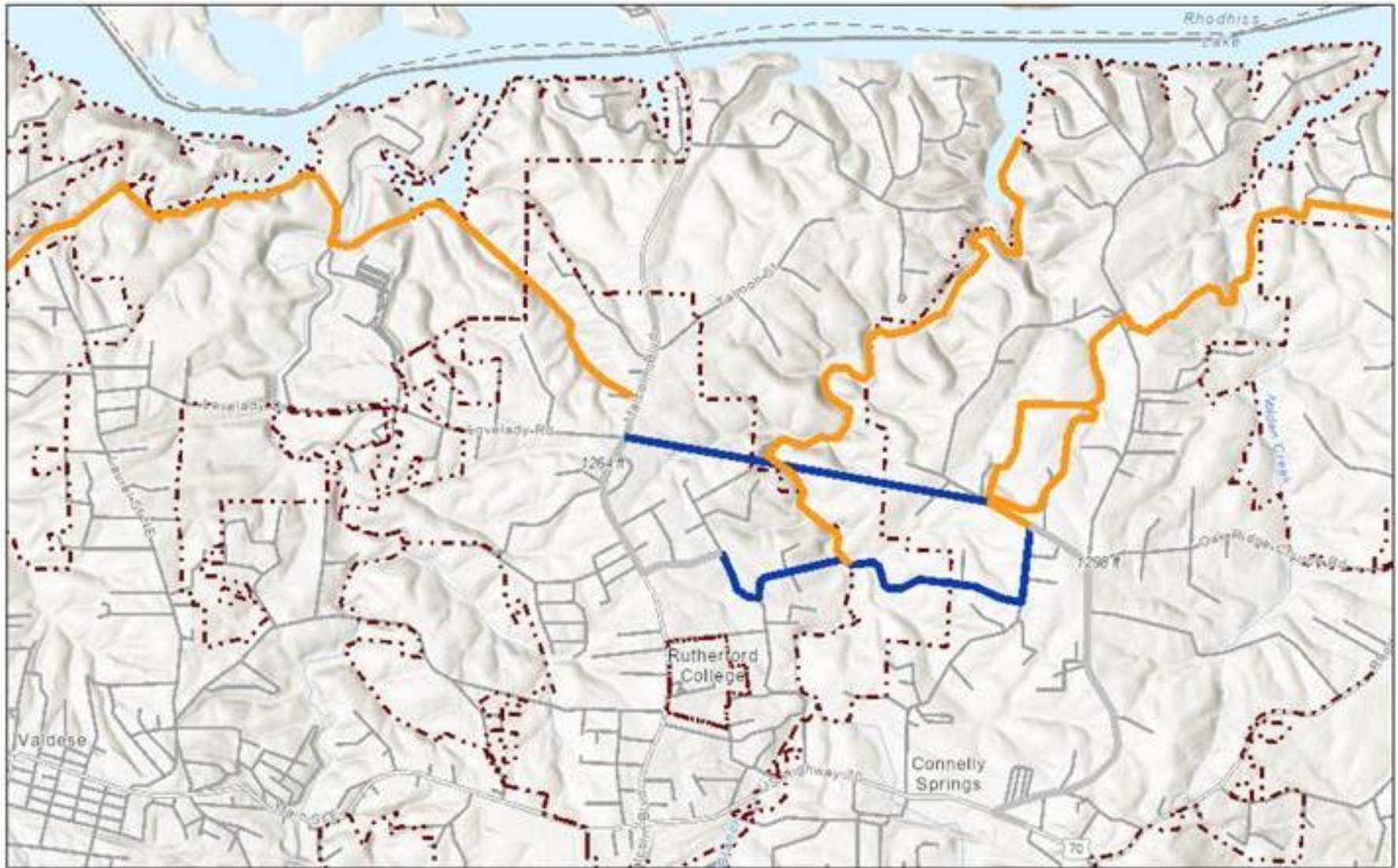
TRAILHEAD OPPORTUNITIES

Trailheads will be located at Greenway Park and in the vicinity of the Malcolm Boulevard and Lovelady Road intersection.

PARCELS OF INTEREST

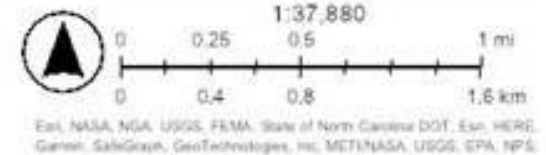
1. Though not all in Rutherford College's jurisdiction, for this study the "Rutherford College Section" of the RTBC will start on the west with a willing 100-acre landowner close to the town's sewer pump station. From there the goal is to extend the trail along the Rutherford College sewer easement to the Lovelady Road and Malcolm Boulevard intersection.
2. A developer with an eleven-acre parcel located between the sewer easement and Malcolm Boulevard is interested in allowing the trail to cross the property. Housing and retail are also planned for the site, as well as a possible splash park.
3. From Greenway Park the RTBC could possibly extend to the east via an existing Burke County sewer easement and Island Creek.

Rutherford College Burke River Trail

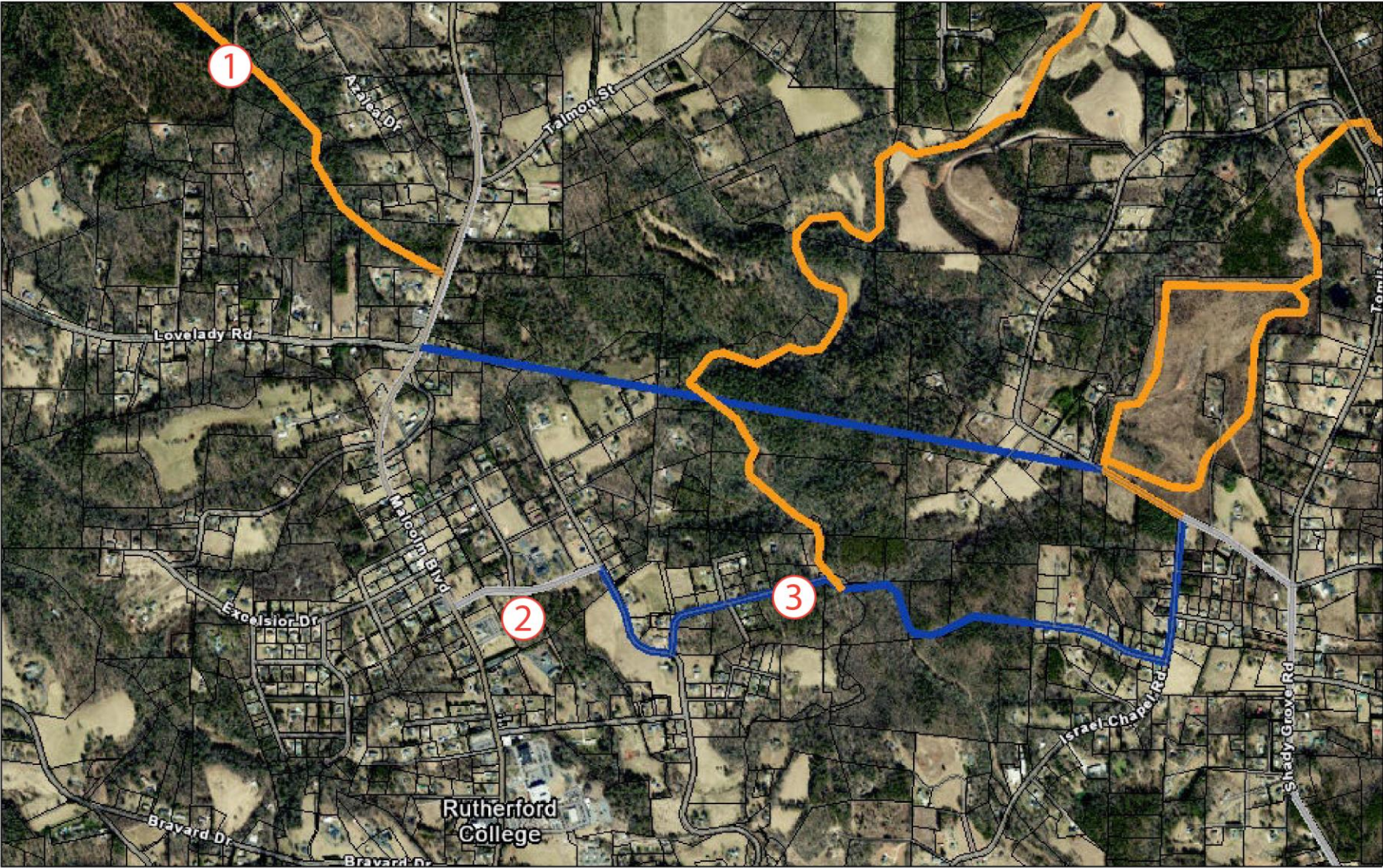


6/5/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- City Limits
- County Boundary
- World Hillshade



Rutherford College Parcels



6/23/2023

- Burke River Trail Proposed Route
- Orange line: Natural Surface
- Blue line: Sidepath (Future)
- Grey line: Sidewalk Existing
- White outline: Burke Parcels
- World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery

- Citations
- 4.8m Resolution Metadata

1:20,042

0 0.13 0.25 0.5 mi
0 0.2 0.4 0.8 km

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

4.5 – CONNELLY SPRINGS

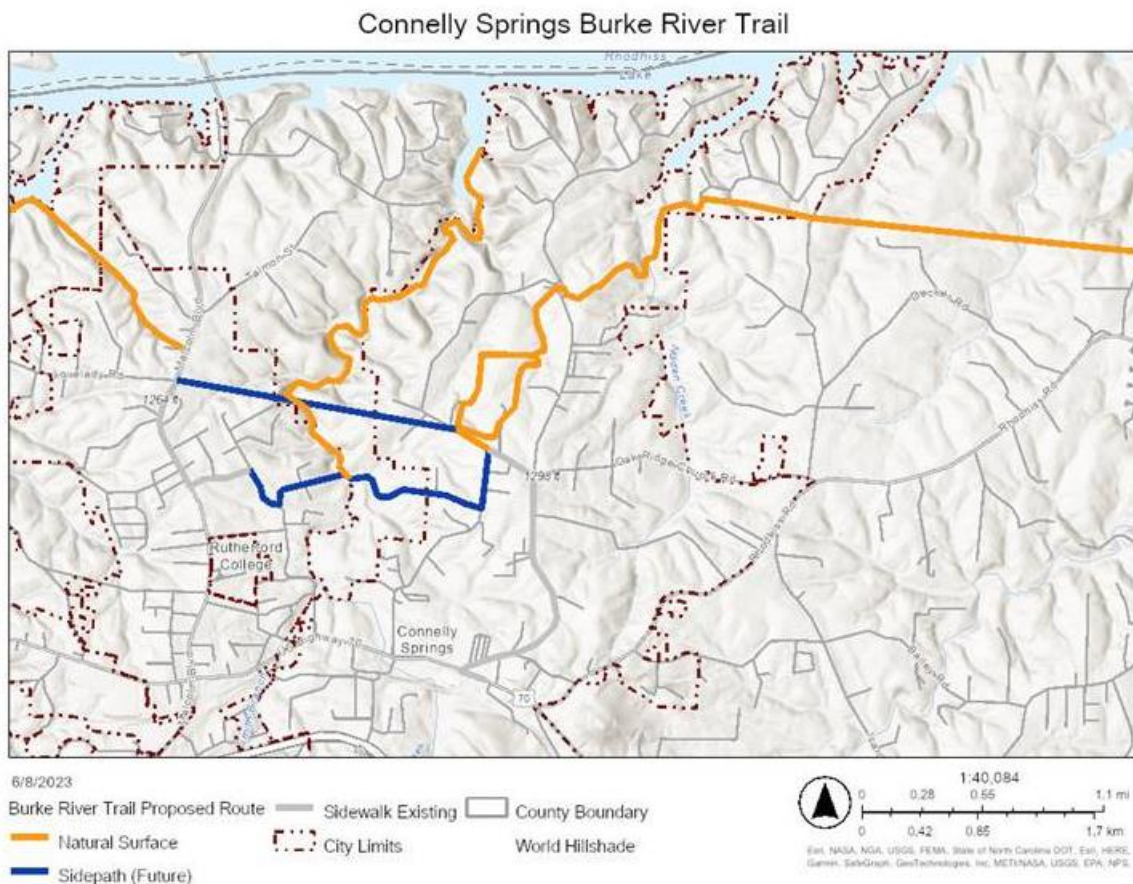
Connelly Springs is located in the center of the RTBC route. The Town has a beautiful town hall with a pavilion and event space. In addition, there is a potential 60-acre housing development with a town park that could become a central feature of the trail. Interesting facts about the the Town's are planned to be aded to informational kiosks located along the trail route.

TRAILHEAD OPPORTUNITIES

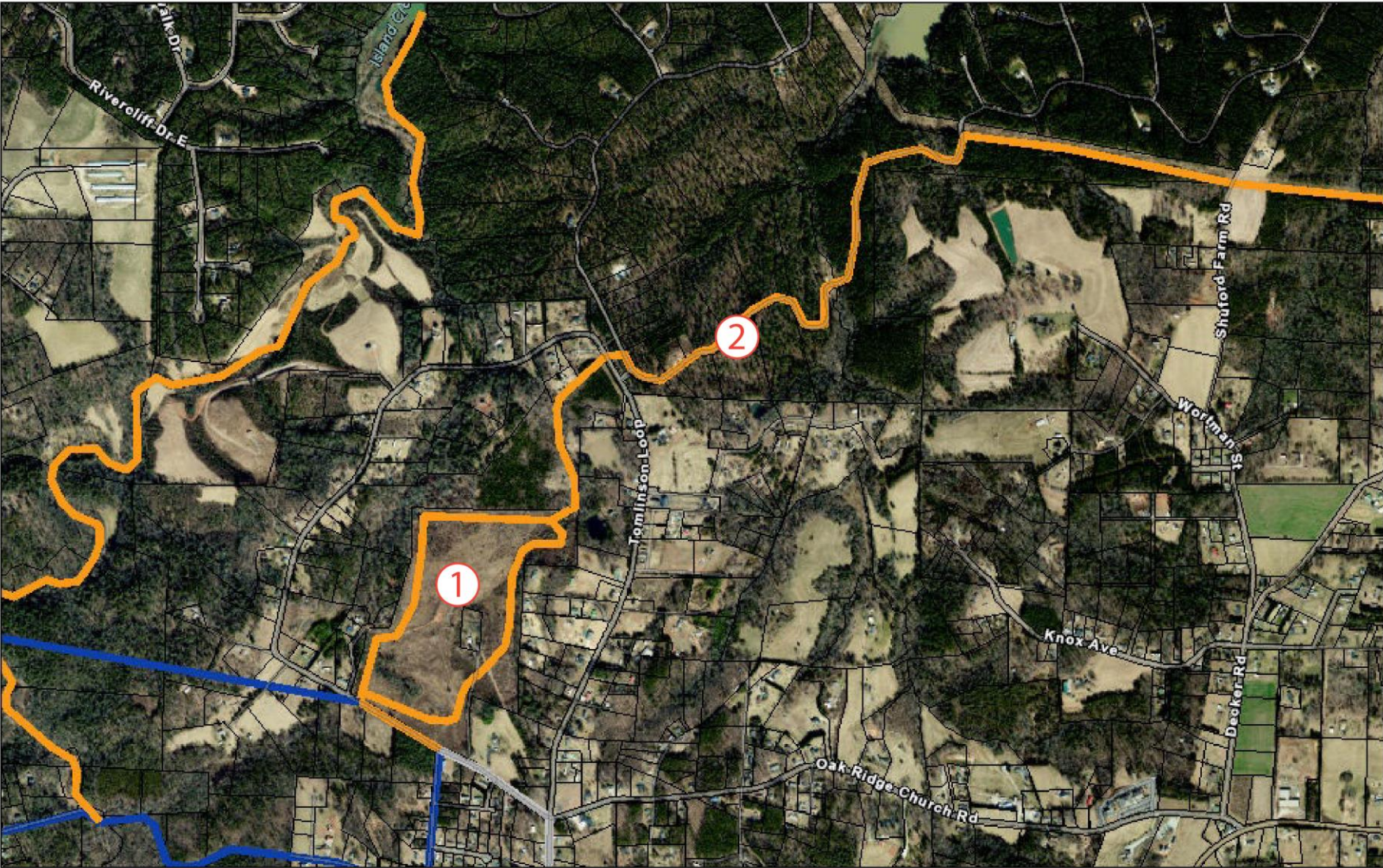
Town Hall is an obvious trailhead. The possibility of a trailhead at the future park located in the 60-acre development would result in the creation of a 1-mile trail.

PARCELS OF INTEREST

1. Town Hall is located on a key parcel because it is a major center of activity for the community. With their monthly summer concert series and other festivals throughout the year, having a trail for event attendees to enjoy would be highly beneficial. Visitors to the Veterans Memorial will also benefit from a trail to explore while visiting the site.
2. The exact trail route is being examined while plans for the housing development are finalized. Potential trail routes include Lail Creek from the west and Nolden Creek or Rhodhiss Road and Jumping Run Creek to the east. The Town is also considering building a possible addition to Town Hall, which may lead to increased activity there.



Connelly Springs Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- Burke Parcels
- World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery

- Citations
- 4.8m Resolution Metadata

1:20,042

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

4.6 – RHODHISS

Located both in Caldwell and Burke counties, and home to the factory that wove the material for the US flag that the astronauts erected on the first visit to the Moon in 1969 – Rhodhiss is prime for even more unique opportunities.

WPCOG staff held multiple meetings with Duke Energy and NCWRC, developers and the NC State Historic Preservation Office, Burke County, Burke Development Inc., NC Hometown Strong regarding potential trail development. A new local business and landowners along the proposed trail corridor voiced their support for the proposed trail at a public meeting.

TRAIL CONNECTIONS

Although not along the RTBC corridor, a trail crossing the Burke Street/Caldwell Drive bridge into Caldwell County is being considered. Such a connection would add to the Town's quality of life by providing a non-motorized connection to both sides of the town.

TRAILHEAD OPPORTUNITIES

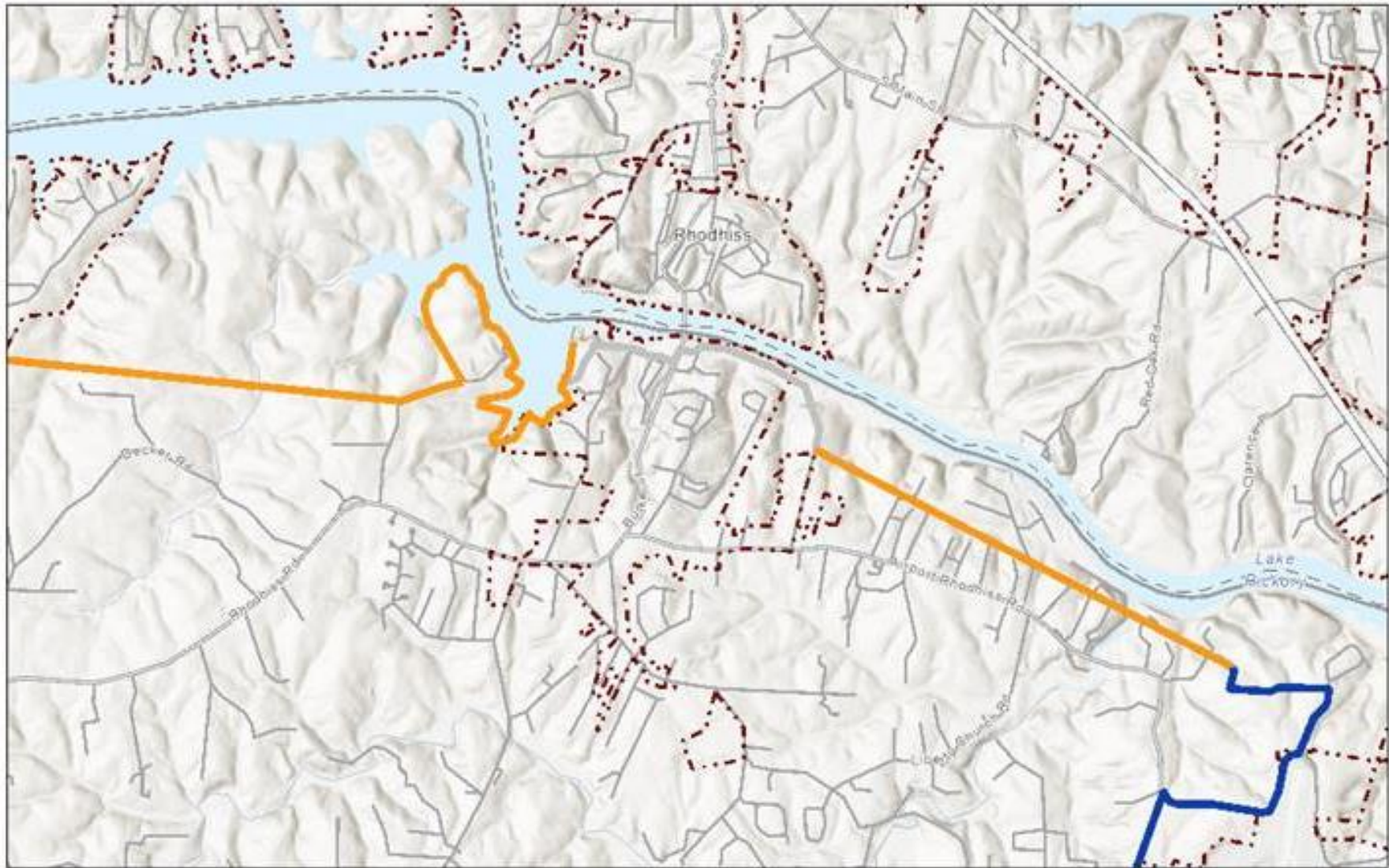
Trailheads are being considered along Rhodhiss Road at the Burke County-owned parcel. There is the existing Horseshoe Dam Park with parking. Finally, the development of the old mill building will create a town center with additional parking.

PARCELS OF INTEREST

1. With the NCWRC boat ramp on the 131-acre Duke Energy parcel adjacent to the 44-acre Burke County convenience center site (which will be closing), there is potential to create an eastern Burke County recreation site with trails, camping, picnicking and possibly an educational nature center on this parcel.
2. Additionally, the former Burlington Mills building is being evaluated by a developer for 120 market rate apartments. The RTBC would extend along a cantilevered boardwalk running between the building and the Catawba River, offering views of the river and dam.
3. Burke County holds an existing trail easement for a small section of the Lakeside Reserve neighborhood.

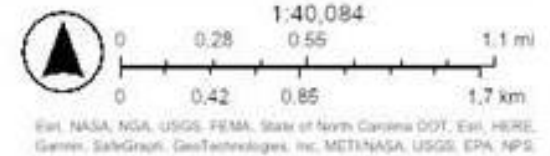
Planned connection points from the Connelly Springs section of the RTBC are the existing Burke County easement at Lakeside Reserve, Weaver Lane boat access, Horseshoe Park, and the former Burlington Mills building. East of the former Burlington Mills building, the trail route may continue along the river or start heading south to the Hickory Regional Airport.

Rhodhiss Burke River Trail



6/8/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- City Limits
- County Boundary
- World Hillshade



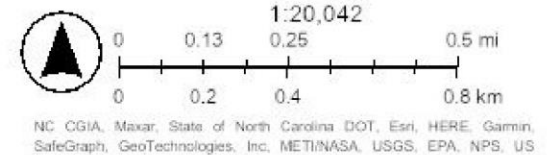
Rhodhiss Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidewalk Existing
- Burke Parcels
- World Imagery
- Low Resolution 15m Imagery

- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations



4.7 – LONG VIEW

The Long View Recreation Center is a central hub located along the proposed RTBC. The trail's objective is to reach all eastern Burke County municipalities. To achieve this, the trail will extend from Rhodhiss into Long View and continue to Hildebran.

TRAIL CONNECTIONS

In the Long View area, there is an opportunity to create a larger “loop trail” experience. The Wilderness Gateway State Trail (WGST – a planned trail that would connect Bakers Mountain to the South Mountains and Chimney Rock) will extend into Hildebran, which would provide a connection to Long View via the RTBC. With a WGST connection in Valdese, a loop would be created linking Long View, Hildebran, Henry Mill Village, the South Mountains, Valdese and back along the RTBC. Outdoor recreation enthusiasts often seek out loop trails to create multi-day experiences.

TRAILHEAD OPPORTUNITIES:

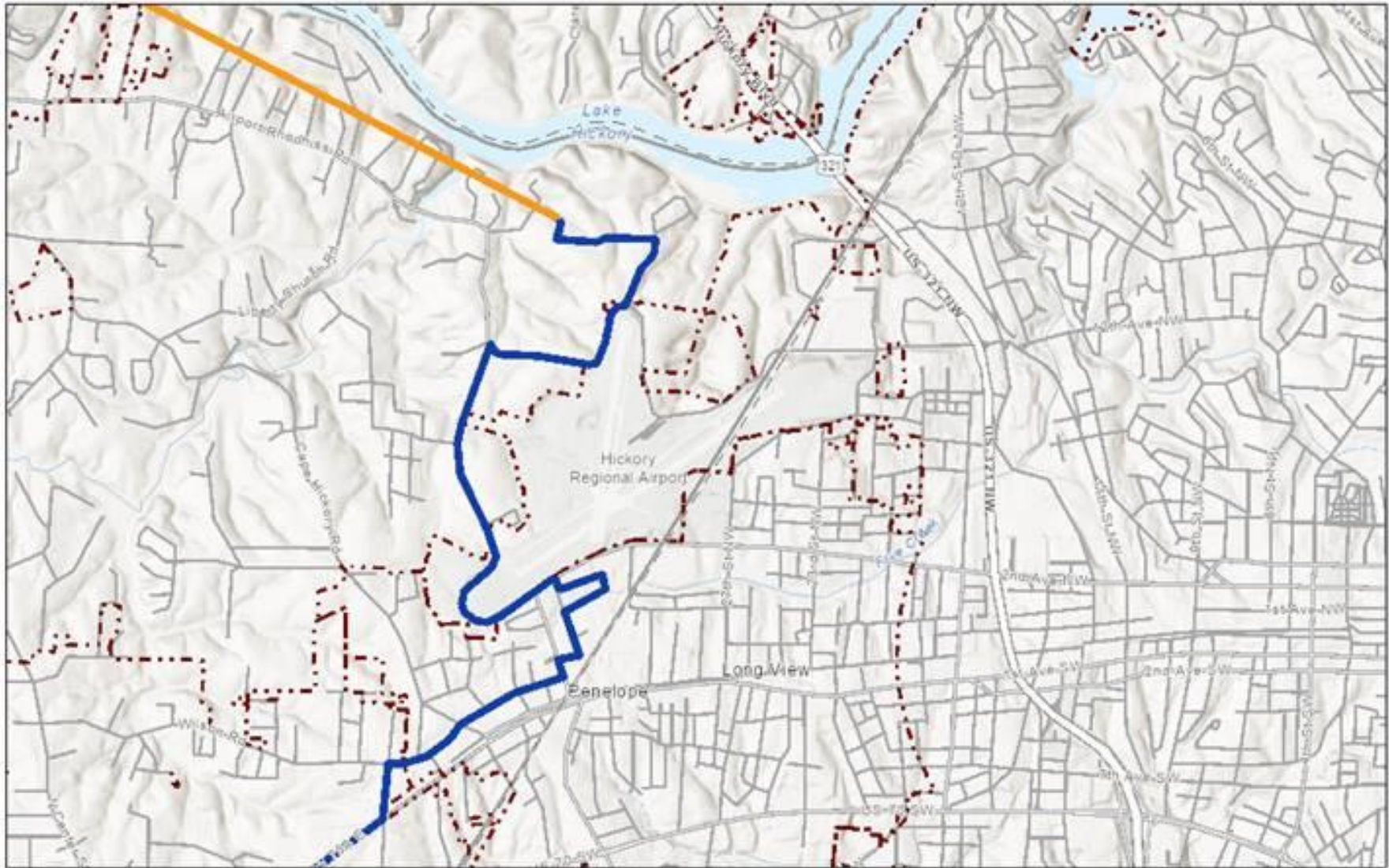
The key parcel in Long View is the Long View Recreation Center (3107 2nd Ave NW, Hickory, NC 28601). The recreation center has a large parking lot and restrooms, which could accommodate trail users and also offers a walking track, playground, picnic area, and tennis/basketball courts.

PARCELS OF INTEREST:

Keeping in mind that a “trail” is not always a path in the woods, and the need to examine practical trail alternatives given existing constraints, WPCOG staff developed a list of potential routes in Long View that could accommodate a side path (or wider sidewalk). These options include:

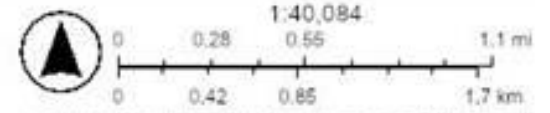
1. Connecting to the Hickory Trail System via 2nd Ave to 17th St which will give access to the Catawba River around Hickory, the new ASU campus, shopping and employment opportunities
2. Henry Fork River Park via 33rd Street
3. Southwest Primary School via 33rd Street

Long View Burke River Trail



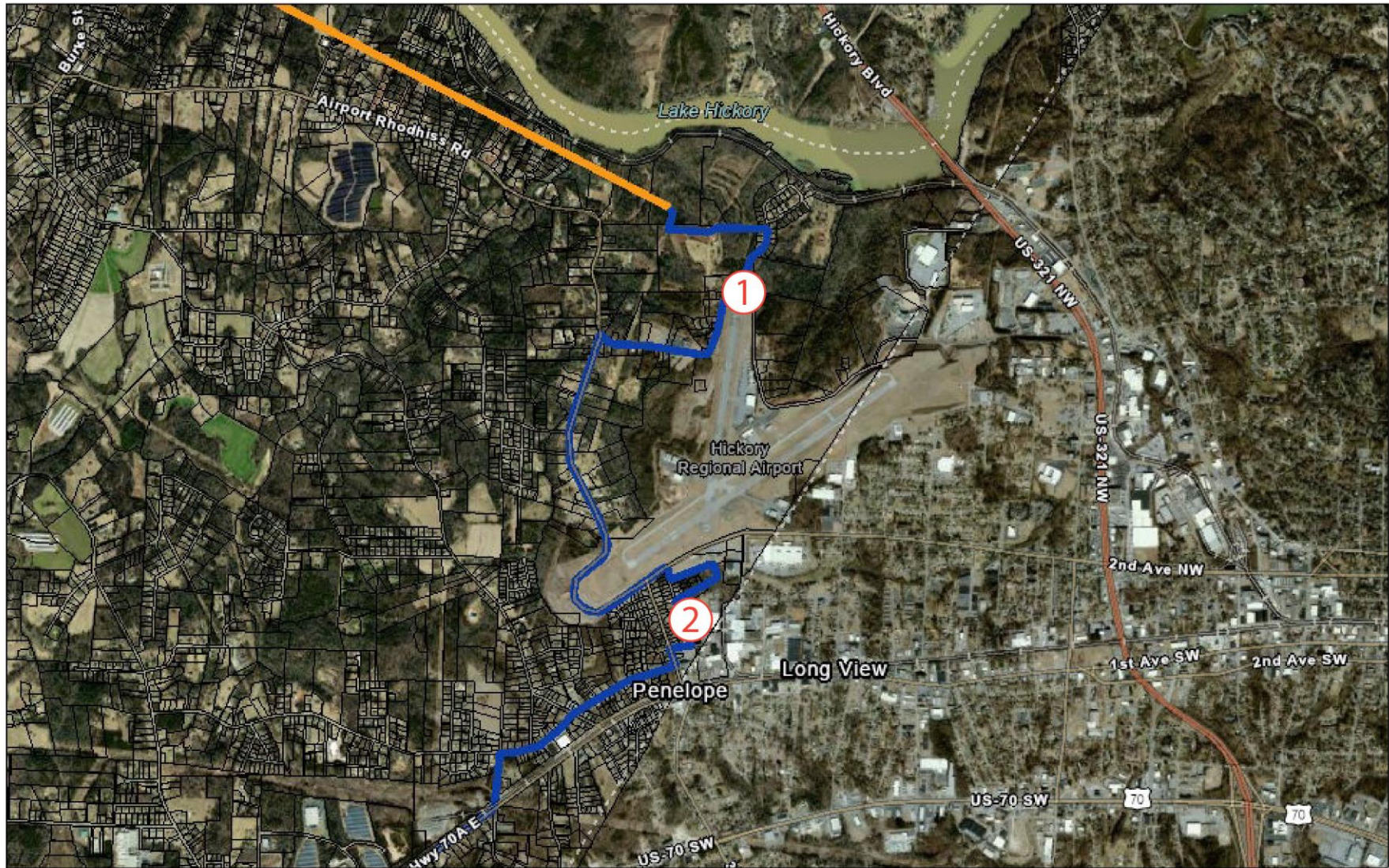
6/8/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- City Limits
- County Boundary
- World Hillshade



Esri, NASA, NOAA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, Swisstopo, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS

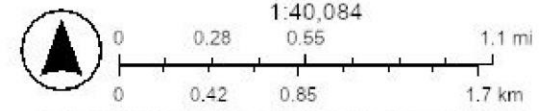
Long View Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Burke Parcels
- World Imagery
- Low Resolution 15m Imagery

- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations



NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS, USDA

4.8 – HILDEBRAN

The Burke River Trail's eastern terminus is downtown Hildebran (this includes a connection to the Wilderness Gateway State Trail south of I-40). Town leaders and the public have identified South Center Street between U.S. Highway 70 and Old N.C. State Highway 10 as a key section of the future RTBC.

TRAIL CONNECTIONS

Key attractions on the South side of Hildebran include the Henry River Mill Village, the planned Wilderness Gateway State Trail and future developments (possible camping, restaurant and the like). Several survey responses in The Town of Hildebran Comprehensive Parks and Recreation Plan requested a non-motorized connection to Henry River Mill Village. A key historic tourism destination, Henry Mill Village could also be a possible trailhead for the Wilderness Gateway State Trail. The RTBC would leave Hildebran's "Center Street Hub" (see description below) by travelling south and crossing the bike/pedestrian adaptable I-40 Exit 119 bridge. From there, discussions are underway with private landowners to take the trail through forested areas to the Henry River Mill Village. Another option would be to use Henry River Road.

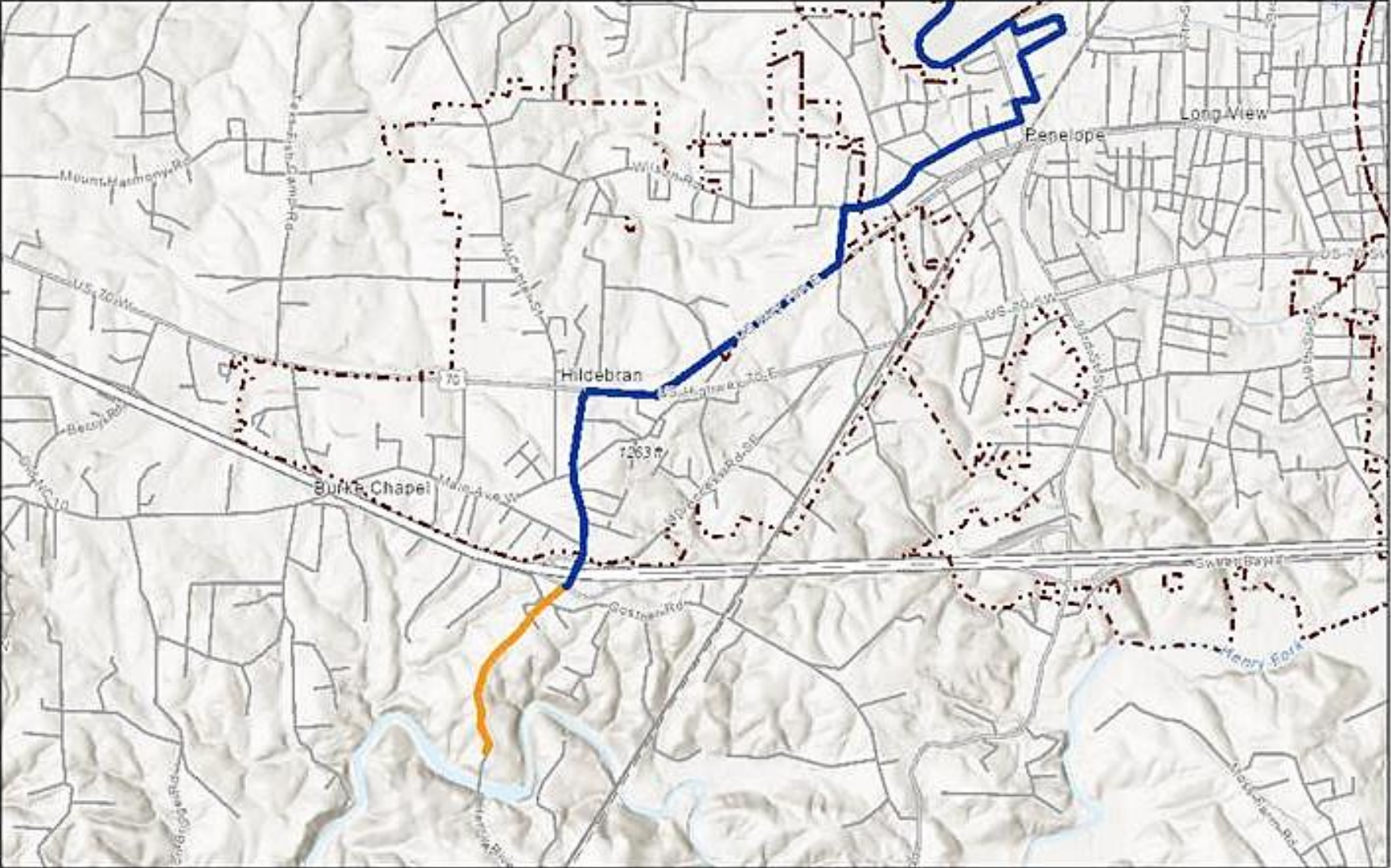
TRAILHEAD OPPORTUNITIES

Hildebran's "Center Street Hub," consists of the New Downtown Park, Town Hall, the Community Center and Gym along South Center Street. All of these locations could be key destinations along the proposed trail. The existing centralized parking access and the available restrooms in the hub area would also contribute significantly to the establishment of a trailhead here. As a bonus, sidewalks already exist that extend from the hub to the Hildebran Community Park and Disc Golf Course on the east side and the Burke County Library and Senior Center on the west side. A trailhead on the north side of U.S. Highway 70A at the Old Depot site could also be a location to install historical and educational kiosks.

PARCELS OF INTERES

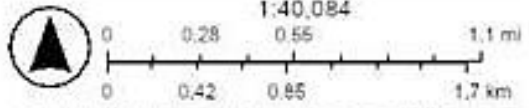
1. The RTBC trail stops prior to Hildebran in Long View. The primary corridor being studied to provide a connection to Hildebran is U.S. Highway 70A, which could provide a future recreational path in addition to bicycle and pedestrian transportation.
2. Another route option is Wilson Road. Hildebran has noted in various plans (recreation plan, pedestrian plan, Western Piedmont Bicycle Plan) the need for new and better bicycle/pedestrian routes. NCDOT's Complete Streets policy could be applicable in future situations as the Town works to achieve these goals.

Hildebran Burke River Trail



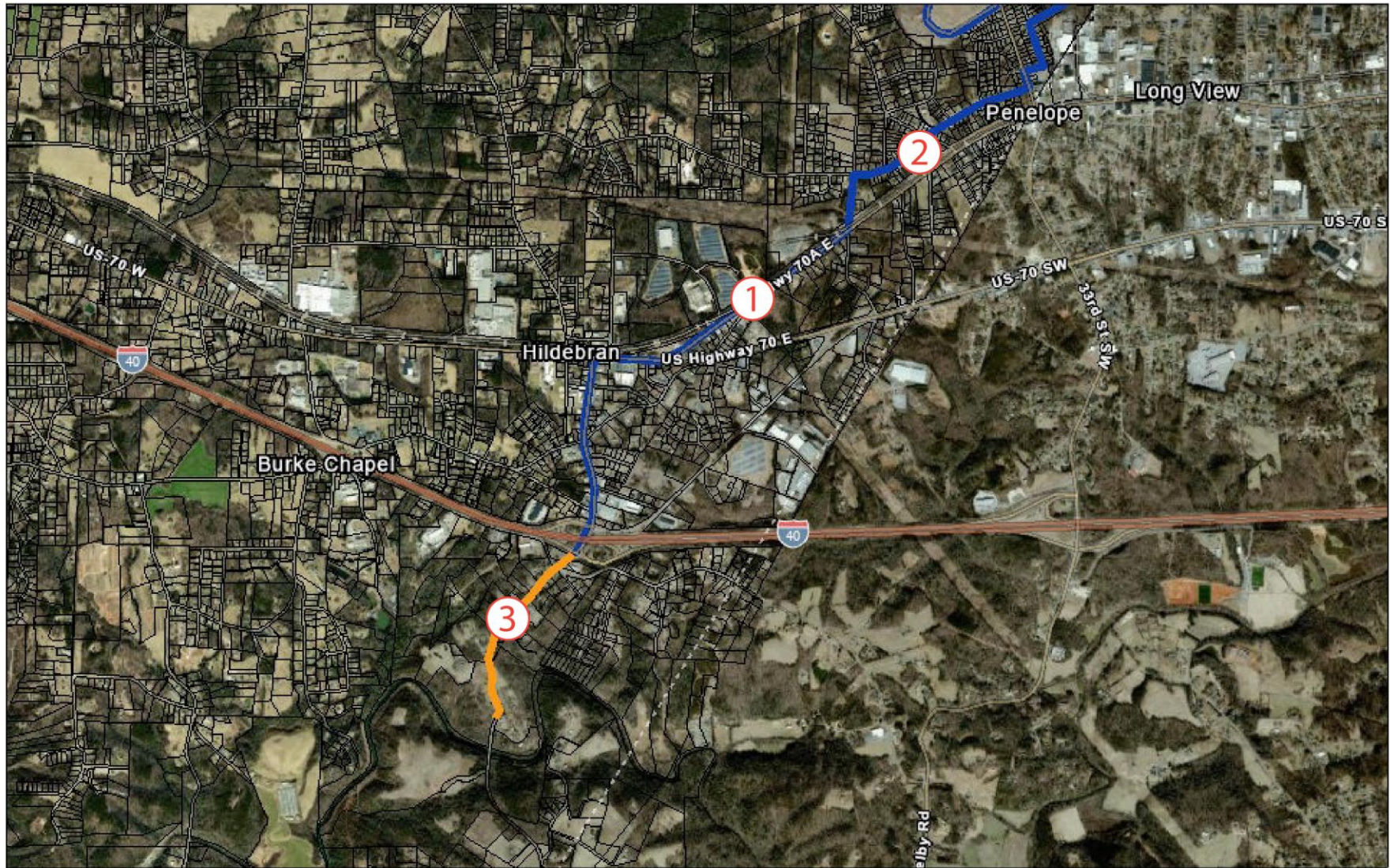
6/8/2023

- Burke River Trail Proposed Route
- █ Sidepath (Future)
- County Boundary
- █ Natural Surface
- City Limits
- World Hillshade



Esri, NASA, NGA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS

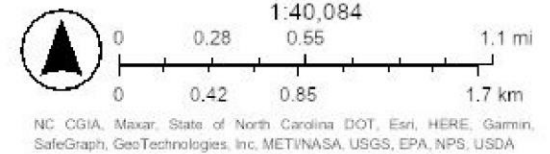
Hildebran Parcels



6/23/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Burke Parcels
- World Imagery
- Low Resolution 15m Imagery

- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

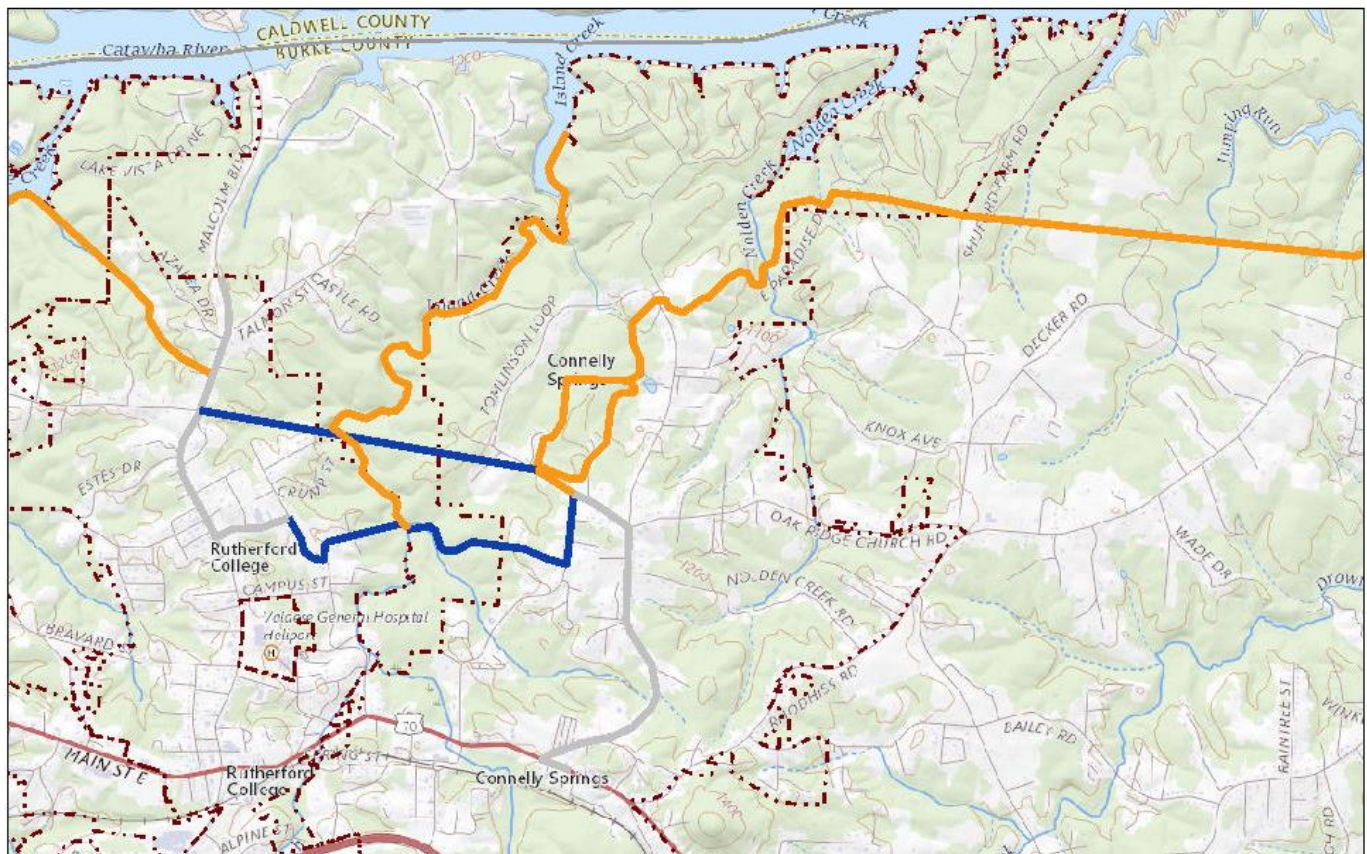


5 - CONNELLY SPRINGS TRAIL ALIGNMENTS, ALTERNATIVES AND COST ESTIMATES

Connelly Springs is located in eastern Burke County. It is bordered to the west by the town of Rutherford College and to the north by Lake Rhodhiss on the Catawba River. Interstate 40 forms part of the southern boundary of the town, and U.S. Highway 70 is the main local route through the town.

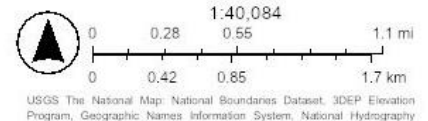
According to the United States Census Bureau, the town has a total area of 5.0 square miles. As of the census of 2020, there were 1,529 people and 838 housing units in the town. The median income for a household in the town was \$33,889, and the median income for a family was \$56,094. About 12.4% of the population were below the poverty line, including 12.6% of those under age 18 and 15.6% of those age 65 or over.

Connelly Springs Burke Trail Alignment



6/8/2023

- Burke River Trail Proposed Route — Sidewalk (Future) City Limits
- Natural Surface Sidewalk Existing County Boundary



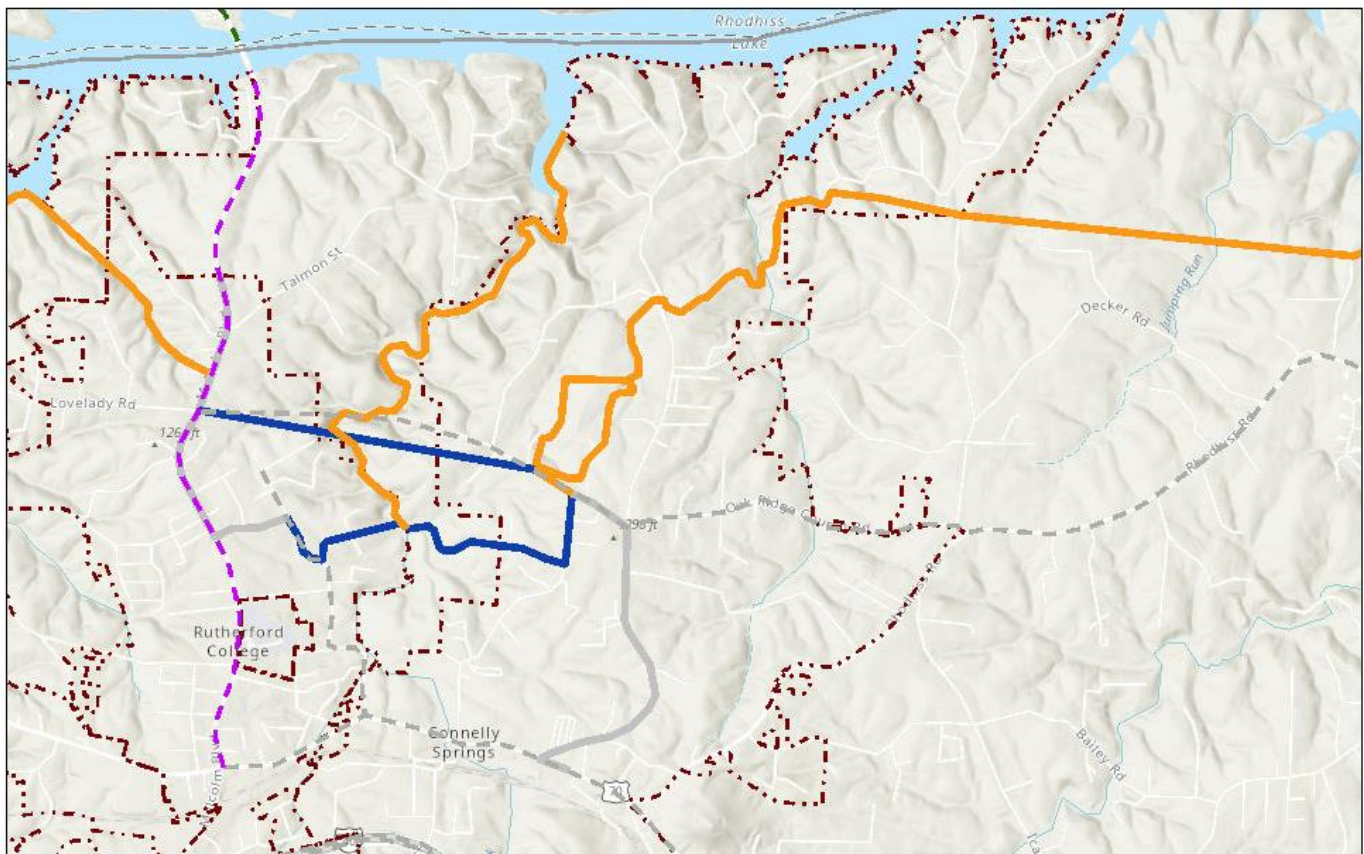
5.1 - TRANSPORTATION

Transportation policies help guide improvements made to existing roadways and set standards for new transportation projects. Policies are in place that require streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. These improvements will be planned in conjunction with new development and redevelopment. The general locations of potential transportation improvements are shown below.

IMPROVED AREA THOROUGHFARES

The Greater Hickory Metropolitan Planning Organization’s (GHMPO) current Comprehensive Transportation Plan (CTP) shows that there is a planned roadway extension running from Lovelady Road to Tomlinson Loop toward Hickory. While this project is not currently funded, it should be added to future versions of the Metropolitan Transportation Plan and CTP to allow the RTBC to potentially follow the extension, if feasible.

Connelly Springs Transportation



6/8/2023

MTP CTP Lines - - CTP

2030

Burke River Trail Proposed Route

2040

Natural Surface

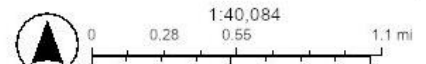
Sidepath (Future)

Sidewalk Existing

City Limits

County Boundary

World Hillshade



Esri, NASA, NGA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS

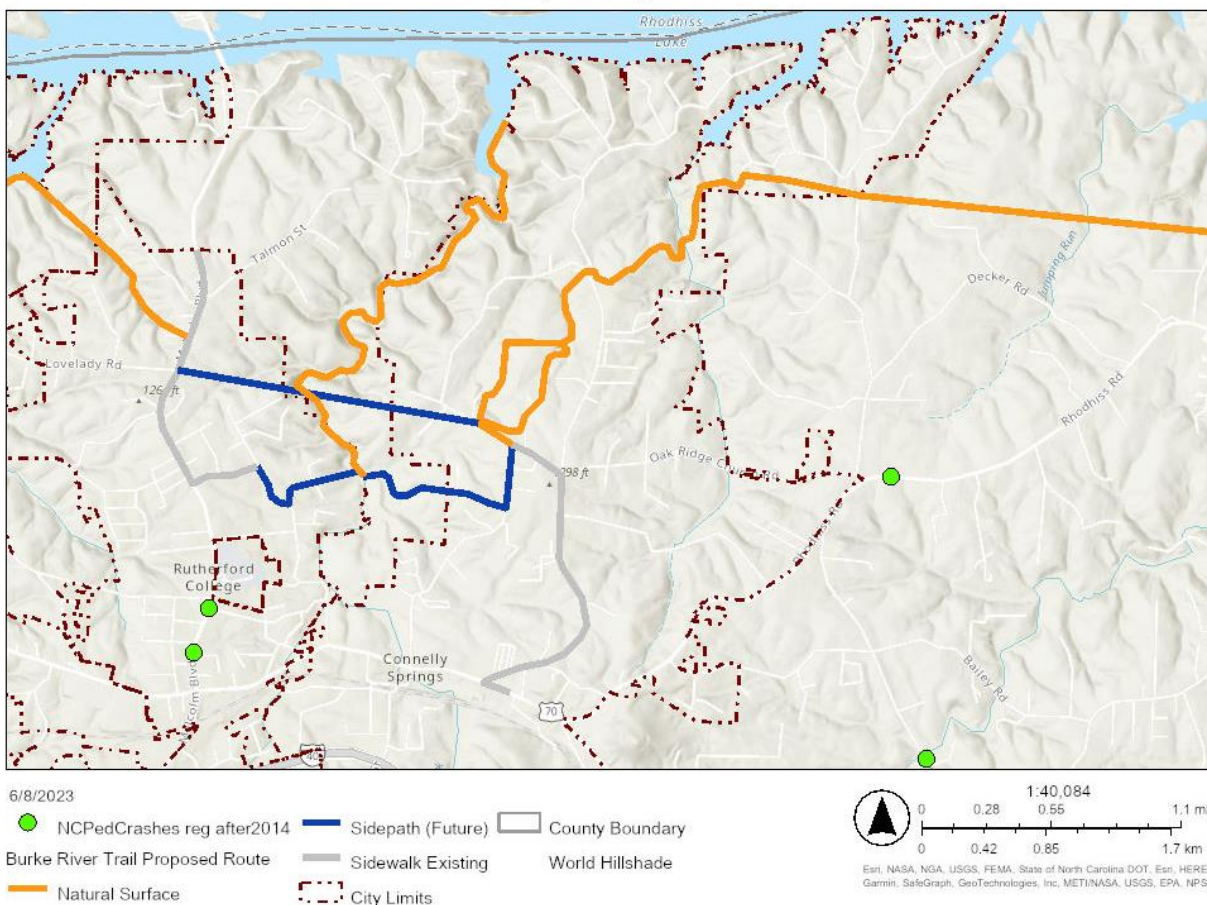
PEDESTRIAN SAFETY

Safety is the most important aspect of transportation planning. It is vital to examine how the safety of the areas’s transportation network may be affected by current and future land uses. Safety improvement projects (referred to as “modernization projects” by NCDOT) can include the construction of new turn lanes, the straightening of curves, the installation of rumble strips, pedestrian crossings and other intersection improvements.

The National Highway Traffic Safety Administration has determined that pedestrian crashes are more likely to occur during peak travel periods in the morning and afternoon. Most crashes involving pedestrians will occur in urban areas where pedestrian and vehicular traffic volumes are high; however, rural areas can also be dangerous for pedestrians due to the lack of sidewalks, paths, wide shoulders, and crosswalks. Driver behavior is also a factor; speed and alcohol involvement has an impact on many crashes with pedestrians. American roadways, which were primarily designed to serve only automobile traffic, create dangerous conditions for bicyclists. Slight increases in automobile speeds can severely affect the likelihood of a cyclist’s ability to walk away from an accident unscathed. Wayfaring and awareness signage, and pavement markings such as sharrows, are examples of relatively low-cost solutions that can be used to improve bicycle and pedestrian safety.

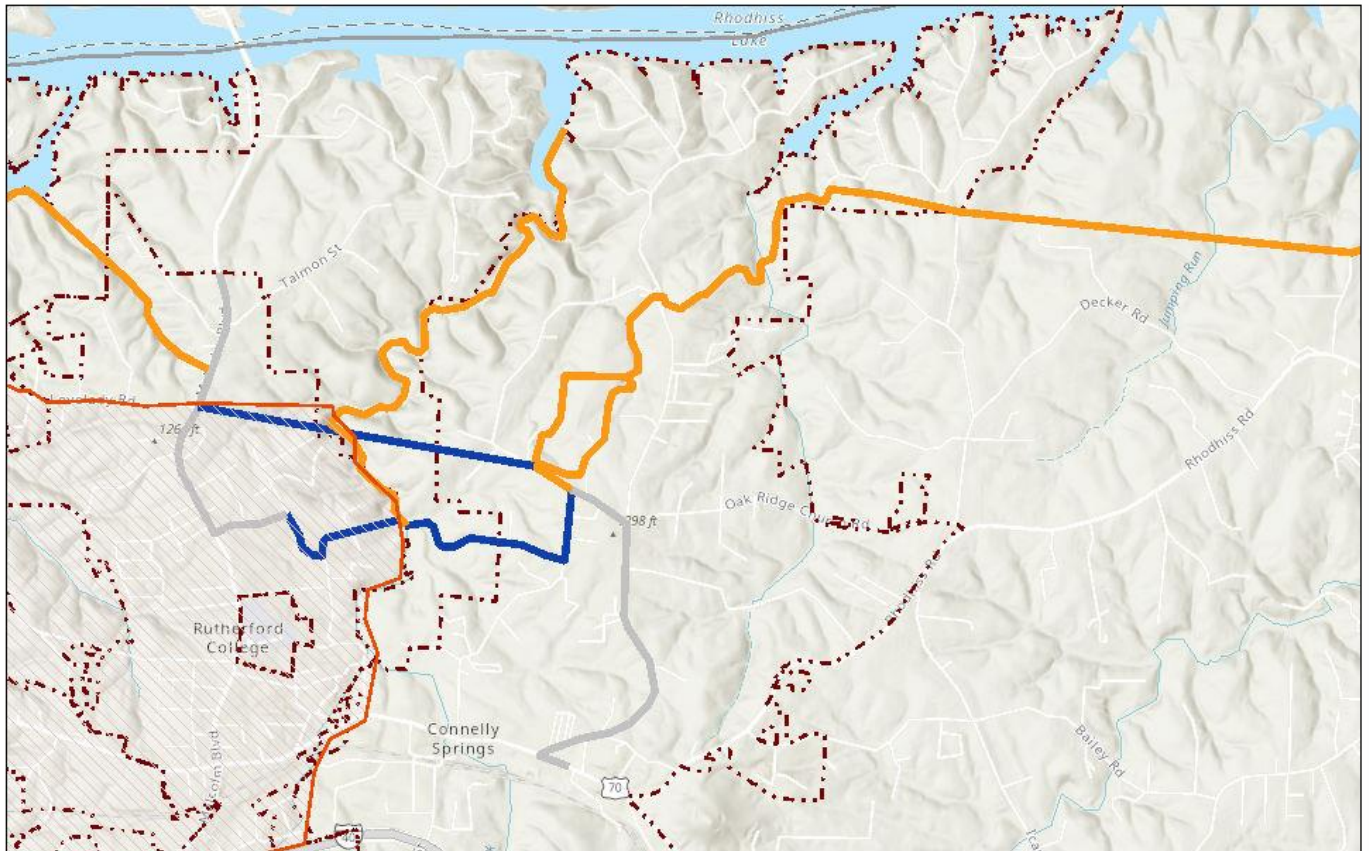
Map 5-3 shows pedestrian crashes (green dots) in Connelly Springs from 2014 through 2022. There were no bicycle crashes. The proposed trail alignments do not intersect with any of crashes shown on the map.

Map 5-3: Connelly Springs Pedestrian Crashes
Connelly Springs Crashes



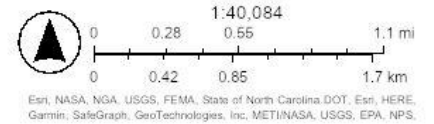
Public transportation is a lifeline for many citizens in the Western Piedmont region. Transit services connect people to jobs, schools, grocery stores, medical care, recreational areas, and family. The Western Piedmont Regional Transit Authority (WPRTA) serves the Greater Hickory MPO planning area, currently operating as Greenway Public Transportation. Greenway Public Transportation provides Demand Response Van Service and Micro Transit service in Burke County. However, Micro Transit service is not currently provided in Connelly Springs, but is located in neighboring Rutherford College.

Connelly Springs Micro Transit



6/8/2023

- Micro Transit Zone
- Sidepath (Future)
- County Boundary
- Sidewalk Existing
- City Limits
- Natural Surface
- World Hillshade

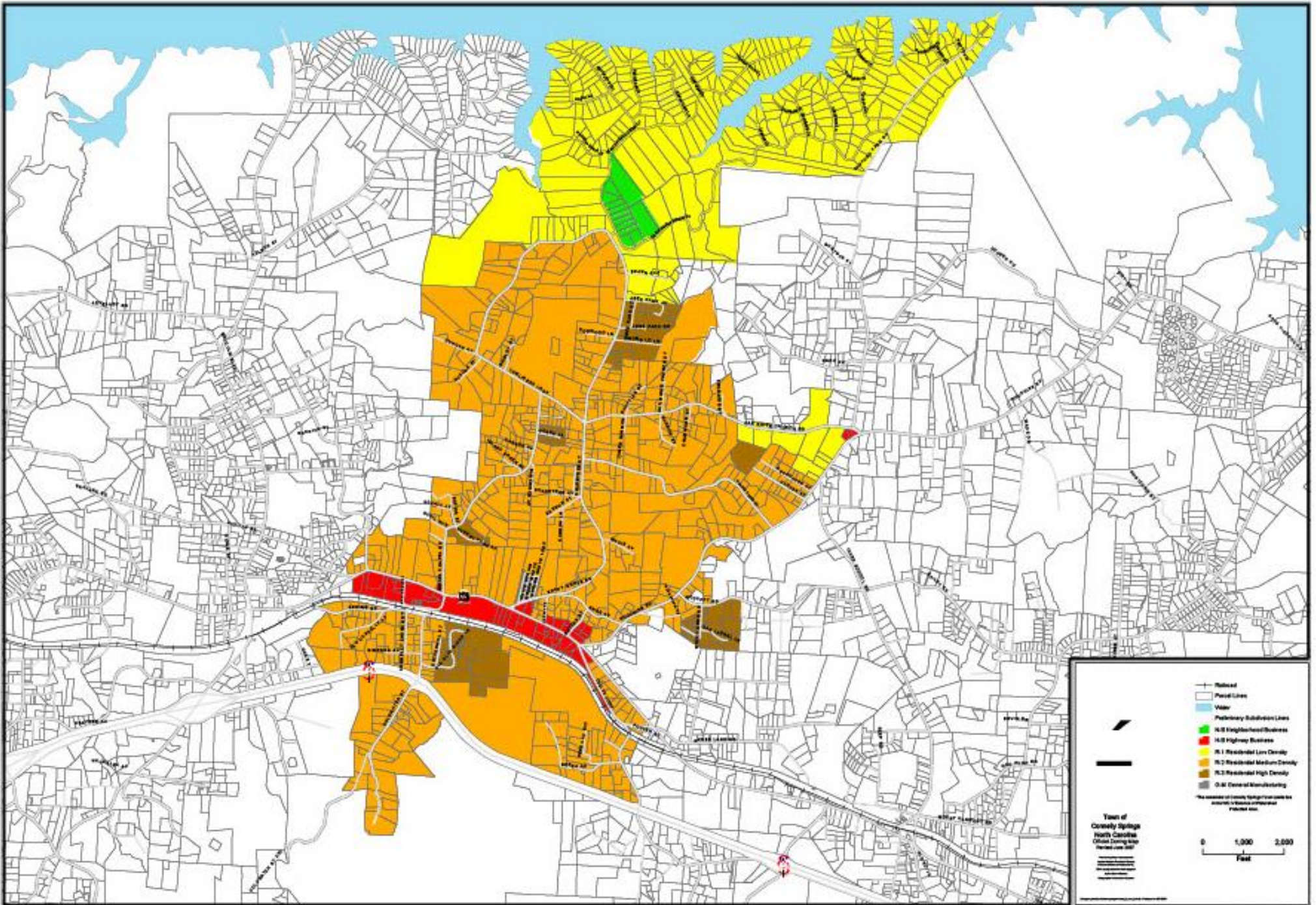


5.2 - LAND USE

ZONING

The Town of Connelly Springs has a planning jurisdiction (within Town limits) of approximately 3,200 acres. Zoning in Connelly Springs is predominately residential. The remainder of the Town is zoned as commercial along U.S. Highway 70, with some Neighborhood Business zoning in the northern part of Town.

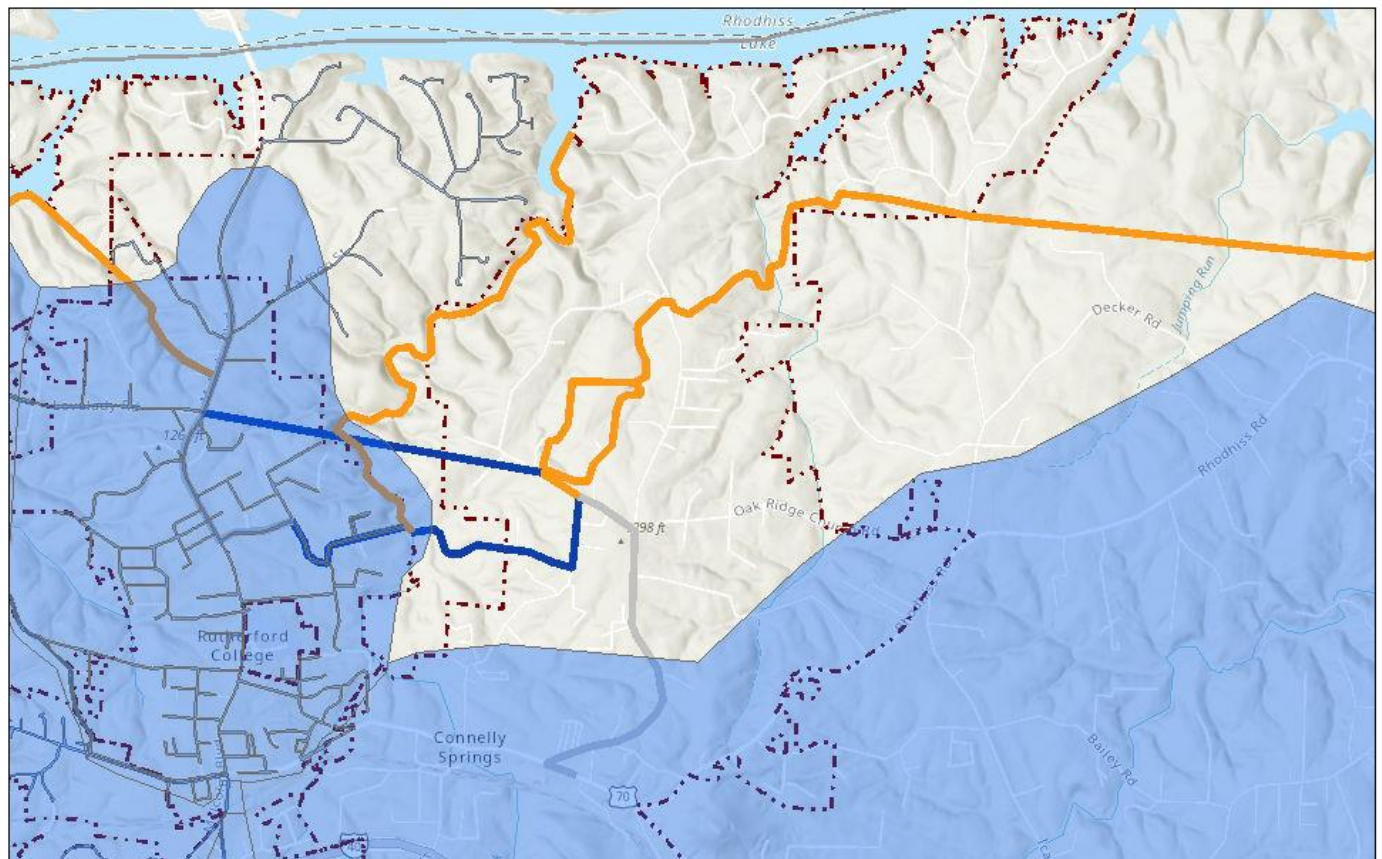
As Table 5-5, “Town of Connelly Springs Zoning” shows, most of the parcels zoned commercial are located along U.S. Highway 70. All proposed trail alignments in this study pass through residentially-zoned parcels.



5.3 - PUBLIC SERVICES

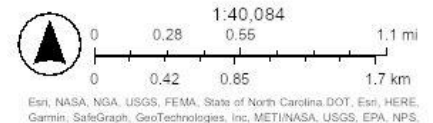
The Town of Connelly Springs provides water and sewer service to a core group of customers. Upkeep and maintenance of their system is provided by the Icard Water Corporation. (See Figure 5-4: Town of Connelly Springs Water Coverage). Currently less than half of the Town has municipal water lines. The rest of the Town operates on wells. Utility right-of-way can often have the potential to house trail and make connections.

Connelly Springs Water Coverage



6/8/2023

- Burke Water Master
- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- City Limits
- County Boundary
- World Hillshade



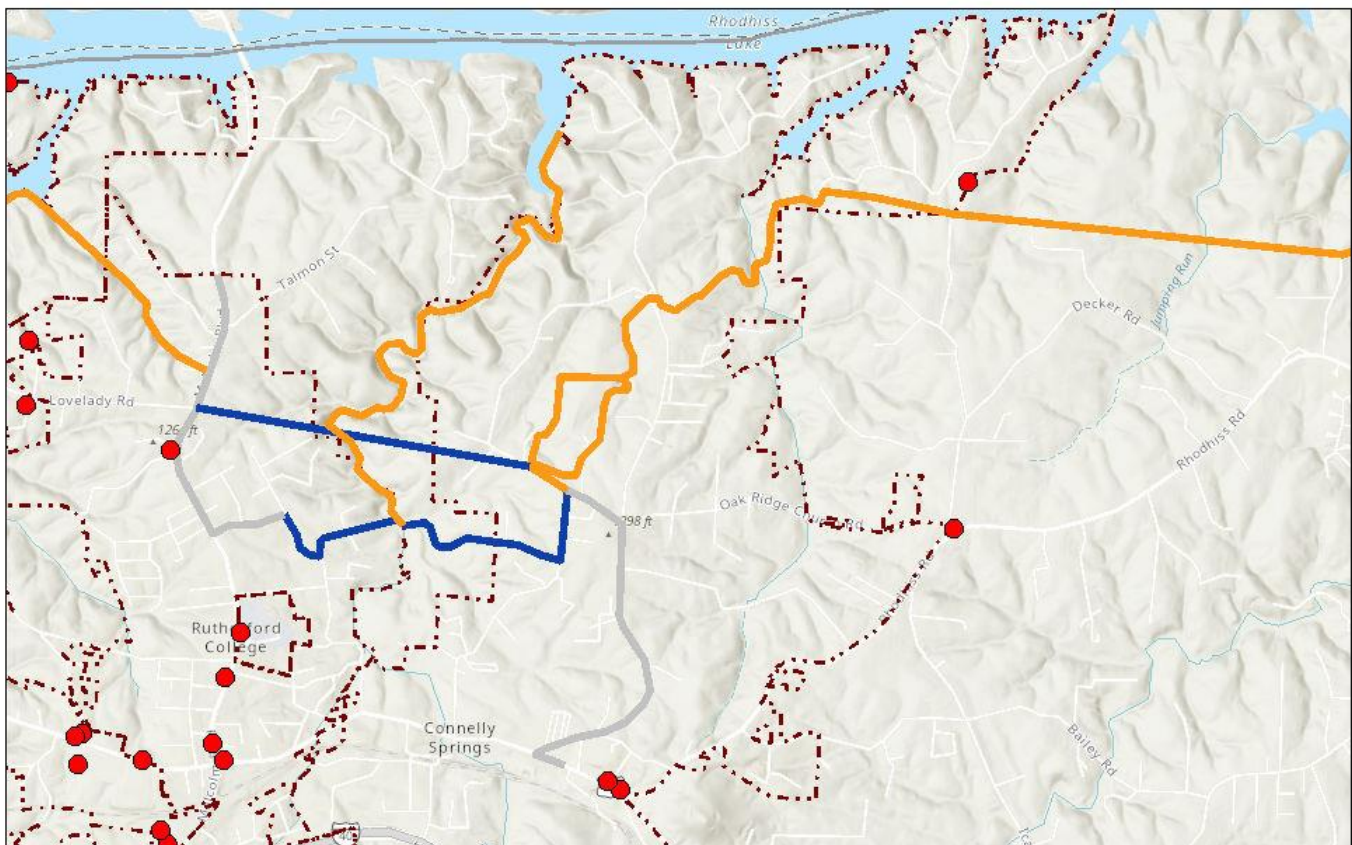
Esri, NASA, NGA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS.

5.4 - POTENTIAL CONTAMINATION SOURCES (PCS)

The North Carolina Division of Water Resources, Public Water Supply (PWS) Section is responsible completing assessments for all public drinking water supplies in the state. A source water assessments are completed by PWS to evaluate the potential for a drinking water source to become contaminated by an identified potential contaminant sources (PCS) within a delineated area. PCS's may need to be avoided during trail planning, or plans to mitigate the site may be required to build trail for safety, legal and funding purposes.

Surface water sources can be threatened by many potential contaminant sources, including permitted wastewater discharges, urban storm water runoff, or other types of non-point source contamination such as runoff produced by agricultural activities and land clearing for development. Types of PCSs include: animal operations (AO), superfund sites (CERCLIS), Hazardous Waste Transporter/Generators (HWGT), National Pollution Discharge and Elimination System permit holders (NPDES), petroleum contaminated soils (PCBS), prior pollution incidents (PIRF), Tier II hazardous chemical inventory (TII), treatment storage and disposal (TSD), old Landfill Sites (UDS), underground injection control wells (UIC), and underground storage tanks (UST) (NC DEQ Source Water Protection Planning Branch).

Connelly Springs Potential Contaminant Sites



6/8/2023

- Burke Potentially Contaminated Sites
- Sidepath (Future)
- County Boundary
- Burke River Trail Proposed Route
- Sidewalk Existing
- World Hillshade
- Natural Surface
- City Limits



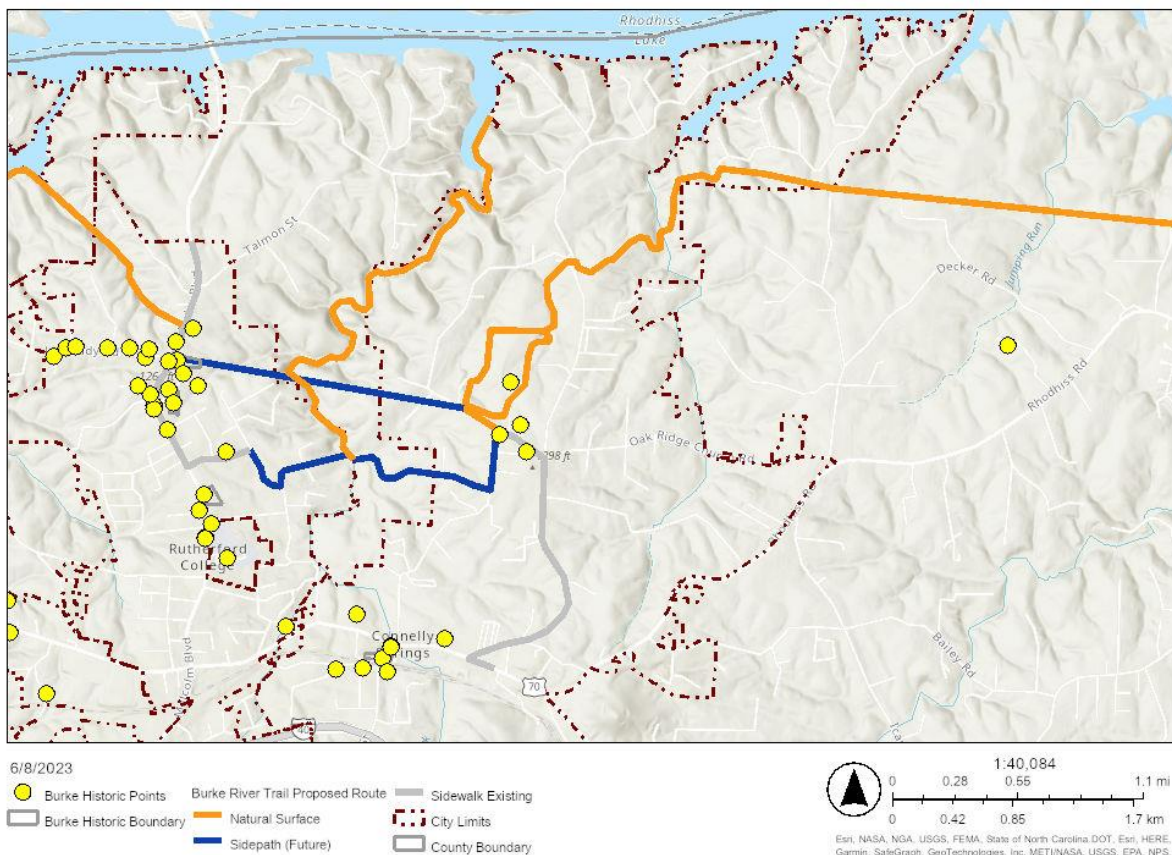
5.5 - HISTORIC RESOURCES

The National Register of Historic Places is the official list of the Nation's preservation-worthy historic places. The Register includes significant properties, which are further divided into buildings, sites, districts, structures, or objects. The National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Proposed trails that are located near historic properties could make the trail more interesting to tourists and contribute to economic development.

The North Carolina State Historic Preservation Officers (SHPO) carries out many historic preservation responsibilities including surveying, evaluating and nominating properties for inclusion in the National Register. Properties that are eligible for and listed on the National Register, qualify for federal rehabilitation tax incentives, federal tax incentives for preservation easements on historic buildings and sites, or National Park Service grants.

In North Carolina, the placement of a property or district on a "Study List" constitutes the first step toward nomination to the National Register. The Study List identifies properties and districts that are likely to be eligible for the National Register, giving the green light to sponsors and staff to proceed with a formal nomination with reasonable assurance that the property can be successfully nominated. According to the State Historic Preservation Office, there are eleven (11) sites in Connelly Springs that are either listed in the National Register, Determined Eligible or are on the Study List. Figure 5-8: Historic Properties illustrates where those places are located.

Connelly Springs Historic Properties



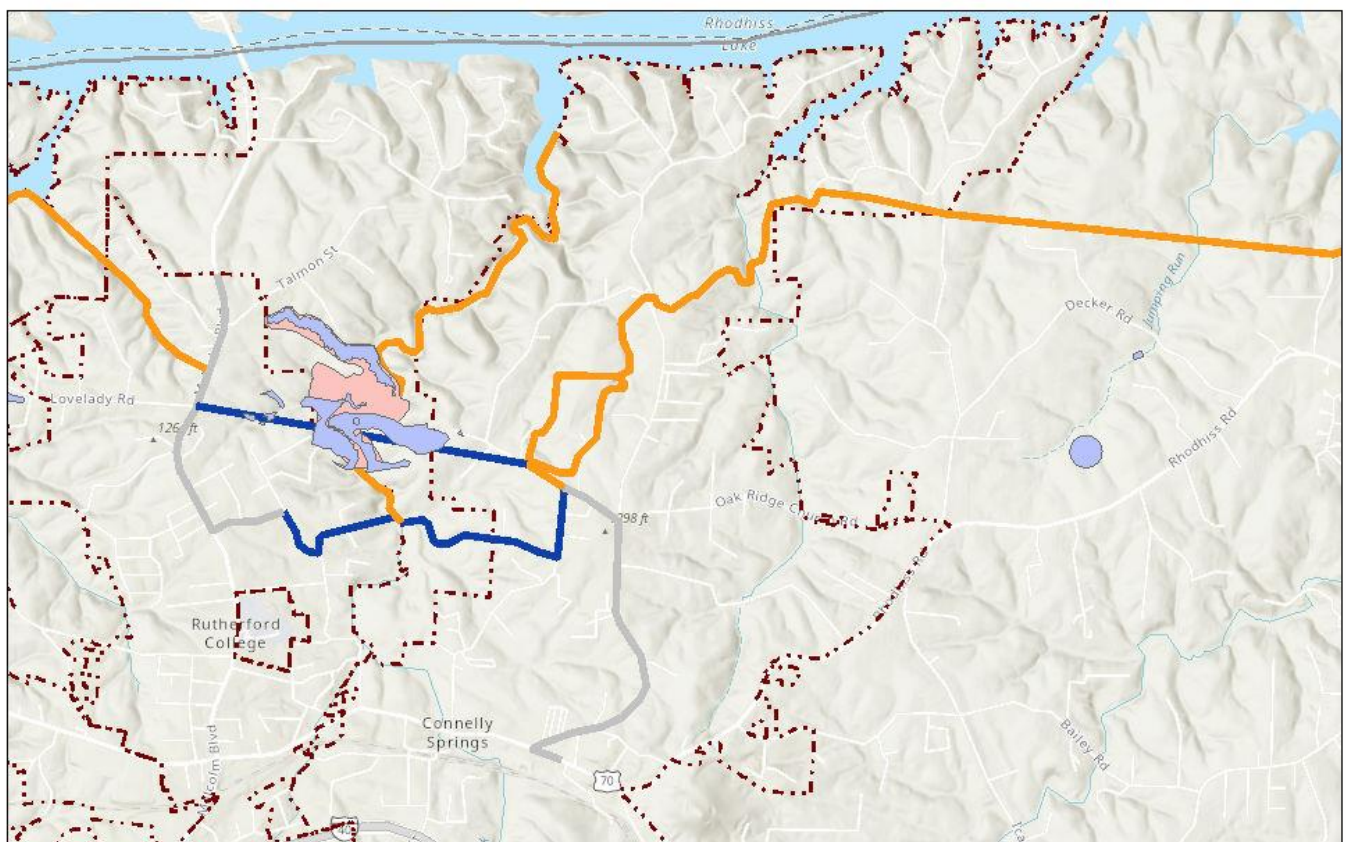
5.6 - NATURAL HERITAGE INVENTORY

Figure 4-5: National Heritage Inventory displays information that can be used when developing a plan for water and ecological conservation by identifying those areas of ecological importance. The information displayed is based on the best scientific data and expertise available from a multitude of sources. Areas with more rare, abundant and diverse species and habitats are rated with higher conservation values, and contain the rarest species and habitats. These are the most important areas to conserve, buffer and connect for wildlife purposes. They play an important role in maintaining habitat connectivity and biodiversity.

Natural Heritage Natural Areas are identified by North Carolina Natural Heritage Program ecologists. These sites support rare and high-quality populations of native plants, wildlife and natural communities (habitats) on both land and water – and are extremely important to the conservation of the state’s biodiversity. An area’s value rating may be due to the presence of rare species, rare or high-quality natural communities or other important ecological features. It should be noted that this dataset only contains data for rare species and habitats; not all priority wildlife and habitats species datasets are included.

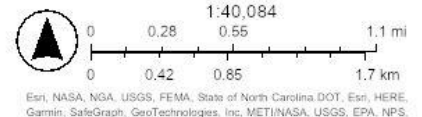
There is a potentials for trail projects to be delayed or altered due to the presence of rare/endangered species.

Connelly Springs Natural Heritage Inventory



6/8/2023

- █ Nheo Burke River Trail Proposed Route
- █ Nhna
- █ Sidepath (Future)
- █ Natural Surface
- █ Sidewalk Existing
- City Limits
- County Boundary

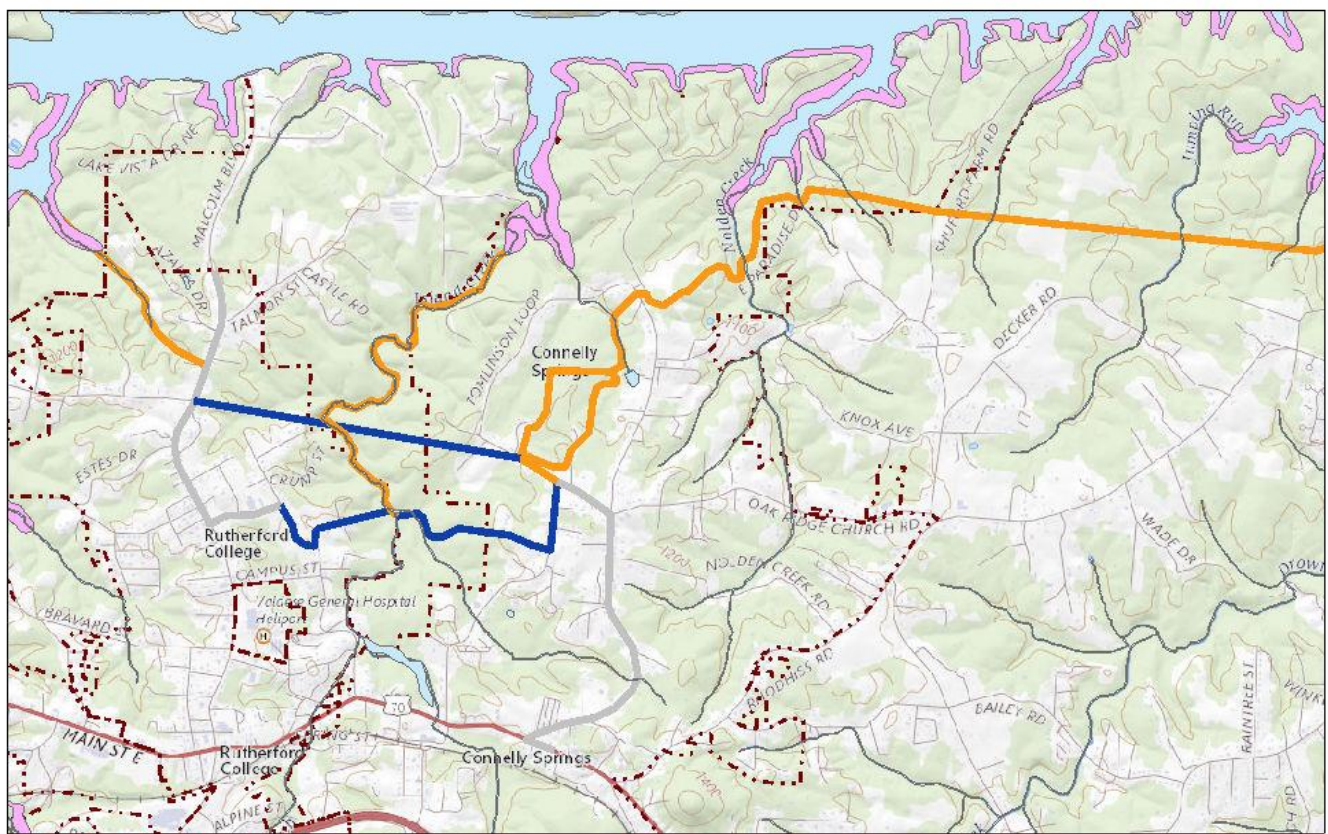


5.7 - WETLANDS AND WATER BODIES

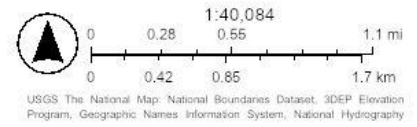
The entirety of Town of Connelly Springs is in the drainage area for the Catawba River watershed. Burke County's streams and creeks drain into the Catawba River, which then drains into Lake Rhodhiss and into the Catawba River Basin. The entirety of the planning jurisdiction of the Town is subject to the WS-IV (Water Supply Watershed), the Flood Damage Prevention Ordinance, and the Catawba River Buffer Rules (See Figure 6-1: Water Resources). The lake is a major source of drinking water for hundreds of thousands of people throughout the region. Stricter development regulations are imposed in the WS-IV Protected Area and the WS-IV Critical Area. The regulations are a requirement of the North Carolina Division of Environmental Quality, and are based on a template ordinance provided by the State and administered by the Town. The density, or amount, of proposed development is governed by these watershed regulations.

Water bodies within Connelly Springs that the trail intersects with include Island Creek and Nolden Creek. Small foot bridges will be required to cross over these creeks. Additionally, there is a potential for trail projects to be delayed or altered due to the presence of wetlands or water bodies.

Connelly Springs Wetlands and Floodplain



- 6/8/2023
- NC Wetlands Burke
 - Y
 - Burke River Trail Proposed Route
 - Natural Surface
 - Sidepath (Future)
 - Sidewalk Existing
 - City Limits
 - County Boundary

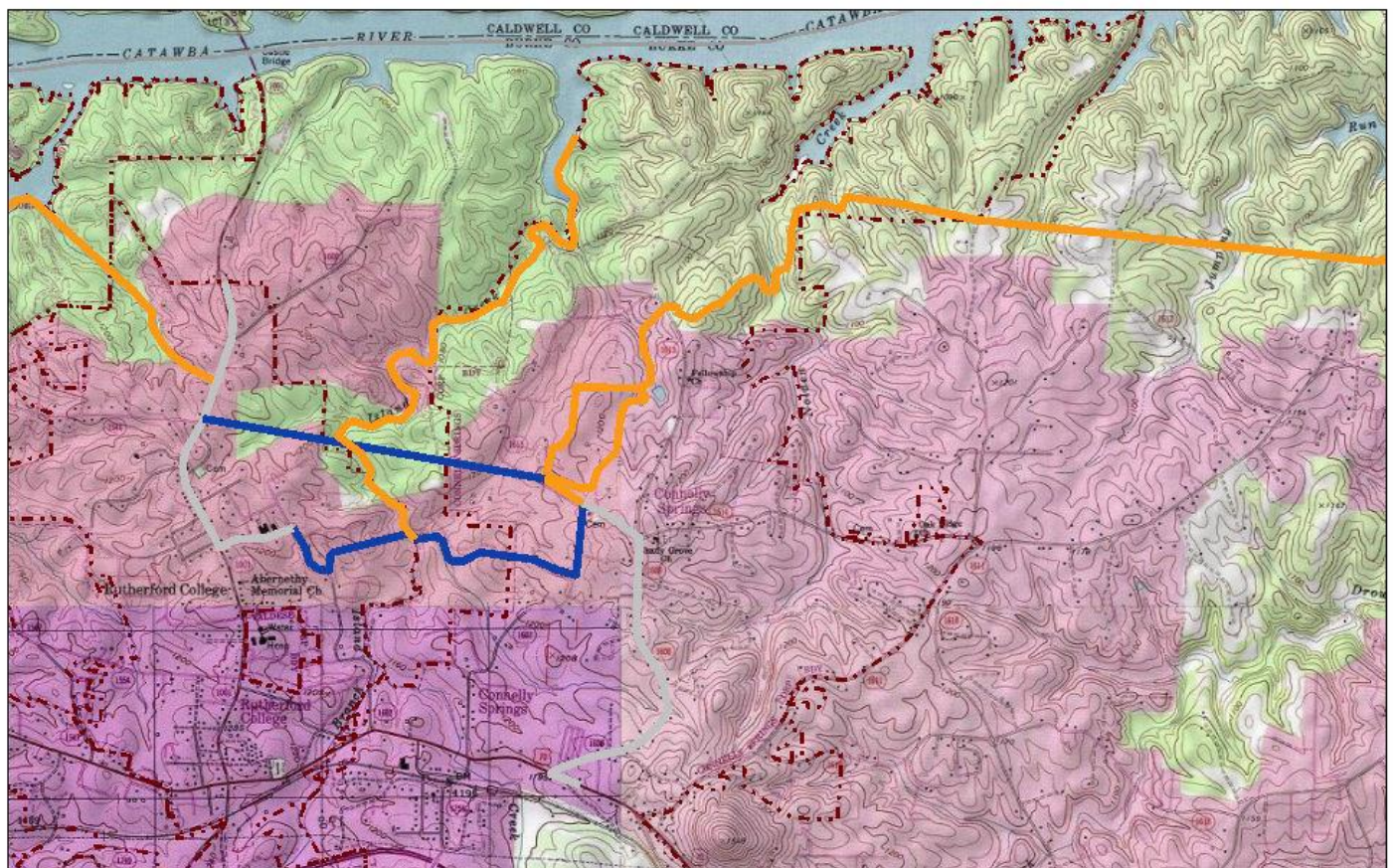


5.8 - TOPOGRAPHY

Digital topographic maps from the U.S. Geological Survey were used in the planning of trail routes for the Burke River Trail. Topographic lines indicate levels of elevation and can help identify features in the landscape such as hills, streams, and wetlands, as well as existing roads, tracks and other points of interest.

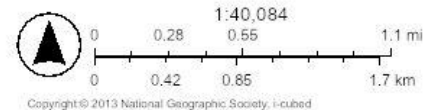
Natural trail routes can include ridgelines and areas with minimal slope, and should avoid wetlands and swamps, very rock or steep slopes, the edges of streams, endangered flora, fauna, geology, and natural plant communities. The goal is to keep the average trail grade at 4 to 6 percent, and allow small sections of a trail to have steeper grades. There is a potential for trail projects to become more costly, delayed or significantly altered due to topographic constraints.

Connelly Springs Topographic Map



6/8/2023

- Burke River Trail Proposed Route
- Natural Surface
- Sidepath (Future)
- Sidewalk Existing
- City Limits
- County Boundary
- USA Topo Maps



5.9 - FIELD INVENTORY

The following photographs were taken at different intervals along the proposed RTBC alignment. Some of the images were taken at road locations and some were taken during stream walks. The location of the photos are shown below.

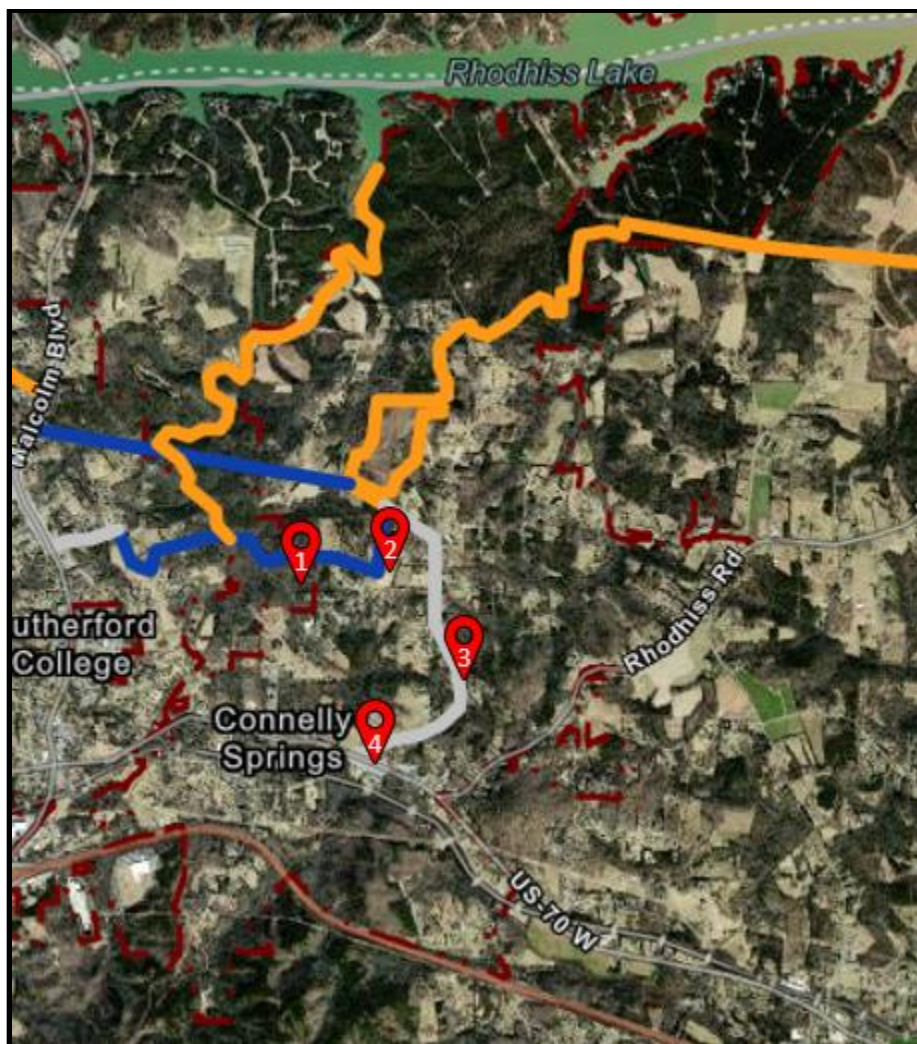




Photo 1: Looking down natural easement from Carson Road.



Photo 2: Israel Chapel Road.



Photo 3: Shady Grove Road



Photo 4: Highway 70 (Town Hall Location)

5. 10 - CONNELLY SPRINGS BURKE RIVER TRAIL ALIGNMENTS

As a multiuse trail, the Burke River Trail must accommodate a wide range of users, including pedestrians, bicyclists and people in wheelchairs. In addition to traditional upright bicyclists, tandem bicyclists, recumbent bicyclists and bicyclists pulling trailers should all be accommodated in the trail's design. It is anticipated that motorized use on the trail will be prohibited with the exception of motorized wheelchairs and security or maintenance vehicles.

There are several methods used to acquire property for trail development. Access to privately-owned parcels within the desired alignment will need to be considered and negotiated. Acquiring adequate right of way to construct a trail can be the most time-consuming portion of a project. Additionally, participation in the RTBC project is voluntary and may involve negotiations with many different land owners, some of whom may not be willing partners in the project. It is not uncommon for the land acquisition process for a project to take between three to five years depending on the number of properties involved, and a single holdout can derail a project or require significant changes to a project. Acquisition costs can range from 10 percent or less of construction costs in rural areas to over 200 percent of construction costs in urban areas.

As part of the acquisition process, there are a variety of voluntary arrangements that can be used to address potential liability concerns. Trail managers will likely be required to carry supplemental insurance policies for the trail. But in general, the trail management agency's municipal or state insurance policy will satisfy the trail's insurance requirement.

The cost to plan, design, and build trails or shared use paths varies widely based on a several conditions. Topography, urban versus rural settings, the presence of wetlands or other environmentally sensitive areas, and other conditions all play a significant role in the cost of building trails. Until very specific trail corridors are known (based on landowner participation, future transportation corridors, etc.) and an individual analysis can be developed for each individual trail alignment, it is not possible to provide cost calculations that are more exact. The cost estimates used in this study were developed by using the Rails-to-Trails Conservancy's cost calculation tool.

The calculations derived from the spreadsheet-based cost calculator below provides opinions of probable cost for the construction of trails under a variety of conditions. The components included in the cost opinion are earthwork and grading, aggregate base material and surface material.

The cost opinions do not include:

- Easement and right-of-way acquisition
- Permitting, inspection, or construction management
- Extensive surveying, geotechnical investigation, documentation, or mitigation 2
- Significant retaining walls or landscaping
- User amenities including trail waysides, lighting, benches, bike racks, or water fountains
- Special site remediation
- Escalation
- The cost for ongoing maintenance

The spreadsheets below (Table 5-1 and 5-2) uses a cost calculator to develop a planning-level cost estimate for the RTBC. The calculator uses the base costs in Table 5-1 and multipliers in Table 5-2 to adjust the base cost per mile depending on various conditions. Table 5-1 displays the base cost per mile for the construction of a ten-foot wide shared use path or a 5-ft wide for natural surface trail, in rural and urban settings.

Table 5-1

Setting	Natural Surface	Crushed Cinder	Asphalt	Concrete
Rural Cost per Mile	\$30,000	\$265,000	\$532,000	\$586,000
Urban Cost per Mile			\$798,000	\$879,000

Table 5-2 displays multipliers used in the calculator to develop costs based on various conditions where a path may be installed. The multipliers are applied to the cost subtotal before the contingency is applied.

Table 5-2

Condition	Variable	Multiplier	
Setting	Rural	1.0	Accounts for increased crossings, utility adjustments
	Urban	1.5	
Terrain	Flat	1.0	Accounts for increased costs of mobilization, more extensive grading
	Hilly	1.2	
Railroad/Easement Grade	No	1.0	Accounts for reduced grading and mobilization costs
	Yes	0.5	
Along Stream/River	No	1.0	Accounts for increased environmental constraints
	Yes	1.2	
Design	No	1.0	Accounts for the need for engineering/plans
	Yes	1.2	
Acquisition	Donation	1.0	Accounts for the cost of acquisition
	Easement	1.1	

For the purposes of this study, the Connelly Springs portion of the trail is determined to begin between the Town of Rutherford College’s municipal limits and halfway down the easement that runs from Paradise Harbor Subdivision to the Town of Rhodhiss. While this is not technically within the Town of Connelly Springs, the easement area is being included for continuity purposes with other sections of the trail. Cost estimates are shown, but the Town of Connelly Springs would not be responsible for any trail construction or maintenance outside of town limits. The trail segments have been divided into 4 different sections for descriptions and cost breakdowns.

CONNELLY SPRINGS RIVER TRAIL – SECTION 1

There are currently two alignment options for the RTBC in Rutherford College to connect with Connelly Springs (See Map 5-13). The northern most option (Alignment 1) includes the construction of a multi-use path extending from Lovelady Road in Rutherford College to Tomlinson Loop in Connelly Springs. This road extension is listed in the GHMPO's Comprehensive Transportation Plan (See section 5-2: Transportation) and is not scheduled to be completed until sometime after 2050. Despite being far in the future, this option should still be considered as it gives the opportunity for NCDOT to potentially add the side path during construction. Additionally, due to the area being undeveloped and forested, the trail could be developed using a natural surface in the meantime. This portion of the proposed trail is about .75 miles and does require a crossing bridge over Island Creek. Due to the unknown future of the Lovelady Road Extension, this portion of the trail has cost estimates for Natural Surface Trail. The trail would intersect with Duncan Street and Tomlinson Loop and would require .20 miles of sidewalk.

The second alignment links Roderick Drive in Rutherford College with Carson Drive in Connelly Springs. This option would require crossing Island Creek and a tributary of Island Creek via two small pedestrian bridges. The trail would follow a pre-existing dirt road for .45 miles. Cost estimates for this portion are for Natural Surface Trail. The trail would then continue along Carson Avenue, turn north onto Israel Chapel Road, and then head west onto Tomlinson Loop where it would intersect with the second section of the Connelly Springs portion of the proposed RTBC. The trail would include .70 miles of sidewalk.

ALIGNMENT 1 COST ESTIMATE

Item	Multiplier	Running Subtotal
Length – 1 mile	.75 Mile .20 Mile Sidewalk	\$139,700
Setting – Rural	1.0	\$139,700
Terrain - Flat	1.0	\$139,700
RR/Easement Grade - Yes	1.0	\$139,700
Stream/River - No	1.0	\$139,700
Contingency	1.3	\$181,610
Design – Yes	1.2	\$217,932
Acquisition	1.1	\$239,725
	Total	\$239,725
Cost of Small Ped. Bridge	+\$3,000	\$242,725

ALIGNMENT 2 COST ESTIMATE

Item	Multiplier	Running Subtotal
Length – 1 mile	.45 Miles Natural Trail .70 Miles Sidewalk	\$410,200
Setting – Rural	1.0	\$410,200
Terrain - Flat	1.0	\$410,200
RR/Easement Grade – No (sidewalk)	1.0	\$410,200
Stream/River - Portion	1.0	\$410,200
Contingency	1.3	\$533,260
Design - Yes	1.2	\$639,912
Acquisition	1.1	\$703,903
	Total	\$703,903
Cost of two Small Ped. Bridges	+\$6,000	\$709,903

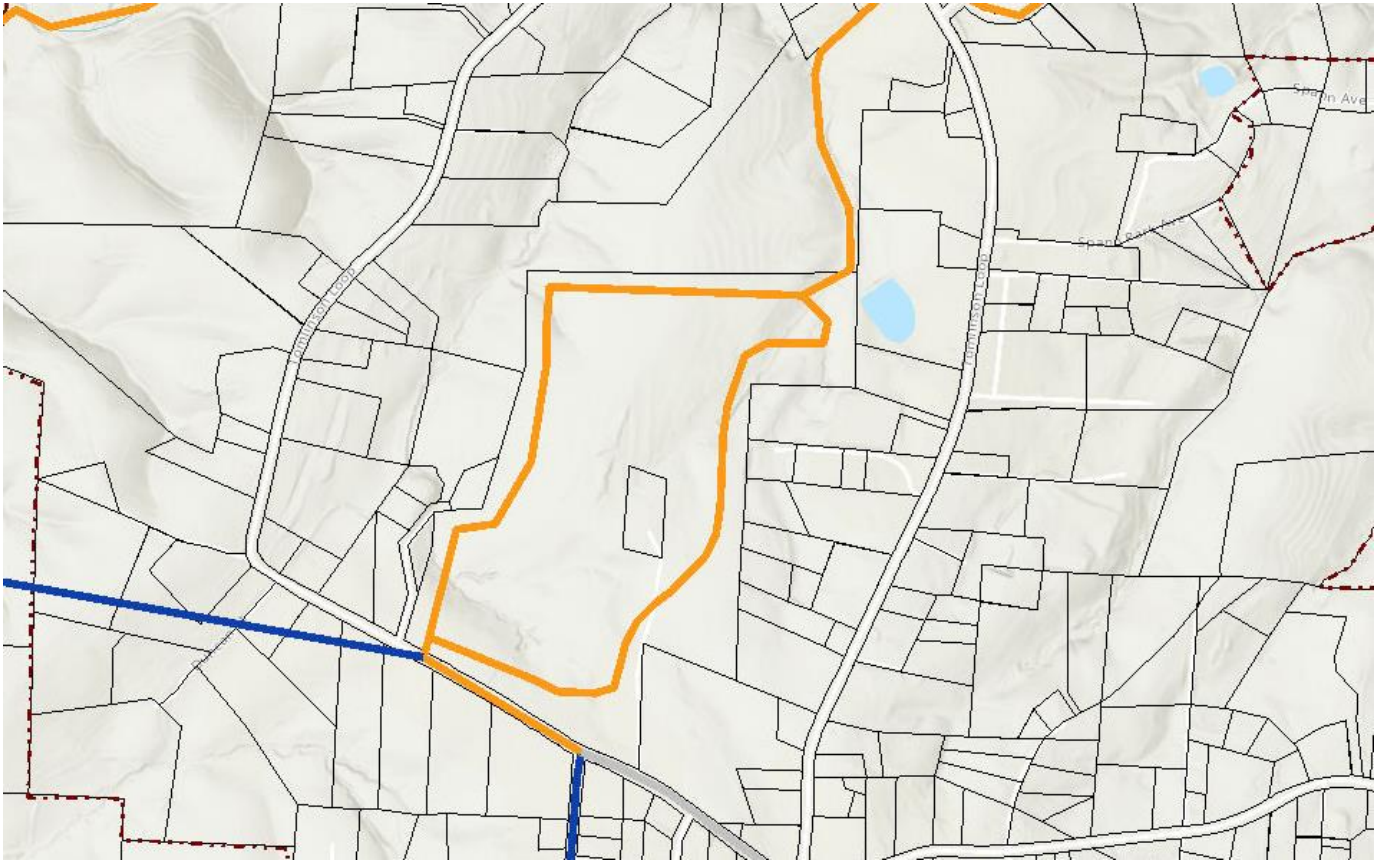


CONNELLY SPRINGS RIVER TRAIL – SECTION 2

The loop trail shown on Map 6-5 is located on a 68-acre parcel currently owned by the Town of Connelly Springs. Since it is under public ownership, the Town has multiple options for the trail on this parcel, including a loop trail. The trail would begin off of Tomlinson loop and turn on to a 38-acre parcel in private ownership on the north side of Tomlinson Loop. The loop on the Town-owned property would be 1.35 miles in length, and the portion on the private parcel would be 0.32 miles in length. The cost estimate for this option is based on Natural Surface Trail, but could become paved if the Town chooses to do so.

ALIGNMENT COST ESTIMATE

Item	Multiplier	Running Subtotal
Length - 1.67 mile	1.67 Miles	\$50,100
Setting - Rural	1.0	\$50,100
Terrain - Flat	1.0	\$50,100
RR/Easement Grade - No	1.0	\$50,100
Stream/River - No	1.0	\$50,100
Contingency	1.3	\$65,130
Design - No	1.0	\$65,130
Acquisition	1.1	\$71,643
	Total	\$71,643



CONNELLY SPRINGS RIVER TRAIL – SECTION 3

Planning for this section of the proposed trail are currently in the conceptual phase. Ultimately, the Trail would be best served by following the Duke Energy utility easement northeast of town, and as described in the next section, however, the land is under private ownership by multiple property owners who have yet to initiate any development. A way to obtain an easement would be to use an underutilized development road that is 1-mile of East Paradise Harbor Drive. A secondary option would be to extend the proposed trail along the rear property lines, crossing Nolden Creek and ending at the Duke Energy easement. This section would be a .70 mile Natural Surface Trail with a small pedestrian bridge used to cross Nolden Creek.

ALIGNMENT COST ESTIMATE

Item	Multiplier	Running Subtotal
Length – 1 mile	.70 Mile	\$21,000
Setting – Rural	1.0	\$21,000
Terrain - Flat	1.0	\$21,000
RR/Easement Grade - No	1.0	\$21,000
Stream/River - No	1.0	\$21,000
Contingency	1.3	\$27,300
Design – No	1.0	\$27,300
Acquisition	1.1	\$30,030
	Total	\$30,030
Cost of Small Ped. Bridge	+ \$3,000	\$33,030



CONNELLY SPRINGS RIVER TRAIL – SECTION 4

The final section of the RTBC before it joins the Rhodhiss portion of the trail is an alignment that runs along the existing Duke Energy utility easement. In the past, Duke Energy would only allow trails to cross the easement at a 90-degree angle. That recently changed, and now the easement can be utilized for a trail, as long as trail developers work with the owners of the property that the easement runs through. Since the easement is already mowed and maintained, it makes an easy addition to the proposed trail with little work or maintenance. The only cost associated with this alignment would be the purchase of the trail easement along the corridor.

ALIGNMENT 1 COST ESTIMATE

Item	Multiplier	Running Subtotal
Length	0.5 Miles	\$15,000
Setting - Rural	1.0	\$15,000
Terrain - Flat	1.0	\$15,000
RR/Easement Grade - Yes	0.5	\$7,500
Stream/River - No	1.0	\$7,500
Contingency	1.3	\$9,750
Design - No	1.0	\$9,750
Acquisition	1.1	\$10,725
	Total	\$10,725



6 – RIVER TRAIL OF BURKE COUNTY RECOMMENDATIONS

ECONOMIC DEVELOPMENT

1. Identify stakeholders and business partners that can connect walking trails from businesses to the RTBC.
2. Identify downtown connections to trails and create signage that shows distances to breweries/restaurants/retail/etc.
3. Identify parcels near the trail that could be used by outdoor recreation outfitters to create satellite locations/expanded buildings.
4. Encourage vendors to attend trail-related events.
5. Partner with Burke County Tourism and the Greater Hickory Metro Convention and Visitors Bureau to identify specific tourism-related recommendations that can be included in local government comprehensive plans.
6. Contact other local/regional trail organizations that have completed trail economic development impact studies to justify the return on investment to taxpayers and donors.

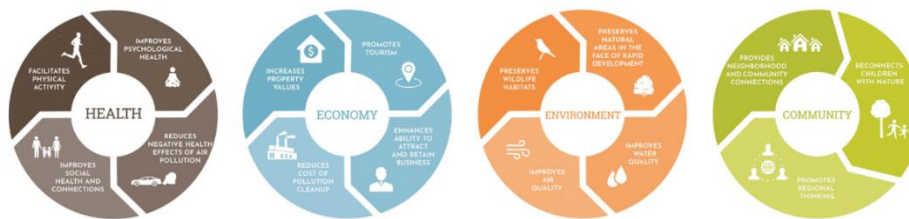


Table 52: Annual Economic, Health, and Environmental Impacts Facilitated

		Total Impact of All Six Study Trails	Average Impact per Trail Mile	Impact Range Across All Six Study Trails
\$	EMPLOYMENT	190 jobs	15 jobs	16-58 jobs
\$	LABOR INCOME	\$9.7 million	\$770 thousand	\$0.9-\$2.9 million
\$	ECONOMIC OUTPUT	\$25.8 million	\$2.1 million	\$2.2-\$7.9 million
\$	TAX REVENUE	\$3.3 million	\$262 thousand	\$0.3-\$1.0 million
+	HEALTHCARE SAVINGS	\$3.9 million	\$310 thousand	\$0.1-\$1.4 million
🌿	VEHICLE EMISSIONS REDUCTION BENEFIT	\$90 thousand	\$7 thousand	\$2.8-\$32.2 thousand
🌿	CARBON STORAGE & SEQUESTRATION BENEFIT	\$1.45 million	\$115 thousand	\$92.7-\$417.2 thousand

Source: Carolina Thread Trail website.

“The economic benefits of greenways and trails to the surrounding region are numerous. An economic impact assessment completed by ITRE in 2022 calculated millions of dollars of annual benefits for each of the six trails/greenways studied,” with in the Carolina Thread Trail (located in the North Carolina reaching 15 counties). - Carolina Thread Trail website.

BRANDING/MARKETING

1. Establish a cohesive design that reflects the region and all communities along the trail.
2. Promote the trail through social media blasts and print materials.
3. Create a hashtag for trail patrons to use when posting a picture to social media.
4. Incorporate the RTBC into existing and future bicycle and pedestrian planning documents.
5. Provide maps with QR codes to streamline access to online RTBC information.
6. Design marketing materials to appeal to specific groups – out-of-town, in-town, school-age children, college students, families and businesses.
7. Market the trail to businesses and industries for retreats, volunteer opportunities and celebrations.
8. Establish trail-centered events to encourage trail usage and awareness (ex. “Egg Hunt on the Trail”, bird watches, tree/plant identification walks, and trail running events).

WAYFINDING/SIGNAGE SYSTEM

1. After establishing a trail logo and branding, create a wayfinding system that address the needs of all users, whether traveling by foot, bicycle, car, or transit.
2. Engage local agencies, key stakeholders, and the public to develop comprehensive wayfinding signage systems that meet their unique needs.
3. Use signage as an opportunity to educate trail users about the history of the trail, local ecology, or environmental concerns.



onlyinyourstate.com
Possum Walk Trail, Pearlington

FUNDING STRATEGIES

1. Engage private funding opportunities such as fundraiser campaigns to pay for design, acquisition, and construction of trails such as buy a foot or memorial type feature.
2. Take advantage of public funding opportunities:
3. Federal – CDBG grants, and Land and Water Conservation Fund.

4. State - Clean Water Management Trust Fund, Parks and Recreation Trust Fund (PARTF), Recreational Trails Program, and NCDOT (NCDOT allows for multi-modal facilities to complete trail networks).
5. Local - use discretionary funds, debt financing, and bond referendums to support trail development, parks, open space, and greenways.
6. Encourage acquisition of land through gifting or by inclusion in ordinances as a developer incentive.
7. Engage railroad owners to explore the creation of trails along abandoned rail corridors.
8. Leverage the use of voluntary easements, conservation easements, and property donations.

EDUCATIONAL OPPORTUNITIES AND PROGRAMS

1. Incorporate gardens and orchards in trail design where feasible. These spaces can act as community areas and as a source for food scarcity countermeasures.
2. Leverage technology and non-technological opportunities to promote educational games such as scavenger hunts - plants, animals, destinations, etc.
3. Coordinate with the school system to encourage field trips for outdoor classroom learning.
4. Build an environmental center as a trail destination to promote economic development and provide an opportunity for environmental programming during inclement weather.
5. Leverage cultural resources and local history to educate users.
6. Create an educational campaign about trail etiquette - consideration for others using the trail so that everyone's experience is enjoyable. Below are other recommendations:
 - a. No motorized vehicles.
 - b. No fires, discharging of firearms, fireworks, camping, or alcohol
 - c. Keep right, pass left, and give an audible signal when passing.
 - d. Dogs must be on a leash and please pick up after your dog.
 - e. Dispose of waste and litter properly - pack it out or use a trash receptacle.
7. Establish a trail maintenance education program to aid volunteer support for the trail.
8. Create a health promotion campaign by partnering with local health organizations and conservationists to educate the public about trail-related benefits - environmental, physical, mental and emotional.
9. Tap into local resources such as the Lenoir-Rhyne University Reese Institute to create environmental education programs and conduct research.



PARTNERSHIPS

1. Continue to use WPCOG as a conduit for grant funding opportunities and planning initiatives.
2. Learn, collaborate, and build relationships with non-profits such as the YMCA, Boys and Girls Clubs, Boy and Girl Scouts of America, 4-H clubs, land conservation groups and volunteer organizations to help maintain the trail and promote opportunities for collaboration and education.
3. Partner with the kidsinparks.com, a non-profit network of family-friendly outdoor adventures called TRACK Trails to promote outdoor education and experiences.
4. Collaborate with the local library system to create a book walk experience along the trail.
5. Encourage commercial providers along the trail to provide uses such as campgrounds, recreation/water sports, golf courses, outfitters and bike shops, summer camps, and nature tours.
6. Coordinate efforts with Duke Energy for lake access and power line easement trail opportunities.
7. Work with the following State of North Carolina departments to engage ideas and opportunities - Fish and Wildlife, State Parks System, Forestry Service, Division of Transportation - Bike/Pedestrian, Wildlife Resource Commission, the Outdoor Industry Office, and Visit North Carolina.

EMERGENCY/SAFETY PLANNING:

1. Work with emergency personnel to ensure familiarity with the trail system and to develop emergency plans.
2. Encourage the idea of trails serving as evacuation routes should a natural or manmade disaster occur (fires, flooding, etc.).
3. Install emergency location markers along the trail network to assist with rescue efforts.
4. Encourage patrons to use the locators on their cell phones should an emergency occur and they need to be found.
5. Maintain updated maps of the trail for emergency personnel and patrons showing locations, proximate distances, and topography.

CONSTRUCTION:

1. Identify:
 - a. Needed physical improvements (reduction of conflicts at complicated intersections, transitions to on-road bikeways and sidewalks, mitigation of impacts in sensitive environmental and constrained areas).
 - b. Aesthetic qualities (landscaping, surfacing, amenities).
 - c. Site security elements (rules signing, fencing, visibility, lighting).
 - d. Maintenance and management needs (trail monitoring, police patrolling, and community stewardship).

2. Work to negotiate easements, secure required permits, and work with contractors/volunteer groups to construct the trail and associated amenities.
3. Add native trees to reduce heat islands in areas where a hard surface is prevalent and use native shrubs for beautification purposes.
4. Identify users - pedestrians, runners, slow cyclists, fast cyclists - and other modes such as e-bikes, scooters, skaters, strollers, and wheelchairs where feasible.
5. Coordinate planning and construction efforts with NCDOT and utility providers as needed.
6. Where applicable, collaborate with Greenway Public Transportation for on-board bicycle accommodations.

TRAIL AMENITIES:

1. Provide benches at rest areas and viewpoints (such as wildlife observation areas) to encourage people of all ages and abilities to use the trail.
2. Create accessibility and connectivity (walking and bicycling) to established residential neighborhoods and businesses
3. Provide the following:
4. Secure bicycle parking
5. A mix of trail types to appeal to different users - paved, natural and other surfaces
6. Trailheads with amenities for trail users
7. Restrooms and water fountains
8. Picnicking/covered areas/playgrounds/multi-use fields
9. Wildlife observation areas
10. Access to canoe and kayak launches
11. Mountain bike trails
12. Tap into niche recreation trends - dog parks, court games and disc golf to encourage usage.



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