

2018

IsothermalBikePlan.com



PREPARED FOR
THE ISOTHERMAL
PLANNING &
DEVELOPMENT
COMMISSION

PREPARED
BY ALTA
PLANNING +
DESIGN





The design of bicycle facilities has evolved tremendously in the U.S. over the past decade. Roadway engineers in the Isothermal Region should be aware of best practices and use them when designing roadways for the safety of all users.

DESIGN GUIDELINE RESOURCES

Planners and project designers should refer to these standards and guidelines in developing the infrastructure projects recommended by this plan. The following resources are from the NCDOT website, for *"Bicycle & Pedestrian Project Development & Design Guidance"*, located here:

<https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx>

All resources listed below are linked through the web page listed above, retrieved in November 2017.

NATIONAL GUIDELINES

American Association of State Highway and Transportation Officials (AASHTO):

- » Guide for the Development of Bicycle Facilities
- » Guide for the Planning, Design, and Operation of Pedestrian Facilities

The Federal Highway Administration (FHWA):

- » Accessibility Guidance
- » Design Guidance
- » Facility Design
- » Facility Operations

Manual on Uniform Traffic Control Devices (MUTCD):

- » Part 4E: Pedestrian Control Features
- » Part 7: Traffic Controls for School Areas
- » Part 9: Traffic Controls for Bicycle Facilities

National Association of City Transportation Officials (NACTO):

- » Urban Bikeway Design Guide
- » Urban Street Design Guide

Safe Routes to School (SRTS) Non-Infrastructure:

- » National Center for Safe Routes to School
- » National Partnership for Safe Routes to School

US Access board:

- » ABA Accessibility Standards
- » ADA Accessibility Guidelines
- » ADA Accessibility Standards
- » Public Rights-of-Way, Streets & Sidewalks, and Shared Use Paths

NORTH CAROLINA GUIDELINES

Manual on Uniform Traffic Control Devices (MUTCD):

- » 2009 NC Supplement to MUTCD
- » Part 7: Traffic Controls for School Areas
- » Part 9: Traffic Controls for Bicycle Facilities

North Carolina Department of Transportation (NCDOT):

- » WalkBikeNC: The Statewide Pedestrian and Bicycle Plan
- » Glossary of North Carolina Terminology for Active Transportation
- » NCDOT Complete Streets, including the Complete Streets Planning and Design Guidelines
- » Evaluating Temporary Accommodations for Pedestrians
- » NC Local Programs Handbook
- » Traditional Neighborhood Development Guidelines
- » NCDOT Pedestrian Crossing Assessment Flowchart

Greenway Construction Standards:

- » Greenway Standards Summary Memo
- » Design Issues Summary
- » Greenway Design Guidelines Value Engineering Report
- » Summary of Recommendations
- » Minimum Pavement Design Recommendations for Greenways
- » Steps to Construct a Greenway or Shared-Use Trail

Route Signing & Mapping

- » Bike Maps and Routes
- » Share the Road Initiative
- » How to Select Routes
- » NCDOT Bicycle Route Signing & Mapping Program

Additional FHWA resources not currently linked through the main NCDOT link above:

- » Achieving Multimodal Networks (2016)
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/
- » Separated Bike Lane Planning and Design Guide (2015)
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm
- » Incorporating On-Road Bicycle networks into Resurfacing Projects (2016)
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/
- » Small Town and Rural Multimodal Networks Design Guide (2017)
<http://ruraldesignguide.com/>



OVERVIEW

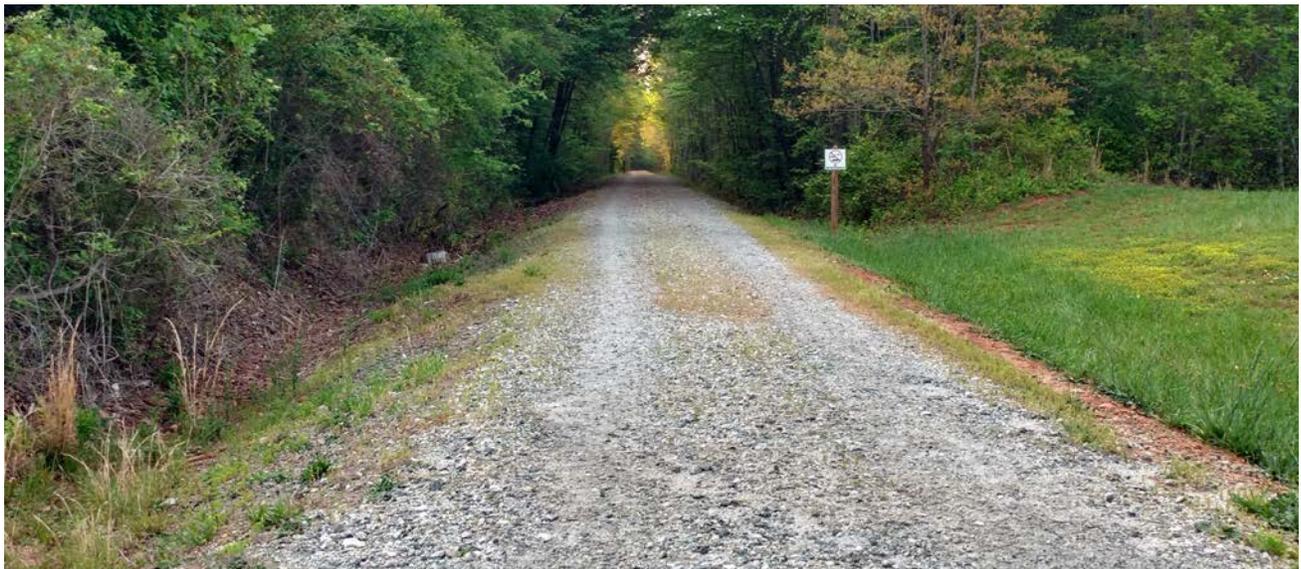
Multiple approaches should be taken to support bicycle facility development and programming. It is important to secure the funding necessary to undertake priority projects but also to develop a long-term funding strategy to allow continued development of the overall system. Dedicated local funding sources will be important for the implementation of this plan.

Local government funds for bicycle facilities should be set aside every year, even if only for a small amount. Small amounts of local funding can be matched to outside funding sources. A variety of local, state, federal, and non-governmental options and sources exist and should be pursued.

The following section identifies federal, state, local and private/non-profit foundation sources

of funding for planning, design, implementation and maintenance of bicycle infrastructure. The descriptions are intended to provide an overview of available options and do not represent a comprehensive list. It should be noted that this section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

The improvements to the Thermal Belt Rail Trail that will include paving the entire length (13.5 miles) 12 feet wide were made possible by a grant from the RHI Legacy Foundation in addition to multiple local and county partners.





FEDERAL FUNDING SOURCES

Federal funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations. Federal funding typically requires a local match of five percent to 50 percent, but there are sometimes exceptions. The following is a list of possible Federal funding sources that could be used to support the construction of bicycle facilities.

FIXING AMERICA'S SURFACE TRANSPORTATION (FAST ACT)

In December 2015, President Obama signed the FAST Act into law, which replaces the previous Moving Ahead for Progress in the Twenty-First Century (MAP-21). The Act provides a long-term funding source of \$305 billion for surface transportation and planning for FY 2016-2020. Overall, the FAST Act retains eligibility for larger programs - Transportation Investments Generating Economic Recovery (TIGER), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Highway Safety Improvement Program (HSIP). The FAST Act maintains the federal government's focus on safety, preserves the established structure of various highway-related programs, streamlines project delivery, and provides a dedicated funding source for freight projects.

In North Carolina, federal monies are administered through the North Carolina Department of Transportation (NCDOT) and Metropolitan /Rural Planning Organizations (MPOs/RPOs). Most, but not all, of these programs are focused on transportation rather than recreation, with an emphasis on reducing auto trips and providing intermodal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system. Most FAST ACT funds are available through the STI process.

For more information: <https://www.fhwa.dot.gov/fastact/>

TRANSPORTATION ALTERNATIVES (TA)

Transportation Alternatives (TA) is a funding source under the FAST Act that consolidates three formerly

separate programs under SAFETEA-LU: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). Funds are available through a competitive process. These funds may be used for a variety of pedestrian, bicycle, and streetscape projects. These include:

- » SRTS programs - infrastructure and non-infrastructure programs
- » Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, including sidewalks, bikeways, pedestrian and bicycle signals, traffic calming techniques, and lighting and other safety-related infrastructure
- » Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, seniors, and individuals with disabilities
- » Construction of rail-trails
- » Recreational trails program

Eligible entities for TA funding include local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts or schools, tribal governments, and any other local or regional government entity with responsibility for oversight of transportation or recreational trails that the State determines to be eligible.

The FAST Act provides \$84 million for the Recreational Trails Program. Funding is prorated among the 50 states and Washington D.C. in proportion to the relative amount of off-highway recreational fuel tax that its residents paid. To administer the funding, states hold a statewide competitive process. The legislation stipulates that funds must conform to the distribution formula of 30% for motorized projects, 30% for non-motorized projects, and 40% for mixed used projects. Each state governor is given the opportunity to "opt out" of the RTP.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm>

SURFACE TRANSPORTATION BLOCK GRANT (STBG) PROGRAM

The FAST Act converts the Surface Transportation Program into the Surface Transportation Block Grant (STBG) program. This program is among the most flexible eligibilities among all Federal-aid and highway programs. The Surface Transportation Program (STP) provides states with flexible funds which may be used for a variety of highway, road, bridge, and transit projects. A wide variety



of pedestrian improvements are eligible, including trails, sidewalks, crosswalks, pedestrian signals, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Safe Routes to School programs, congestion pricing projects and strategies, and recreational trails projects are other eligible activities. Under the FAST Act, a State may use STBG funds to create and operate a State office to help design, implement, and oversee public-private partnerships eligible to receive Federal highway or transit funding. In general, projects cannot be located on local roads or rural minor collectors. However, there are exceptions. These exceptions include recreational trails, pedestrian and bicycle projects, and Safe Routes to School programs.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

HSIP provides \$2.2 - \$2.4 billion nationally (FY 2016-2020) for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requirements prior to the enactment of the FAST Act are still applicable, including the need for a comprehensive, data-driven State Highway Safety Plan (SHSP) that defines the State's safety goals and describes strategies to improve safety.

HSIP funds must be used for safety projects that are consistent with the State's SHSP and that correct or improve a hazardous road location or features to address a highway safety problem. Most eligible activities are infrastructure-related. Bicycle and pedestrian safety improvements, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds. Examples include pedestrian hybrid beacons, medians, and pedestrian crossing islands. Workforce development, training, and education activities are other eligible uses of HSIP funds.

For more information: <http://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm>

STATEWIDE AND NONMETROPOLITAN PLANNING

The FAST Act continues funding for statewide and non-metropolitan planning as part of a 2 percent set-aside for planning and research activities from each State's apportionments of five core programs: National Highway Performance Program, Surface Transportation Block Grant Program (STBG), Highway Safety Improvement Program, Congestion Mitigation and Air Quality Improvement Program, and National Highway Freight Program.

The FAST Act continues to require long-range statewide transportation plans and statewide transportation improvement programs (STIPs) to provide for the development and integrated management and operation of transportation systems and facilities that enable an intermodal transportation system, including pedestrian and bicycle facilities.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/statewideplanningfs.cfm>

SAFE ROUTES TO SCHOOL (SRTS) PROGRAM

SRTS enables and encourages children in grades K-8 to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Funding is administered by State Departments of Transportation (DOTs). Eligible recipients are state, local, and regional agencies as well as nonprofit organizations. Project sponsors may be school or community based groups. Around 10-30% of each state's funding is to be spent on non-infrastructure activities, such as encouragement programs, additional law enforcement activities, and educational curricula.

Infrastructure-related projects improve the ability of students to walk or bike to and from school. Types of projects include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bike crossing improvements, bicycle facilities, pedestrian facilities, and secure bike parking.

For more information: http://www.fhwa.dot.gov/environment/safe_routes_to_school/guidance/#toc123542170



OTHER FEDERAL FUNDING SOURCES

TIGER DISCRETIONARY GRANTS

The U.S. Department of Transportation's (DOT) Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants are intended to support multimodal projects, surface transportation projects, rail, transit, and port projects. The selection criteria was updated in 2017 and remains fundamentally the same as previous rounds of the TIGER grants program, but the description of each criterion was updated. Additionally, the FY 2017 TIGER program will give special consideration to projects which emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas, such as projects that improve infrastructure condition, address public health and safety, promote regional connectivity, or facilitate economic growth or competitiveness.

Eligible applicants for TIGER Discretionary Grants are State, local and tribal governments. This includes U.S. territories, transit agencies, port authorities, and metropolitan planning organizations. Eligible projects are capital projects that include highway or bridge projects (including bicycle and pedestrian related projects), certain public transportation projects, passenger and freight rail transportation projects, and intermodal projects.

For more information: <https://www.transportation.gov/policy-initiatives/tiger/2016-tiger-applications-faqs>

FEDERAL TRANSIT ADMINISTRATION ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES

This program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program can be used for capital expenses that support

transportation and non-emergency medical transportation to meet the special needs of older adults and persons with disabilities, including providing access to an eligible public transportation facility when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. States and designated recipients are direct recipients. Eligible sub-recipients include nonprofit organizations, states or local governments, or operators of public transportation. Types of eligible projects include transit-related information technology systems, building an accessible path to a bus stop (curb cuts, sidewalks, accessible pedestrian signals), and improving signage.

For more information: <https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310>

ECONOMIC DEVELOPMENT ADMINISTRATION

Under Economic Development Administration's (EDA) Public Works and Economic Adjustment Assistance programs, grant applications are accepted for projects that promote economic development. State and local entities may apply for funding for projects that address a wide range of economic challenges. Under this program, Implementation Grants support infrastructure improvements, including site acquisition, site preparation, construction, and rehabilitation of facilities. Selection criteria emphasize projects that are able to start quickly, create jobs faster, and that will enable the community or region to become more economically prosperous. Application deadlines are typically in March and June.

For more information: <https://www.eda.gov/funding-opportunities/index.htm>

FEDERAL LANDS TRANSPORTATION PROGRAM (FLTP)

The FLTP funds projects that improve transportation infrastructure owned and maintained by the following Federal Lands Management Agencies: National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), USDA Forest Service, Bureau of Land Management (BLM), U.S. Army Corps of Engineers, Bureau of



Reclamation, and independent Federal agencies with land and natural resource management responsibilities. FLTP funds are available for program administration, transportation planning, research, engineering, rehabilitation, construction, and restoration of Federal Lands Transportation Facilities. Transportation projects that are on the public network that provide access to, adjacent to, or through Federal lands are also eligible for funding. Under the FAST Act, \$335 - \$375 million has been allocated to the program per fiscal year from 2016 - 2020.

For more information: <https://flh.fhwa.dot.gov/programs/fltp/documents/FAST%20FLTP%20fact%20sheet.pdf>

PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

Founded in 2009, the Partnership for Sustainable Communities (PSC) is a joint project of the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (USDOT). The partnership aims to “improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.”

PSC is based on six livability principles, one of which explicitly addresses the need for alternative transportation options. (“Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health”). PSC is not a formal agency with a regular annual grant program. Nevertheless, it is an important effort that has already led to some new grant opportunities (including both TIGER I and TIGER II grants). North Carolina jurisdictions should track PSC communications and be prepared to respond proactively to announcements of new grant

programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrow in scope. PSC livability principles include: provide more transportation choices, promote equitable, affordable housing, enhance economic competitiveness, support existing communities, coordinate and leverage federal policies and investment, and value communities and neighborhoods.

For more information: <http://www.sustainablecommunities.gov/>

Resource for Rural Communities: http://www.sustainablecommunities.gov/sites/sustainablecommunities.gov/files/docs/federal_resources_rural.pdf

FEDERAL LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the Department of Environment and Natural Resources as a grant program for states and local governments. Maximum annual grant awards for county governments, incorporated municipalities, public authorities, and federally recognized Indian tribes are \$250,000. The local match may be provided with in-kind services or cash.

For more information: <https://www.nps.gov/subjects/lwcf/stateside.htm>

RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program that provides technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program only provides planning assistance; there are no implementation funds available. Projects are prioritized for assistance based on criteria, including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in



planning and implementation, and focusing on lasting accomplishments. Project applicants may be state and local agencies, tribes, nonprofit organizations, or citizen groups. National parks and other federal agencies may apply in partnership with other local organizations. This program may benefit trail development in North Carolina indirectly through technical assistance, particularly for community organizations, but is not a capital funding source. Annual application deadline is August 1st.

For more information: <https://www.nps.gov/orgs/rtca/index.htm>

ENVIRONMENTAL CONTAMINATION CLEANUP FUNDING SOURCES

EPA's Brownfields Program provides direct funding for brownfields assessment, cleanup, revolving loans, and environmental job training. EPA's Brownfields Program collaborates with other EPA programs, other federal partners, and state agencies to identify and leverage more resources for brownfields activities. The EPA provides assessment grants to recipients to characterize, assess, and conduct community involvement related to brownfields sites. They also provide Area-wide planning grants (AWP) which provides communities with funds to research, plan, and develop implementation strategies for areas affected by one or more brownfields.

For more information: <https://www.epa.gov/brownfields/types-brownfields-grant-funding>

NATIONAL FISH AND WILDLIFE FOUNDATION: FIVE STAR & URBAN WATERS RESTORATION GRANT PROGRAM

The Five Star & Urban Waters Restoration Grant Program seeks to develop community capacity to sustain local natural resources for future generations by providing modest financial assistance to diverse local partnerships for wetland, riparian, forest and coastal habitat restoration, urban wildlife conservation, stormwater management as well as outreach, education and stewardship.

Projects should focus on water quality, watersheds and the habitats they support. The program focuses on five priorities: on-the-ground restoration, community partnerships, environmental outreach, education, and training, measurable results, and sustainability. Eligible applicants include nonprofit organizations, state government agencies, local governments, municipal governments, tribes, and educational institutions. Projects are required to meet or exceed a 1:1 match to be competitive.

For more information: <http://www.nfwf.org/fivestar/Pages/home.aspx>

STATE FUNDING SOURCES

There are multiple sources for state funding of bicycle and pedestrian transportation projects. However, state transportation funds cannot be used to match federally funded transportation projects, according to a law passed by the North Carolina Legislature.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STRATEGIC TRANSPORTATION INVESTMENTS (STI)

The NCDOT's State Transportation Improvement Program is based on the Strategic Transportation Investments Bill, signed into law in 2013. The Strategic Transportation Investments (STI) Initiative includes the Strategic Mobility Formula, a way to fund and prioritize transportation projects.

The Strategic Mobility Formula assigns projects for all modes into one of three categories: 1) Statewide Mobility, 2) Regional Impact, and 3) Division Needs. All independent bicycle and pedestrian projects are placed in the "Division Needs" category, and are currently ranked based on 50% data (safety, access, demand, connectivity, and cost effectiveness) and 50% local input, with a breakdown as follows:

SAFETY 15%

- » Definition: Projects or improvements where bicycle or pedestrian accommodations are non-existent or inadequate for safety of users
- » How it's measured: Crash history, posted speed limits, and estimated safety benefit
- » Calculation:
 - » Bicycle/pedestrian crashes along the corridor within last five years: 40% weight



- » Posted speed limits, with higher points for higher limits: 40% weight
- » Project safety benefit, measured by each specific improvement: 20% weight

ACCESS 10%

- » Definition: Destinations that draw or generate high volumes of bikes/pedestrians
- » How it's measured: Type of and distance to destination

DEMAND 10%

- » Definition: Projects serving large resident or employee user groups
- » How its measured: # of households and employees per square mile within 1 ½ mile bicycle or ½ mile pedestrian facility + factor for unoccupied housing units (second homes)

CONNECTIVITY 10%

- » Definition: Measure impact of project on reliability and quality of network
- » How it's measured: Creates score per each SIT based on degree of bike/ped separation from roadway and connectivity to similar or better project type

COST EFFECTIVENESS 5%

- » Definition: Ratio of calculated user benefit divided by NCDOT project cost
- » How it's measured: Safety + Demand + Access + Connectivity)/Estimated Project Cost to NCDOT

LOCAL INPUT 50%

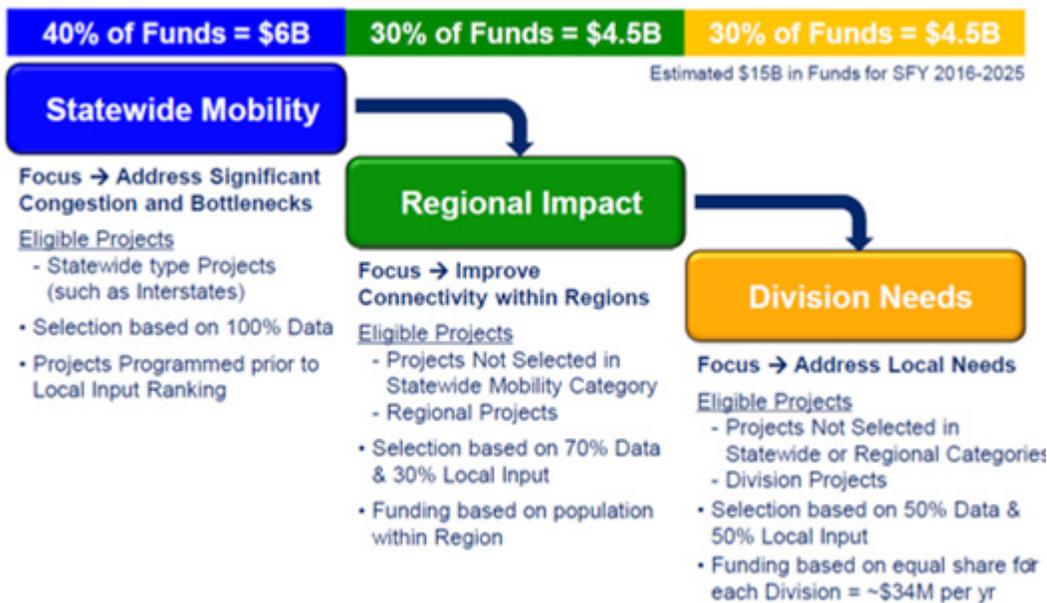
- » Definition: Input from MPO/RPOs and NCDOT Divisions, which comes in the form points assigned to projects.
- » How it is measured: Base points + points for population size. A given project is more likely to get funded if it is assigned base points from both the MPO/RPO and the Division, making the need for communicating the importance of projects to these groups critical. Further, projects that have a local match will score higher.

ADDITIONAL BICYCLE AND PEDESTRIAN PROJECT REQUIREMENTS:

- » Federal funding typically requires a 20% non-federal match
- » State law prohibits state match for bicycle and pedestrian projects (except for Powell Bill)
- » Limited number of project submittals per MPO/RPO/Division
- » Minimum project cost requirement is \$100,000
- » Bike/Ped projects typically include: bicycle lanes, multi-use path/greenway, paved shoulders, sidewalks, pedestrian signals, SRTS infrastructure projects, and other streetscape/multi-site improvements (such as median refuge, signage, etc.)

These rankings largely determine which projects will be included in NCDOT's State Transportation Improvement Program (STIP). The STIP is a federally mandated transportation planning document that details transportation planning improvements prioritized by the stakeholders for inclusion in NCDOT's Work Program. The STIP is updated every 2 years. The

STIP contains funding information for various transportation divisions of NCDOT, including, highways, rail, bicycle and pedestrian, public transportation and aviation. A project does not have to be fully funded to be in the STIP.



For more information on STIP: www.ncdot.gov/state-gictransportationinvestments/



INCIDENTAL PROJECTS

Bicycle and Pedestrian accommodations such as; bike lanes, wide paved shoulders, sidewalks, intersection improvements, bicycle and pedestrian safe bridge design, etc. are frequently included as “incidental” features of larger highway/roadway projects. This is increasingly common with the adoption of NCDOT’s “Complete Streets” Policy.

In addition, bicycle safe drainage grates and handicapped accessible sidewalk ramps are now a standard feature of all NCDOT highway construction. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of federal and state roadway construction funds, and usually with a local match. On-road bicycle accommodations, if warranted, typically do not require a local match.

“Incidental Projects” are often constructed as part of a larger transportation project, when they are justified by local plans that show these improvements as part of a larger, multi-modal transportation system. Having a local bicycle or pedestrian plan is important, because it allows NCDOT to identify where bike and pedestrian improvements are needed, and can be included as part of highway or street improvement project. It also helps local government identify what their priorities are and how they might be able to pay for these projects. Under “Complete Streets” local governments may be responsible for a portion of the costs for bicycle and pedestrian projects. The cost share breakdown is based on population size as follows:

- » >100,000 = 50% local match
- » 50,000 - 100,000 = 40% local match
- » 10,000 - 50,000 = 30% local match
- » <10,000 = 20% local match

For more information: <https://connect.ncdot.gov/projects/planning/RNAProjDocs/2014-06FinalReport.pdf>

SPOT SAFETY PROGRAM

The Spot Safety Program is a state-funded public safety investment and improvement program that provides highly effective low-cost safety improvements for intersections and sections of North Carolina’s 79,000 miles of state maintained roads in all 100 counties of North Carolina. The Spot Safety Program is used to develop smaller improvement projects to address safety, potential safety, and operational issues. The program is funded with state funds and currently receives approximately \$9 million per state fiscal year. Other monetary sources (such as Small Construction or Contingency funds) can assist in funding Spot Safety projects, however, the maximum allowable contribution of Spot Safety funds per project is \$250,000.

The Spot Safety Program targets hazardous locations for expedited low cost safety improvements such as traffic signals, turn lanes, improved shoulders, intersection upgrades, positive guidance enhancements (rumble strips, improved channelization, raised pavement markers, long life highly visible pavement markings), improved warning and regulatory signing, roadside safety improvements, school safety improvements, and safety appurtenances (like guardrail and crash attenuators).

A Safety Oversight Committee (SOC) reviews and recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. Criteria used by the SOC to select projects for recommendation to the BOT include, but are not limited to, the frequency of correctable crashes, severity of crashes, delay, congestion, number of signal warrants met, effect on pedestrians and schools, division and region priorities, and public interest.

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>



HIGHWAY HAZARD ELIMINATION PROGRAM

The Hazard Elimination Program is used to develop larger improvement projects to address safety and potential safety issues. The program is funded with 90 percent federal funds and 10 percent state funds. The cost of Hazard Elimination Program projects typically ranges between \$400,000 and \$1 million. A Safety Oversight Committee (SOC) reviews and recommends Hazard Elimination projects to the Board of Transportation (BOT) for approval and funding. These projects are prioritized for funding according to a safety benefit to cost (B/C) ratio, with the safety benefit being based on crash reduction. Once approved and funded by the BOT, these projects become part of the department's State Transportation Improvement Program (STIP).

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>

GOVERNOR'S HIGHWAY SAFETY PROGRAM

The Governor's Highway Safety Program (GHSP) funds safety improvement projects on state highways throughout North Carolina. All funding is performance-based. Substantial progress in reducing crashes, injuries, and fatalities is required as a condition of continued funding. Permitted safety projects include checking station equipment, traffic safety equipment, and BikeSafe NC equipment. However, funding is not allowed for speed display signs. This funding source is considered to be "seed money" to get programs started. The grantee is expected to provide a portion of the project costs and is expected to continue the program after GHSP funding ends. Applications must include county level crash data. Local governments, including county governments and municipal governments, are eligible to apply.

For more information: <http://www.ncdot.org/programs/ghsp/>

SAFE ROUTES TO SCHOOL (SRTS)

SRTS is managed by NCDOT, but is federally funded; See Federal Funding Sources above for more information.

COMMUNITY DEVELOPMENT BLOCK GRANT FUNDS

Community Development Block Grant (CDBG) funds are available to local municipal or county governments that qualify for community development projects that provide decent housing and suitable living environments and by expanding economic opportunities, principally for persons of low and moderate income. State CDBG funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina. Some urban counties and cities in North Carolina receive CDBG funding directly from HUD. Each year, CDBG provides funding to local governments for hundreds of critically-needed community improvement projects throughout the state. These community improvement projects are administered by the Division of Community Assistance and the Commerce Finance Center under eight grant categories. CDBG funds may be used for activities which include, but are not limited to: acquisition of real property, construction of public facilities and improvements, such as streets, neighborhood centers, and conversion of school buildings for eligible purposes, and activities related to energy conservation.

For more information: <https://www.hudexchange.info/programs/cdbg-entitlement/cdbg-entitlement-program-eligibility-requirements/>

THE NORTH CAROLINA DIVISION OF PARKS AND RECREATION - RECREATIONAL TRAILS AND ADOPT-A-TRAIL GRANTS

The Adopt-a-Trail Grant Program (AAT) awards \$108,000 annually to government agencies, nonprofit organizations and private trail groups for trail projects. Funding from the federal Recreational Trails Program (RTP), which is used for renovating or constructing trails and greenways, is allocated to states. The North Carolina Division of Parks and Recreation and the State Trails Program manages these funds with a goal of helping citizens, organizations and agencies plan,



develop and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback riding to river trails and off-highway vehicle trails. Grants are available to governmental agencies and nonprofit organizations. The maximum grant amount is \$100,000 and requires a 25% match of RTP funds received. Permissible uses include:

- » New trail or greenway construction
- » Trail or greenway renovation
- » Approved trail or greenway facilities
- » Trail head/ trail markers
- » Purchase of tools to construct and/or renovate trails/greenways
- » Land acquisition for trail purposes
- » Planning, legal, environmental, and permitting costs - up to 10% of grant amount
- » Combination of the above

For more information: <http://www.ncparks.gov/more-about-us/grants/trail-grants/recreational-trails-program>

NC PARKS AND RECREATION TRUST FUND (PARTF)

The Parks and Recreation Trust Fund (PARTF) provides dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public. Counties, incorporated municipalities, and public authorities, as defined by G.S. 159-7, are eligible applicants. A local government can request a maximum of \$500,000 with each application. An applicant must match the grant dollar-for-dollar, 50 percent of the total cost of the project, and may contribute more than 50 percent. The appraised value of land to be donated to the applicant can be used as part of the match. The value of in-kind services, such as volunteer work, cannot be used as part of the match. Property acquired with PARTF funds must be dedicated for public recreational use.

For more information: <http://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/eligibility>

CLEAN WATER MANAGEMENT TRUST FUND

The Clean Water Management Trust Fund (CWMTF) is available to any state agency, local government, or non-profit organization whose primary purpose is the conservation, preservation, and restoration of North Carolina's environmental and natural resources. Grant assistance is provided to conservation projects that:

- » enhance or restore degraded waters;
- » protect unpolluted waters, and/or
- » contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits;
- » provide buffers around military bases to protect the military mission;
- » acquire land that represents the ecological diversity of North Carolina; and
- » acquire land that contributes to the development of a balanced State program of historic properties.

For more information: <http://www.cwmtf.net/#appmain.htm>

DUKE ENERGY WATER RESOURCES FUND

Duke Energy is investing \$10 million in a fund for projects that benefit waterways in the Carolinas. The fund supports science-based, research-supported projects and programs that provide direct benefit to at least one of the following focus areas:

- » Improve water quality, quantity and conservation;
- » Enhance fish and wildlife habitats;
- » Expand public use and access to waterways; and
- » Increase citizens' awareness about their roles in protecting these resources.

Applications are open to nonprofit organizations and local government agencies. Funding decisions are made twice a year. Local and regional government agencies could consider this resource for proposed greenways across the region.

For more information: <http://www.nccommunityfoundation.org/page/other-grant-opportunities/duke-energy-water-resource-fund-grants/applying-to-the-duke-energy-water-resources-fund>



URBAN AND COMMUNITY FORESTRY GRANT

The North Carolina Division of Forest Resources Urban and Community Forestry grant can provide funding for a variety of projects that will help plan and establish street trees as well as trees for urban open space. The goal is to improve public understanding of the benefits of preserving existing tree cover in communities and assist local governments with projects which will lead to more effective and efficient management of urban and community forests. Grant requests should range between \$1,000 and \$15,000 and must be matched equally with non-federal funds. Grant funds may be awarded to any unit of local or state government, public educational institutions, approved non-profit 501(c)(3) organizations, and other tax-exempt organizations. First time municipal applicant and municipalities seeking Tree City USA status are given priority for funding. Grant applications are due by March 31st of each year and recipients are notified by mid-July.

For more about Tree City USA status, including application instructions, visit: http://ncforest-service.gov/Urban/urban_grant_overview.htm

APPALACHIAN REGIONAL COMMISSION

The Appalachian Regional Commission (ARC) is a regional economic development agency that represents a partnership of federal, state, and local government. Established by an act of Congress in 1965, ARC is composed of the governors of the 13 Appalachian states and a federal co-chair, who is appointed by the president. Local participation is provided through multi-county local development districts. ARC invests in activities that address the five goals identified in the Commission's strategic plan:

- » Goal 1: Economic Opportunities - Invest in entrepreneurial and business development strategies that strengthen Appalachia's economy.
- » Goal 2: Ready Workforce - Increase the education, knowledge, skills, and health of residents to work and succeed in Appalachia.

- » Goal 3: Critical Infrastructure - Invest in critical infrastructure—especially broadband; transportation, including the Appalachian Development Highway System; and water/wastewater systems.
- » Goal 4: Natural and Cultural Assets - Strengthen Appalachia's community and economic development potential by leveraging the Region's natural and cultural heritage assets.
- » Goal 5: Leadership and Community Capacity - Build the capacity and skills of current and next-generation leaders and organizations to innovate, collaborate, and advance community and economic development.

Program grants are awarded to state and local agencies and governmental entities (such as economic development authorities), local governing boards (such as county councils), and nonprofit organizations (such as schools and organizations that build low-cost housing). Contracts are awarded for research on topics that directly impact economic development in the Appalachian Region.

For more information: <https://www.arc.gov/grants>

LOCAL GOVERNMENT FUNDING SOURCES

Municipalities often plan for the funding of pedestrian and bicycle facilities or improvements through development of Capital Improvement Projects (CIP) or occasionally, through their annual Operating Budgets. In Raleigh, for example, the greenway system has been developed over many years through an annual dedicated source of funding that has ranged from \$100,000 to \$500,000 and administered through the Recreation and Parks Department. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows municipal decision-makers to balance all capital needs. Typical capital funding mechanisms include the capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each category is described below. A variety of possible funding options available to North Carolina jurisdictions for implementing pedestrian and bicycle projects are also described below. However, many will require specific local action as a means of establishing a program if it's not already in place.



POWELL BILL FUNDS

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as outlined by G.S. 136-41.1 through 136-41.4. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities. It may also be used for planning, construction, and maintenance of bikeways or sidewalks within municipal limits or within the area of a metropolitan planning organization or rural planning organization. Beginning July 1, 2015, under the Strategic Transportation Investments initiative, Powell Bill funds may no longer be used to provide a match for federal transportation funds such as Transportation Alternatives. Certified Statement, street listing, add/delete sheet and certified map from all municipalities are due between July 1st and July 21st of each year. Additional documentation is due shortly afterwards.

For more information: <https://connect.ncdot.gov/municipalities/State-Street-Aid/Pages/default.aspx>

CAPITAL RESERVE FUND

Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants, and donations for the specified use.

CAPITAL PROJECT ORDINANCES

Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.

LOCAL IMPROVEMENT DISTRICT (LID)

Local Improvement Districts (LIDs) are most often used by cities to construct localized projects such

as streets, sidewalks, or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation.

MUNICIPAL SERVICE DISTRICT

Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the town-wide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts, and can include projects such as street, sidewalk, or bikeway improvements within the downtown taxing district.

TAX INCREMENT FINANCING

Project Development Financing bonds, also known as Tax Increment Financing (TIF) is a relatively new tool in North Carolina, allowing localities to use future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage surrounding development or redevelopment. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Streets, streetscapes, and sidewalk improvements are specifically authorized for TIF funding in North Carolina. Tax Increment Financing typically occurs within designated development financing districts that meet certain economic criteria that are approved by a local governing body. TIF funds are generally spent inside the boundaries of the TIF district, but they can also be spent outside the district if necessary to encourage development within it. Although larger cities use this type of financing more often, Woodfin, NC is an example of a small town that has used this type of financing.

MUNICIPAL VEHICLE TAX

NCGS 20-97 allows municipalities to establish a vehicle fee/tax and a percentage of funding can be used for maintaining, repairing, constructing, reconstructing, widening, or improving public streets in the city or town that do not form a part of the State highway system.



OTHER LOCAL FUNDING OPTIONS

- » Bonds/Loans
- » Taxes
- » Impact fees
- » Exactions
- » Installment purchase financing
- » In-lieu-of fees
- » Partnerships

PRIVATE AND NONPROFIT FUNDING SOURCES

Many communities have solicited greenway funding assistance from private foundations and other conservation-minded benefactors. Below are examples of private funding opportunities.

FUNDING FOR TRAIL DEVELOPMENT

RAILS-TO-TRAILS CONSERVANCY

RTC launched a new grant program in 2015 to support organizations and local governments that are implementing projects to build and improve rail-trails. Under the Doppelt Family Trail Development Fund, RTC will award a total of \$85,000 per year through a competitive process, which is then distributed among several qualifying projects. Eligible applicants include nonprofit organizations and state, regional, and local government agencies. Two types of grants are available - community support grants and project transformation grants. Around three to four community support grants are awarded each year, ranging from \$5,000-\$10,000 each. Community Support Grants support nonprofit organizations or "Friends of the Trail" groups that need funding to get trail development or trail improvement efforts off the ground. Each year, 1-2 Project Transformation Grants are awarded that range from \$15,000-\$50,000. The intention of these grants is to enable an organization to complete a significant trail development or improvement project. For both types of grants, applications for projects on rail-trails and rails-with-trails are given preference, but rail-trail designation is not a requirement. The trail must serve multiple user types, such as bicycling, walking, and hiking, and must be considered a trail, greenway, or shared-use path.

The fund was established with a \$80,000 grant from Jeff Doppelt of Great Neck, New York, a long-time supporter of RTC and development of rail-trails in the United States, and an additional \$20,000 donation from an anonymous donor. Applications are due January 31st of each year but applicants should check the website for grant application announcements.

For more information: <http://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/>

NATIONAL TRAILS FUND

American Hiking Society created the National Trails Fund in 1998, which is the only privately supported national grants program that provides funding to grassroots organizations working toward establishing, protecting, and maintaining foot trails in America. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. To date, American Hiking has granted more than \$588,000 to 192 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$3,000 per project. Only 501(c)3 nonprofit organizations are eligible to apply. Applicants must be current members of American Hiking Society's Alliance of Hiking Organizations. Except for land acquisition projects, funded projects must be completed in a year. Multi-year projects may be considered if they are exceptional cases. Projects the American Hiking Society will consider include:

- » Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- » Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage.
- » Constituency building surrounding specific trail projects - including volunteer recruitment and support.

For more information: <https://americanhiking.org/national-trails-fund/>

AMERICAN GREENWAYS EASTMAN KODAK AWARDS

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to



award small grants (\$500 to \$2,500) to stimulate the planning, design, and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, planning bike paths, and building trails. Grants are primarily awarded to local, regional, or statewide nonprofit organizations. Public agencies may apply but preference is given to community organizations. Grants are awarded based on the importance of the project to local greenway development efforts, demonstrated community support, extent to which the grant will result in matching funds, likelihood of tangible results, and the capacity of the organization to complete the project. Applications can be submitted from March 1st through June 1st of each calendar year.

For more information: <http://www.rlch.org/funding/kodak-american-greenways-grants>
Funding for conservation efforts

NATIONAL FISH AND WILDLIFE FOUNDATION (NFWF)

The National Fish and Wildlife Foundation (NFWF) is a private, nonprofit, tax-exempt organization chartered by Congress in 1984. The National Fish and Wildlife Foundation sustains, restores, and enhances the Nation's fish, wildlife, plants, and habitats. Through leadership conservation investments with public and private partners, the Foundation is dedicated to achieving maximum conservation impact by developing and applying best practices and innovative methods for measurable outcomes.

The Foundation provides grants through more than 70 diverse conservation grant programs. One of the most relevant programs for bicycle and pedestrian projects is Acres for America. Funding priorities include conservation of bird, fish, plants and wildlife habitats, providing access for people to enjoy outdoors, and connecting existing protected lands. Federal, state, and local government agencies, educational institutions,

Native American tribes, and nonprofit organizations may apply twice annually for matching grants. Due to the competitive nature of grant funding for Acres for America, all awarded grants require a minimum 1:1 match.

For more information: <http://www.nfwf.org/whatwedo/grants/Pages/home.aspx>

THE TRUST FOR PUBLIC LAND

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the TPL is the only national non-profit working exclusively to protect land for human enjoyment and well-being. TPL helps acquire land and transfer it to public agencies, land trusts, or other groups that intend to conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities.

For more information: <http://www.tpl.org>

LAND FOR TOMORROW CAMPAIGN

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals, and community groups committed to securing support from the public and General Assembly for protecting land, water, and historic places. The campaign was successful in 2013 in asking the North Carolina General Assembly to continue to support conservation efforts in the state. The state budget bill includes about \$50 million in funds for key conservation efforts in North Carolina. Land for Tomorrow works to enable North Carolina to reach a goal of ensuring that working farms and forests, sanctuaries for wildlife, land bordering streams, parks, and greenways, land that helps strengthen communities and promotes job growth, and historic downtowns and neighborhoods will be there to enhance the quality of life for generations to come.

For more information: <http://www.land4tomorrow.org/>

THE CONSERVATION ALLIANCE

The Conservation Alliance is a nonprofit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups



and their efforts to protect wild and natural areas. Grants are typically about \$35,000 each. Since its inception in 1989, The Conservation Alliance has contributed \$4,775,059 to environmental groups across the nation, saving over 34 million acres of wild lands.

The Conservation Alliance Funding Criteria:

- » The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation.
- » The Alliance does not look for mainstream education or scientific research projects, but rather for active campaigns.
- » All projects should be quantifiable, with specific goals, objectives, and action plans and should include a measure for evaluating success.
- » The project should have a good chance for closure or significant measurable results over a fairly short term (within four years).

For more information: <http://www.conservationalliance.com/grants/?yearly=2017>

FUNDING FOR HEALTH AND ENVIRONMENTAL INITIATIVES

RHI LEGACY FOUNDATION

RHI Legacy Foundation, Inc. supports non-profit 501(c)(3) organizations whose projects serve residents in Rutherford County, North Carolina. When grants are awarded, funding is expected to support the following areas:

- » Capital
- » General operating support
- » Capacity building
- » Program

2017 grant focus areas include:

- » Chronic Disease - Programs and services that provide health education or screenings for cancer, asthma and diabetes. The emphasis of the chronic disease focus will be disease prevention and overall health improvement for persons with those diseases.
- » Healthy Eating - Programs and services which address access to sufficient and healthy food for all segments of the community. The emphasis will be on educating our citizens on nutrition and the impact of healthy eating on disease prevention.

- » Active Living - Programs and services that encourage or facilitate an active lifestyle. Examples include physical activity on walking trails and the usage of parks and recreation. The emphasis will be on education about health improvements and disease prevention resulting from active lifestyles.

For more information: <https://www.rhilegacyfoundation.com/grants>

BLUE CROSS BLUE SHIELD OF NORTH CAROLINA FOUNDATION (BCBS)

Blue Cross Blue Shield (BCBS) focuses on programs that use an outcome-based approach to improve the health and well-being of residents. The Healthy Places grant concentrates on increased physical activity and active play through support of improved built environments such as sidewalks and safe places to bike. Nonprofit organizations and government entities are eligible to apply. Eligible grant applicants must be located in North Carolina, be able to provide recent tax forms, and depending on the size of the non-profit, provide an audit. BCBS does not have a traditional grant cycle and announces grant opportunities on a periodic basis. Grants can range from small-dollar equipment grants to large, multi-year partnerships.

For more information: <http://www.bcbsncfoundation.org/faqs>

DUKE ENERGY FOUNDATION

Funded by Duke Energy shareholders, this foundation makes charitable grants to nonprofit organizations and government agencies. Grant applicants must serve communities that are also served by Duke Energy. The grant program has several investment priorities, one of which is environment, and this is the most applicable to bicycle and pedestrian projects. Duke Energy supports initiatives that help protect and restore wildlife and natural resources, with a special focus on water and air. The application period is typically from July 1st to August 31st.

For more information: <https://www.duke-energy.com/community/duke-energy-foundation>



FUNDING FOR COMMUNITY DEVELOPMENT INITIATIVES

POLK COUNTY COMMUNITY FOUNDATION

Since 1975, the Polk County Community Foundation has been dedicated to advancing philanthropy and improving the quality of life for all citizens in the community centered in and around Polk County, North Carolina. The Foundation receives charitable donations of all sizes from community members and then distributes grants to area nonprofits, awards scholarships to local students, manages endowment funds for local nonprofits, and administers other funds tailored to the specific charitable wishes of individual donors. The Community Foundation awards over \$1 million in grants annually to local organizations and students.

For more information: <https://www.polkccf.org/grants.html>

THE MCDOWELL ENDOWMENT

The McDowell Endowment serves donors and nonprofits. This endowment fund was established in 1995 by caring individuals who recognized the importance of a permanent charitable capital resource to support the ever-changing needs and opportunities in McDowell County.

Contributions made to the McDowell Endowment are pooled and invested by The Community Foundation. Proceeds from the investments are used to make grants while the original gifts remain intact, continuing to grow for the benefit of future generations.

The McDowell Endowment supports nonprofit organizations and public institutions primarily through partnering with CFWNC's People in Need grant program.

For more information: <https://www.cfwnc.org/AffiliateFunds/TheMcDowellEndowment.aspx>

THE COMMUNITY FOUNDATION OF WESTERN NORTH CAROLINA

The Community Foundation is a nonprofit organization established in 1978 to build a permanent pool of charitable capital for the 18 counties of Western North Carolina. Their work is with individuals, families and corporations to create and manage charitable funds and make grants to nonprofits or public agencies in the region.

For more information: <https://www.cfwnc.org/Home.aspx>

NORTH CAROLINA COMMUNITY FOUNDATION

The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for non-profit organizations and institutions throughout the state. Based in Raleigh, the foundation also manages a number of community affiliates throughout North Carolina, that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. The foundation also manages various scholarship programs statewide. Nonprofit organizations and local government units, such as public schools, are eligible to apply. The foundation will only give consideration to applicants that serve counties within its affiliate network.

For more information: <http://www.nccommunity-foundation.org/grants-scholarships>

Z. SMITH REYNOLDS FOUNDATION

This Winston-Salem-based foundation has been assisting environmental projects in North Carolina for many years. Grant recipients include nonprofit organizations, colleges and universities, religious entities, and government agencies that have projects or programs that serve North Carolinians. The Foundation focuses its grant making on five focus areas: Community Economic Development; Environment; Public Education; Social Justice and Equity; and



Strengthening Democracy. The “environment” focus area is the most applicable for bicycle and pedestrian projects. This focus area seeks to protect and restore ecosystems in the state’s mountains and coastal areas. The Z. Smith Reynolds Foundation is committed to accommodating the increasing growth demands in the state in environmentally sustainable ways, including through enhanced transportation options. Deadline to apply is typically in August.

For more information: <http://www.zsr.org/grants-programs>

BANK OF AMERICA CHARITABLE FOUNDATION

The Bank of America Charitable Foundation is one of the largest in the nation. Its grantmaking activities are focused on 3 focus areas: workforce development and education, community development, and basic needs. The area of focus most relevant to increased recreational opportunities and trails is community development, which provides funding for projects that foster green communities and for transit oriented development projects. Only nonprofit organizations are eligible to apply for funding.

For more information: www.bankofamerica.com/foundation

LOCAL TRAIL SPONSORS

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

CORPORATE DONATIONS

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Municipalities typically create funds to facilitate and simplify a transaction from a corporation’s donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

PRIVATE INDIVIDUAL DONATIONS

Private individual donations can come in the form of liquid investments (i.e. cash, stock, bonds) or land. Municipalities typically create funds to facilitate and simplify a transaction from an individual’s donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

FUNDRAISING/CAMPAIGN DRIVES

Organizations and individuals can participate in a fundraiser or a campaign drive. It is essential to market the purpose of a fundraiser to rally support and financial backing. Often times fundraising satisfies the need for public awareness, public education, and financial support.

VOLUNTEER WORK

It is expected that many citizens will be excited about the development of a greenway corridor. Individual volunteers from the community can be brought together with groups of volunteers from church groups, civic groups, scout troops and environmental groups to work on greenway development on special community workdays. Volunteers can also be used for fundraising, maintenance, and programming needs.

INNOVATIVE FUNDING OPTIONS

Crowdsourcing “is the process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers.”

For some success stories and ideas for innovative fundraising techniques: <http://www.americantrails.org/resources/funding/TipsFund.html>



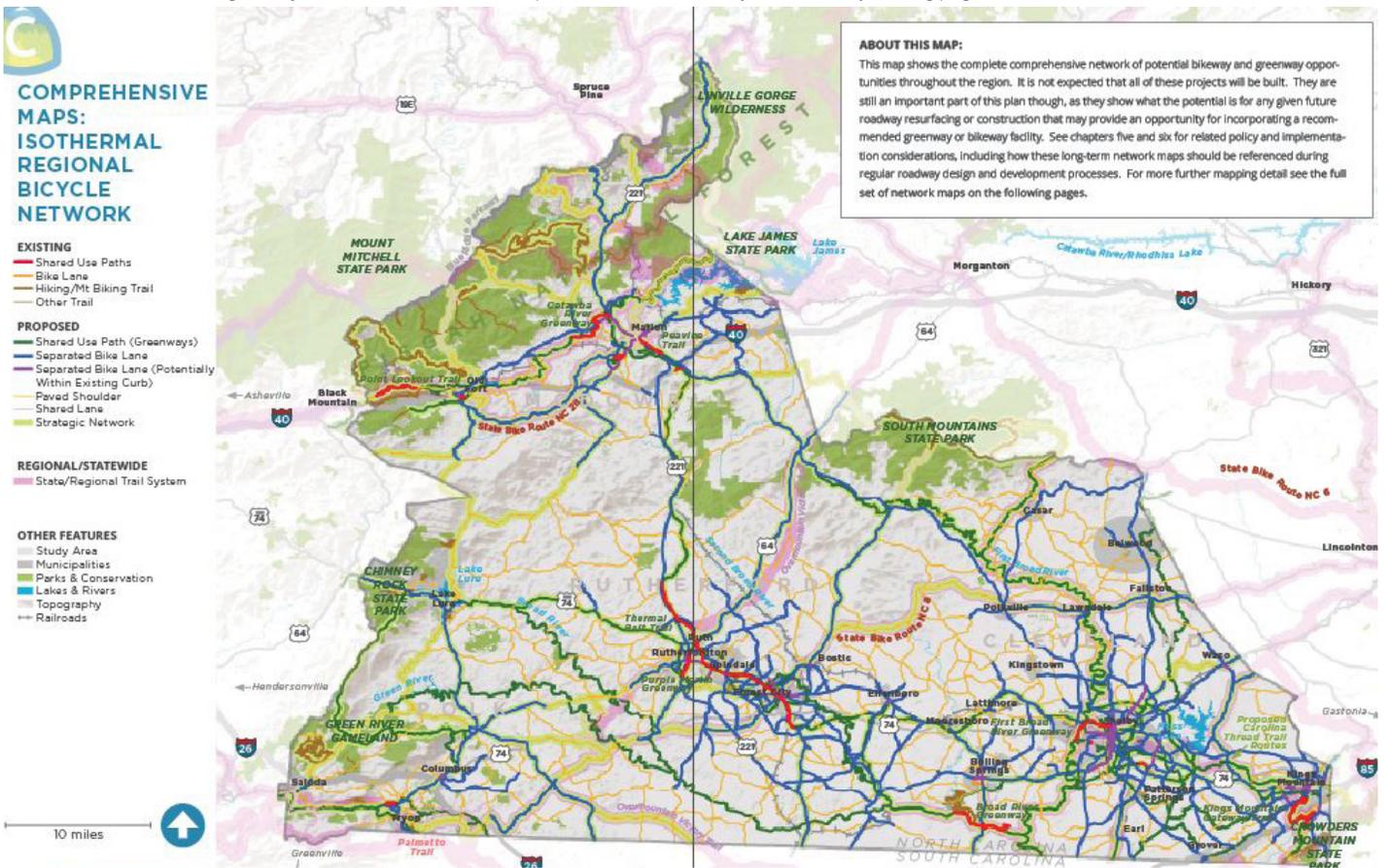


OVERVIEW

This appendix includes comprehensive network maps that are a series of zoomed-in views that cover the four-county region.

Leading into the comprehensive maps are six maps that highlight connectivity and infrastructure improvements to six statewide/regional systems that are relevant to the Isothermal region.

The Isothermal Regional Bicycle Network is displayed below and through a series of maps on the following pages. Six statewide/regional systems are included in the map below and are detailed further on the following pages.





MAP C.1 STATE BIKE ROUTES NC 2B AND NC 8

EXISTING

- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

PROPOSED

- Shared Use Path (Greenways)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project

REGIONAL/STATEWIDE

- State Bike Routes

10 miles



Old Fort Sugar Hill Road, Zion Hill Road, Nix Creek Road, and West Tate Street, from Lackeytown Road (Old Fort) to West Cross Street (Marion) carries higher traffic volumes and high speeds. Improvements should include as much separation from automobile traffic as possible. If separated bicycle facilities are constructed along US 70 before improvements to this route, consider shifting NC Bike Route 2B to US 70. Similarly, if the Catawba River Greenway is constructed from Old Fort to Marion before this route is improved, consider shifting NC Bike Route 2B to follow the Catawba River Greenway.

Mill Creek Road from the Buncombe County border to the Point Lookout Trail is rural with relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time. Designate the Point Lookout Trail as part of NC 2B.

See Priority Project 5 (and parts of 6) for specific recommendations for NC 2B from the Point Lookout Trail to downtown Old Fort.

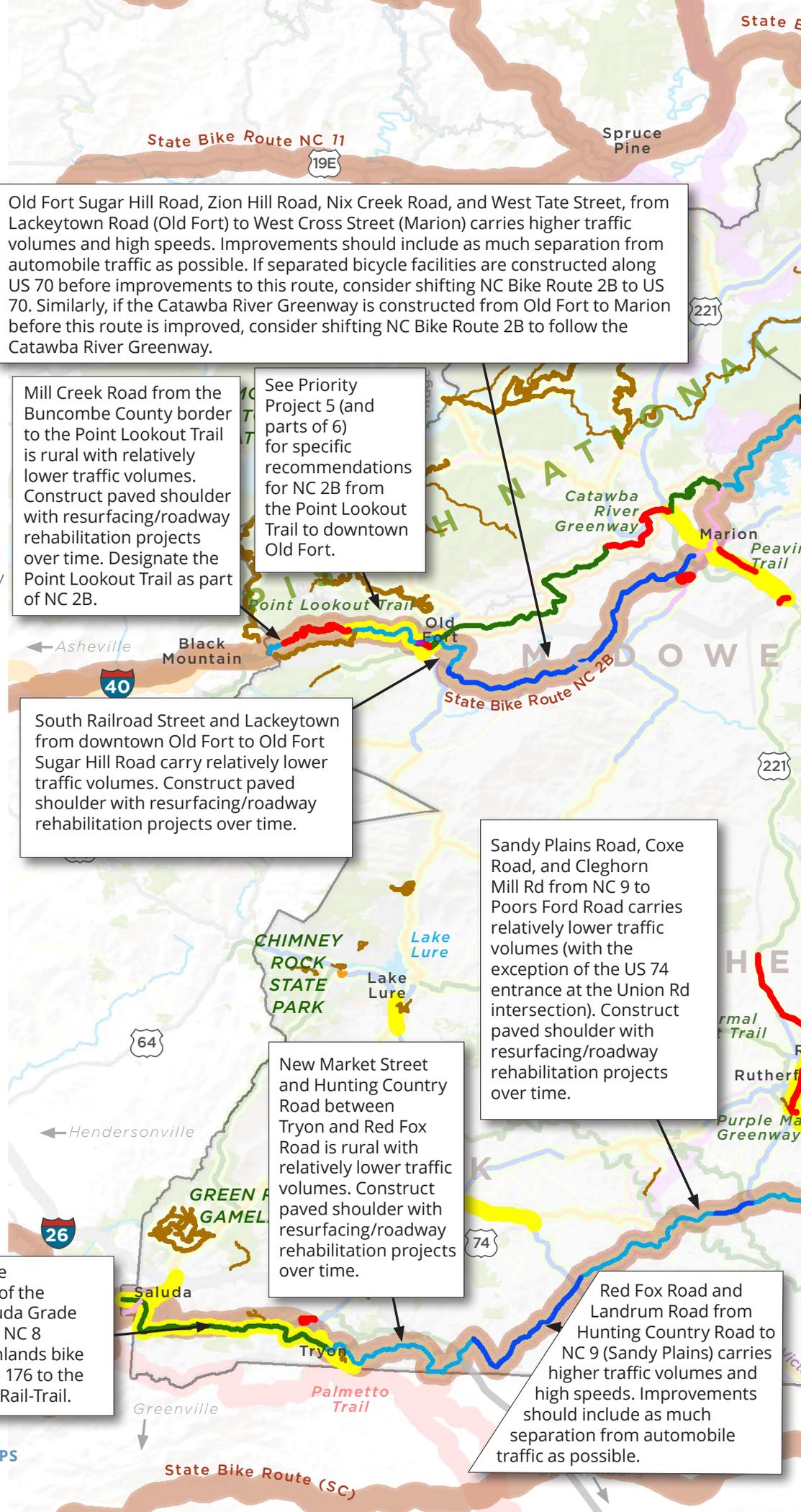
South Railroad Street and Lackeytown from downtown Old Fort to Old Fort Sugar Hill Road carry relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time.

Sandy Plains Road, Coxe Road, and Cleghorn Mill Rd from NC 9 to Poors Ford Road carries relatively lower traffic volumes (with the exception of the US 74 entrance at the Union Rd intersection). Construct paved shoulder with resurfacing/roadway rehabilitation projects over time.

New Market Street and Hunting Country Road between Tryon and Red Fox Road is rural with relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time.

Pending future development of the proposed Saluda Grade Rail-Trail, shift NC 8 Southern Highlands bike route from US 176 to the Saluda Grade Rail-Trail.

Red Fox Road and Landrum Road from Hunting Country Road to NC 9 (Sandy Plains) carries higher traffic volumes and high speeds. Improvements should include as much separation from automobile traffic as possible.





West Cross Street, Carson Street, Court Street, Main Street, New Street, Garden Street, Fleming Avenue, Yancey Road, and Lake James Road through Marion to Lake James are relatively lower traffic volume roads (and lower speeds through downtown - see Priority Project 9 for further detail along Main Street). Construct shared lane markings (sharrows) through the downtown area and paved shoulder with resurfacing/roadway rehabilitation projects over time outside of downtown Marion. The Lake James Road section could be incorporated into future Catawba River Greenway/Fonta Flora State Trail development as well.

ABOUT THIS MAP:

To highlight the unlimited bicycling opportunities that North Carolina offers, the Division of Bicycle and Pedestrian Transportation designated a cross-state system of Bicycling Highways in the 1970's. These routes generally parallel the major highways along which cyclists often wish to travel, but offer a more lightly traveled alternative than the busy, major roads that are familiar to most people. Nine different routes are currently signed across the state, including NC 8 Southern Highlands bike route that crosses through Polk, Rutherford, and Cleveland Counties. Further information can be found here - <https://www.ncdot.gov/bikeped/ncbikeways/routes/nc8-southern-highlands/>.

Given the extensive development that has occurred across North Carolina since the 1970's and associated changes to the roadway network, NCDOT recognized the need to re-evaluate and update the state bike route system as part of Walk/BikeNC, North Carolina's Statewide Bicycle and Pedestrian Plan (2013). The state bike route recommendations from Walk/Bike NC include the creation of three new routes (for a total of 12 routes) as well as updates to the existing nine routes that include connectivity through North Carolina's urban centers. NC 2B was established as part of this update, linking Black Mountain, Old Fort, and Marion through McDowell County.

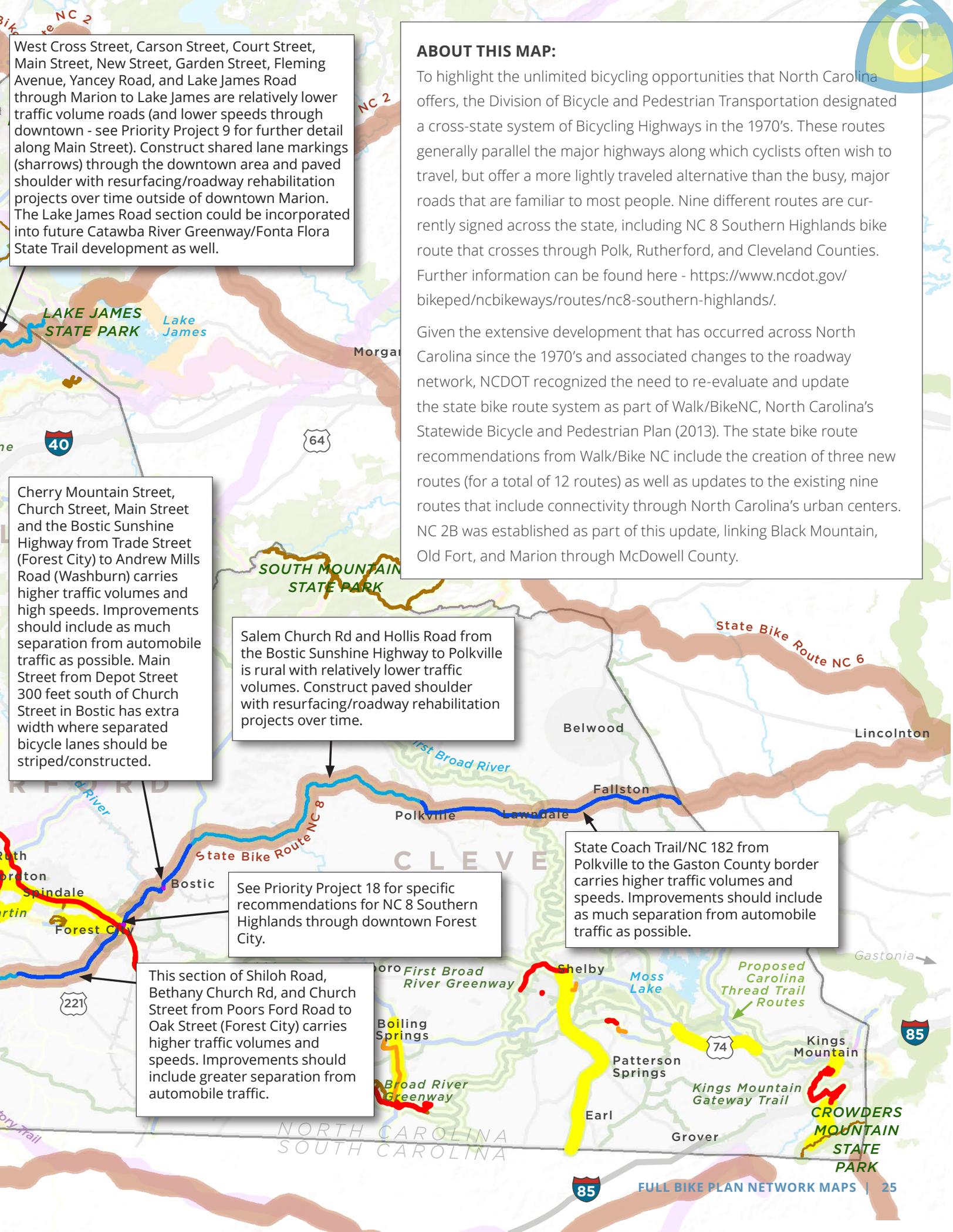
Cherry Mountain Street, Church Street, Main Street and the Bostic Sunshine Highway from Trade Street (Forest City) to Andrew Mills Road (Washburn) carries higher traffic volumes and high speeds. Improvements should include as much separation from automobile traffic as possible. Main Street from Depot Street 300 feet south of Church Street in Bostic has extra width where separated bicycle lanes should be striped/constructed.

Salem Church Rd and Hollis Road from the Bostic Sunshine Highway to Polkville is rural with relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time.

See Priority Project 18 for specific recommendations for NC 8 Southern Highlands through downtown Forest City.

State Coach Trail/NC 182 from Polkville to the Gaston County border carries higher traffic volumes and speeds. Improvements should include as much separation from automobile traffic as possible.

This section of Shiloh Road, Bethany Church Rd, and Church Street from Poors Ford Road to Oak Street (Forest City) carries higher traffic volumes and speeds. Improvements should include greater separation from automobile traffic.





MAP C.2 CAROLINA THREAD TRAIL

EXISTING

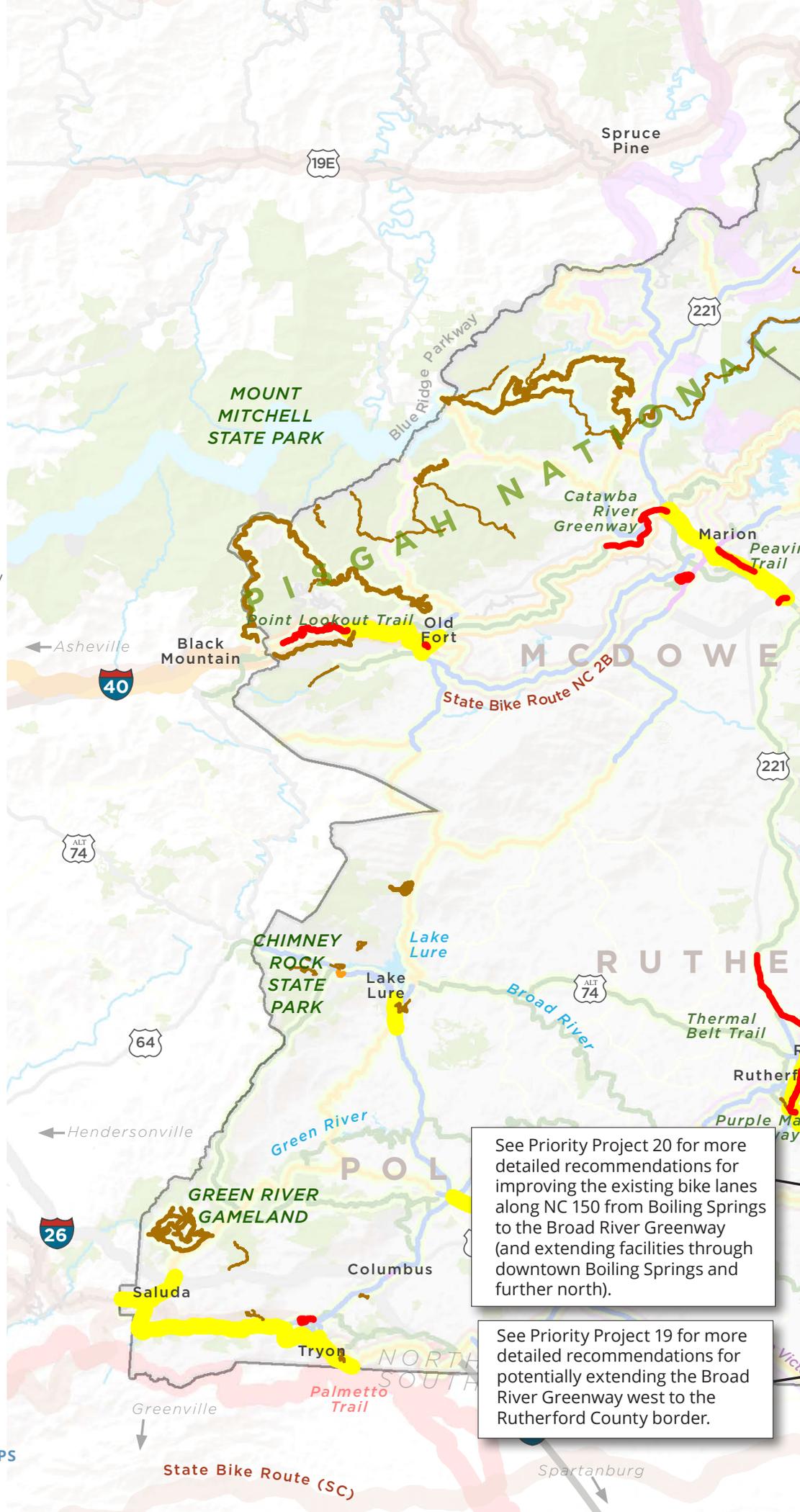
- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

PROPOSED

- Shared Use Path (Greenways)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project

REGIONAL/STATEWIDE

- Carolina Thread Trail



See Priority Project 20 for more detailed recommendations for improving the existing bike lanes along NC 150 from Boiling Springs to the Broad River Greenway (and extending facilities through downtown Boiling Springs and further north).

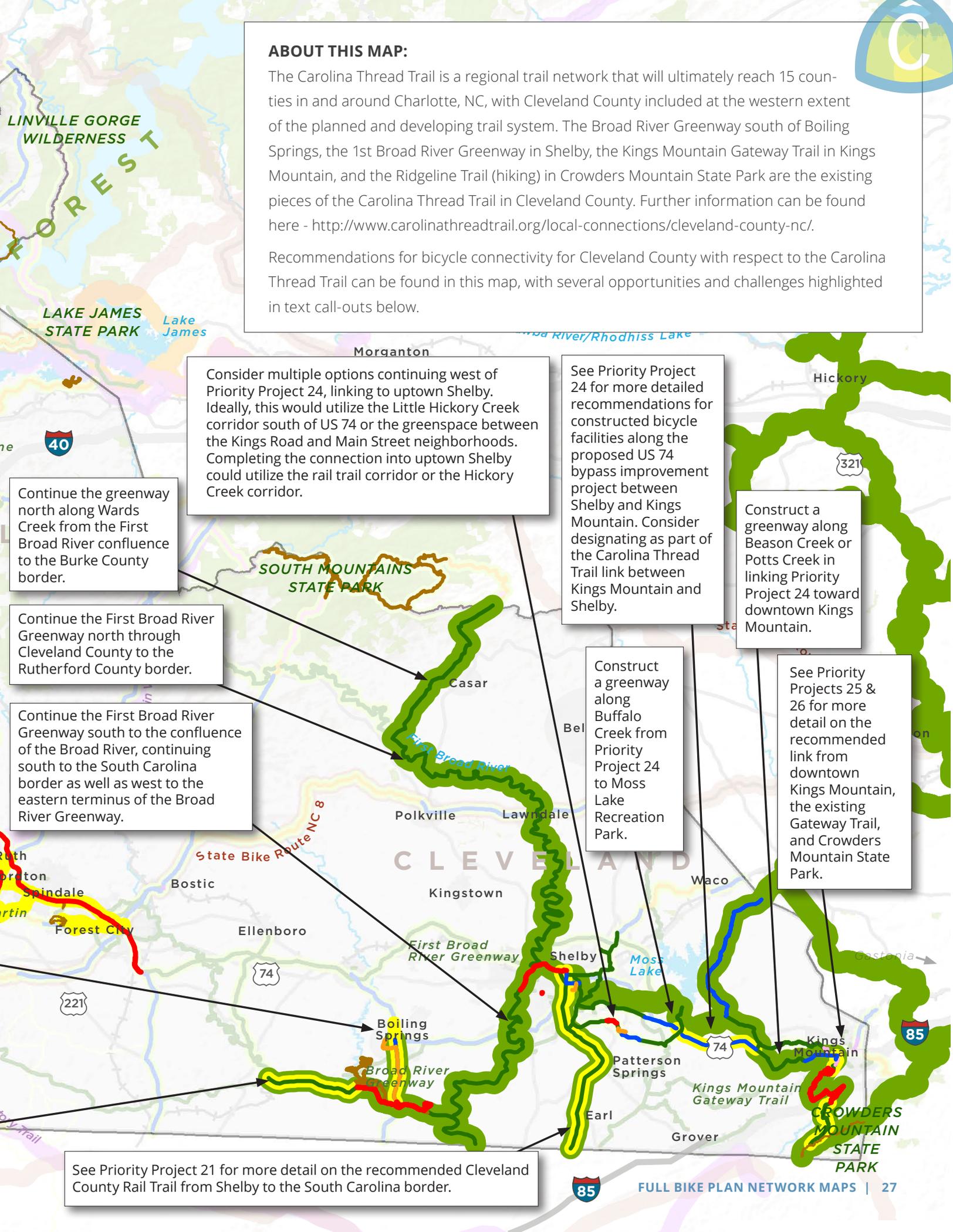
See Priority Project 19 for more detailed recommendations for potentially extending the Broad River Greenway west to the Rutherford County border.



ABOUT THIS MAP:

The Carolina Thread Trail is a regional trail network that will ultimately reach 15 counties in and around Charlotte, NC, with Cleveland County included at the western extent of the planned and developing trail system. The Broad River Greenway south of Boiling Springs, the 1st Broad River Greenway in Shelby, the Kings Mountain Gateway Trail in Kings Mountain, and the Ridgeline Trail (hiking) in Crowders Mountain State Park are the existing pieces of the Carolina Thread Trail in Cleveland County. Further information can be found here - <http://www.carolinathreadtrail.org/local-connections/cleveland-county-nc/>.

Recommendations for bicycle connectivity for Cleveland County with respect to the Carolina Thread Trail can be found in this map, with several opportunities and challenges highlighted in text call-outs below.



Continue the greenway north along Wards Creek from the First Broad River confluence to the Burke County border.

Continue the First Broad River Greenway north through Cleveland County to the Rutherford County border.

Continue the First Broad River Greenway south to the confluence of the Broad River, continuing south to the South Carolina border as well as west to the eastern terminus of the Broad River Greenway.

Consider multiple options continuing west of Priority Project 24, linking to uptown Shelby. Ideally, this would utilize the Little Hickory Creek corridor south of US 74 or the greenspace between the Kings Road and Main Street neighborhoods. Completing the connection into uptown Shelby could utilize the rail trail corridor or the Hickory Creek corridor.

See Priority Project 24 for more detailed recommendations for constructed bicycle facilities along the proposed US 74 bypass improvement project between Shelby and Kings Mountain. Consider designating as part of the Carolina Thread Trail link between Kings Mountain and Shelby.

Construct a greenway along Beason Creek or Potts Creek in linking Priority Project 24 toward downtown Kings Mountain.

Construct a greenway along Buffalo Creek from Priority Project 24 to Moss Lake Recreation Park.

See Priority Projects 25 & 26 for more detail on the recommended link from downtown Kings Mountain, the existing Gateway Trail, and Crowders Mountain State Park.

See Priority Project 21 for more detail on the recommended Cleveland County Rail Trail from Shelby to the South Carolina border.



MAP C.3 OVERMOUNTAIN VICTORY TRAIL

EXISTING

- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

PROPOSED

- Shared Use Path (Greenways)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project

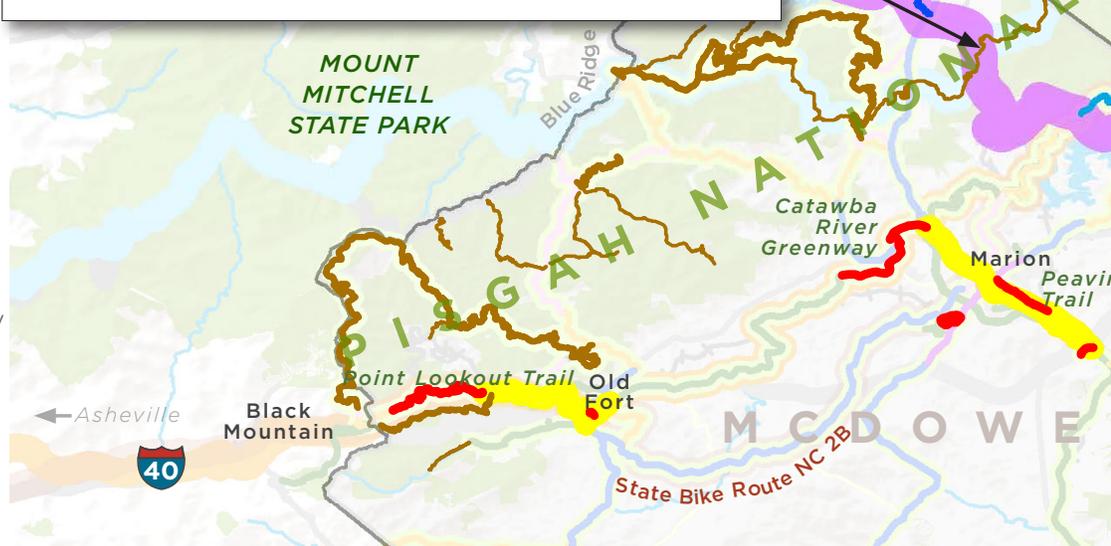
REGIONAL/STATEWIDE

- Overmountain Victory Trail

10 miles



Outside the Isothermal region, the route connects toward Morganton with a branch to the west back toward northern McDowell County. The section to the west follows a combination of existing roads with two branches through Lake James into McDowell County and rugged terrain in Pisgah National Forest. Opportunities to incorporate bicycle facilities should include a combination of mountain biking options and on road facilities toward the Blue Ridge Parkway. Connectivity opportunities with existing and proposed sections of the Mountains to Sea Trail, Fonta Flora State Trail, and Catawba River Greenway occur in this part of the region.

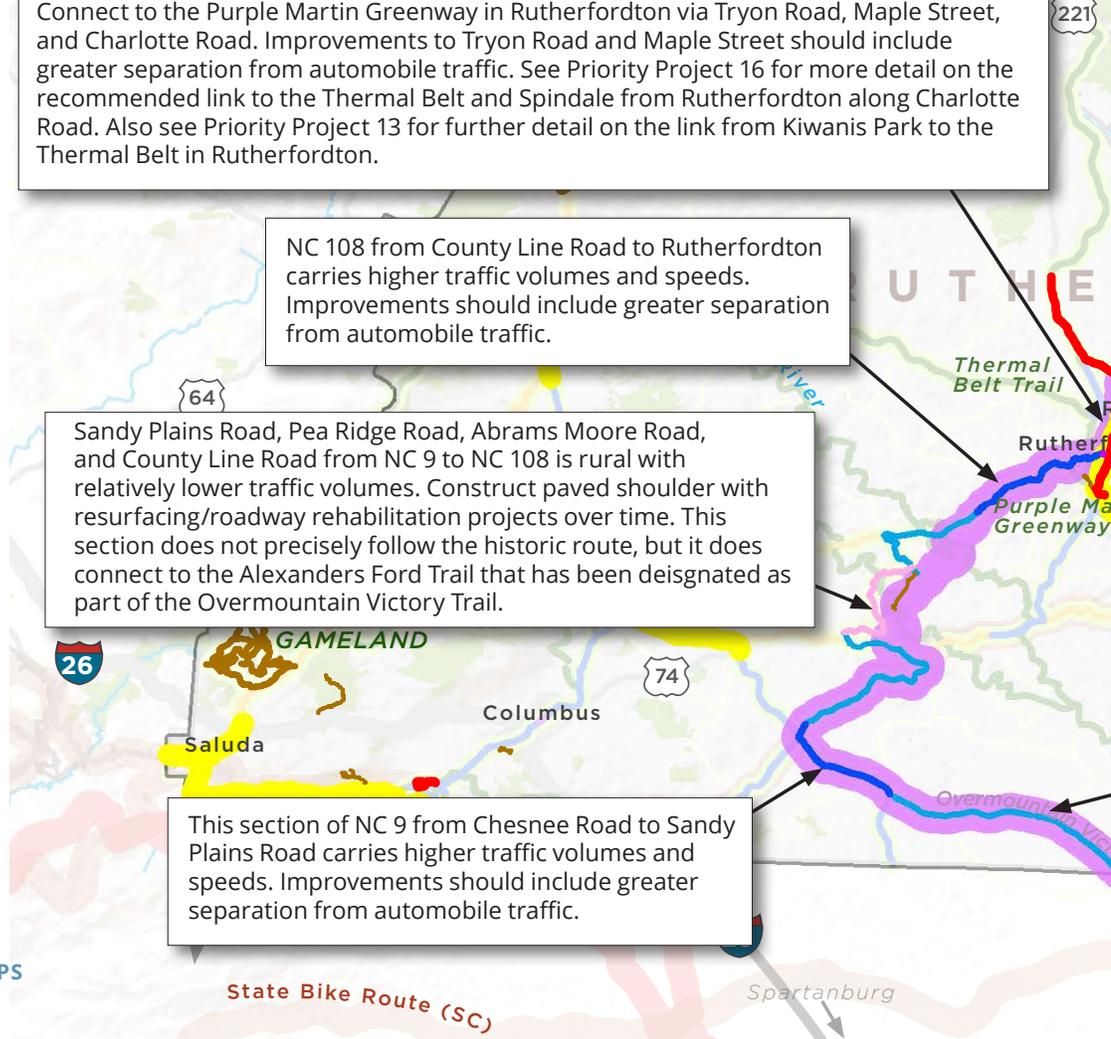


Connect to the Purple Martin Greenway in Rutherfordton via Tryon Road, Maple Street, and Charlotte Road. Improvements to Tryon Road and Maple Street should include greater separation from automobile traffic. See Priority Project 16 for more detail on the recommended link to the Thermal Belt and Spindale from Rutherfordton along Charlotte Road. Also see Priority Project 13 for further detail on the link from Kiwanis Park to the Thermal Belt in Rutherfordton.

NC 108 from County Line Road to Rutherfordton carries higher traffic volumes and speeds. Improvements should include greater separation from automobile traffic.

Sandy Plains Road, Pea Ridge Road, Abrams Moore Road, and County Line Road from NC 9 to NC 108 is rural with relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time. This section does not precisely follow the historic route, but it does connect to the Alexanders Ford Trail that has been designated as part of the Overmountain Victory Trail.

This section of NC 9 from Chesnee Road to Sandy Plains Road carries higher traffic volumes and speeds. Improvements should include greater separation from automobile traffic.



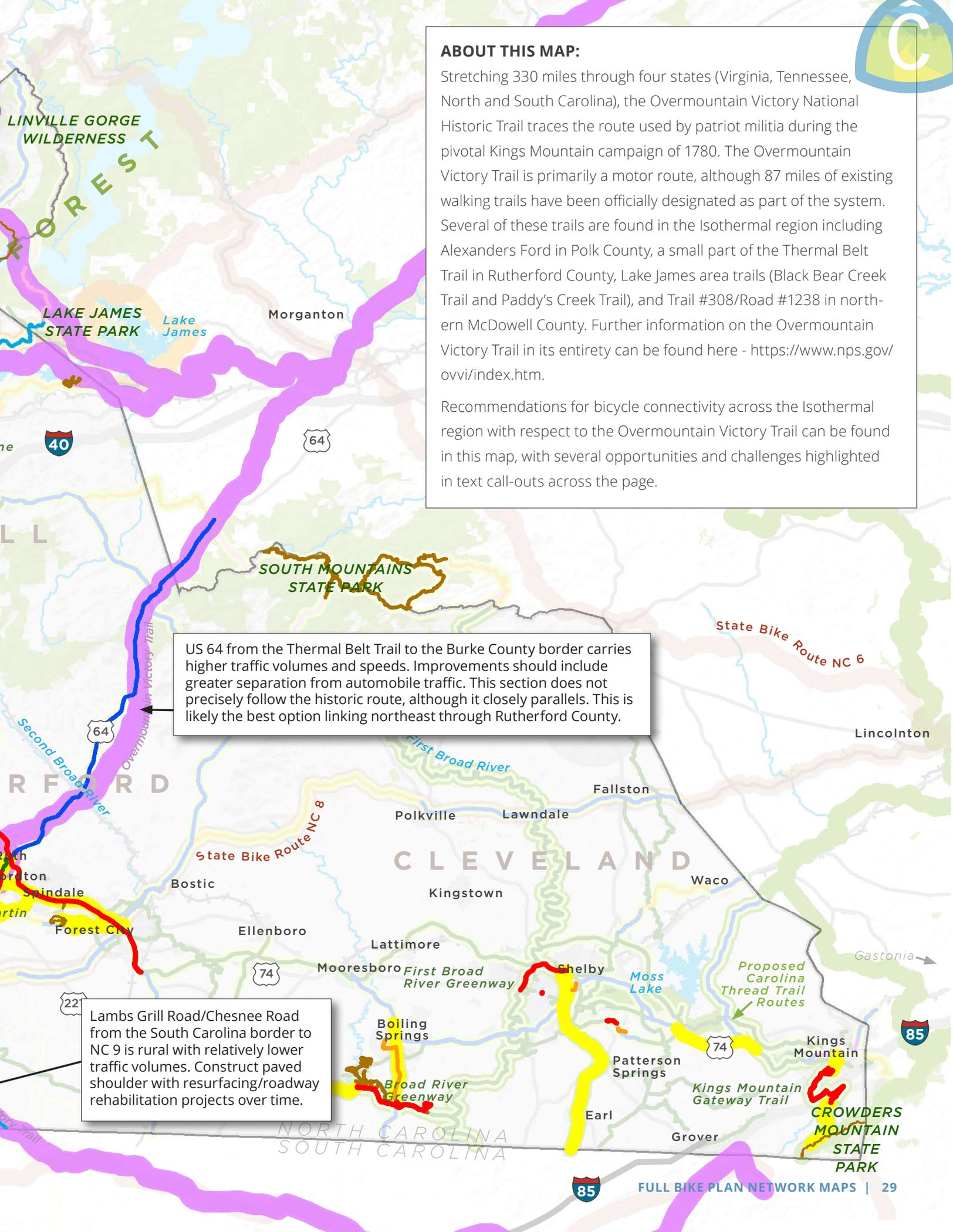
ABOUT THIS MAP:

Stretching 330 miles through four states (Virginia, Tennessee, North and South Carolina), the Overmountain Victory National Historic Trail traces the route used by patriot militia during the pivotal Kings Mountain campaign of 1780. The Overmountain Victory Trail is primarily a motor route, although 87 miles of existing walking trails have been officially designated as part of the system. Several of these trails are found in the Isothermal region including Alexanders Ford in Polk County, a small part of the Thermal Belt Trail in Rutherford County, Lake James area trails (Black Bear Creek Trail and Paddy's Creek Trail), and Trail #308/Road #1238 in northern McDowell County. Further information on the Overmountain Victory Trail in its entirety can be found here - <https://www.nps.gov/ovvi/index.htm>.

Recommendations for bicycle connectivity across the Isothermal region with respect to the Overmountain Victory Trail can be found in this map, with several opportunities and challenges highlighted in text call-outs across the page.

US 64 from the Thermal Belt Trail to the Burke County border carries higher traffic volumes and speeds. Improvements should include greater separation from automobile traffic. This section does not precisely follow the historic route, although it closely parallels. This is likely the best option linking northeast through Rutherford County.

Lambs Grill Road/Chesnee Road from the South Carolina border to NC 9 is rural with relatively lower traffic volumes. Construct paved shoulder with resurfacing/roadway rehabilitation projects over time.





MAP C.4 FONTA FLORA STATE TRAIL

EXISTING

- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

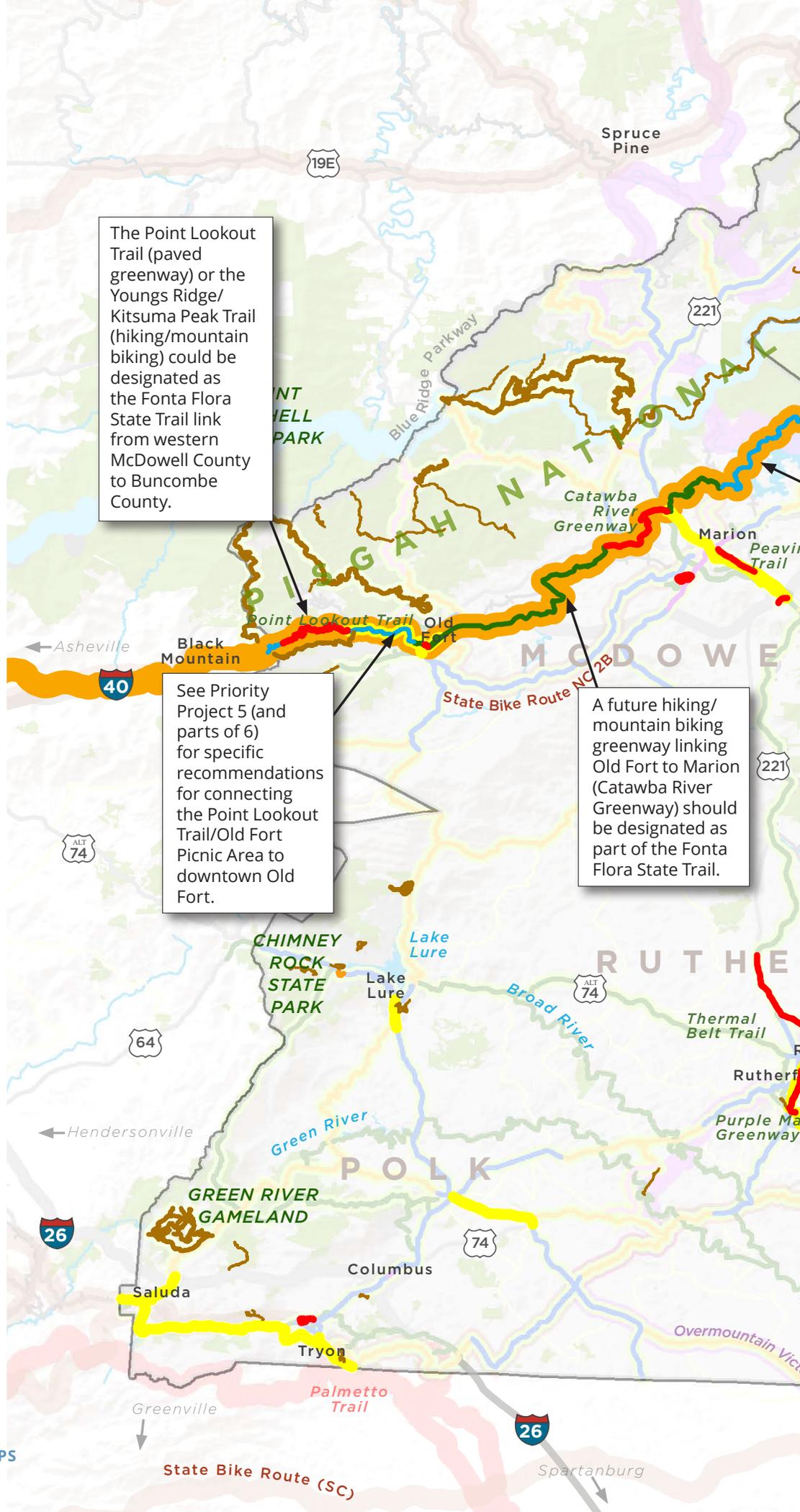
PROPOSED

- Shared Use Path (Greenways)
- Paved Shoulder
- Priority Project

REGIONAL/STATEWIDE

- Fonta Flora State Trail

10 miles



The Point Lookout Trail (paved greenway) or the Youngs Ridge/Kitsuma Peak Trail (hiking/mountain biking) could be designated as the Fonta Flora State Trail link from western McDowell County to Buncombe County.

See Priority Project 5 (and parts of 6) for specific recommendations for connecting the Point Lookout Trail/Old Fort Picnic Area to downtown Old Fort.

A future hiking/mountain biking greenway linking Old Fort to Marion (Catawba River Greenway) should be designated as part of the Fonta Flora State Trail.



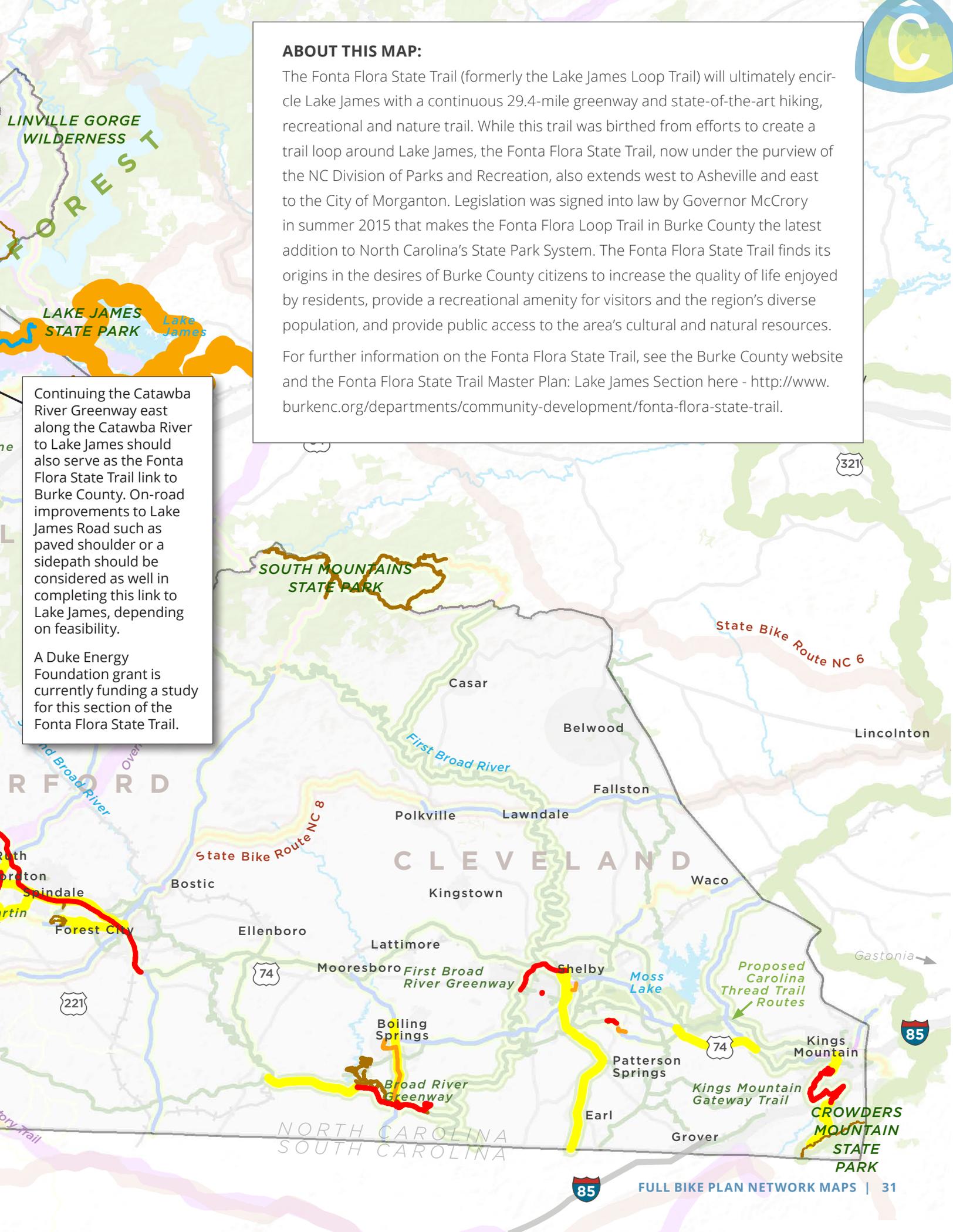
ABOUT THIS MAP:

The Fonta Flora State Trail (formerly the Lake James Loop Trail) will ultimately encircle Lake James with a continuous 29.4-mile greenway and state-of-the-art hiking, recreational and nature trail. While this trail was birthed from efforts to create a trail loop around Lake James, the Fonta Flora State Trail, now under the purview of the NC Division of Parks and Recreation, also extends west to Asheville and east to the City of Morganton. Legislation was signed into law by Governor McCrory in summer 2015 that makes the Fonta Flora Loop Trail in Burke County the latest addition to North Carolina's State Park System. The Fonta Flora State Trail finds its origins in the desires of Burke County citizens to increase the quality of life enjoyed by residents, provide a recreational amenity for visitors and the region's diverse population, and provide public access to the area's cultural and natural resources.

For further information on the Fonta Flora State Trail, see the Burke County website and the Fonta Flora State Trail Master Plan: Lake James Section here - <http://www.burkenc.org/departments/community-development/fonta-flora-state-trail>.

Continuing the Catawba River Greenway east along the Catawba River to Lake James should also serve as the Fonta Flora State Trail link to Burke County. On-road improvements to Lake James Road such as paved shoulder or a sidepath should be considered as well in completing this link to Lake James, depending on feasibility.

A Duke Energy Foundation grant is currently funding a study for this section of the Fonta Flora State Trail.

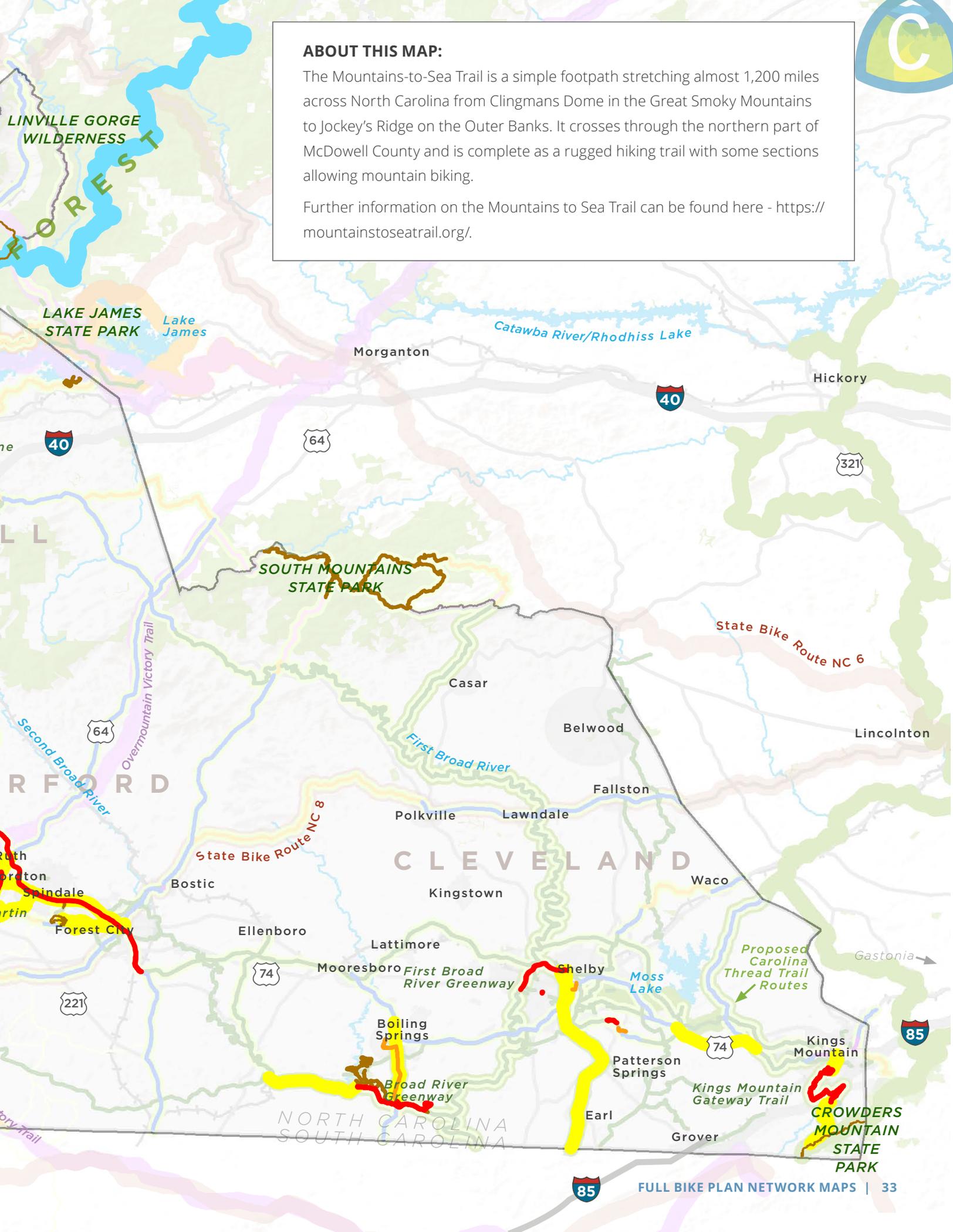




ABOUT THIS MAP:

The Mountains-to-Sea Trail is a simple footpath stretching almost 1,200 miles across North Carolina from Clingmans Dome in the Great Smoky Mountains to Jockey's Ridge on the Outer Banks. It crosses through the northern part of McDowell County and is complete as a rugged hiking trail with some sections allowing mountain biking.

Further information on the Mountains to Sea Trail can be found here - <https://mountainstoseatrail.org/>.





MAP C.6 PALMETTO TRAIL (SC)

EXISTING

- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

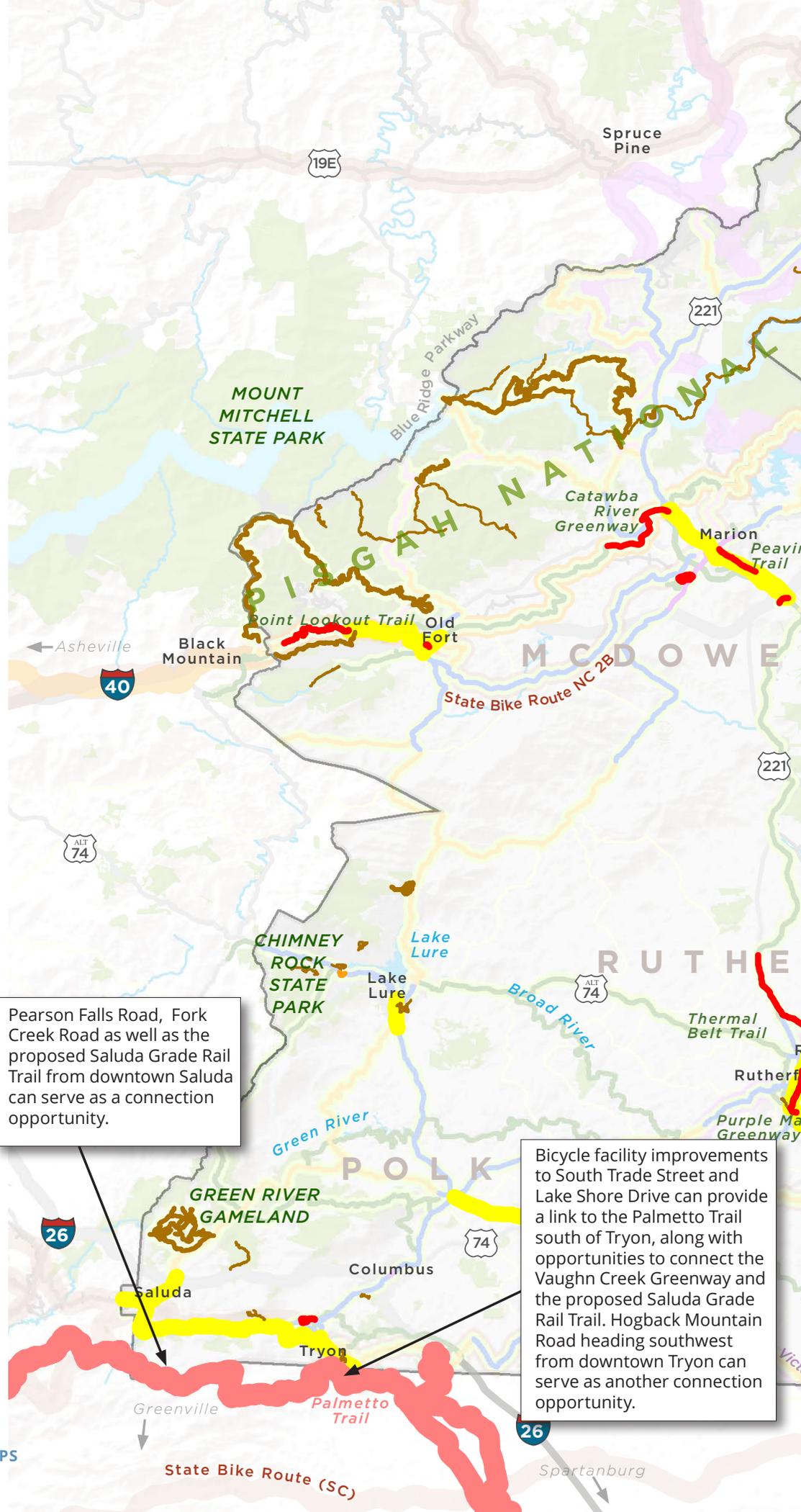
PROPOSED

- Priority Project

REGIONAL/STATEWIDE

- Palmetto Trail

10 miles



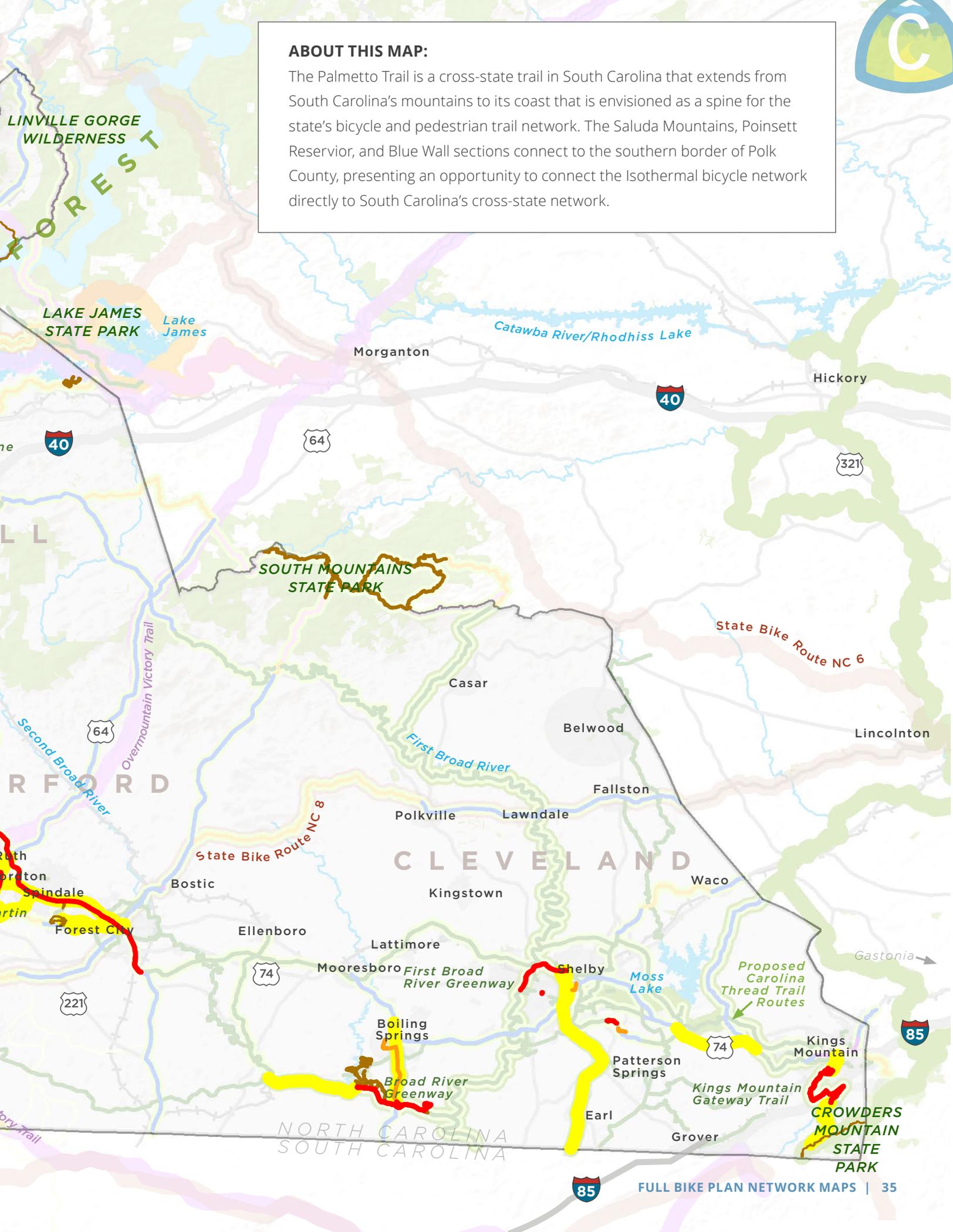
Pearson Falls Road, Fork Creek Road as well as the proposed Saluda Grade Rail Trail from downtown Saluda can serve as a connection opportunity.

Bicycle facility improvements to South Trade Street and Lake Shore Drive can provide a link to the Palmetto Trail south of Tryon, along with opportunities to connect the Vaughn Creek Greenway and the proposed Saluda Grade Rail Trail. Hogback Mountain Road heading southwest from downtown Tryon can serve as another connection opportunity.



ABOUT THIS MAP:

The Palmetto Trail is a cross-state trail in South Carolina that extends from South Carolina's mountains to its coast that is envisioned as a spine for the state's bicycle and pedestrian trail network. The Saluda Mountains, Poinsett Reservoir, and Blue Wall sections connect to the southern border of Polk County, presenting an opportunity to connect the Isothermal bicycle network directly to South Carolina's cross-state network.





COMPREHENSIVE MAPS: ISOTHERMAL REGIONAL BICYCLE NETWORK

EXISTING

- Shared Use Paths
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

PROPOSED

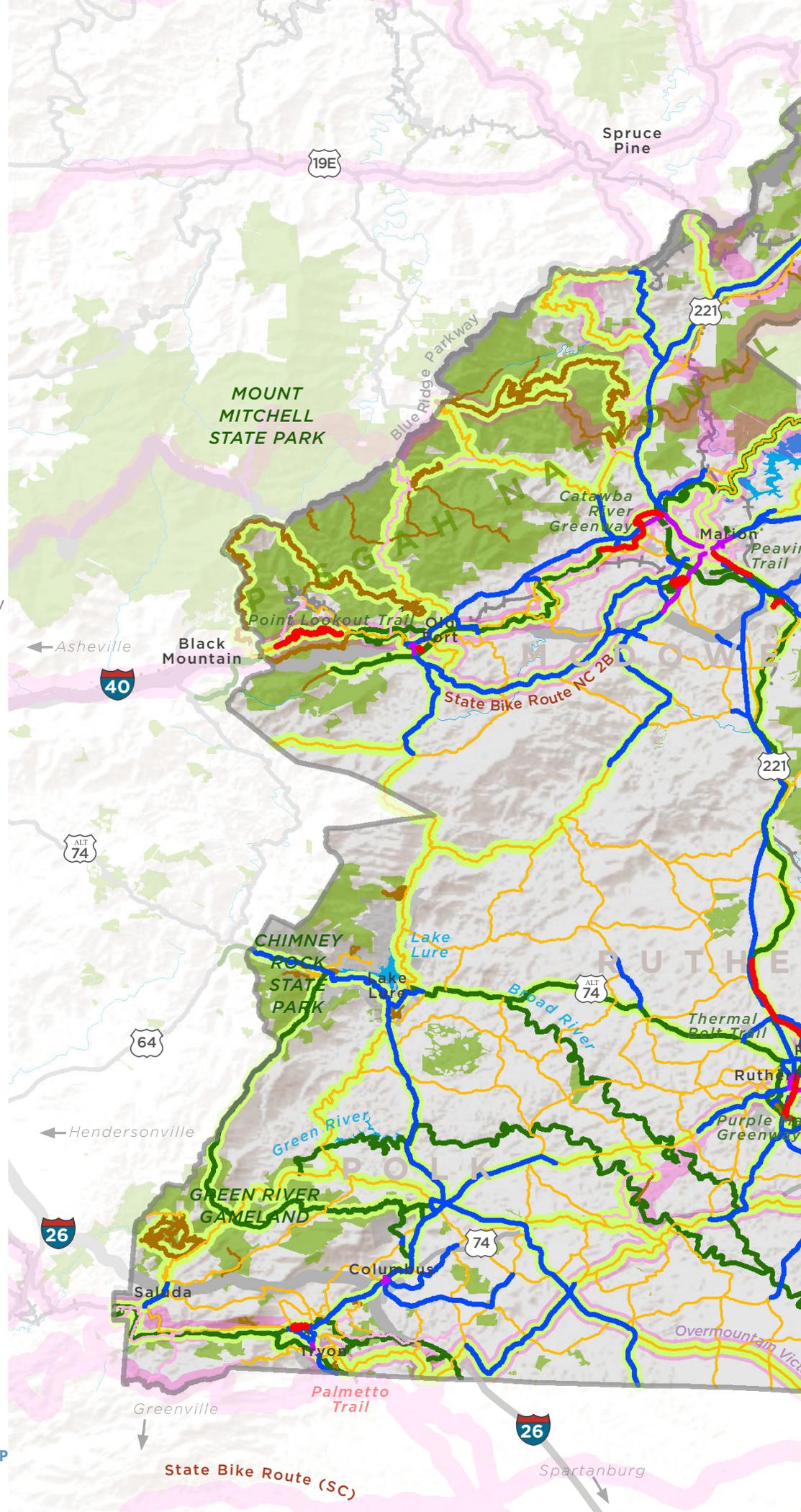
- Shared Use Path (Greenways)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Strategic Network

REGIONAL/STATEWIDE

- State/Regional Trail System

OTHER FEATURES

- Study Area
- Municipalities
- Parks & Conservation
- Lakes & Rivers
- Topography
- Railroads

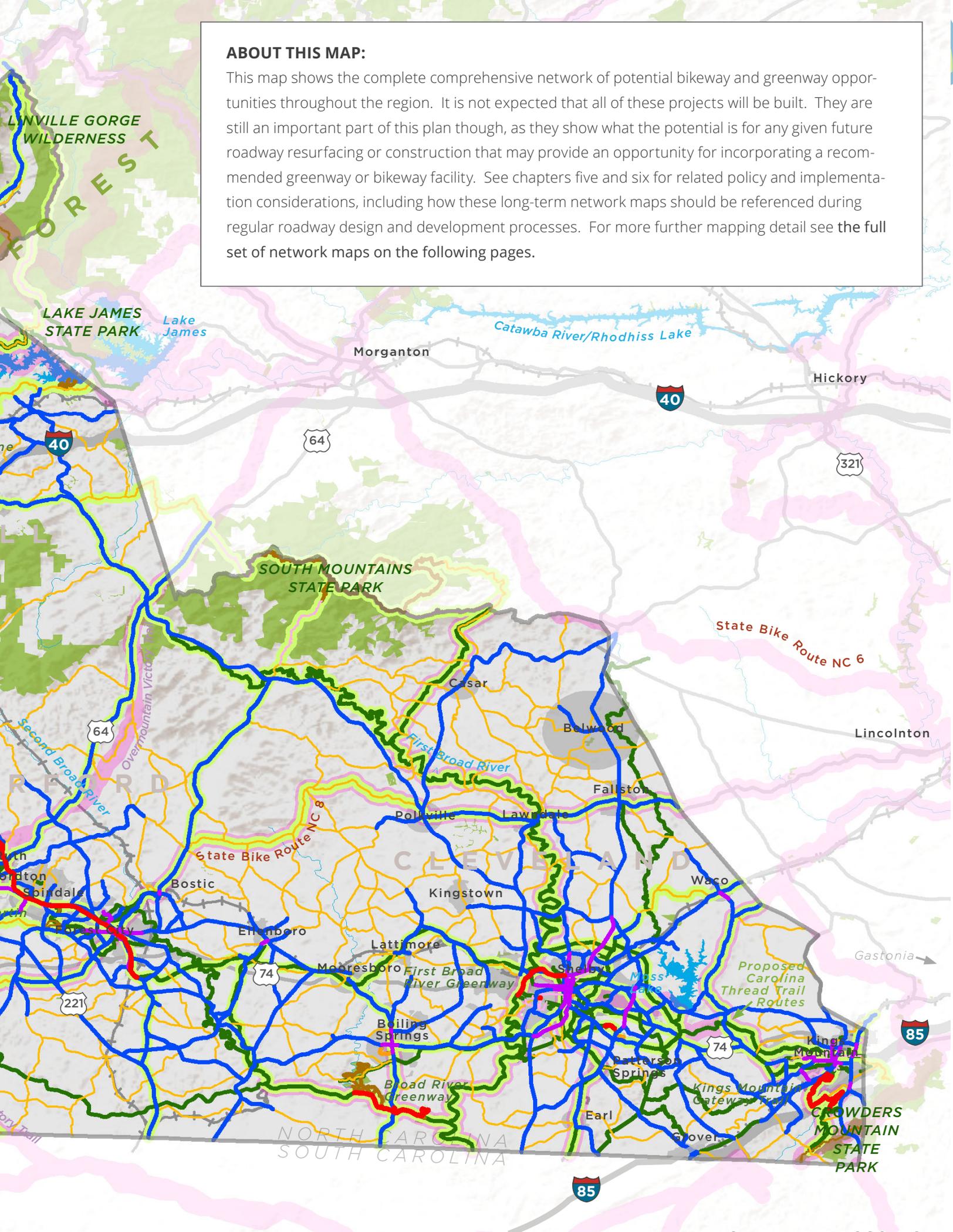


10 miles



ABOUT THIS MAP:

This map shows the complete comprehensive network of potential bikeway and greenway opportunities throughout the region. It is not expected that all of these projects will be built. They are still an important part of this plan though, as they show what the potential is for any given future roadway resurfacing or construction that may provide an opportunity for incorporating a recommended greenway or bikeway facility. See chapters five and six for related policy and implementation considerations, including how these long-term network maps should be referenced during regular roadway design and development processes. For more further mapping detail see the full set of network maps on the following pages.



POLK COUNTY



Existing

-  Shared Use Path
-  Hiking/Mt Biking Trail
-  Other Trail

Proposed

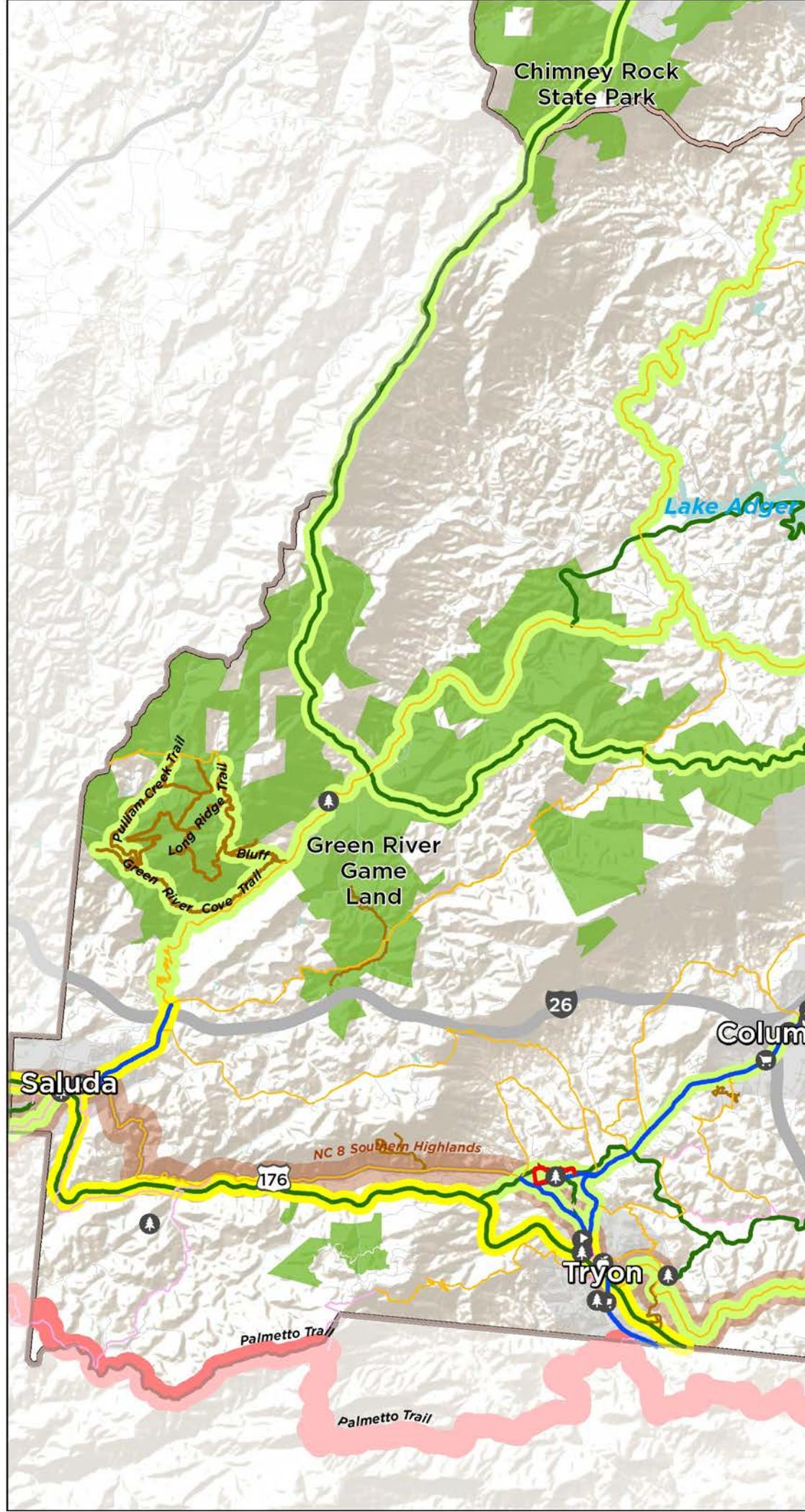
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Separated Bike Lane (Potentially Within Existing Curb)
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

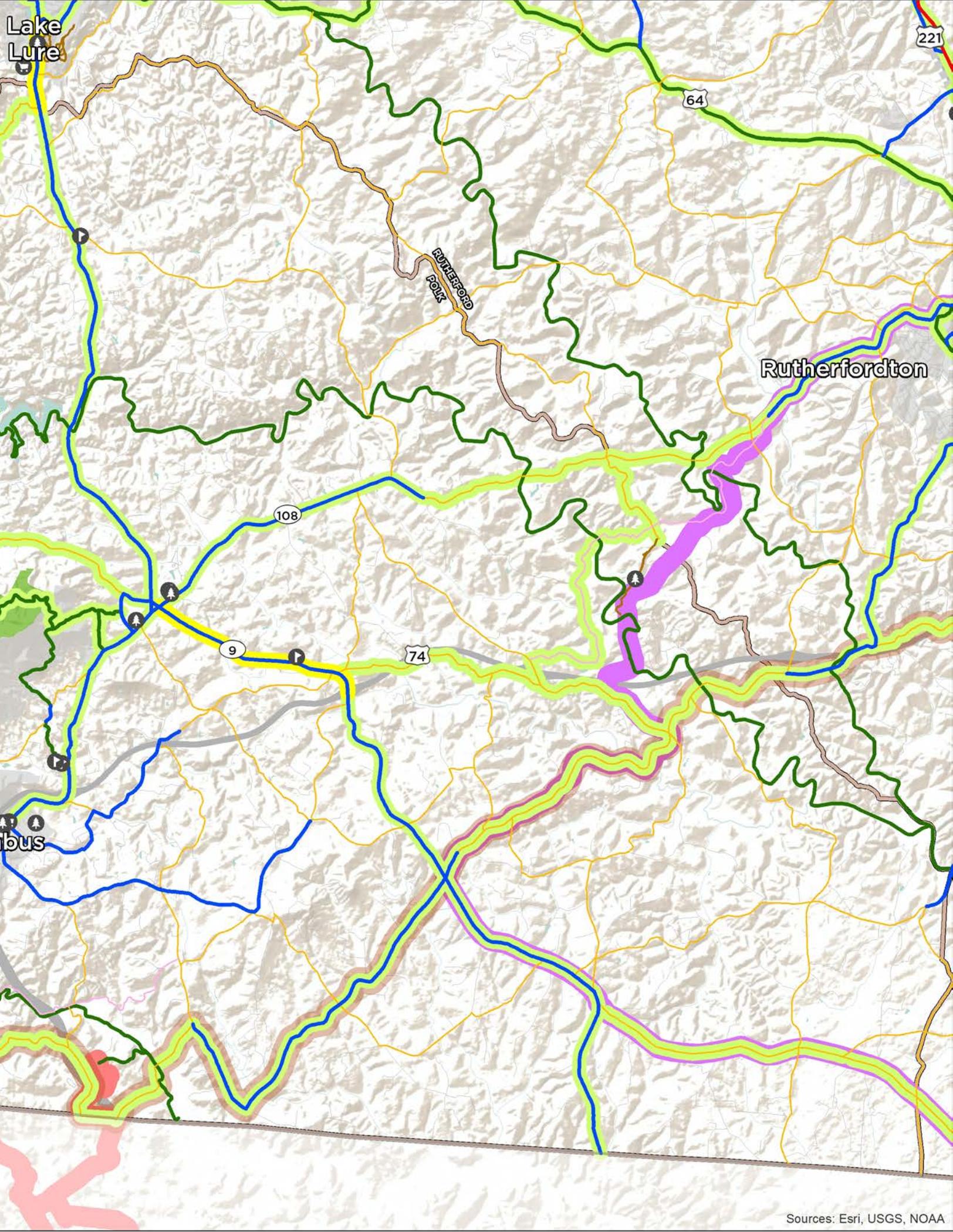
Regional/Statewide

-  State Bike Route
-  Palmetto Trail
-  Overmountain Victory Trail Alignment

Other Features

-  Park
-  School
-  Farmers' Market
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body





Lake Lure

221

64

RUTHERFORD
FALLS

Rutherfordton

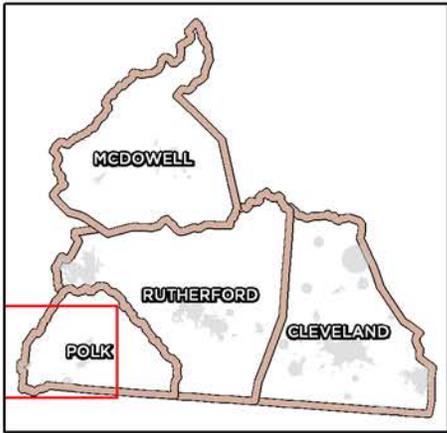
108

9

74

bus

POLK COUNTY WEST



Existing

-  Shared Use Path
-  Hiking/... Biking Trail
-  Other Trail

Proposed

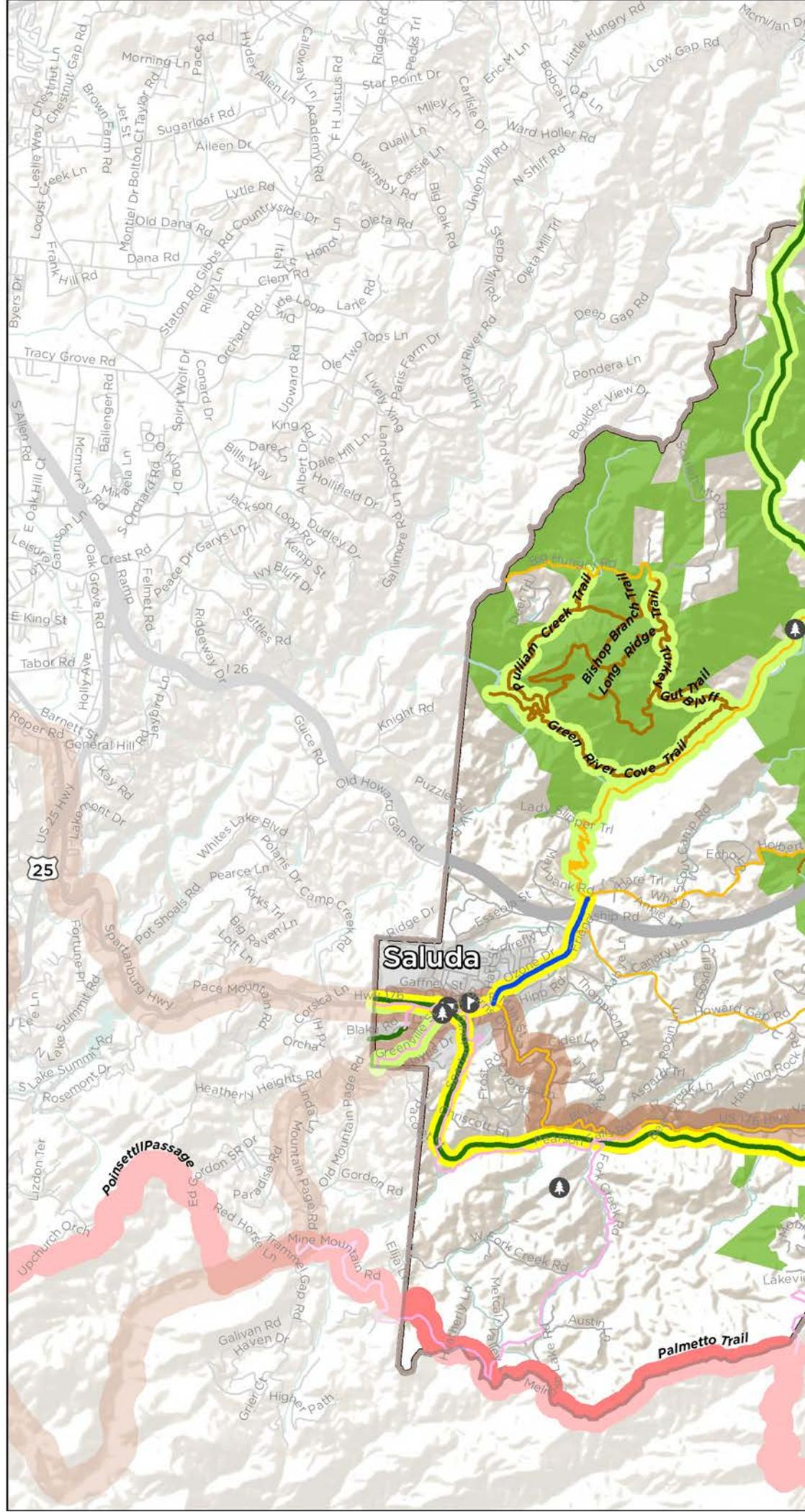
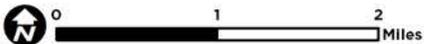
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Separated Bike Lane (Potentially Within Existing Curb)
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

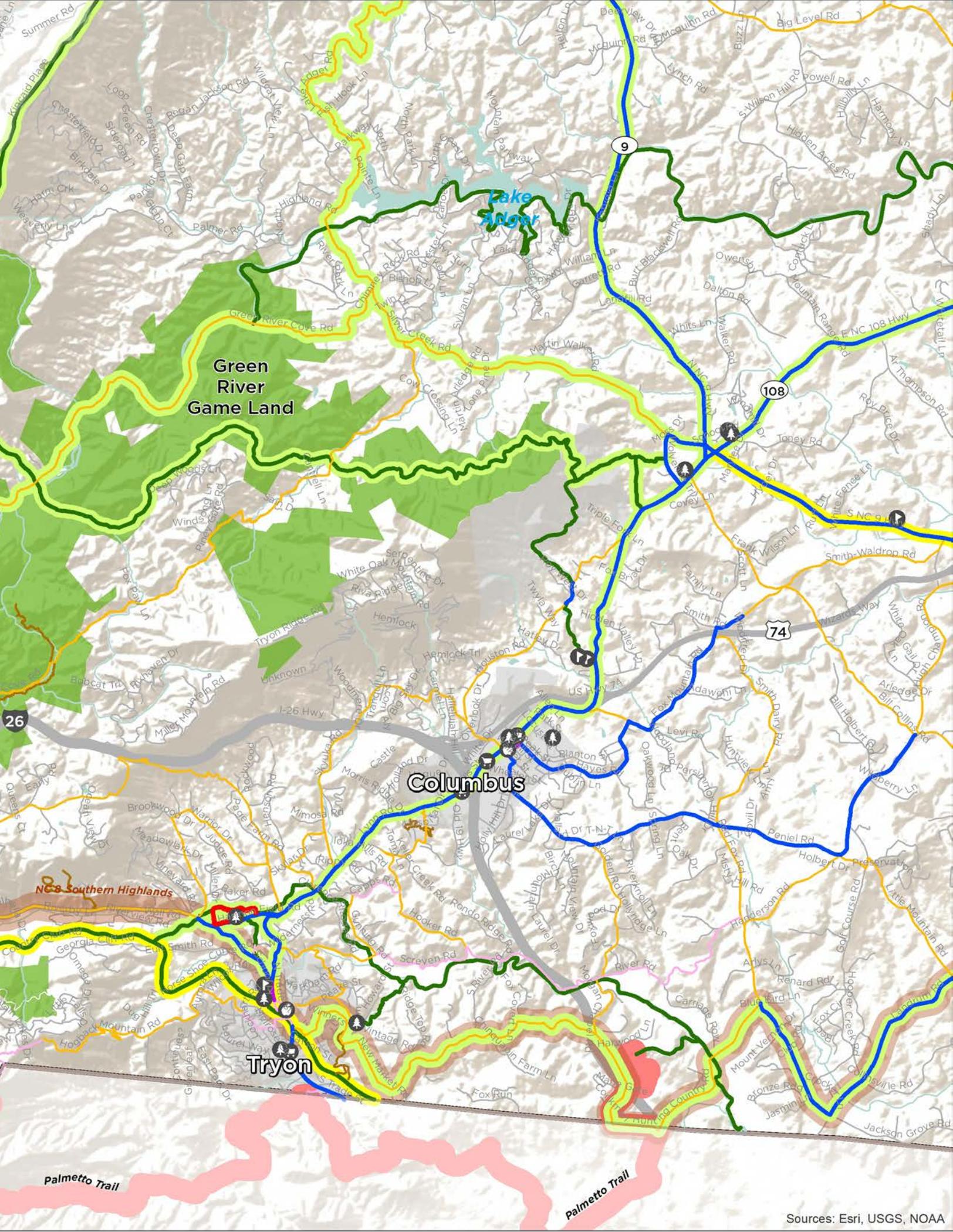
Regional/Statewide



Other Features

-  Park
-  School
-  Farmers' Market
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body





Green River Game Land

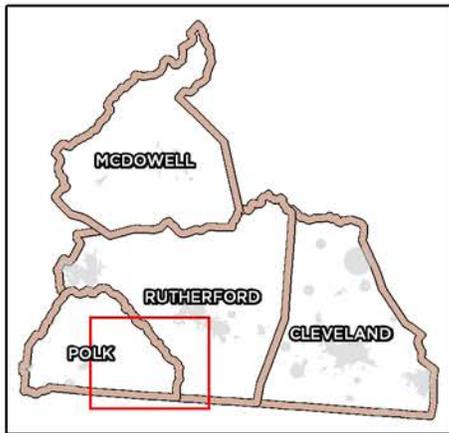
Columbus

Tryon

Palmetto Trail

Palmetto Trail

POLK COUNTY EAST



Existing

-  Shared Use Path
-  Hiking/Mt Biking Trail
-  Other Trail

Proposed

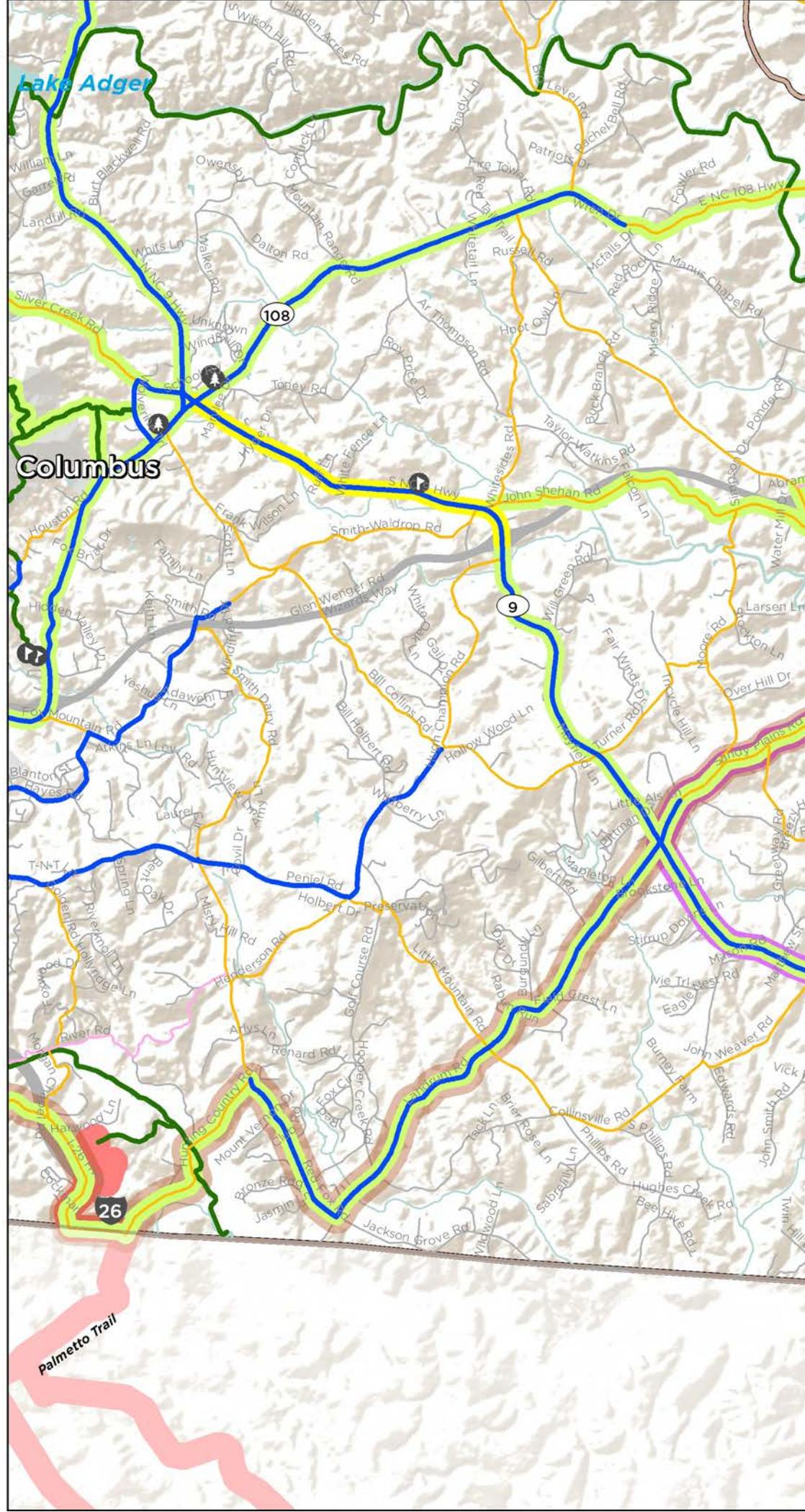
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Separated Bike Lane (Potentially Within Existing Curb)
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

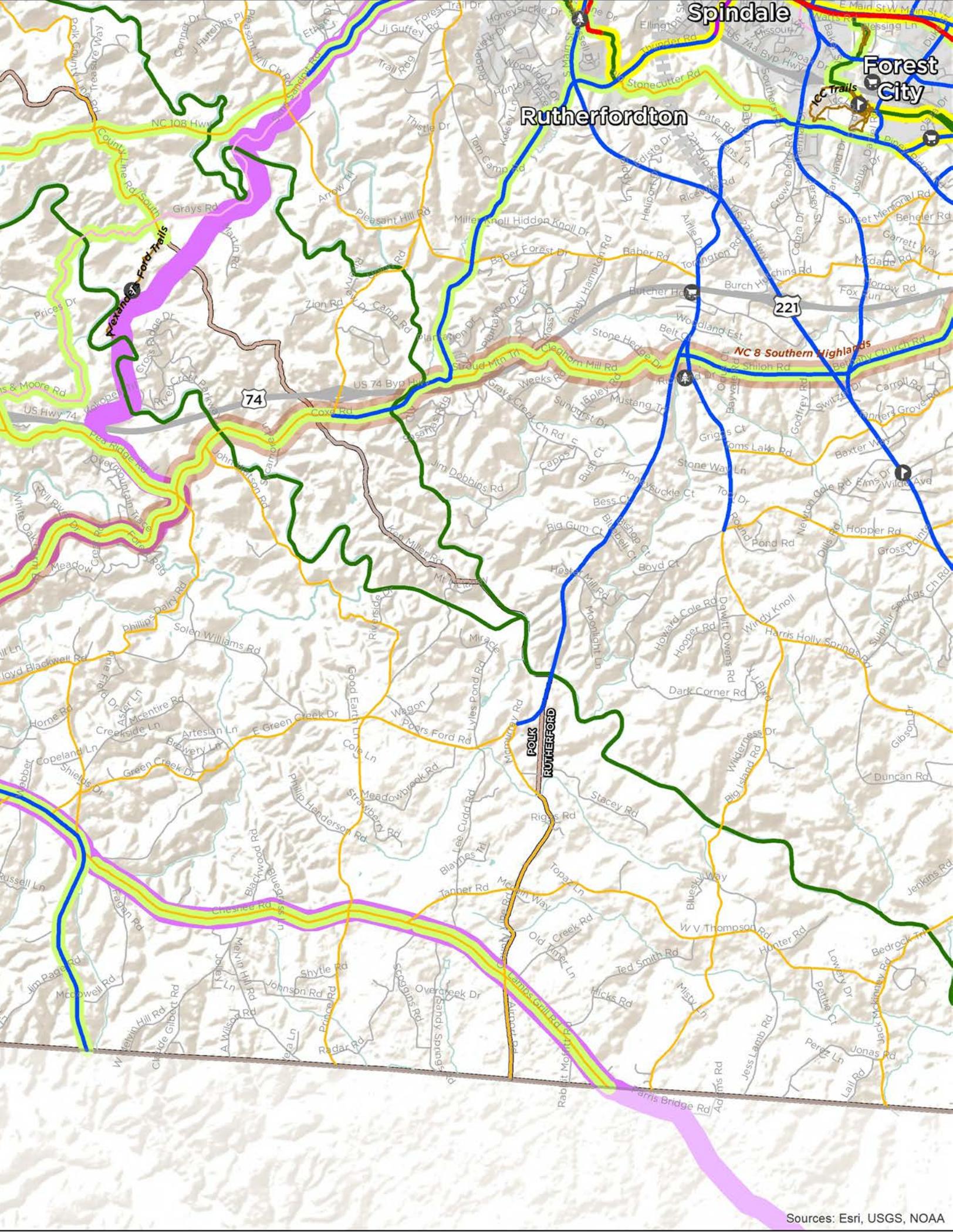
Regional/Statewide

-  State Bike Route
-  Palmetto Trail
-  Overmountain Victory Trail Alignment

Other Features

-  Park
-  School
-  Farmers' Market
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body





POLK COUNTY NORTH



Existing

-  Shared Use Path
-  Bike Lane
-  Other Trail

Proposed

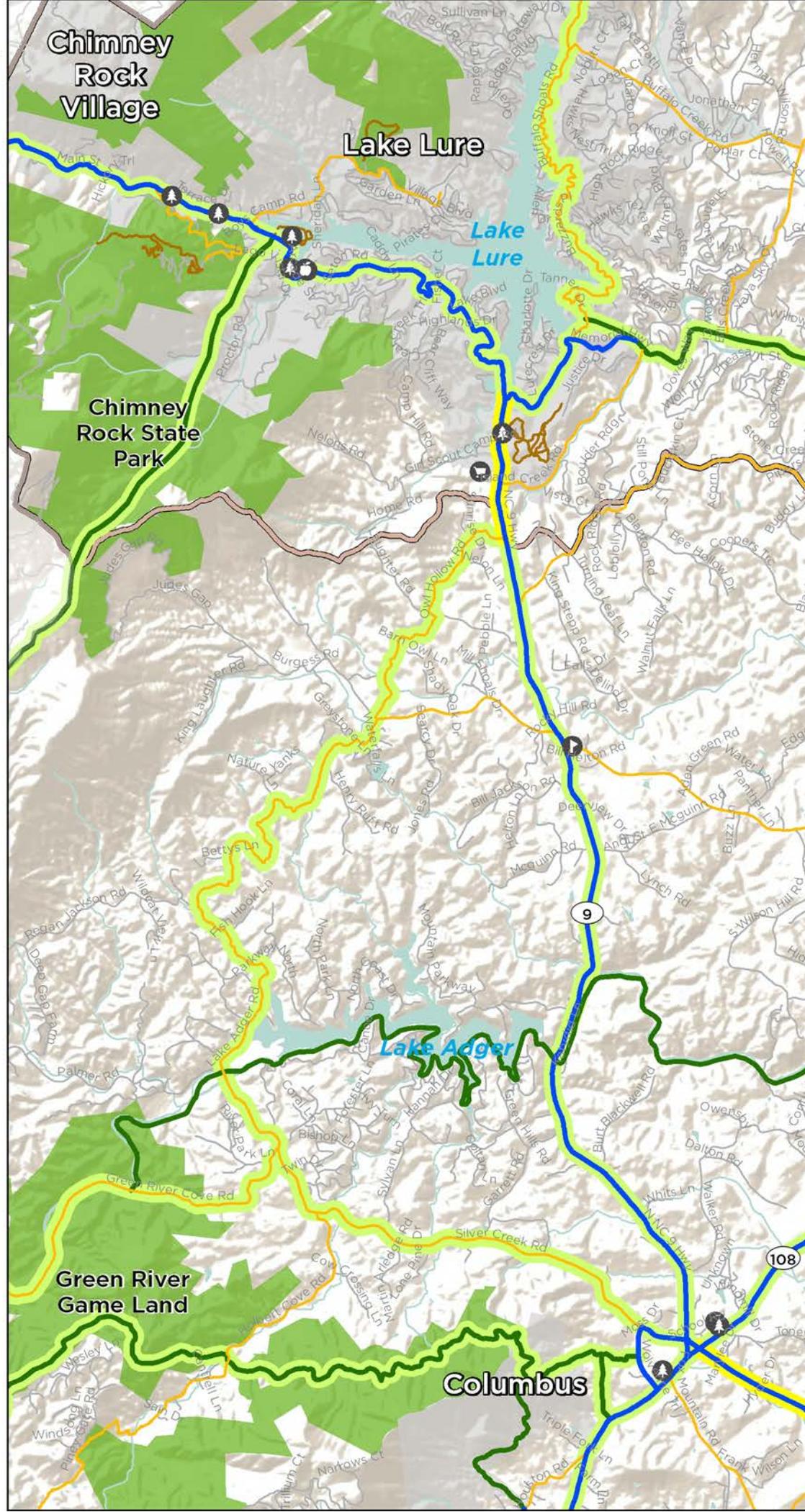
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

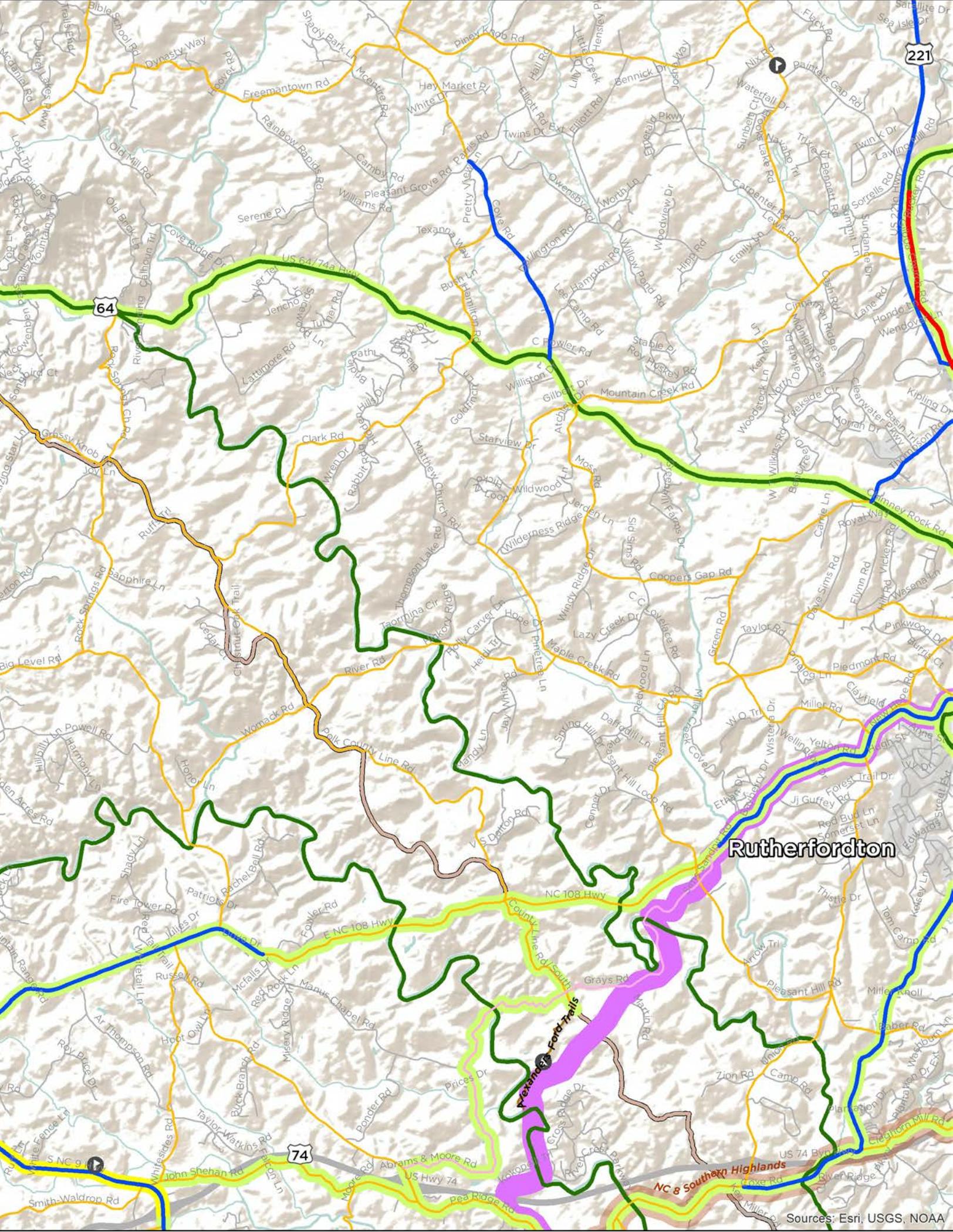
Regional/Statewide

-  State Bike Route
-  Overmountain Victory Trail Alignment

Other Features

-  Park
-  School
-  Farmers' Market
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body



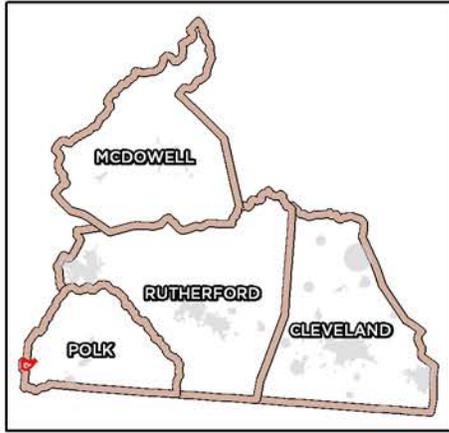


Rutherfordton

Wendover Ford Trails

NC 8 Southern Highlands

SALUDA



Proposed

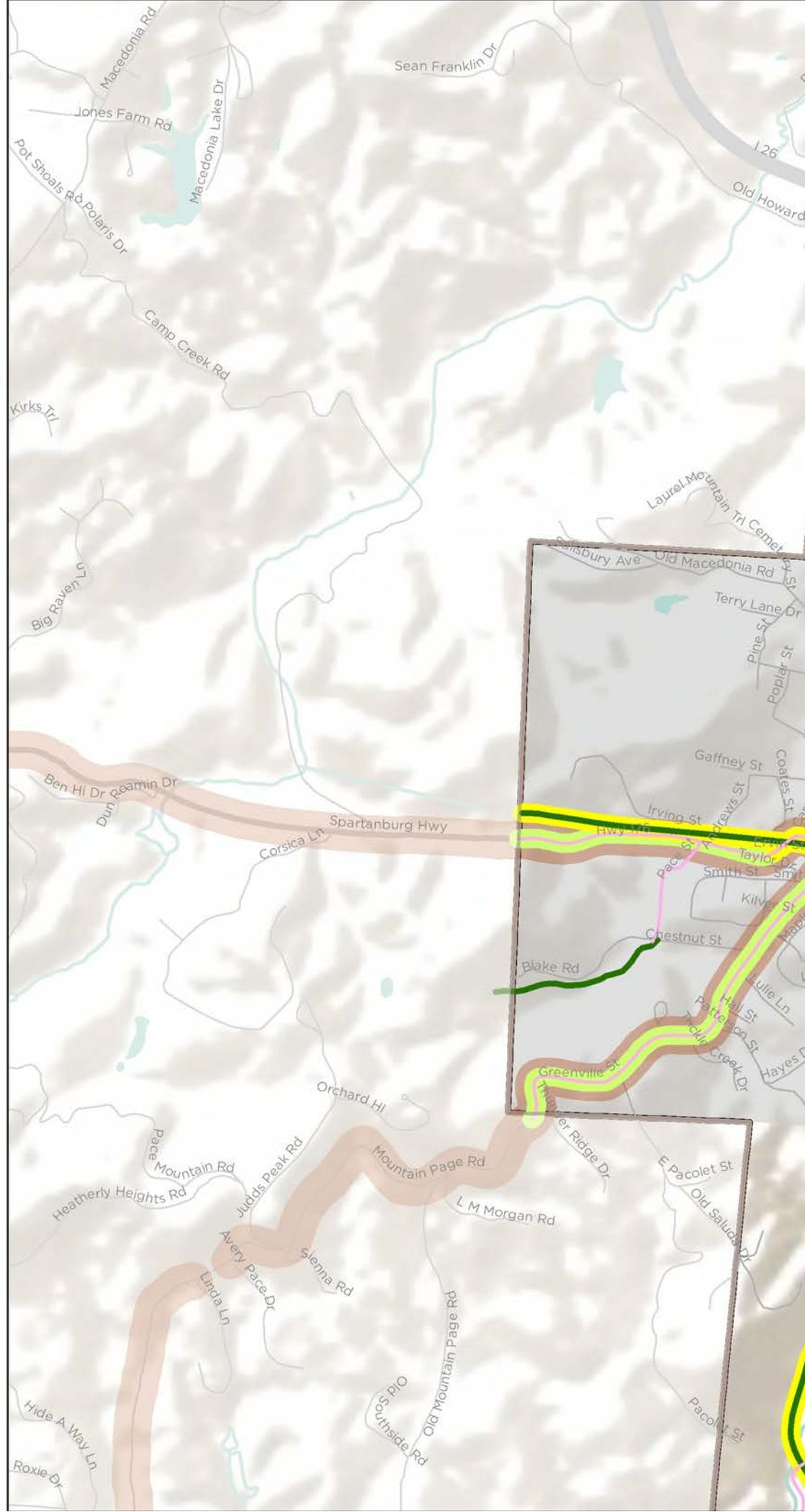
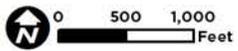
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

Regional/Statewide

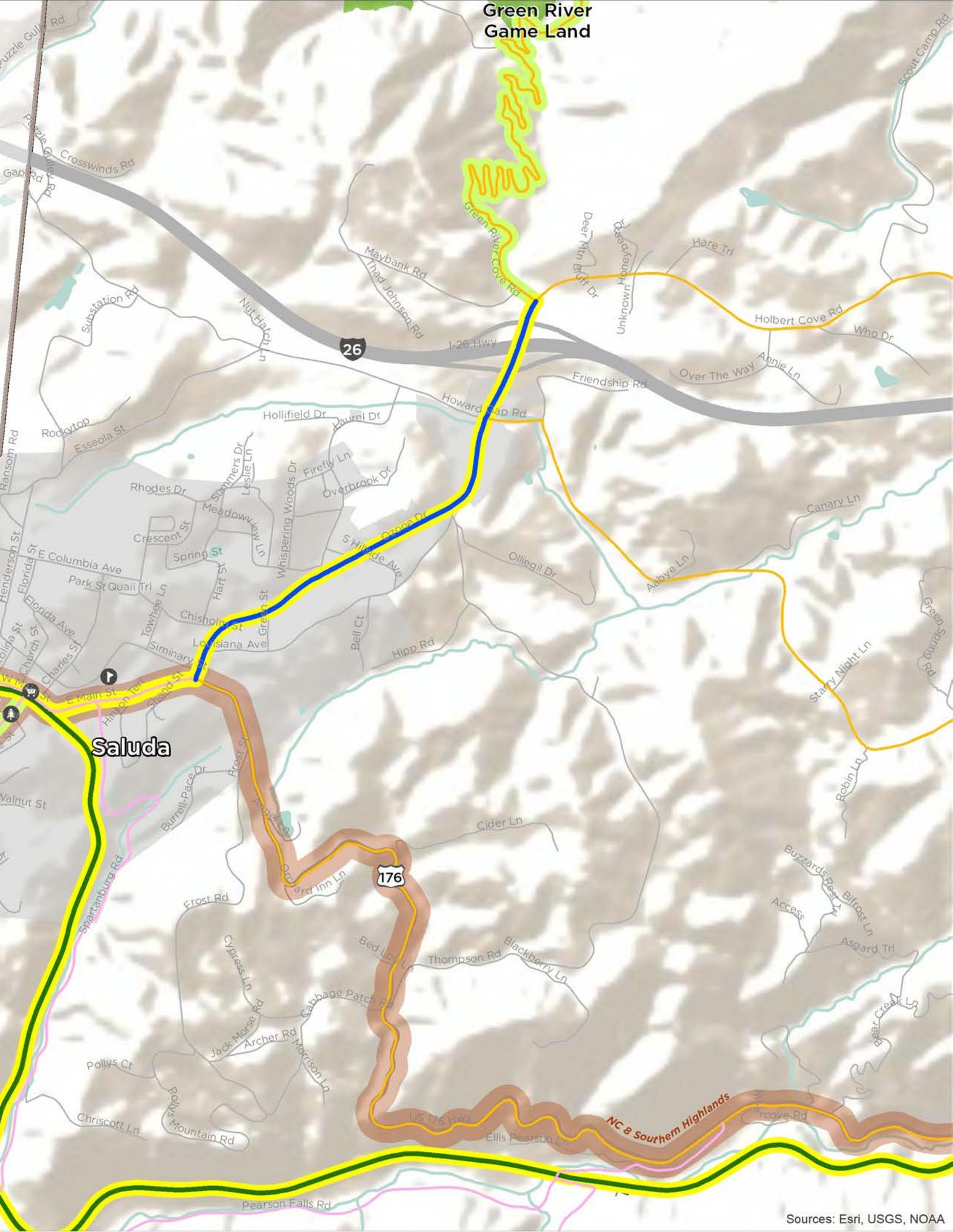
-  State Bike Route

Other Features

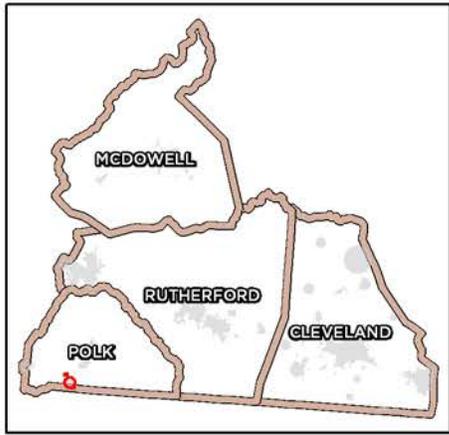
-  Park
-  School
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body



Green River Game Land



TRYON



Existing

- Shared Use Path
- Hiking/Mt Biking Trail

Proposed

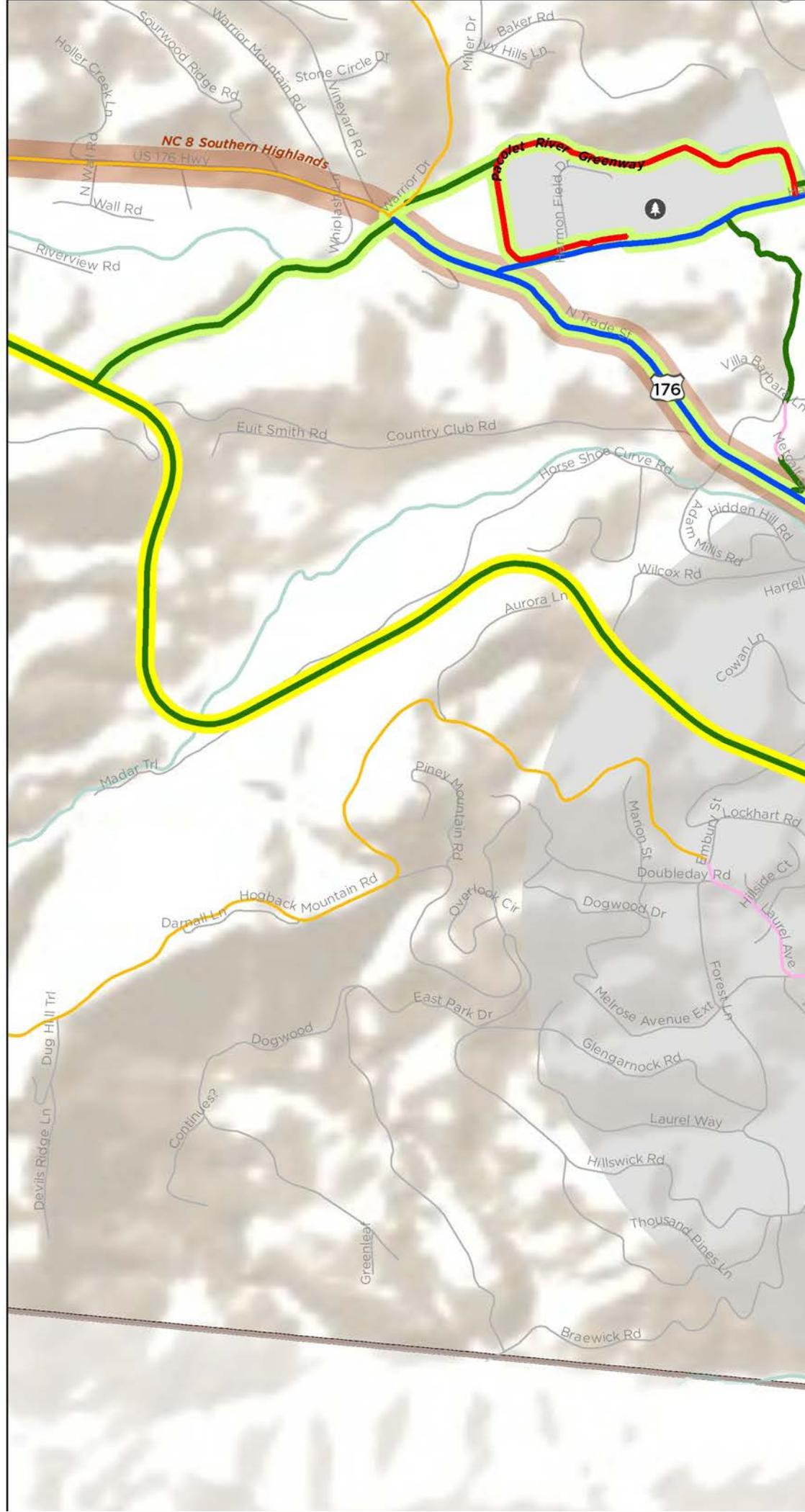
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

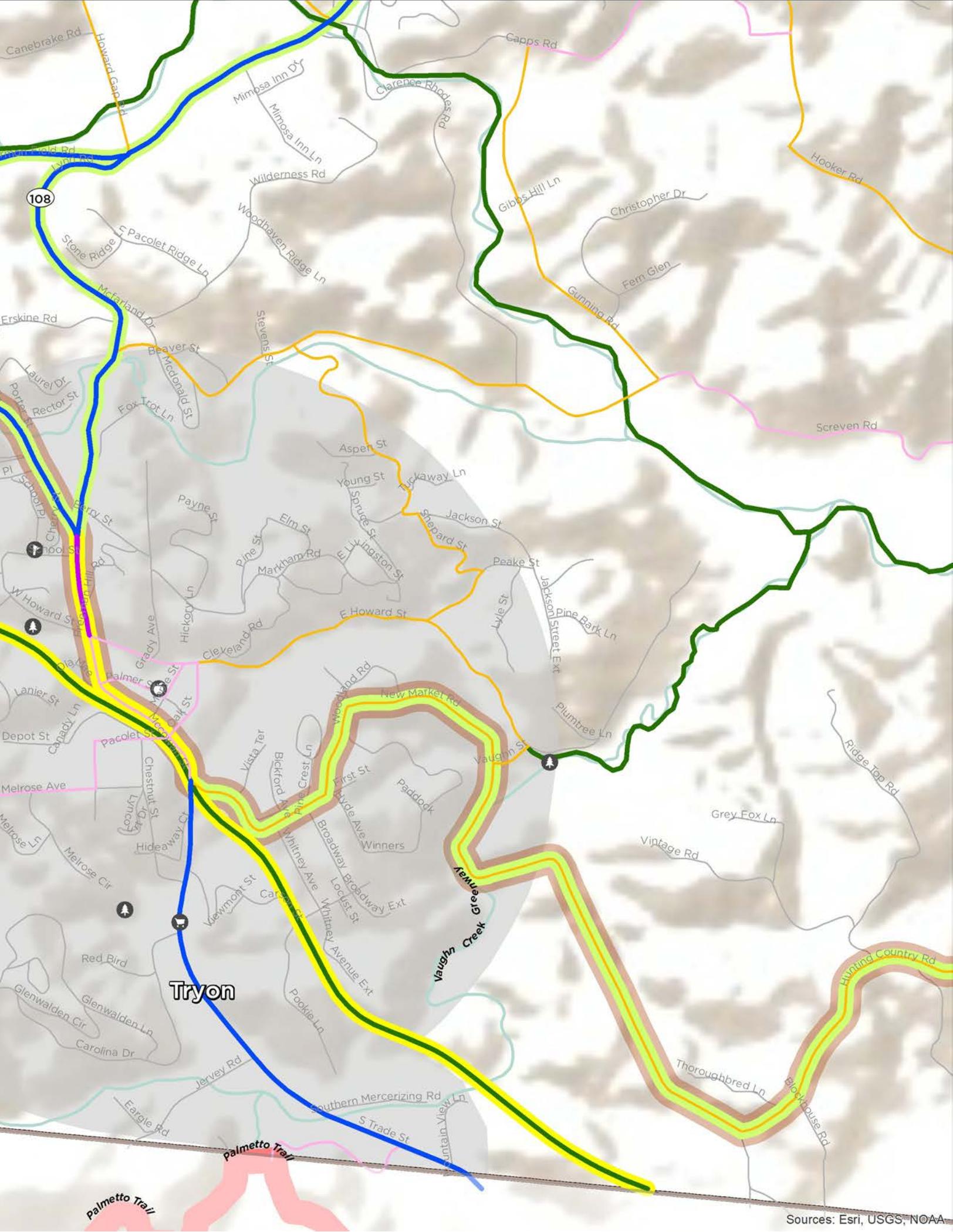
Regional/Statewide

- State Bike Route
- Palmetto Trail

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream





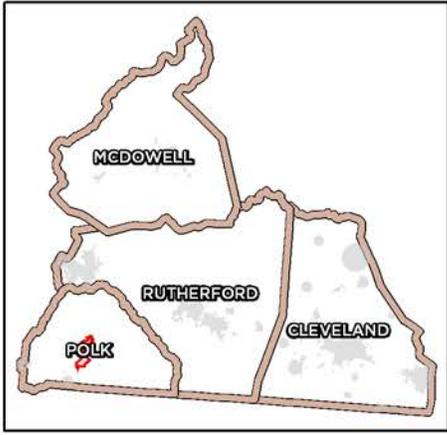
108

Tryon

Vaughn Creek

Palmetto Trail

COLUMBUS



Existing

Other Trail

Proposed

Shared Use Path (Greenway)

Separated Bike Lane

Separated Bike Lane (Potentially Within Existing Curb)

Paved Shoulder

Priority Project

Strategic Network

Other Features

Park

School

Farmers' Market

Grocery Store

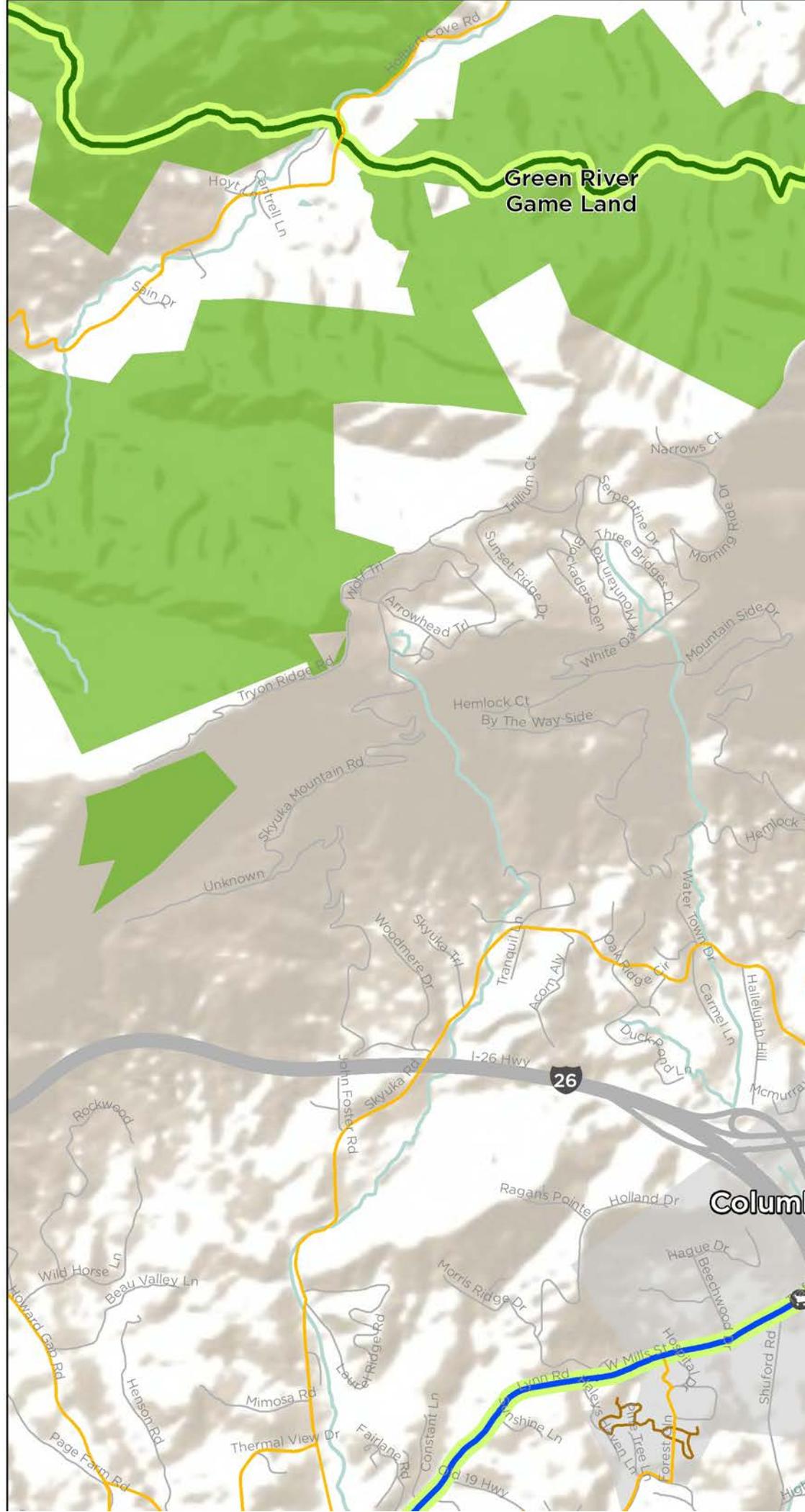
County Boundary

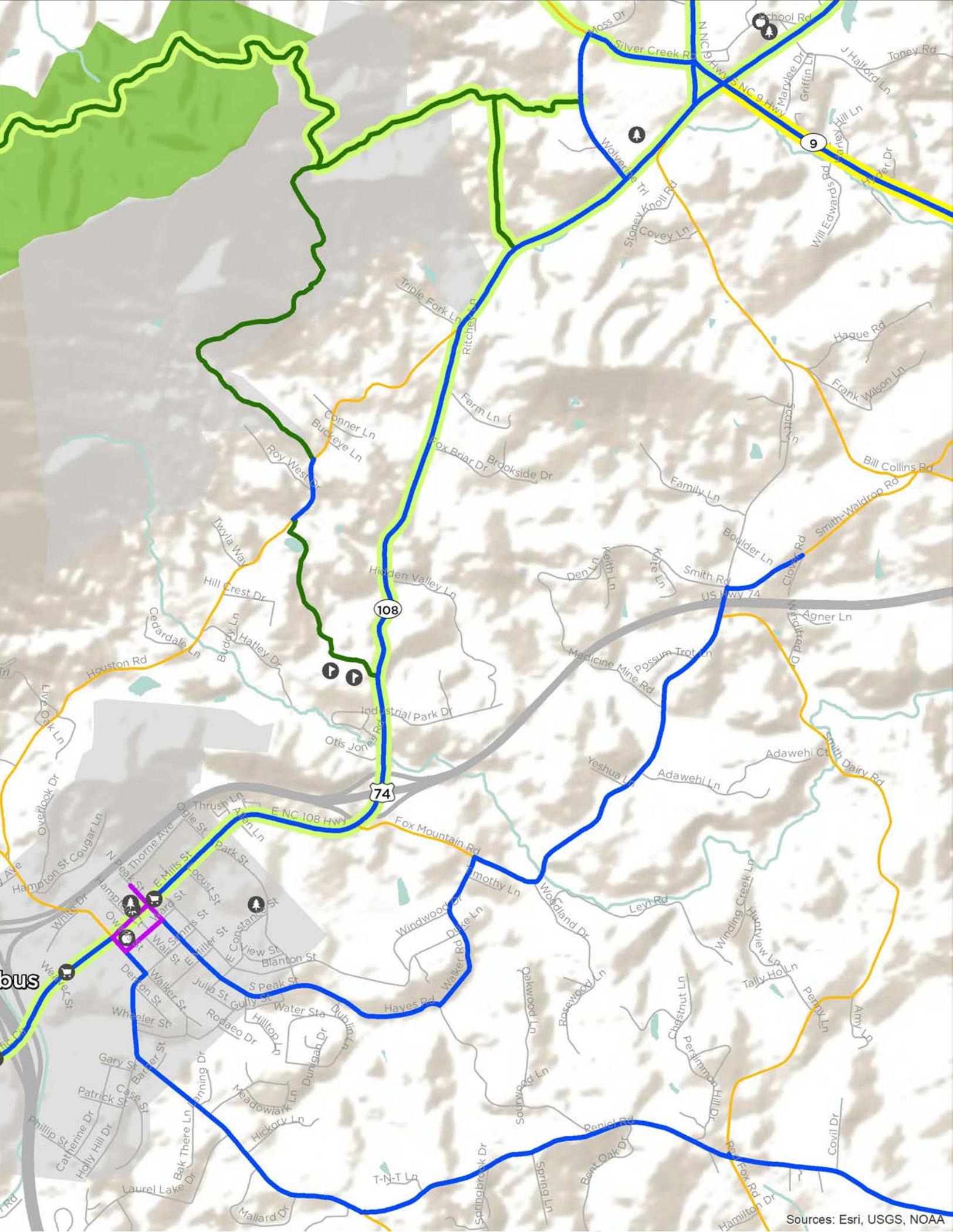
Municipal Boundary

Protected Public Lands

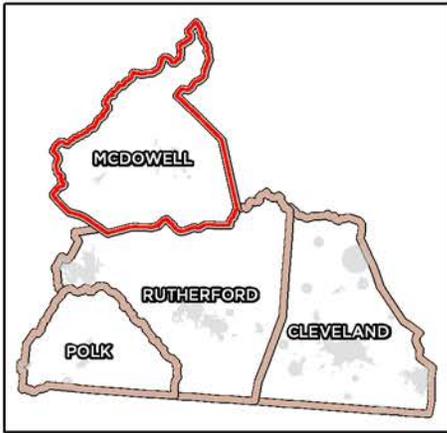
Stream

Water Body





MCDOWELL COUNTY



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

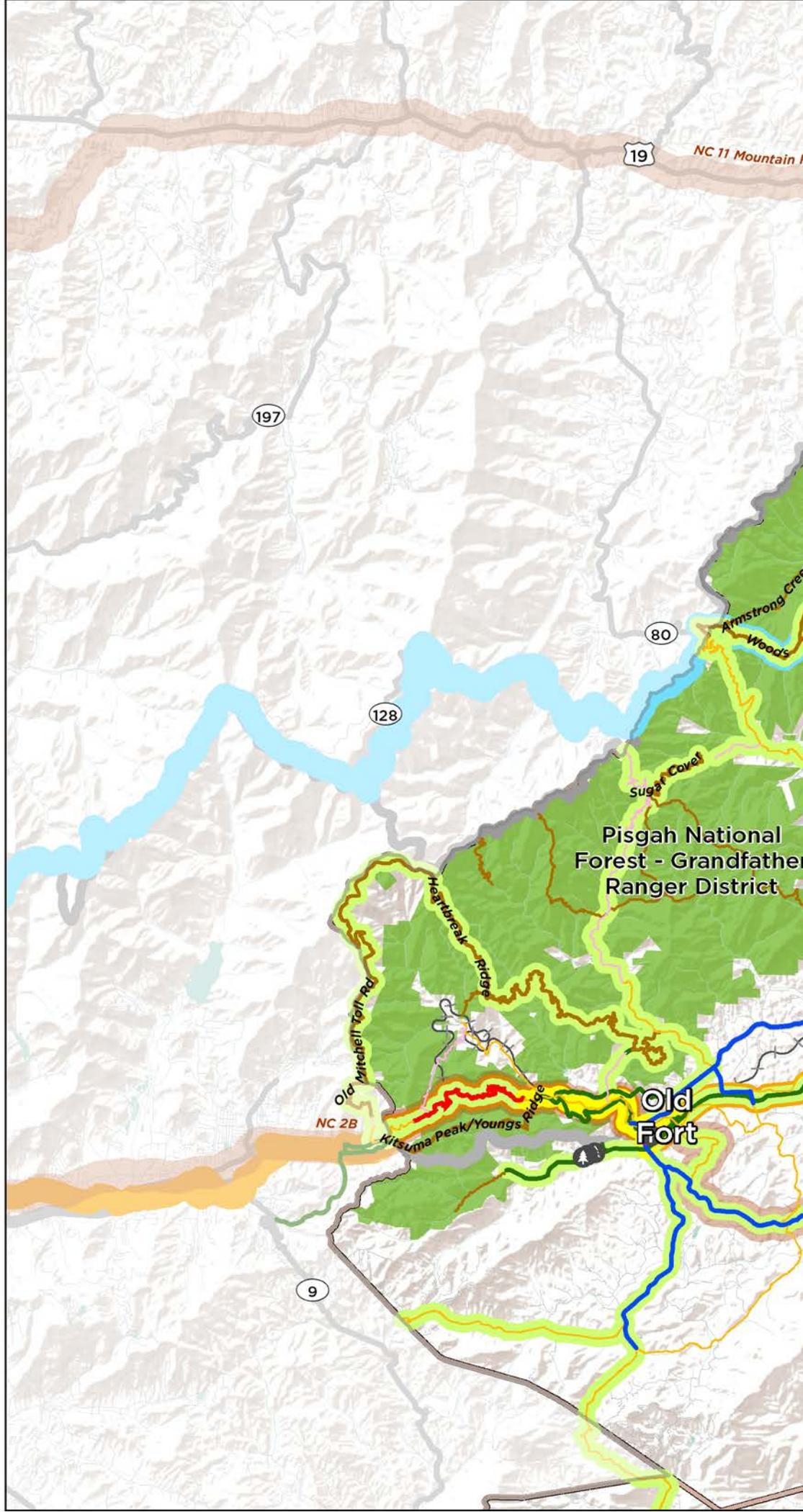
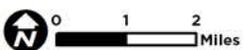
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

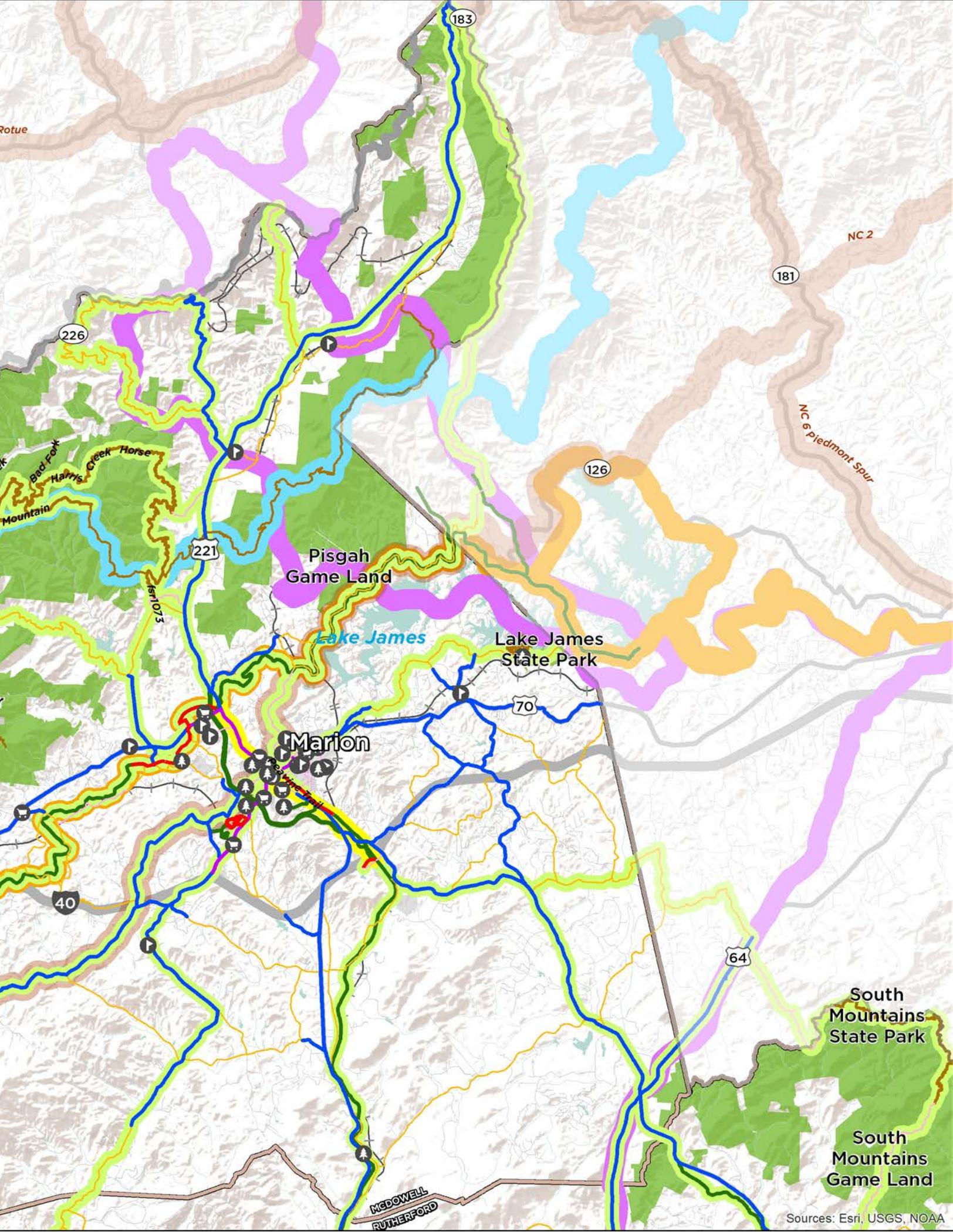
Regional/Statewide

- State Bike Route
- Mountains to Sea Trail
- Overmountain Victory Trail Alignment
- Fonta Flora State Trail

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





Rotue

NC 2

181

NC 64 Piedmont Spur

226

183

126

221

Pisgah Game Land

Lake James

Lake James State Park

70

Marion

40

64

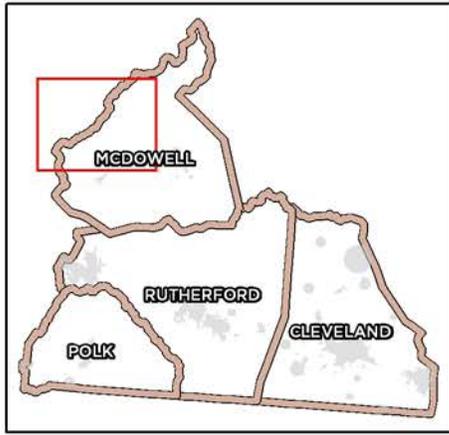
South Mountains State Park

South Mountains Game Land

McDOWELL RUTHERFORD

Sources: Esri, USGS, NOAA

MCDOWELL COUNTY NW



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

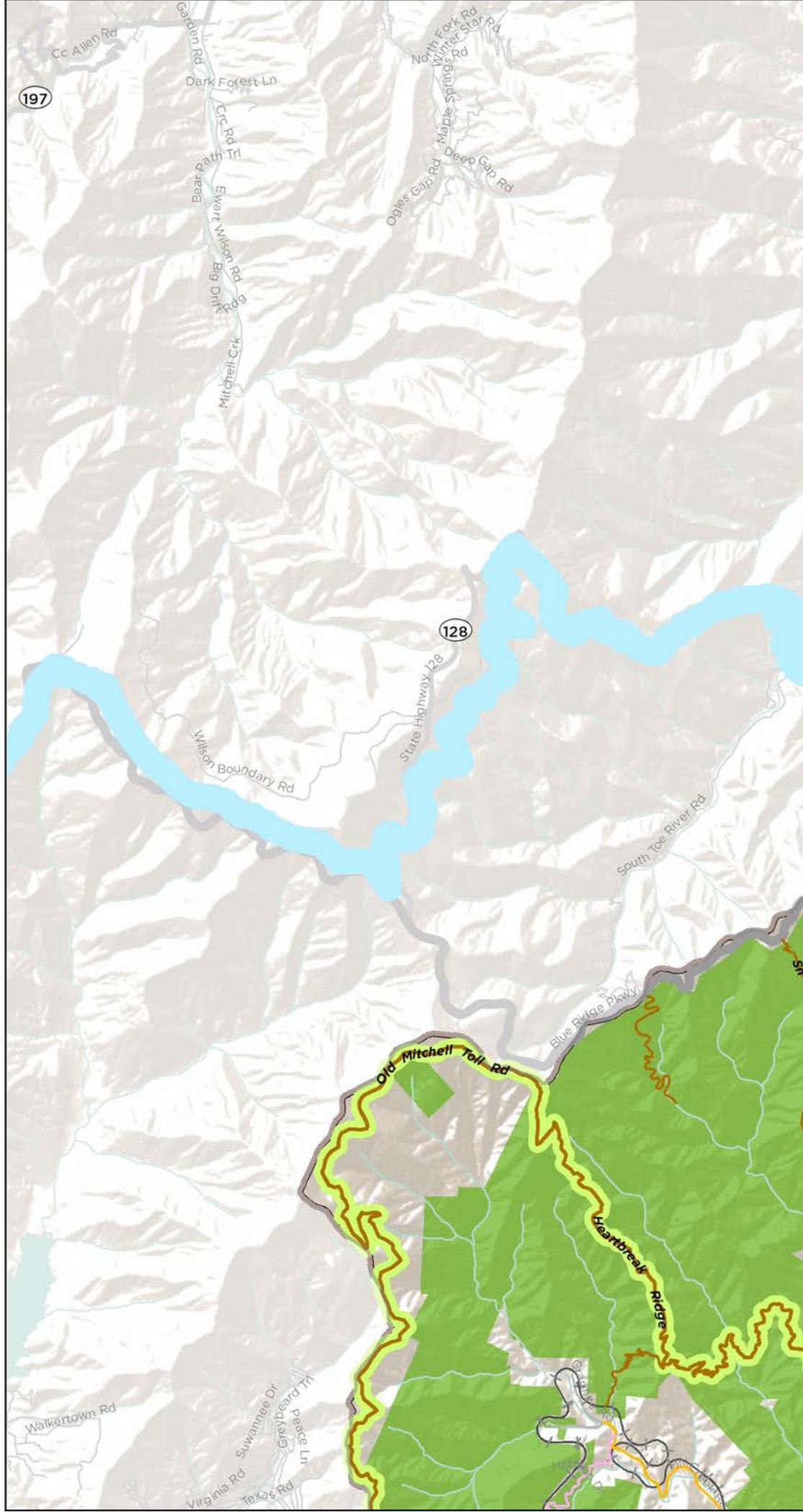
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Strategic Network

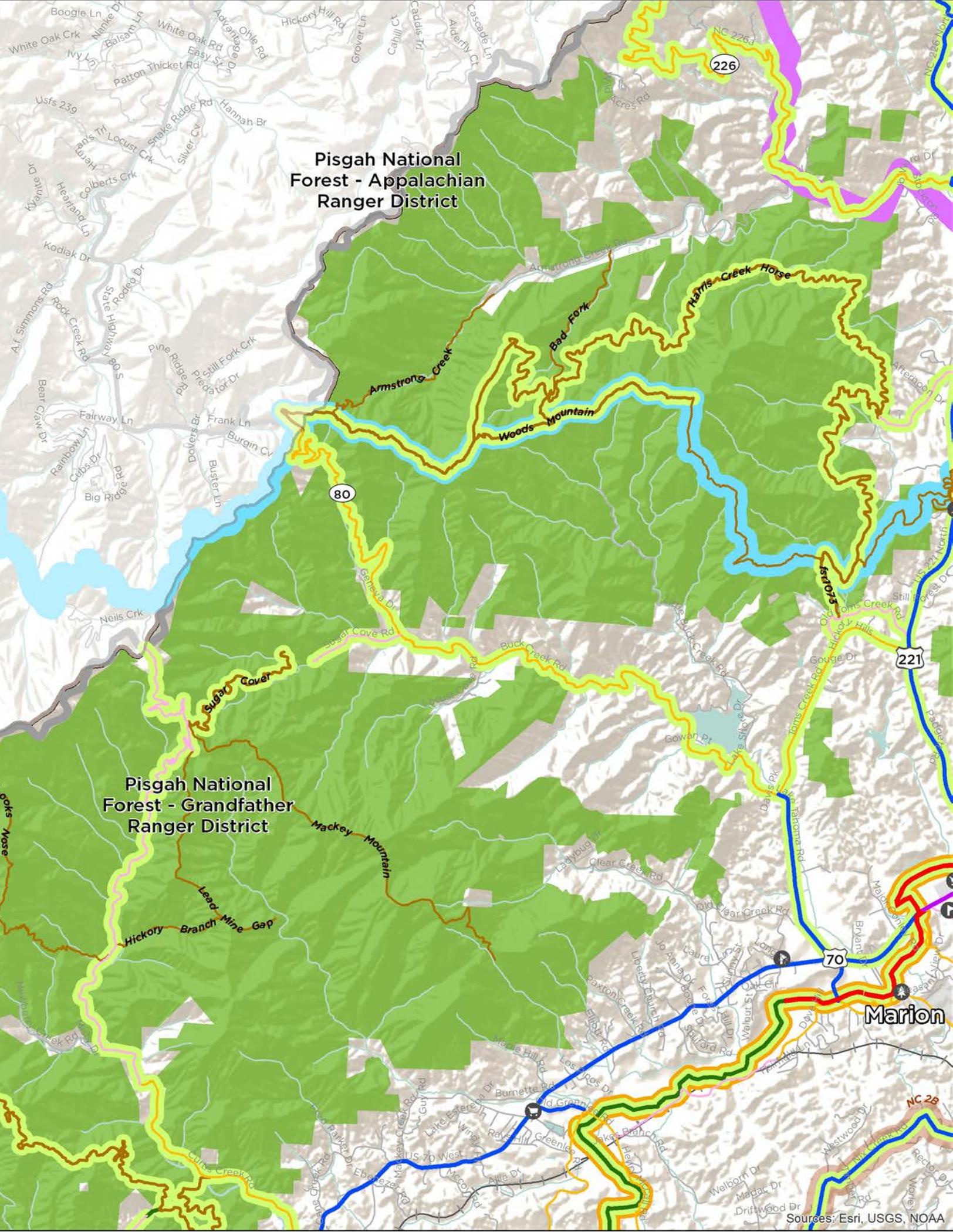
Regional/Statewide

- State Bike Route
- Mountains to Sea Trail
- Overmountain Victory Trail Alignment
- Fonta Flora State Trail

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body



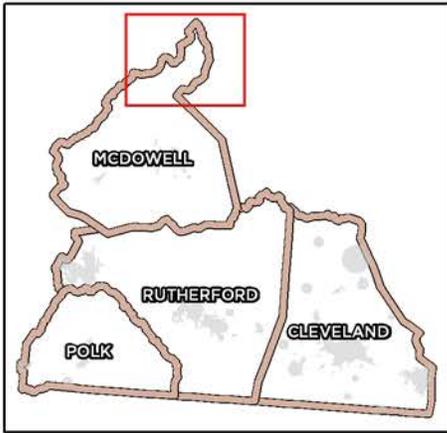


Pisgah National Forest - Appalachian Ranger District

Pisgah National Forest - Grandfather Ranger District

Marion

MCDOWELL COUNTY NORTH



Existing

-  Hiking/Mt Biking Trail
-  Other Trail

Proposed

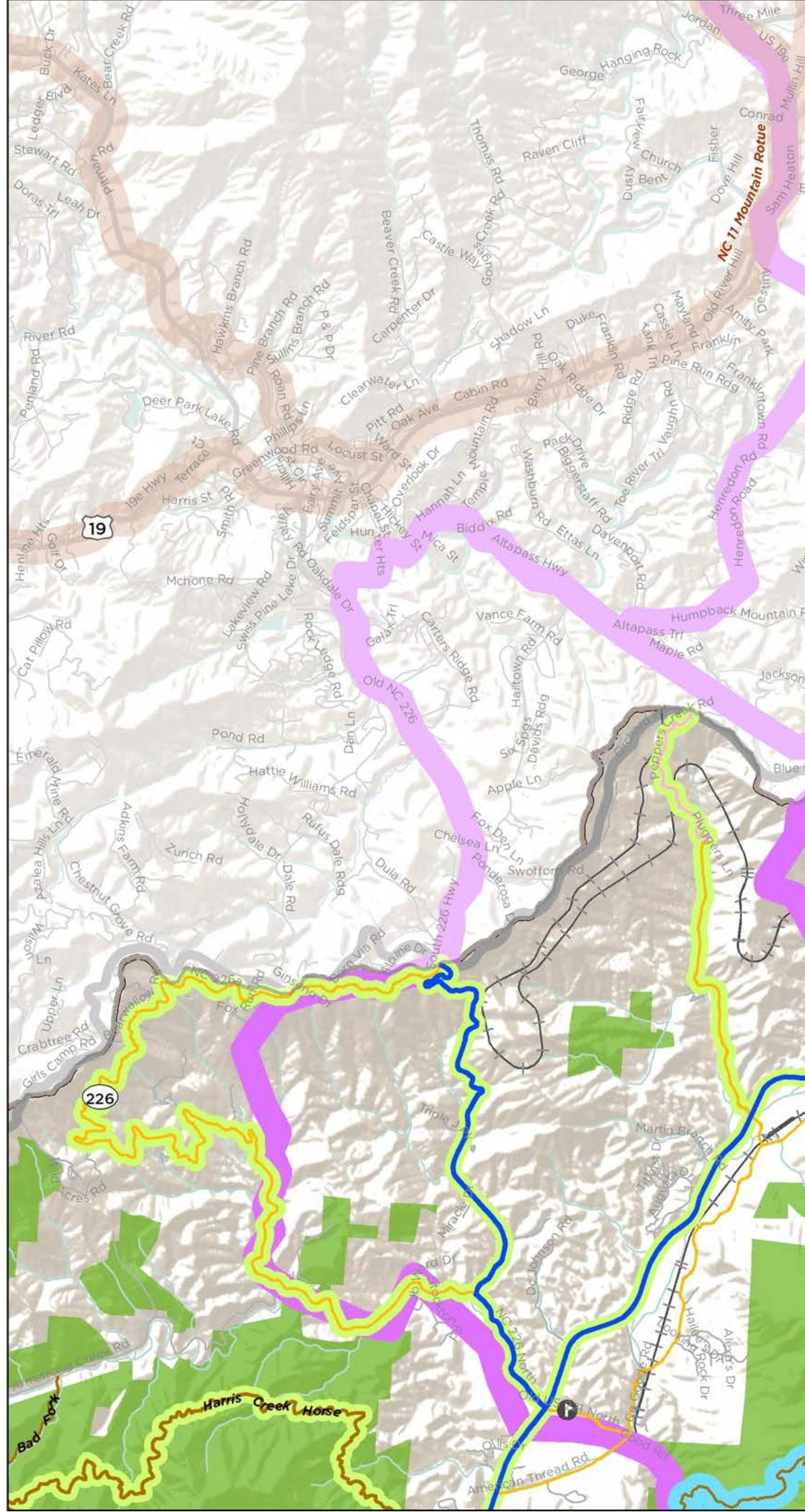
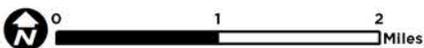
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Paved Shoulder
-  Shared Lane
-  Strategic Network

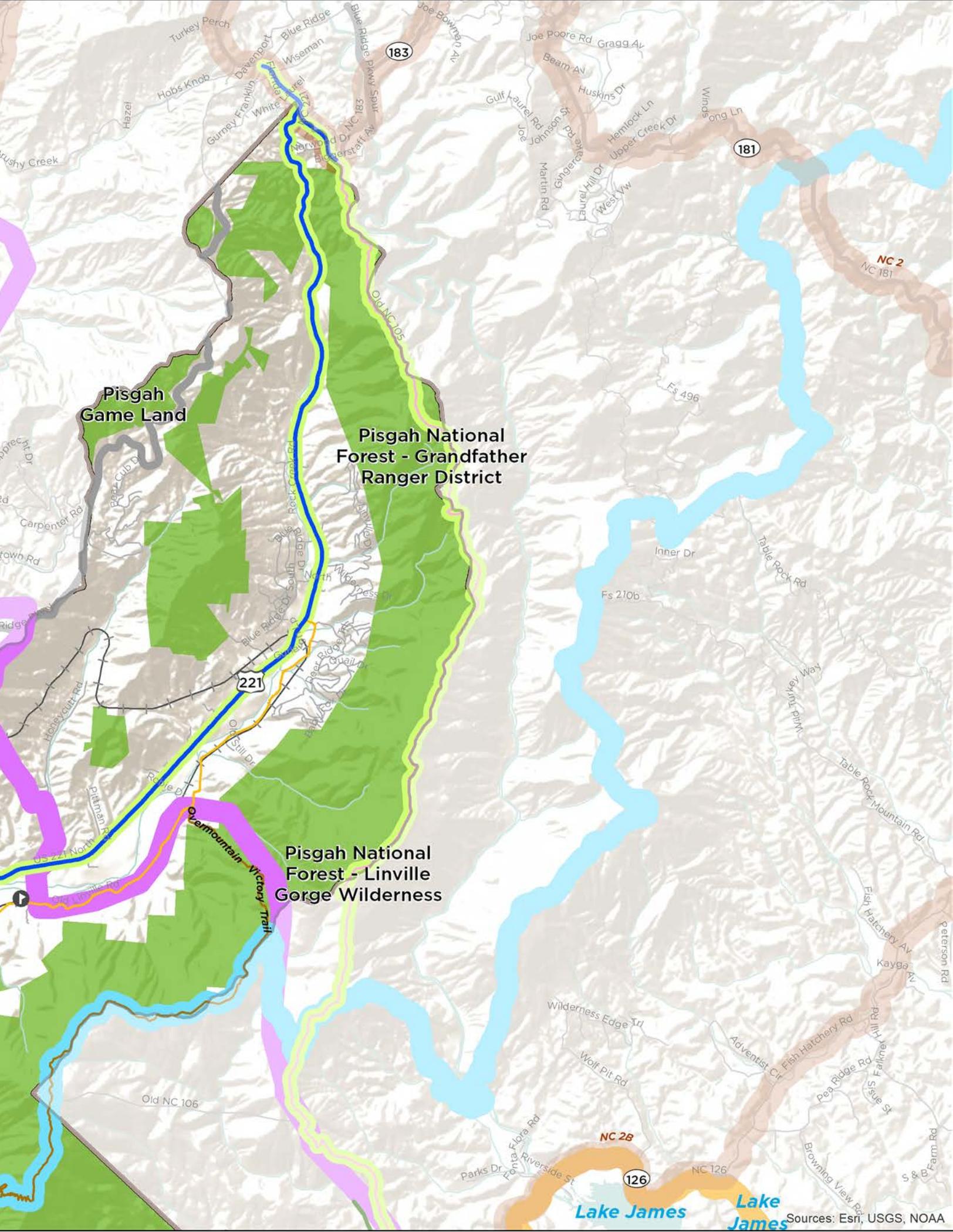
Regional/Statewide

-  State Bike Route
-  Mountains to Sea Trail
-  Overmountain Victory Trail Alignment
-  Fonta Flora State Trail

Other Features

-  School
-  County Boundary
-  Protected Public Lands
-  Stream
-  Water Body





Pisgah Game Land

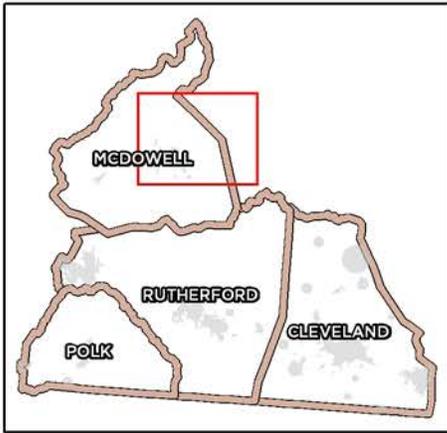
Pisgah National Forest - Grandfather Ranger District

Pisgah National Forest - Linville Gorge Wilderness

Lake James

Sources: Esri, USGS, NOAA

MCDOWELL COUNTY EAST



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

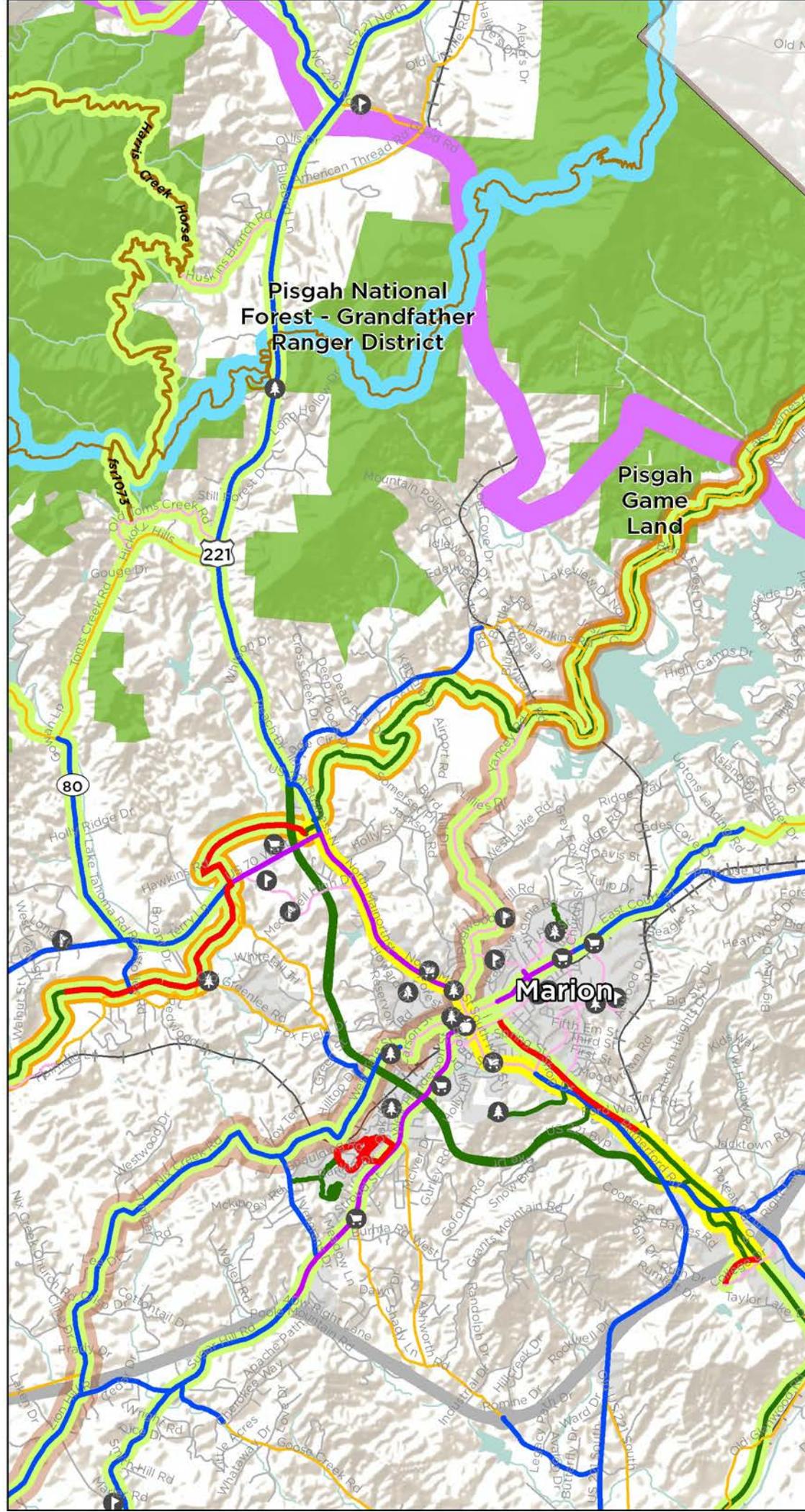
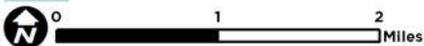
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

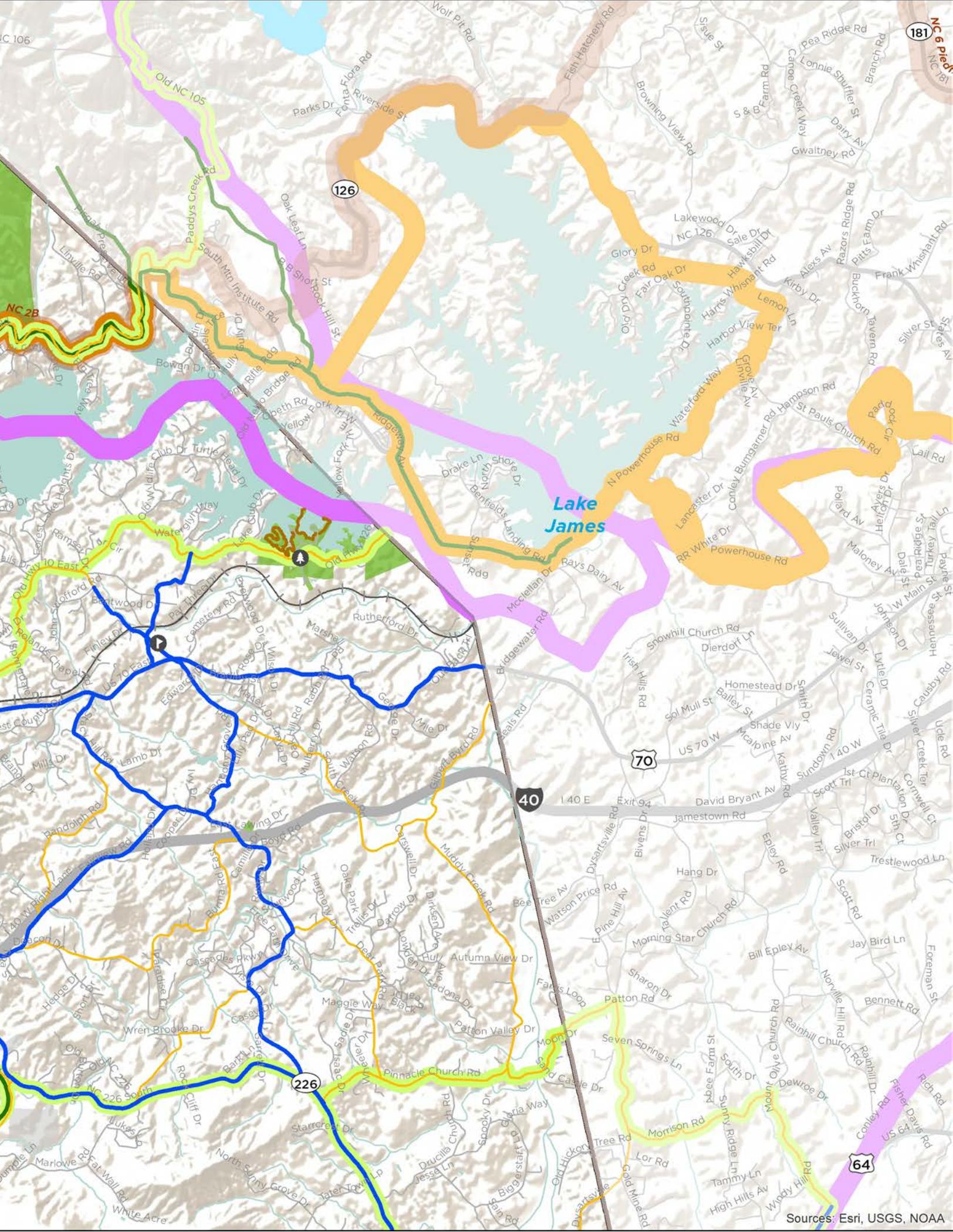
Regional/Statewide

- State Bike Route
- Mountains to Sea Trail
- Overmountain Victory Trail Alignment
- Fonta Flora State Trail

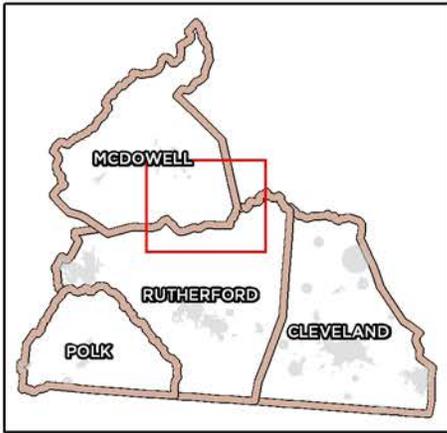
Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





MCDOWELL COUNTY SE



Existing

-  Shared Use Path
-  Hiking/Mt Biking Trail
-  Other Trail

Proposed

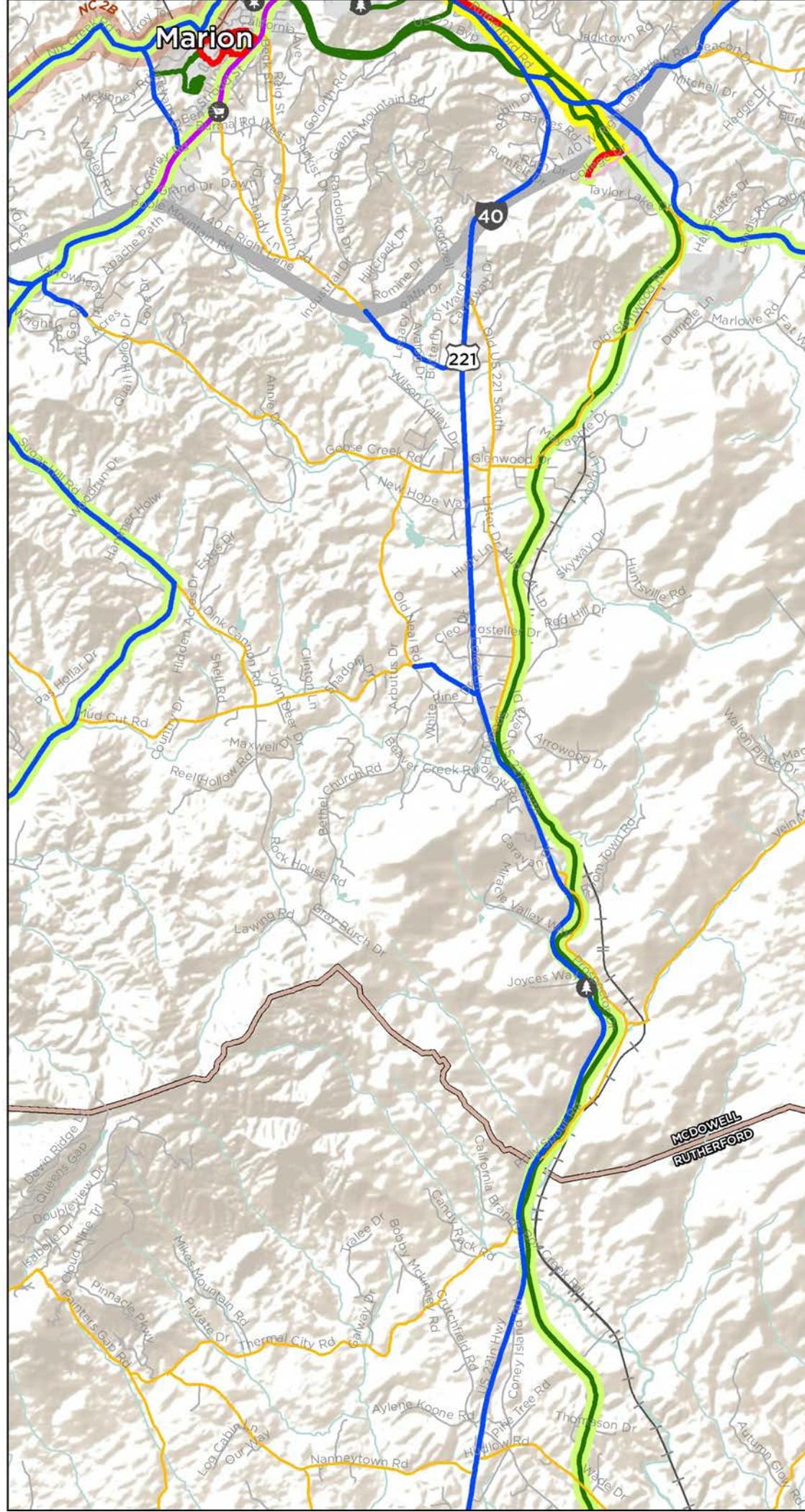
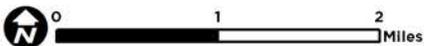
-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Separated Bike Lane (Potentially Within Existing Curb)
-  Paved Shoulder
-  Shared Lane
-  Priority Project
-  Strategic Network

Regional/Statewide

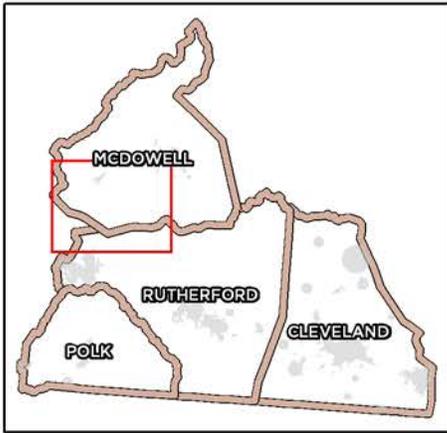
-  State Bike Route
-  Overmountain Victory Trail Alignment

Other Features

-  Park
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body



MCDOWELL COUNTY SW



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

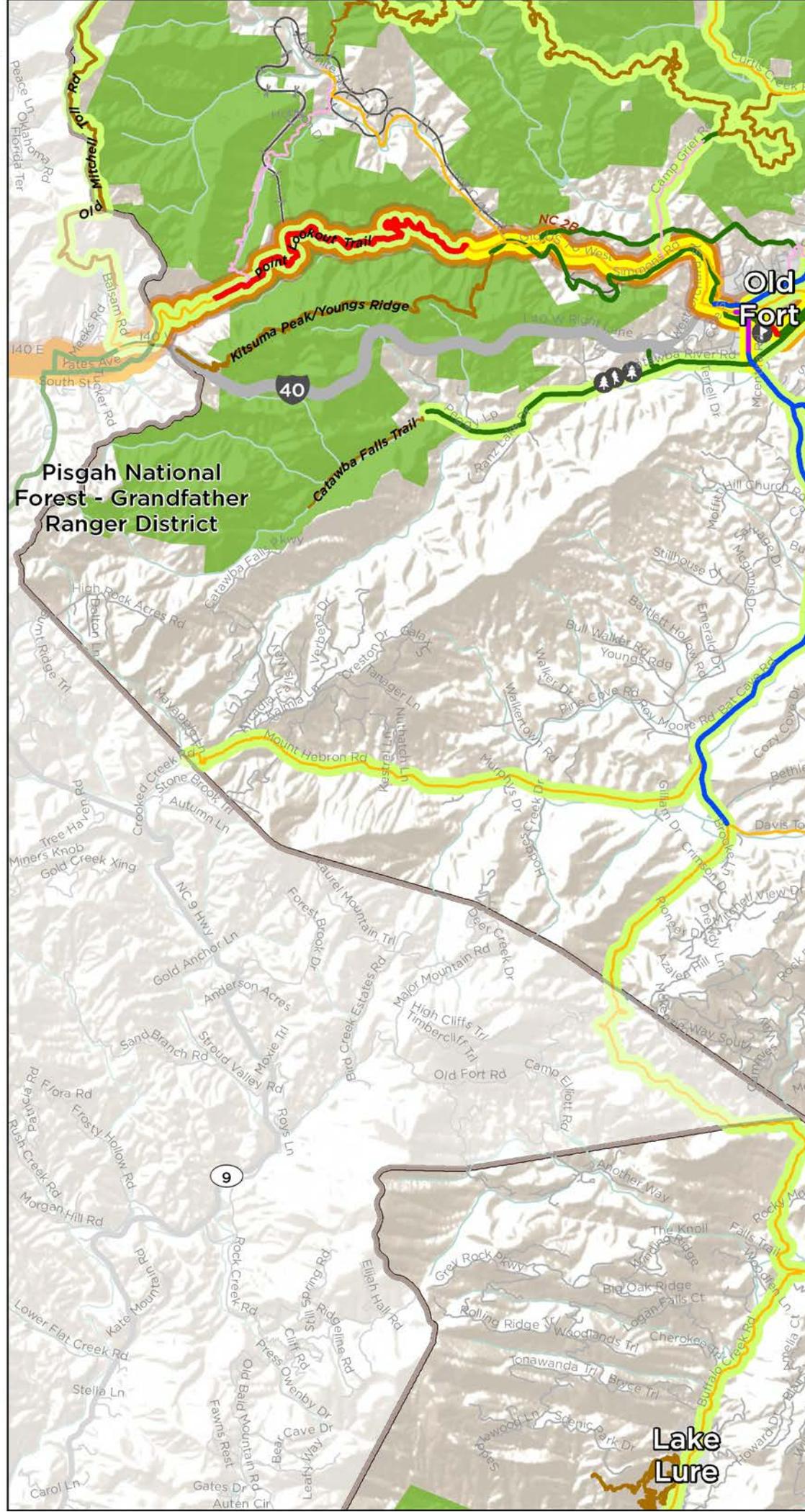
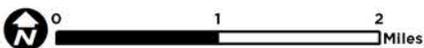
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

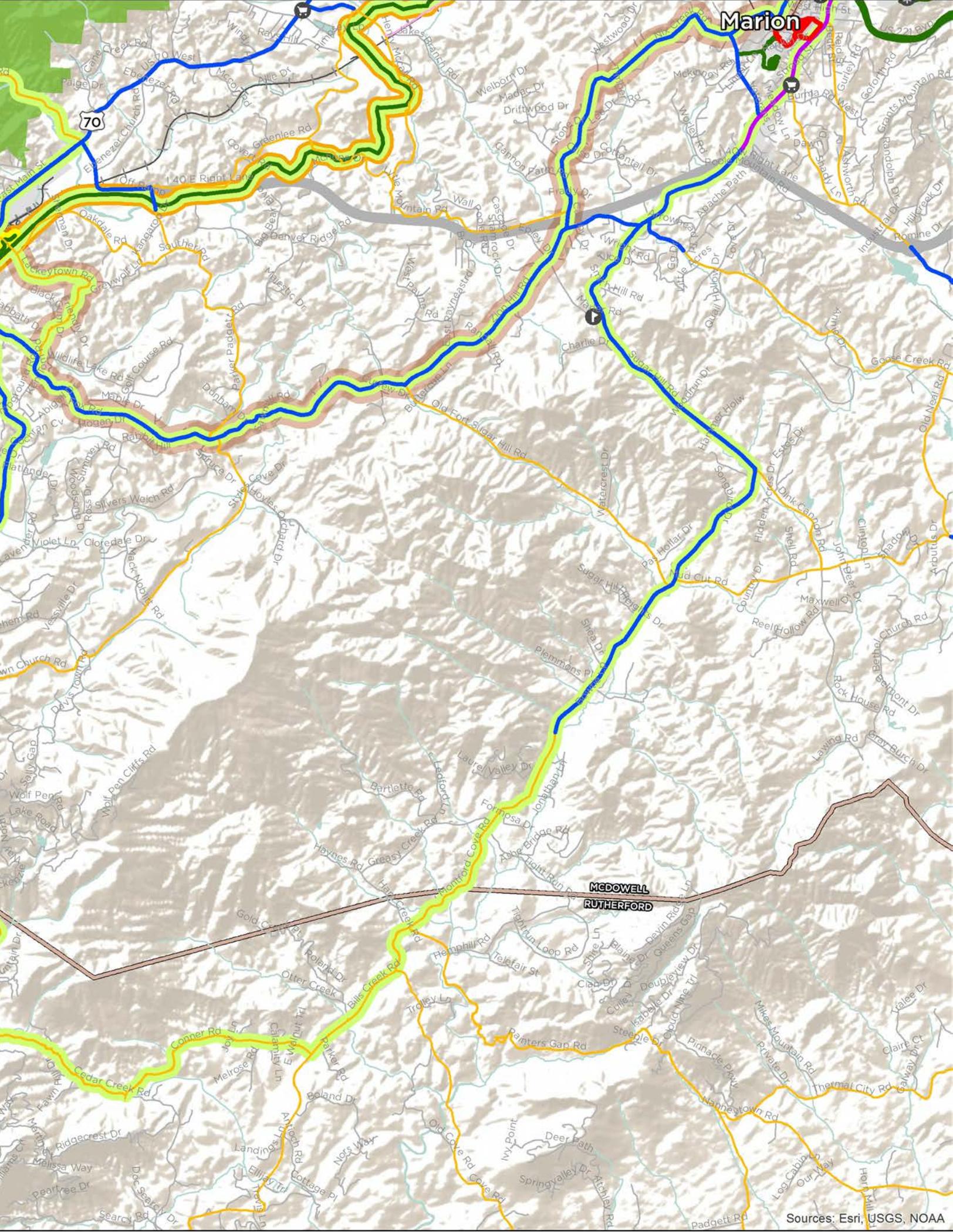
Regional/Statewide

- State Bike Route
- Fonta Flora State Trail

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





Marion

70

MCDOWELL
RUTHERFORD

MARION



Existing

- Shared Use Path

Proposed

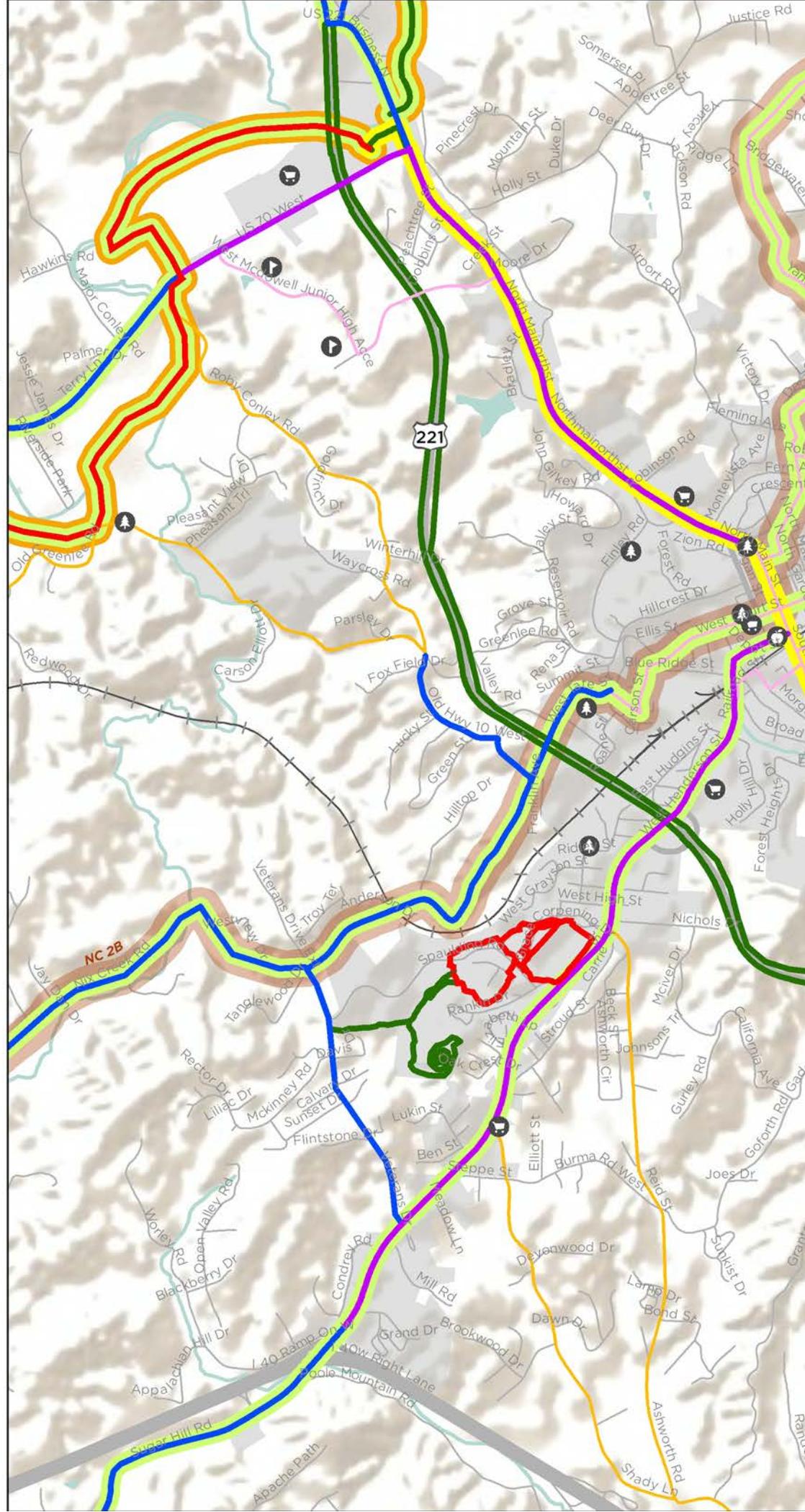
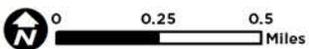
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

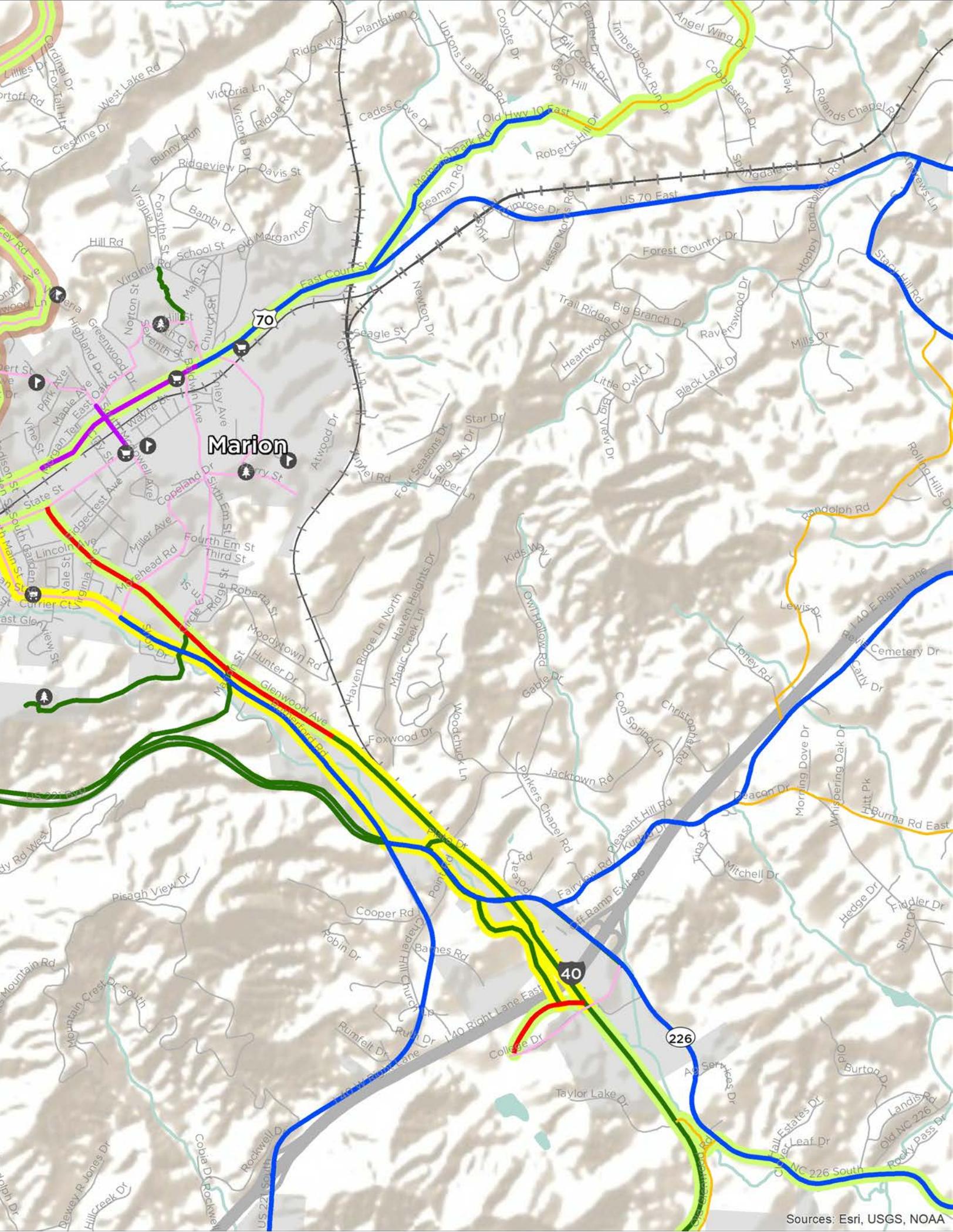
Regional/Statewide

- State Bike Route
- Fonta Flora State Trail

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





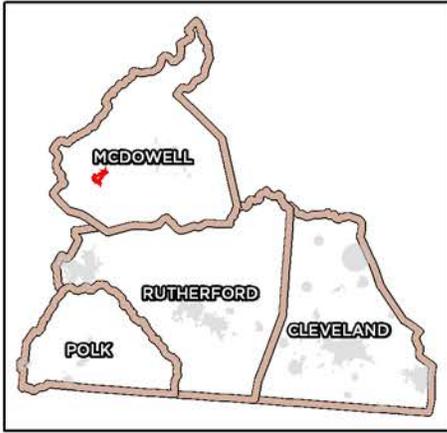
Marion

70

40

226

OLD FORT



Existing

- Shared Use Path
- Other Trail

Proposed

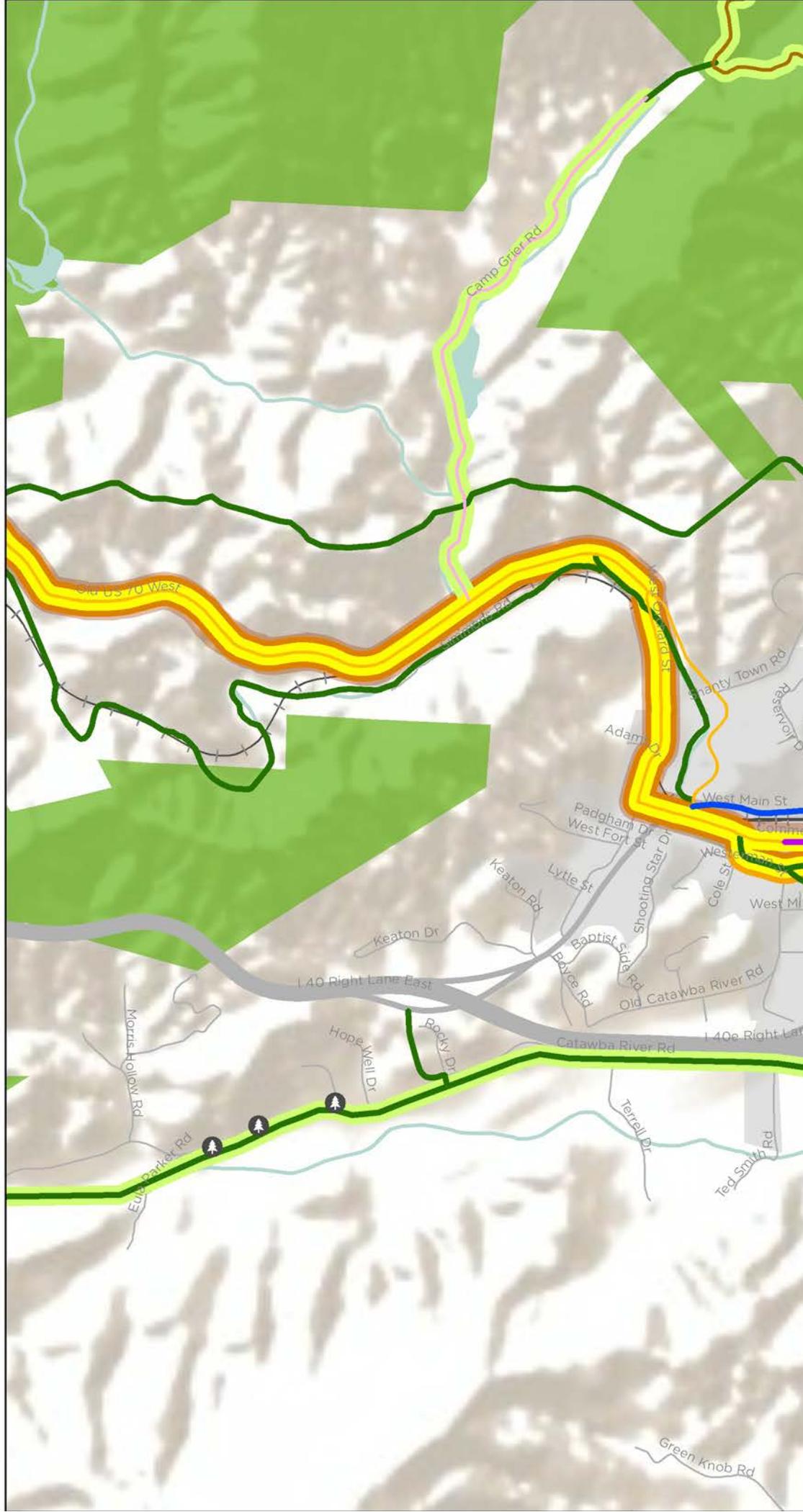
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

Regional/Statewide

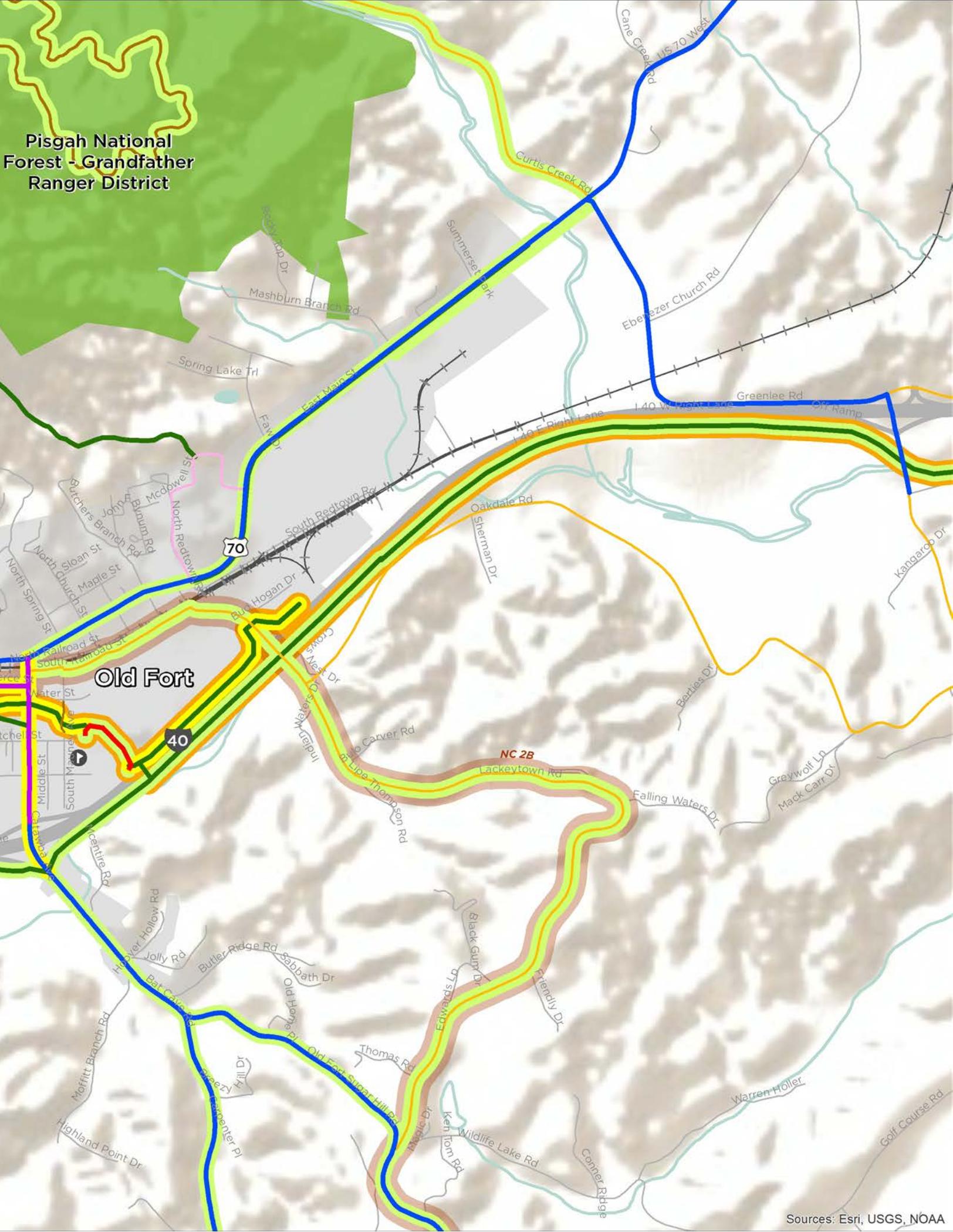
- State Bike Route
- Fonta Flora State Trail

Other Features

- Park
- School
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body



Pisgah National Forest - Grandfather Ranger District



RUTHERFORD COUNTY



Existing

- Shared Use Path
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

Proposed

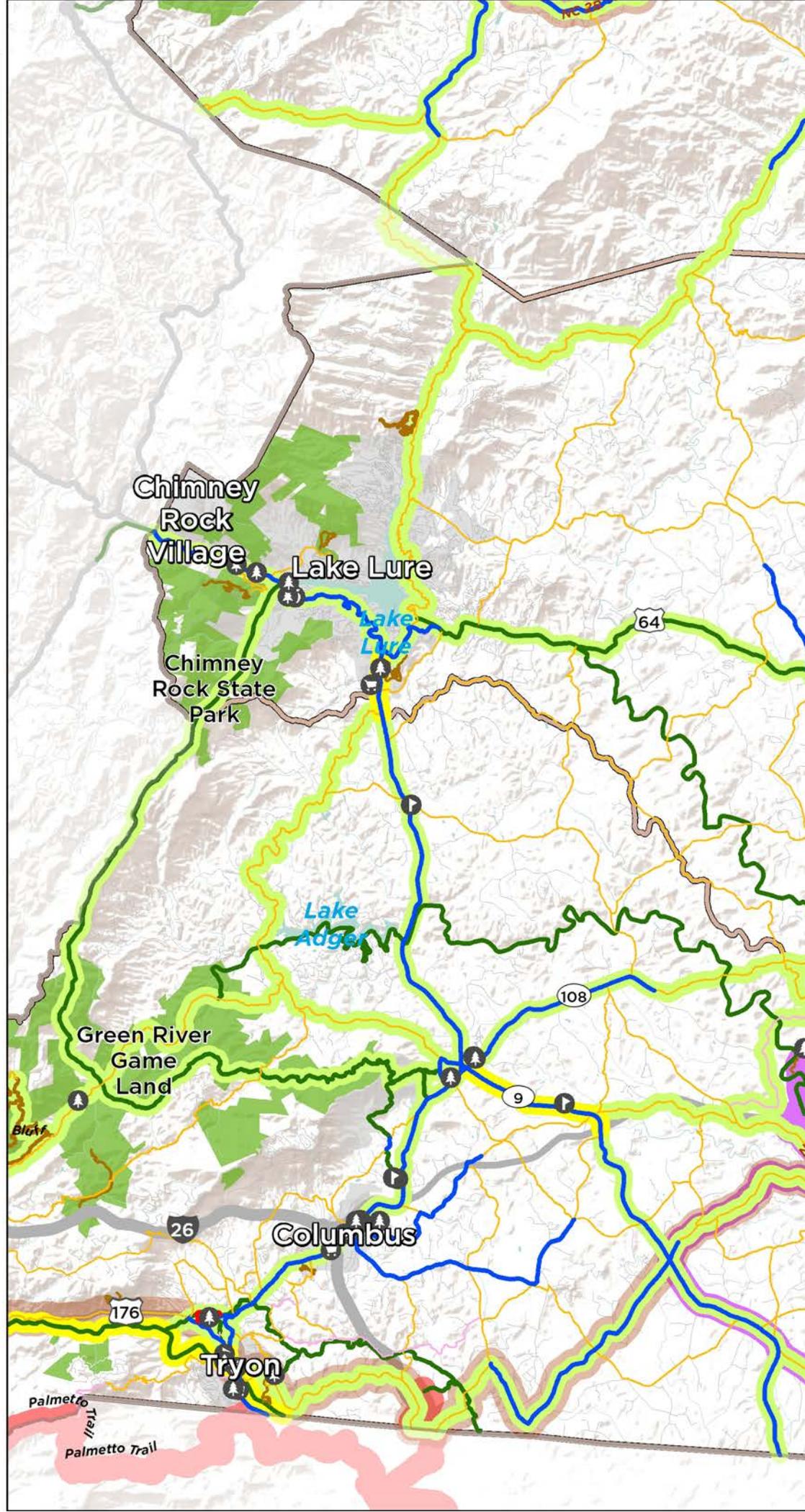
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

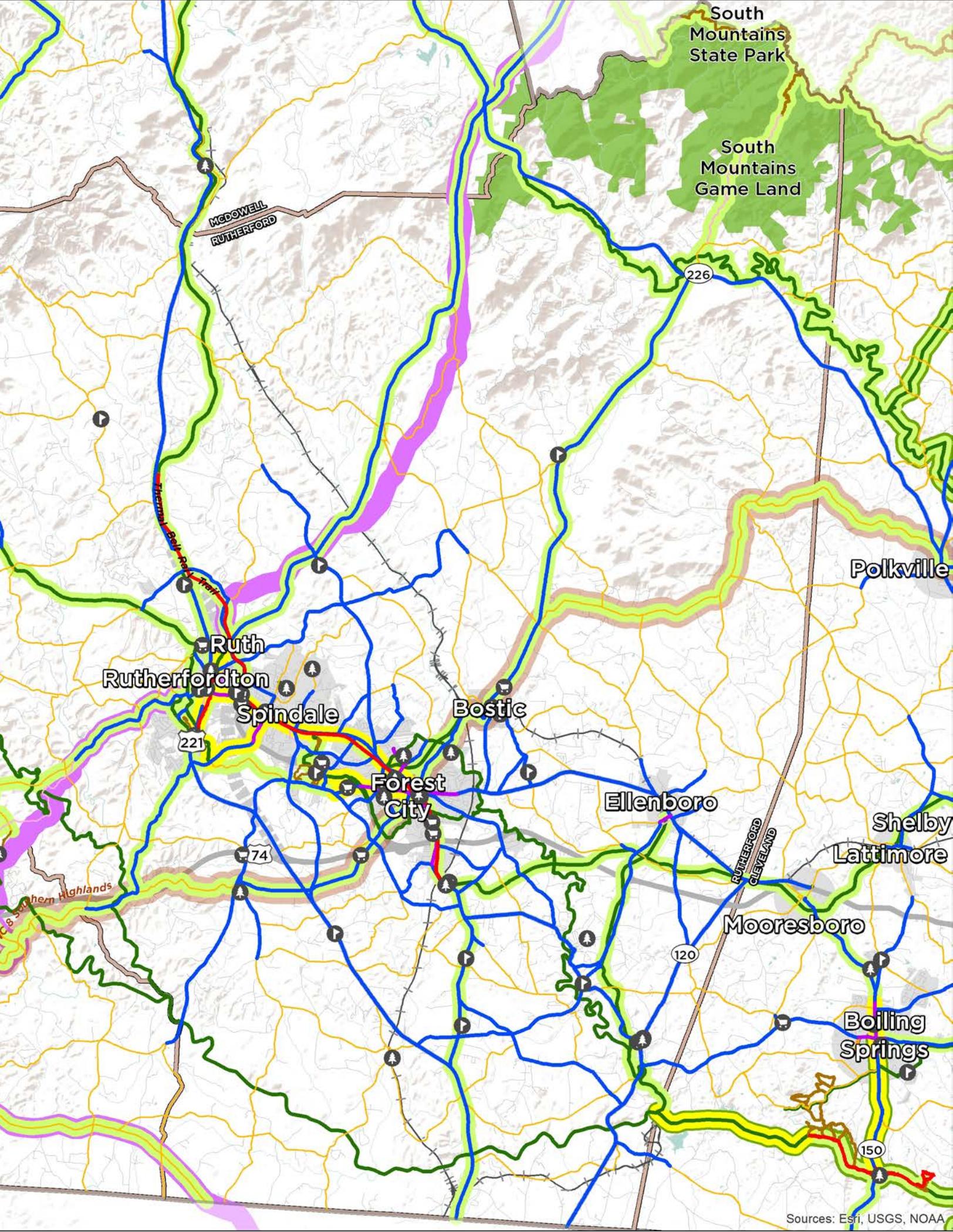
Regional/Statewide

- State Bike Route
- Carolina Thread Trail
- Palmetto Trail
- Overmountain Victory Trail Alignment

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





South Mountains State Park

South Mountains Game Land

MCDOWELL
RUTHERFORD

226

Polkville

Ruth

Rutherfordton

Spindale

Bostic

Forest City

Ellenboro

Shelby

Lattimore

Southern Highlands

221

74

Mooresboro

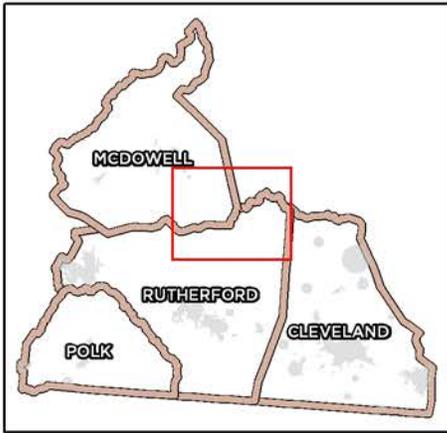
120

RUTHERFORD
CLEVELAND

Boiling Springs

150

RUTHERFORD COUNTY NE



Existing

- Shared Use Path
- Hiking/Mt Biking Trail

Proposed

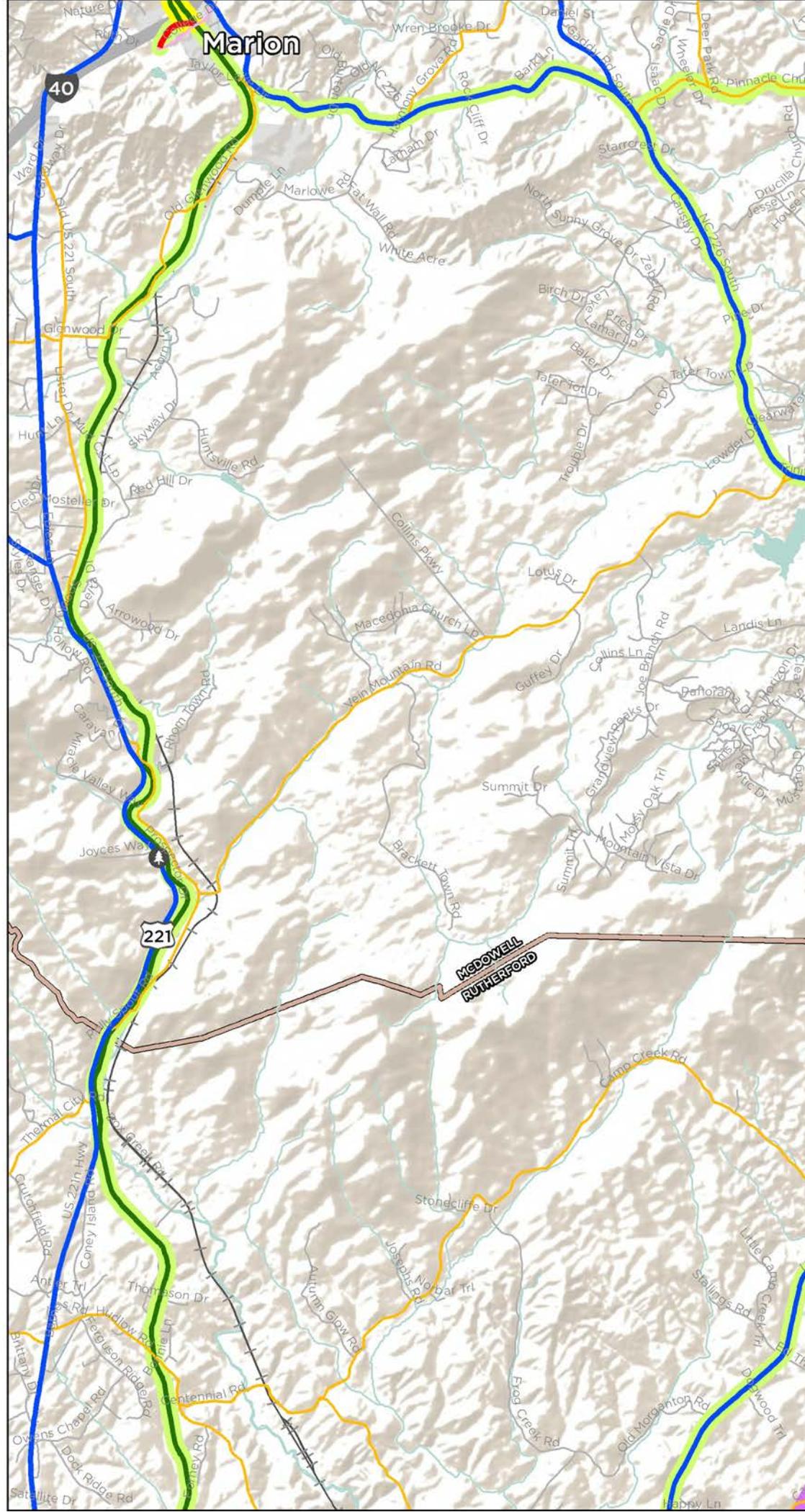
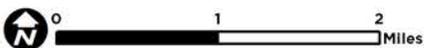
- Shared Use Path (Greenway)
- Separated Bike Lane
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

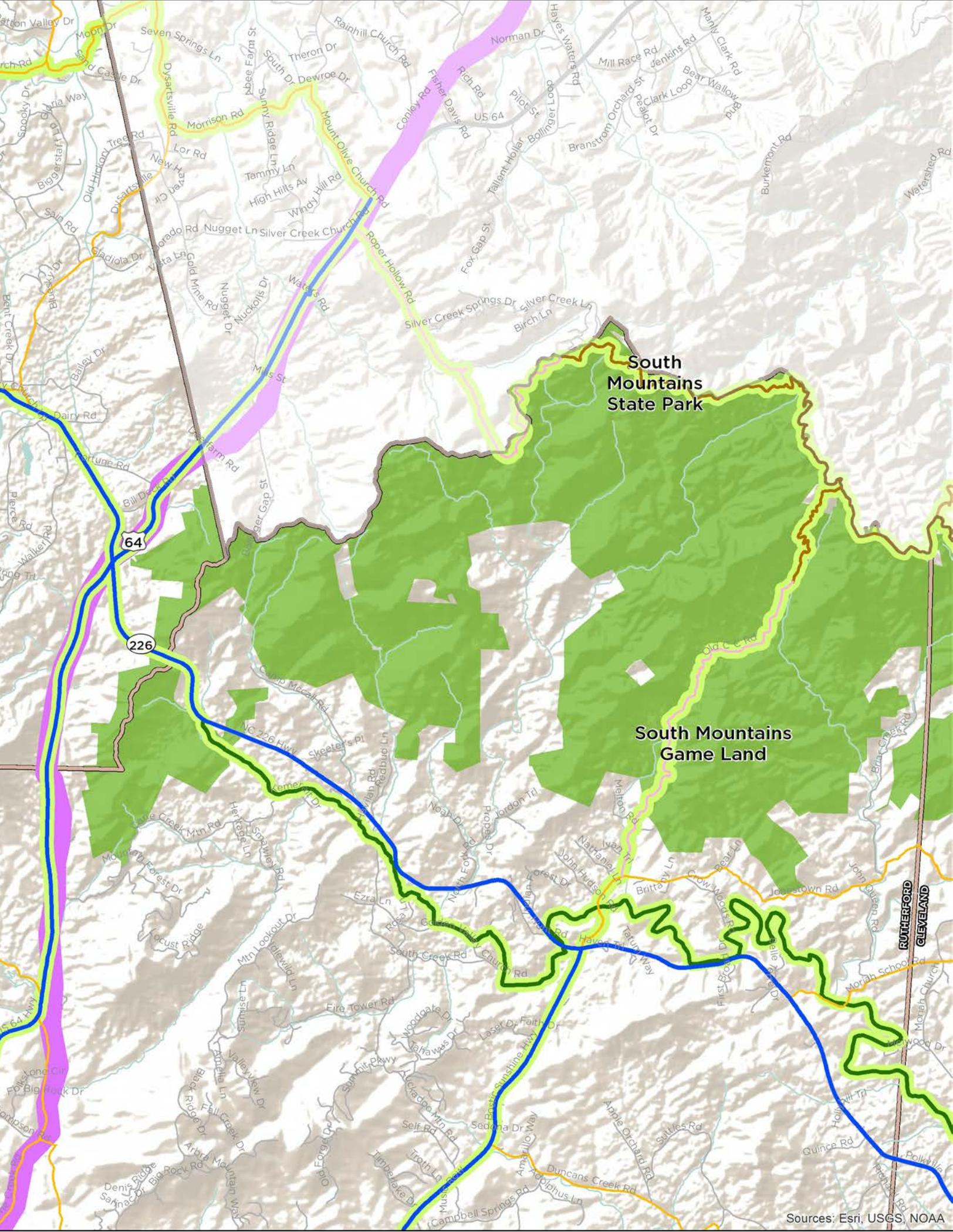
Regional/Statewide

- Overmountain Victory Trail Alignment

Other Features

- Park
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body



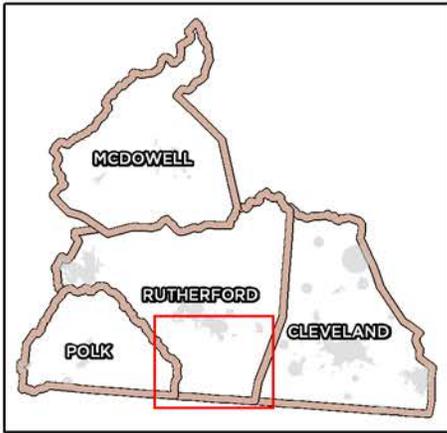


**South
Mountains
State Park**

**South Mountains
Game Land**

**RUTHERFORD
CLEVELAND**

RUTHERFORD COUNTY SOUTH



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

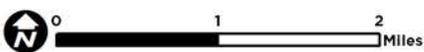
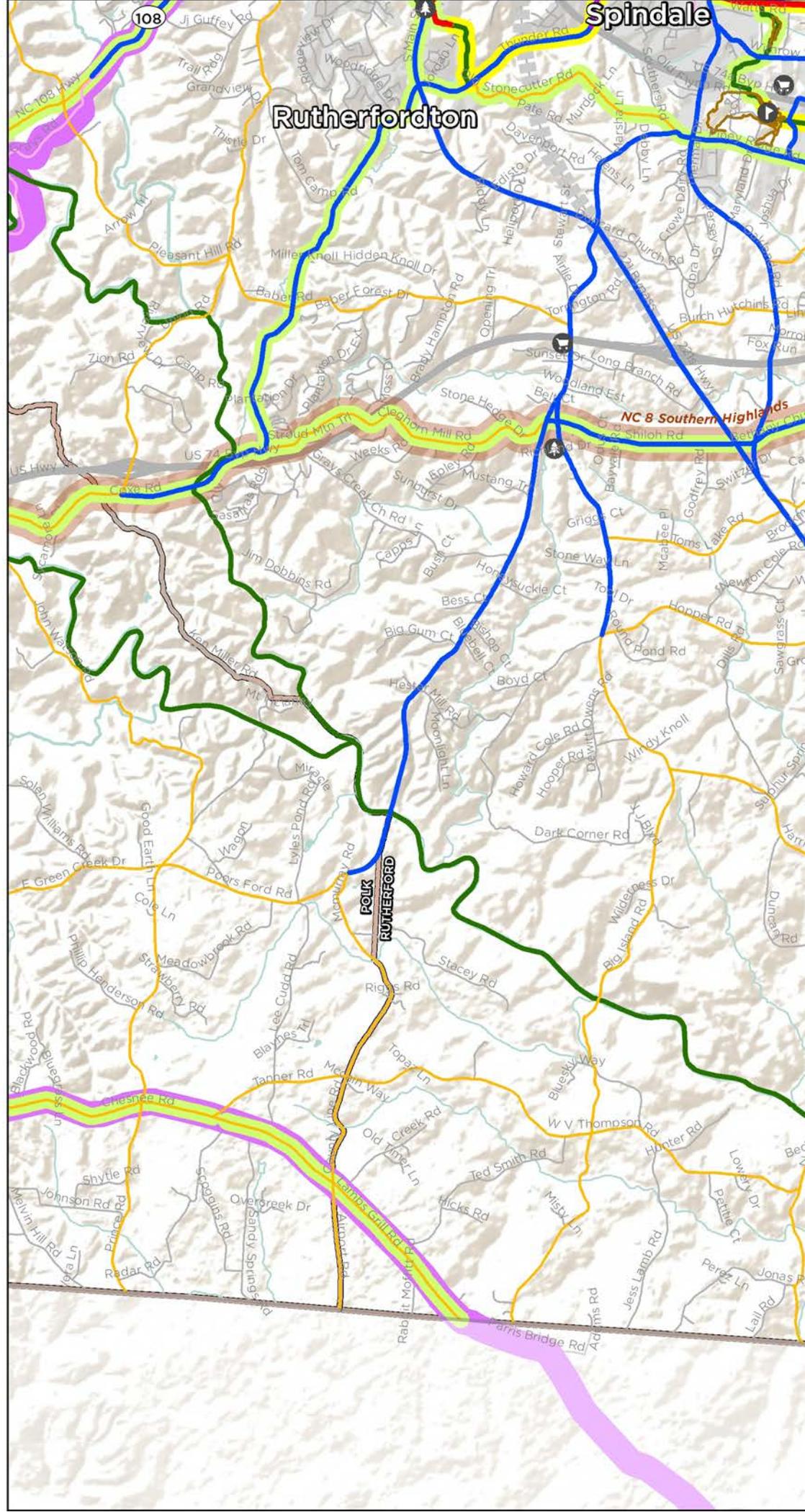
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

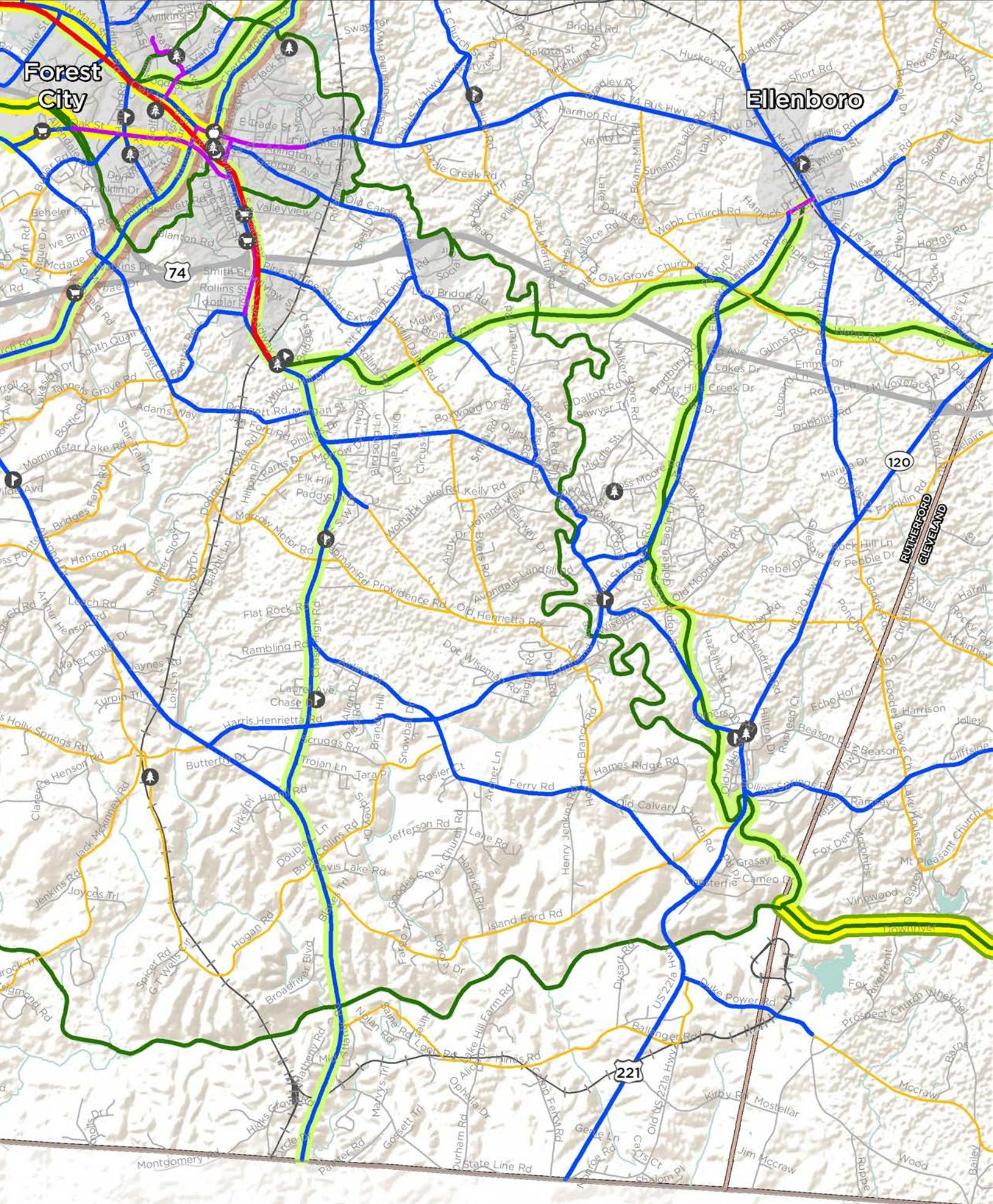
Regional/Statewide

- State Bike Route
- Carolina Thread Trail
- Overmountain Victory Trail Alignment

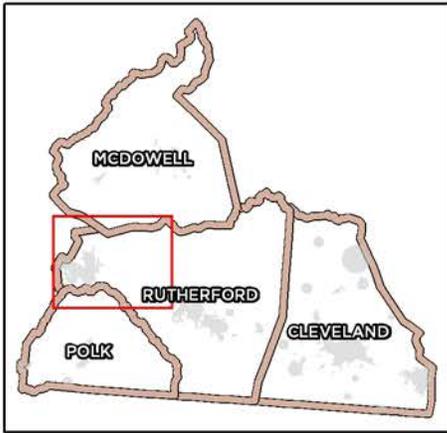
Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





RUTHERFORD COUNTY WEST



Existing

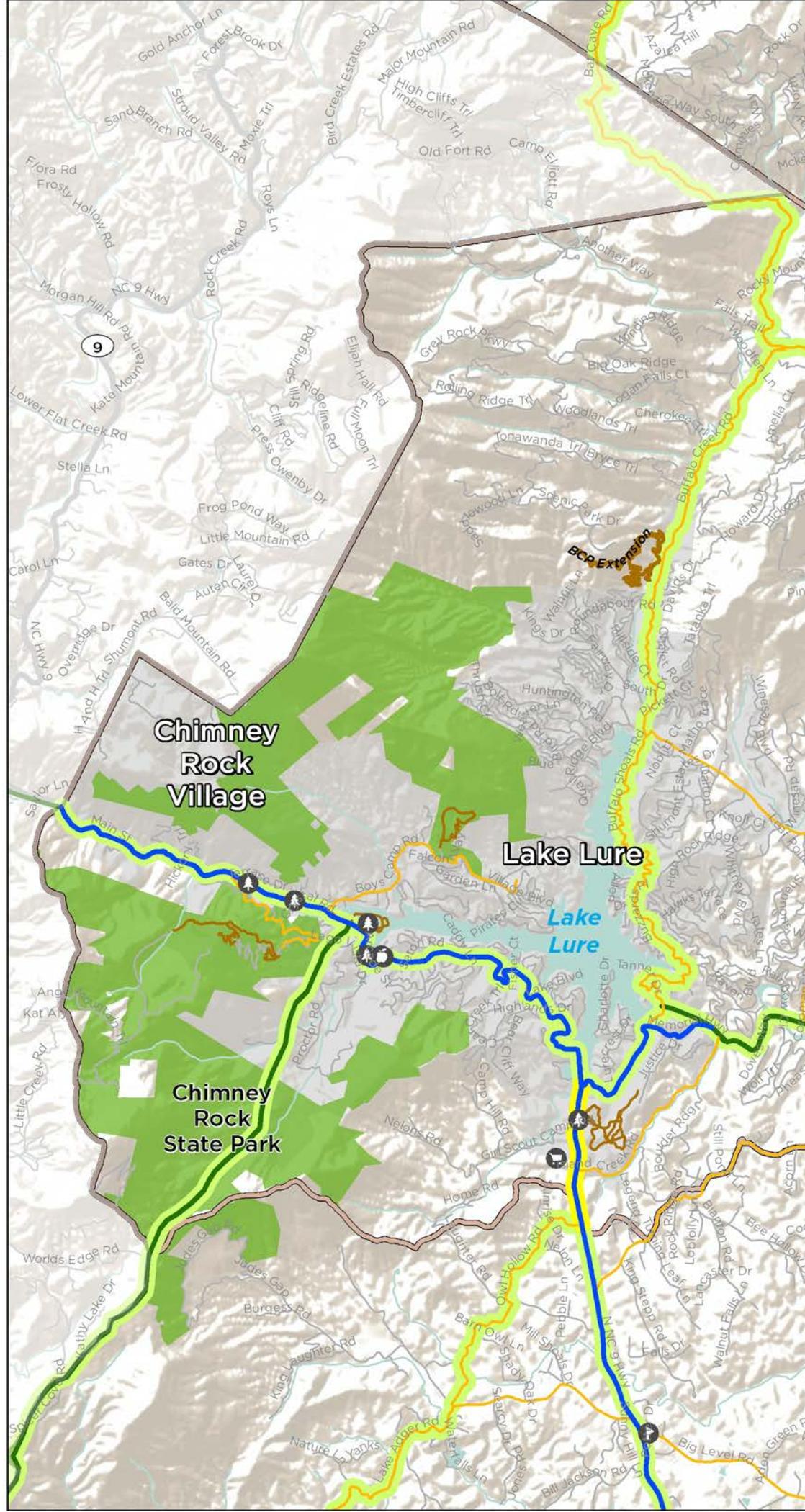
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

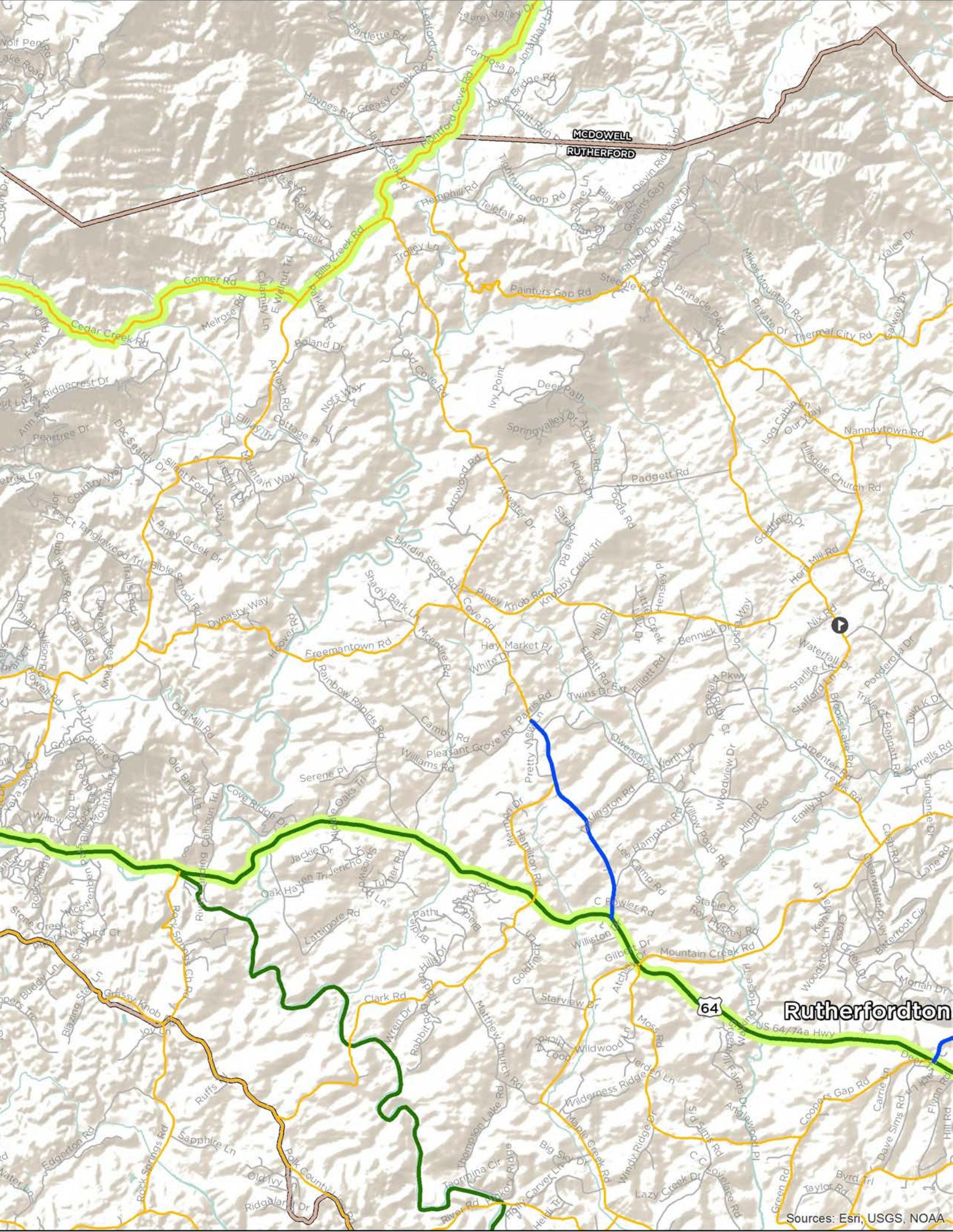
Proposed

- Shared Use Path (Greenway)
- Separated Bike Lane
- Paved Shoulder
- Priority Project
- Strategic Network

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





MCDOWELL

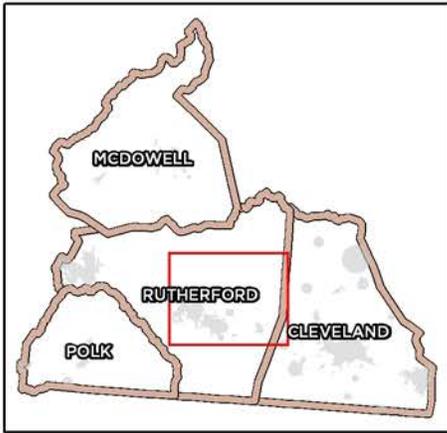
RUTHERFORD

64

Rutherfordton

Sources: Esri, USGS, NOAA

RUTHERFORD COUNTY CENTRAL



Existing

- Shared Use Path
- Hiking/Mt Biking Trail
- Other Trail

Proposed

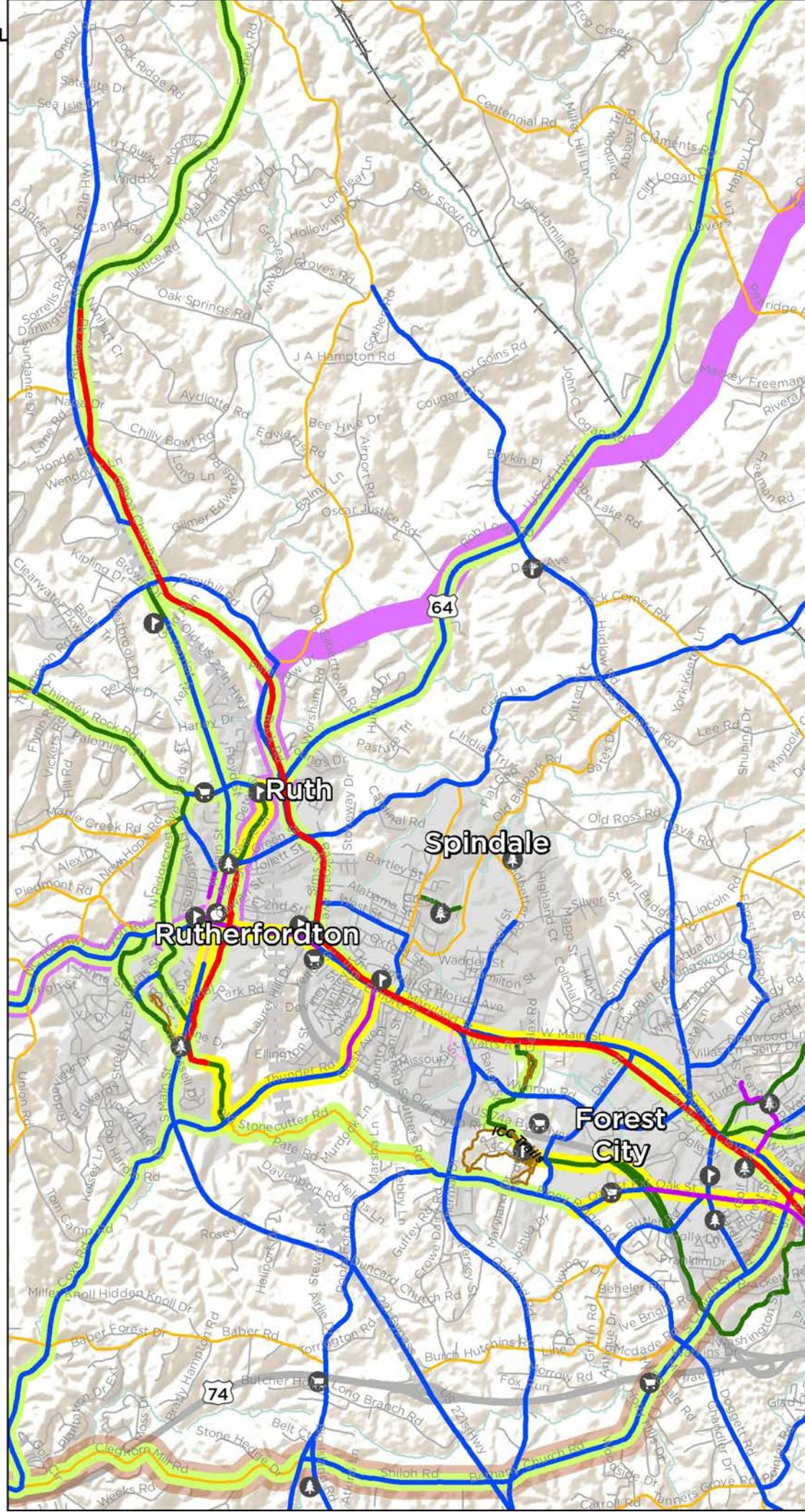
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

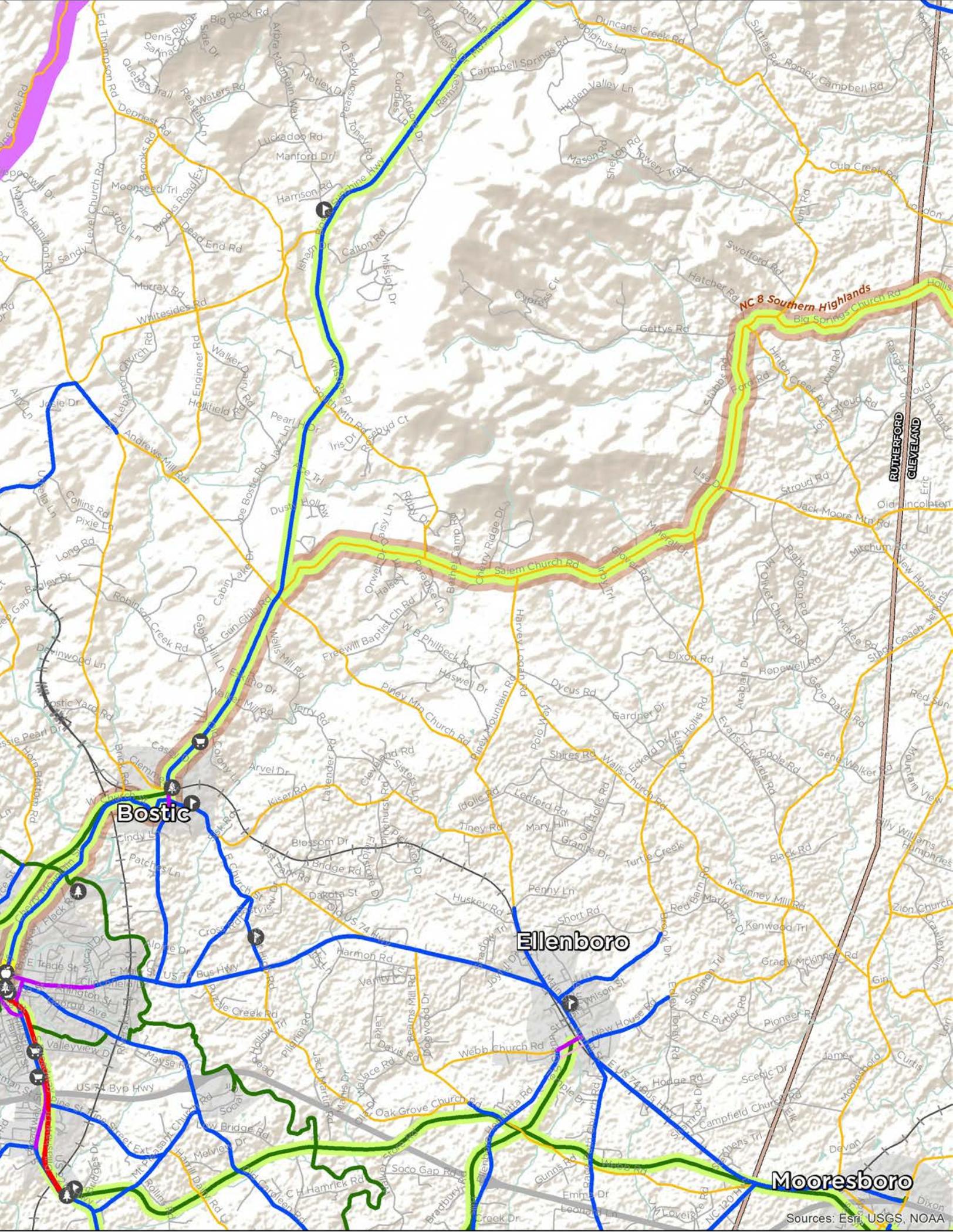
Regional/Statewide

- State Bike Route
- Overmountain Victory Trail Alignment

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





Bostic

Ellenboro

Mooresboro

**RUTHERFORD
CLEVELAND**

RUTHERFORDTON



Existing

- Shared Use Path
- Other Trail

Proposed

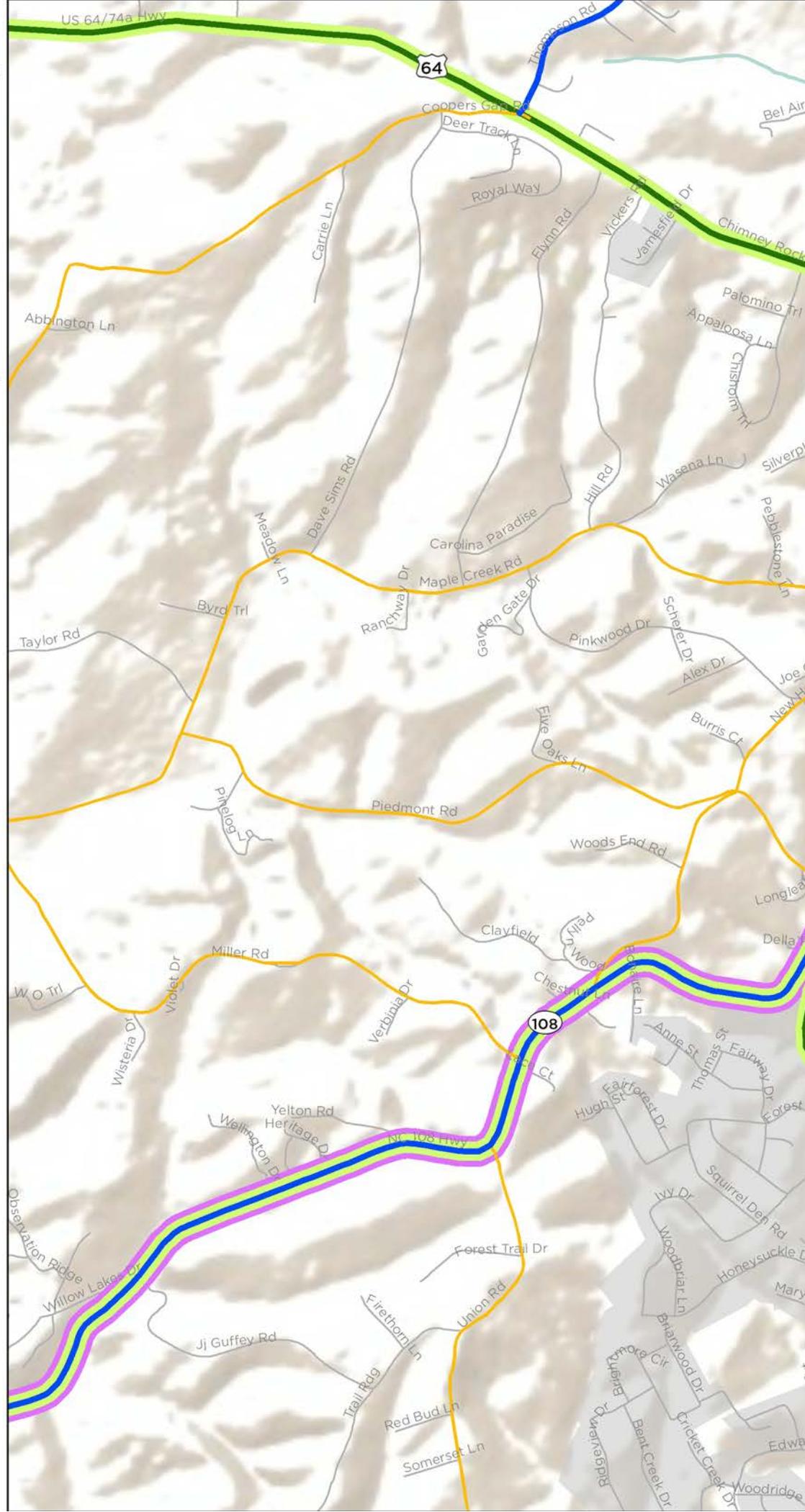
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

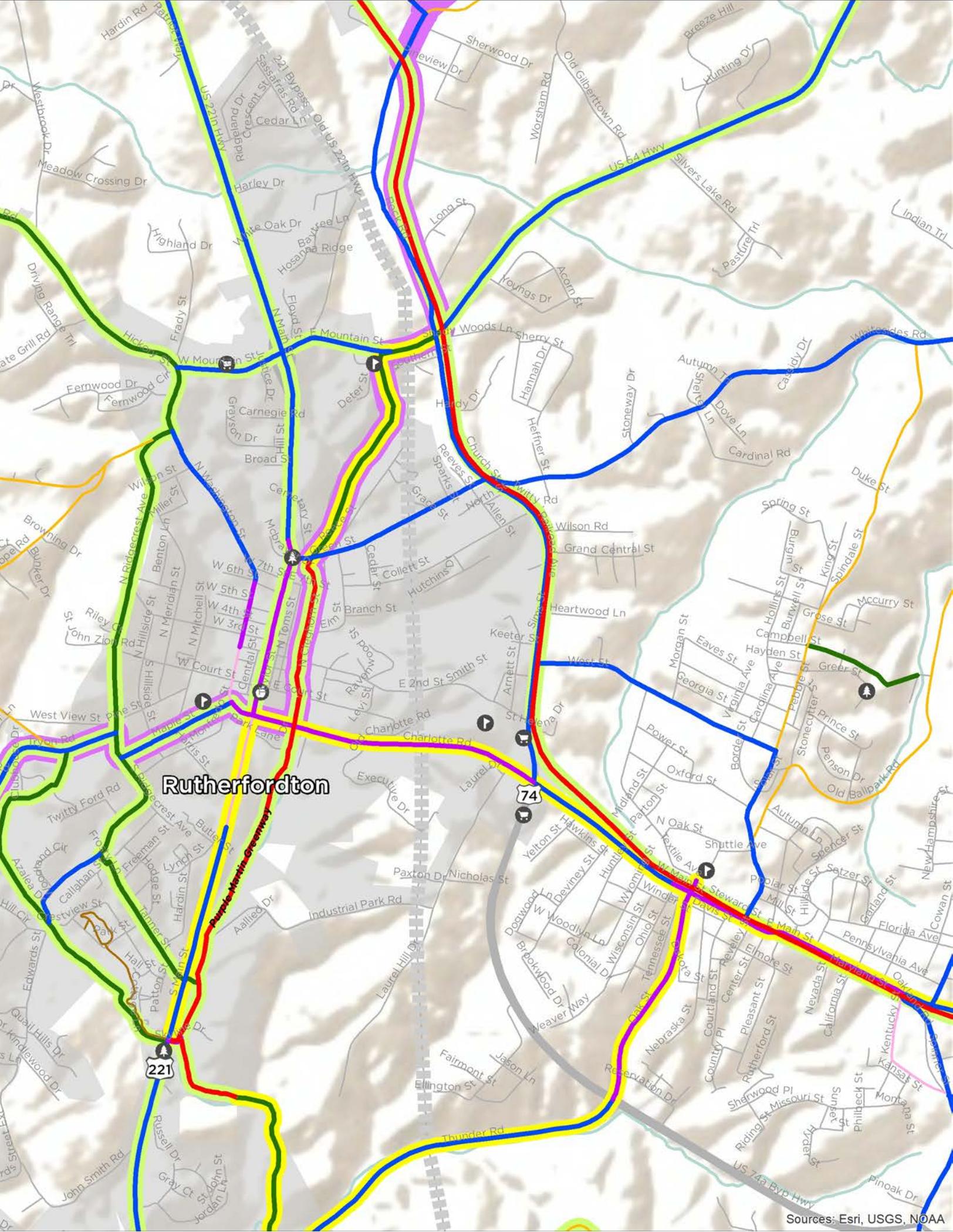
Regional/Statewide

- Overmountain Victory Trail Alignment

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream





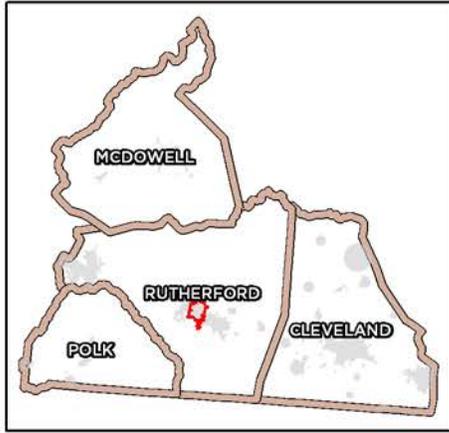
Rutherfordton

221

74

Purple Mountain Greenway

SPINDALE



Existing

- Shared Use Path
- Other Trail

Proposed

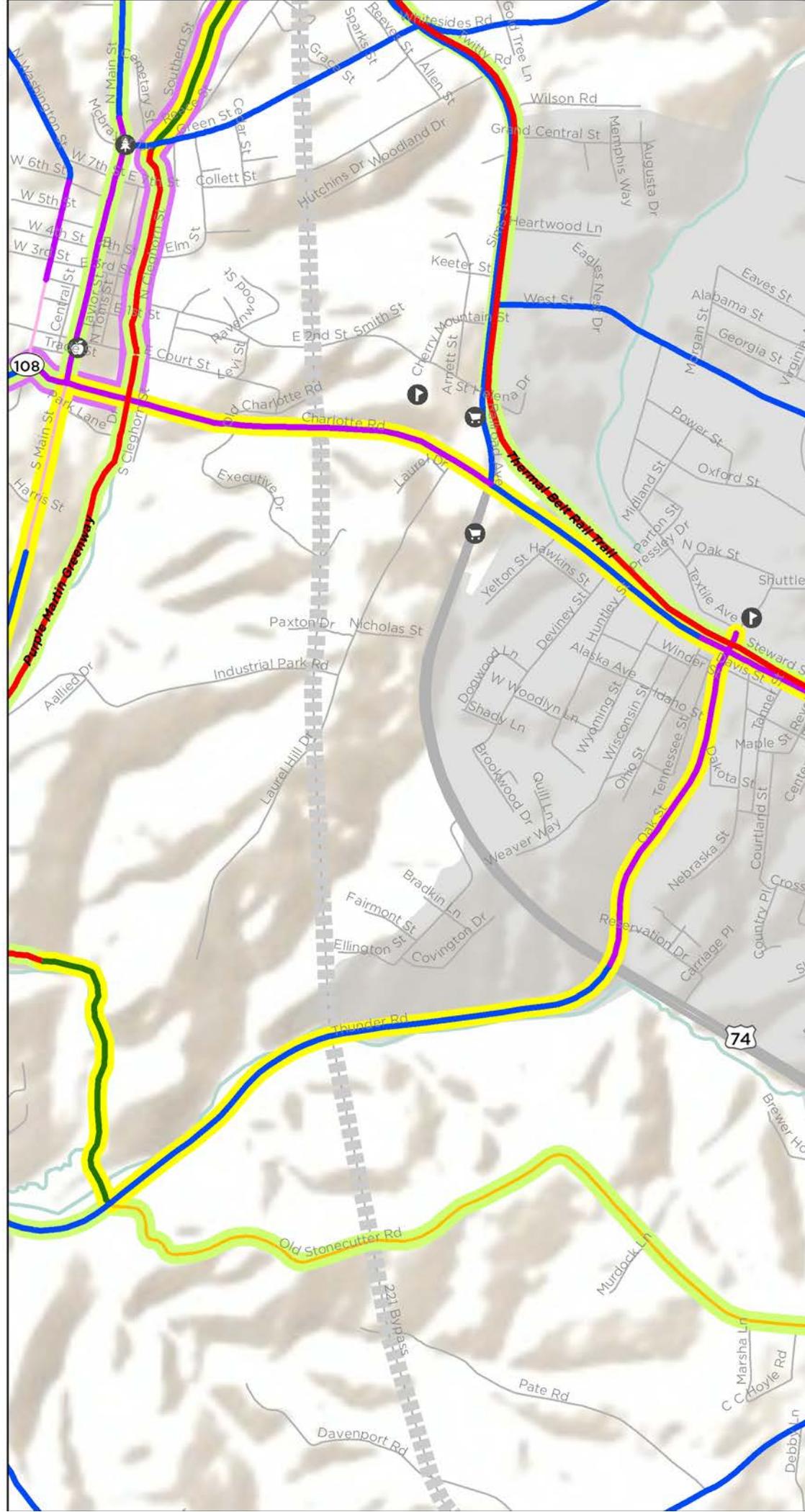
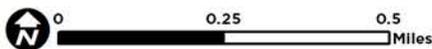
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

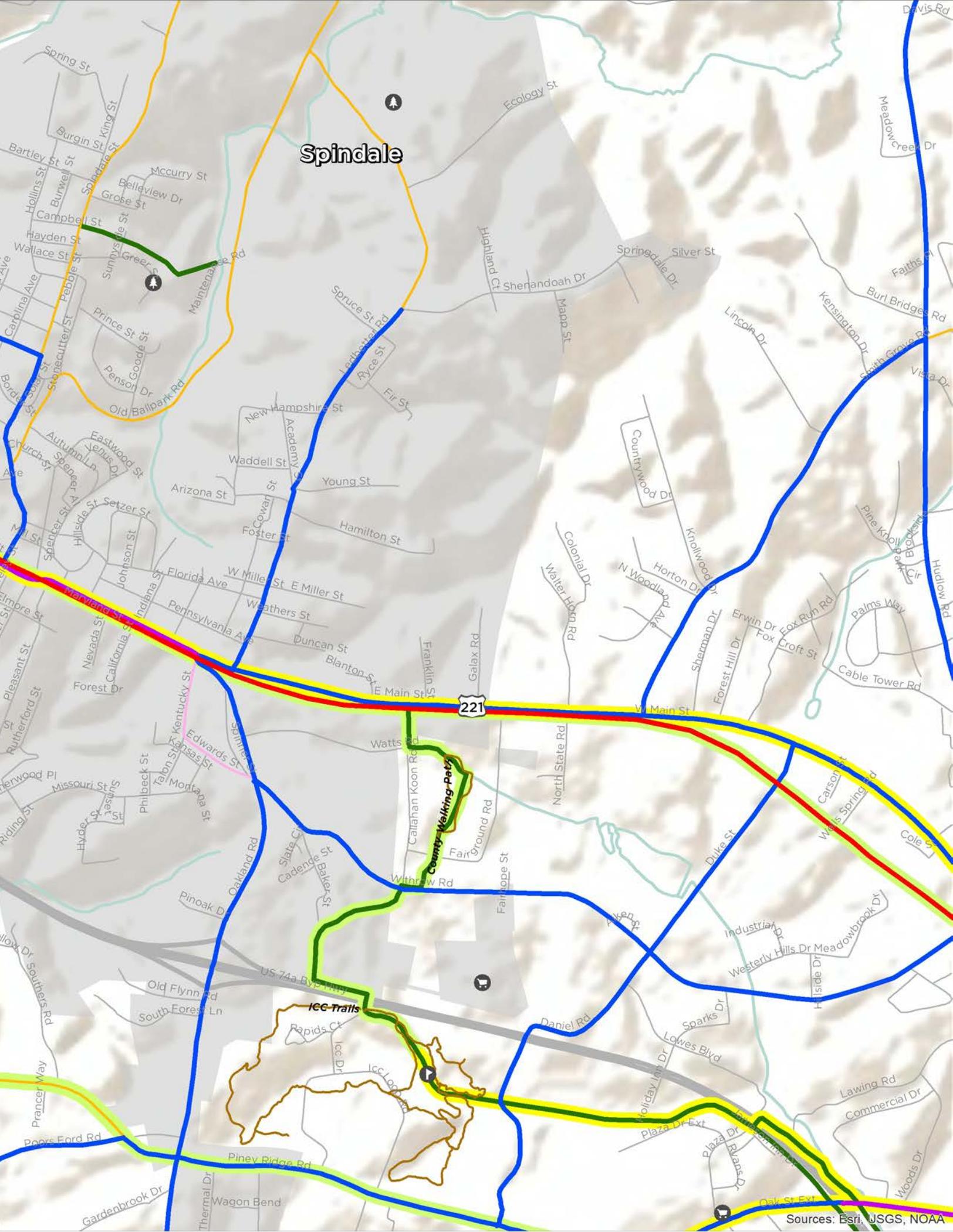
Regional/Statewide

- Overmountain Victory Trail Alignment

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream





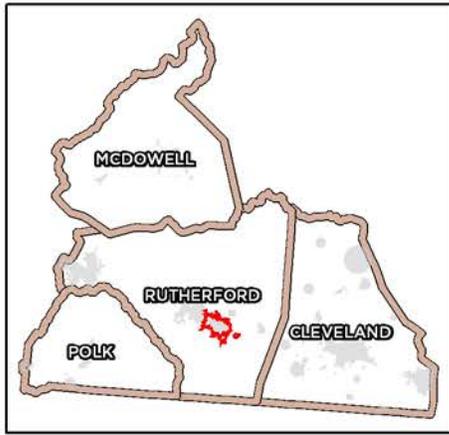
Spindale

221

County Walking Paths

ICC Trails

FOREST CITY



Existing

- Shared Use Path
- Other Trail

Proposed

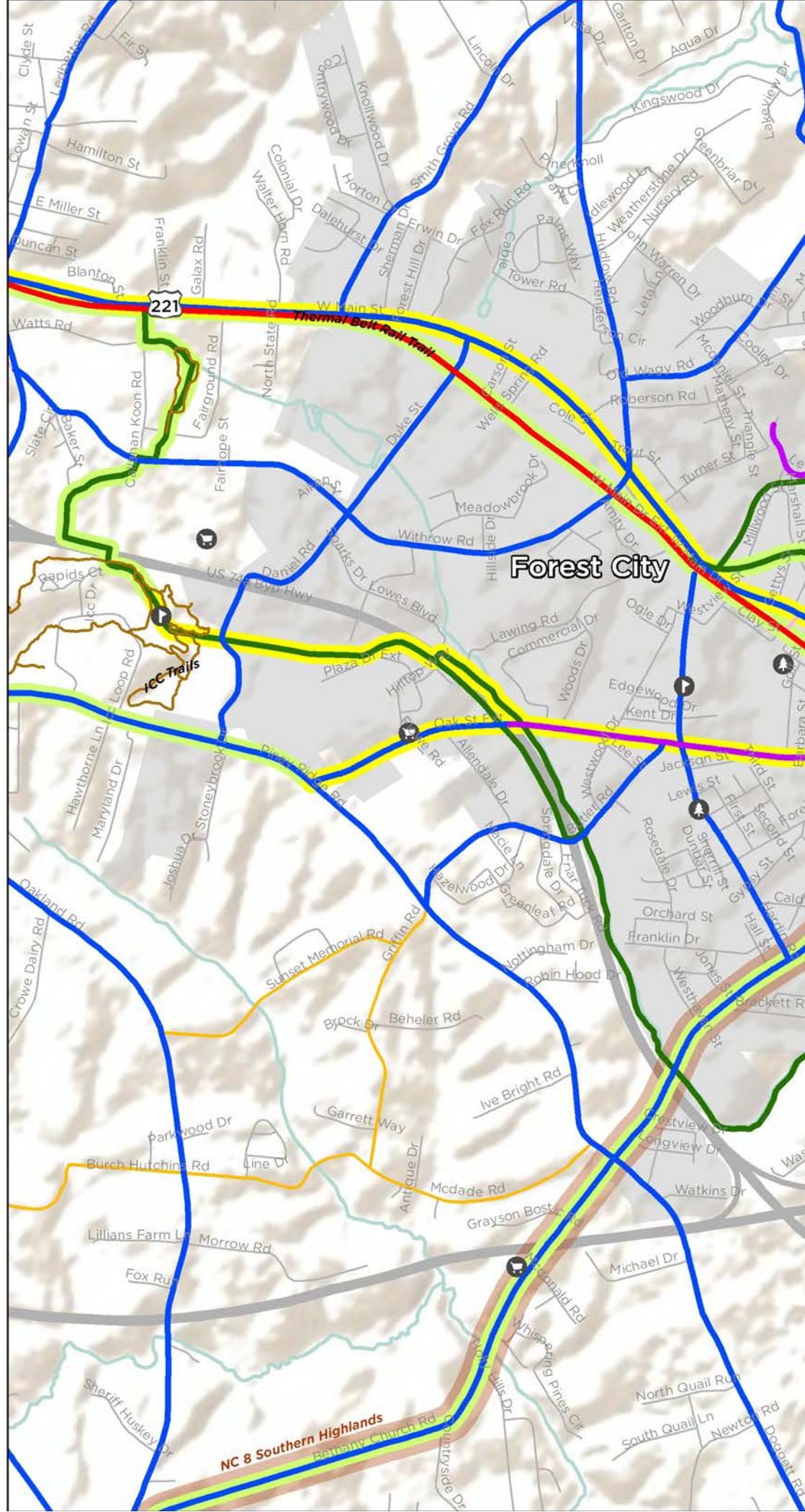
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

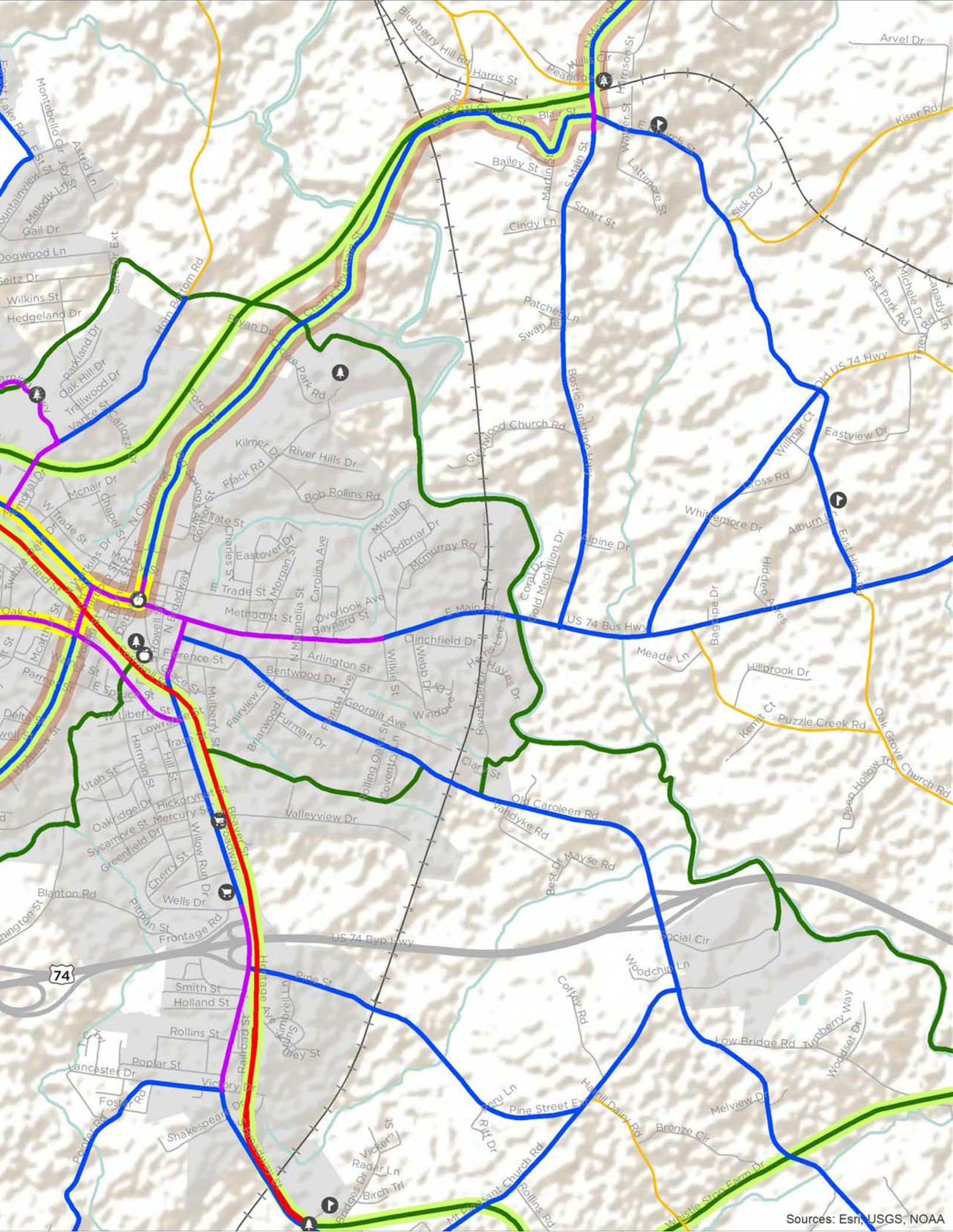
Regional/Statewide

- State Bike Route

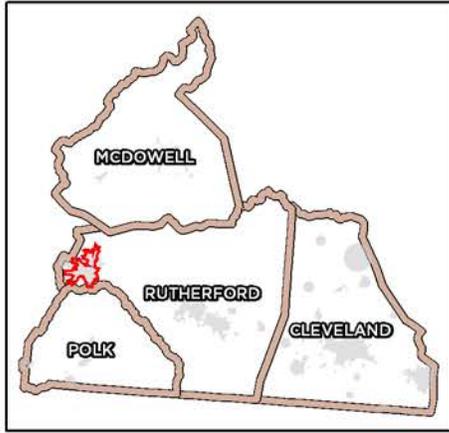
Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





LAKE LURE



Existing

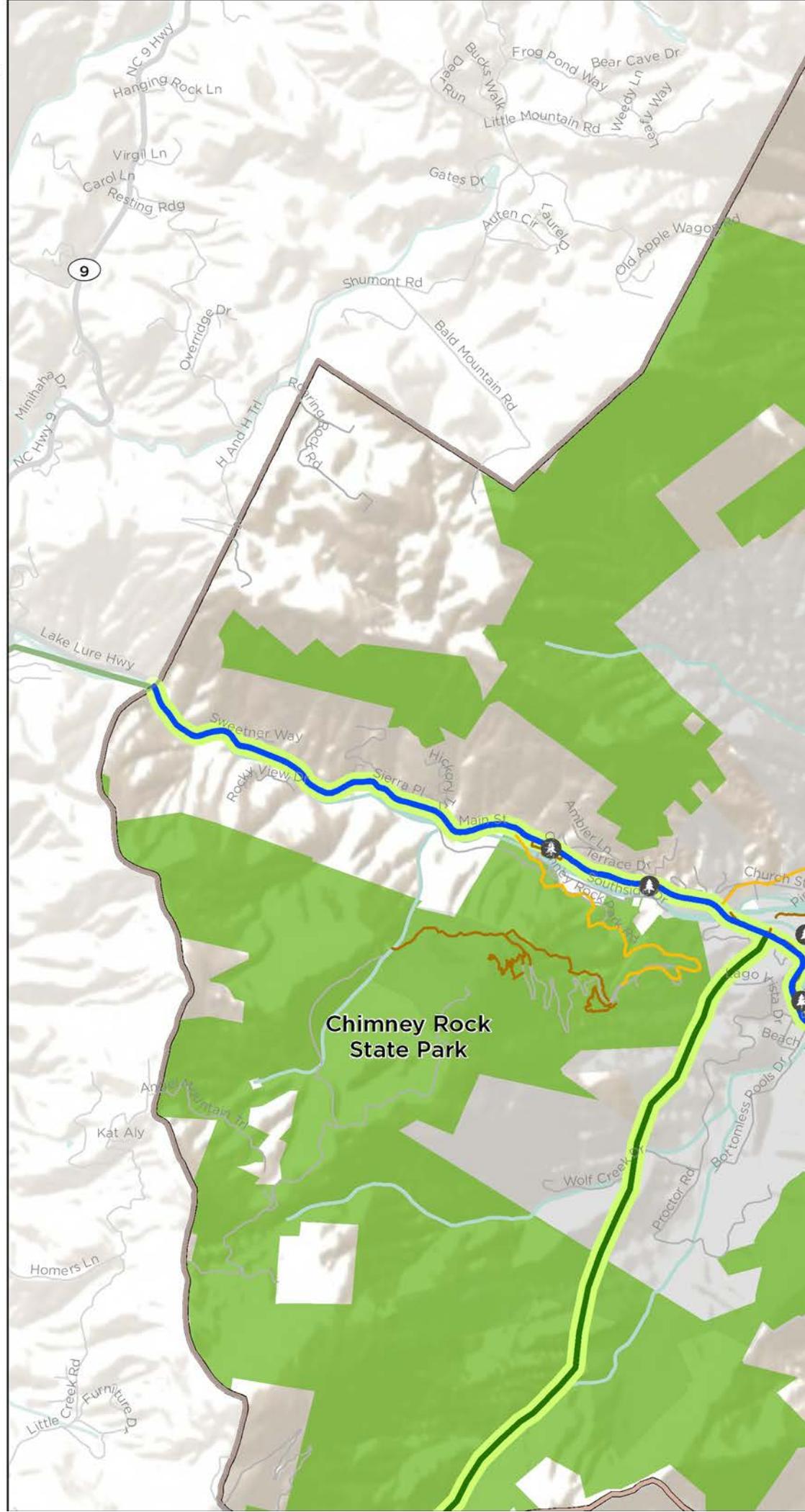
-  Hiking/Mt Biking Trail
-  Other Trail

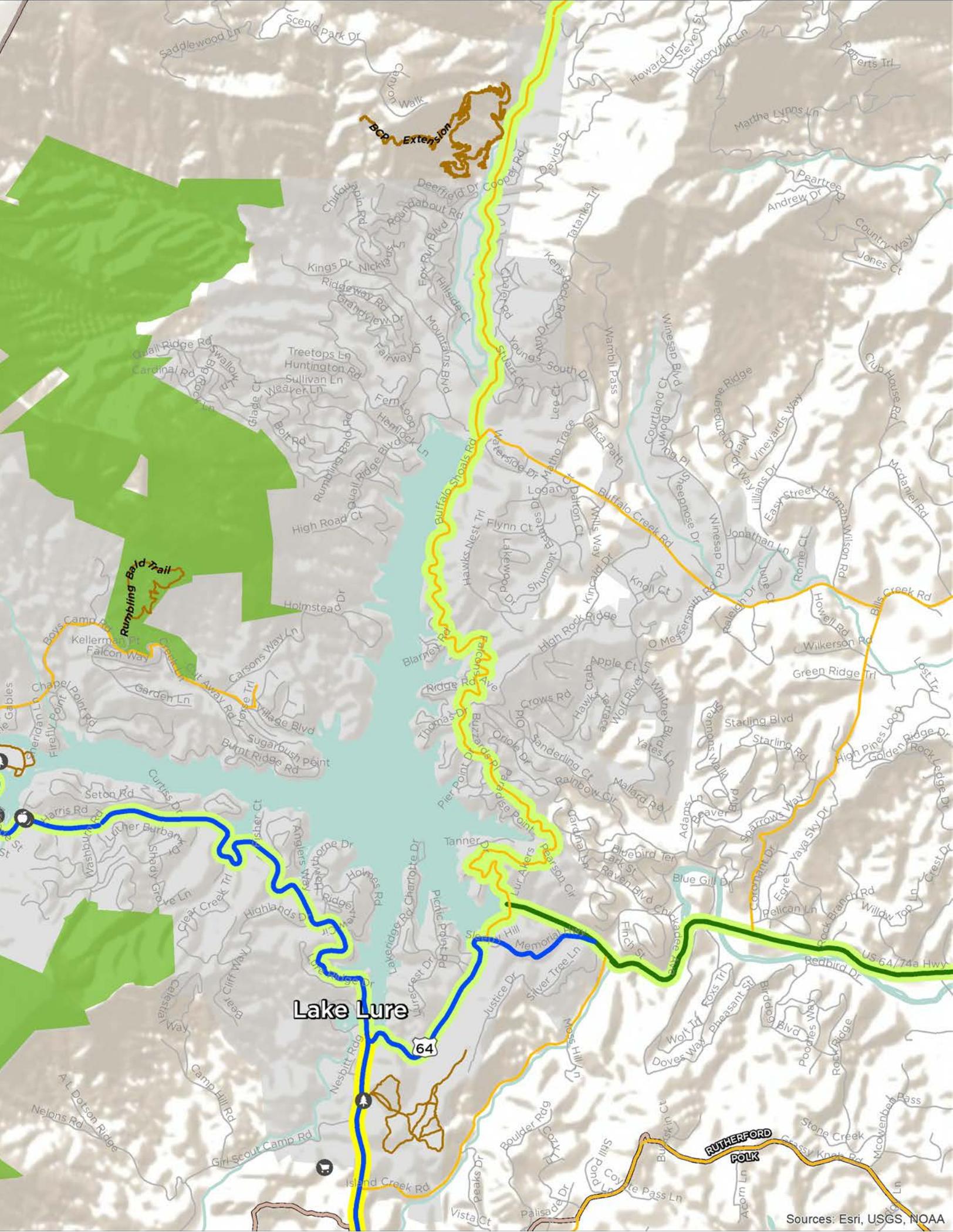
Proposed

-  Shared Use Path (Greenway)
-  Separated Bike Lane
-  Paved Shoulder
-  Priority Project
-  Strategic Network

Other Features

-  Park
-  Farmers' Market
-  Grocery Store
-  County Boundary
-  Municipal Boundary
-  Protected Public Lands
-  Stream
-  Water Body





Lake Lure

64

RUTHERFORD
POLK

CLEVELAND COUNTY



Existing

- Shared Use Path
- Bike Lane
- Hiking/Mt Biking Trail
- Other Trail

Proposed

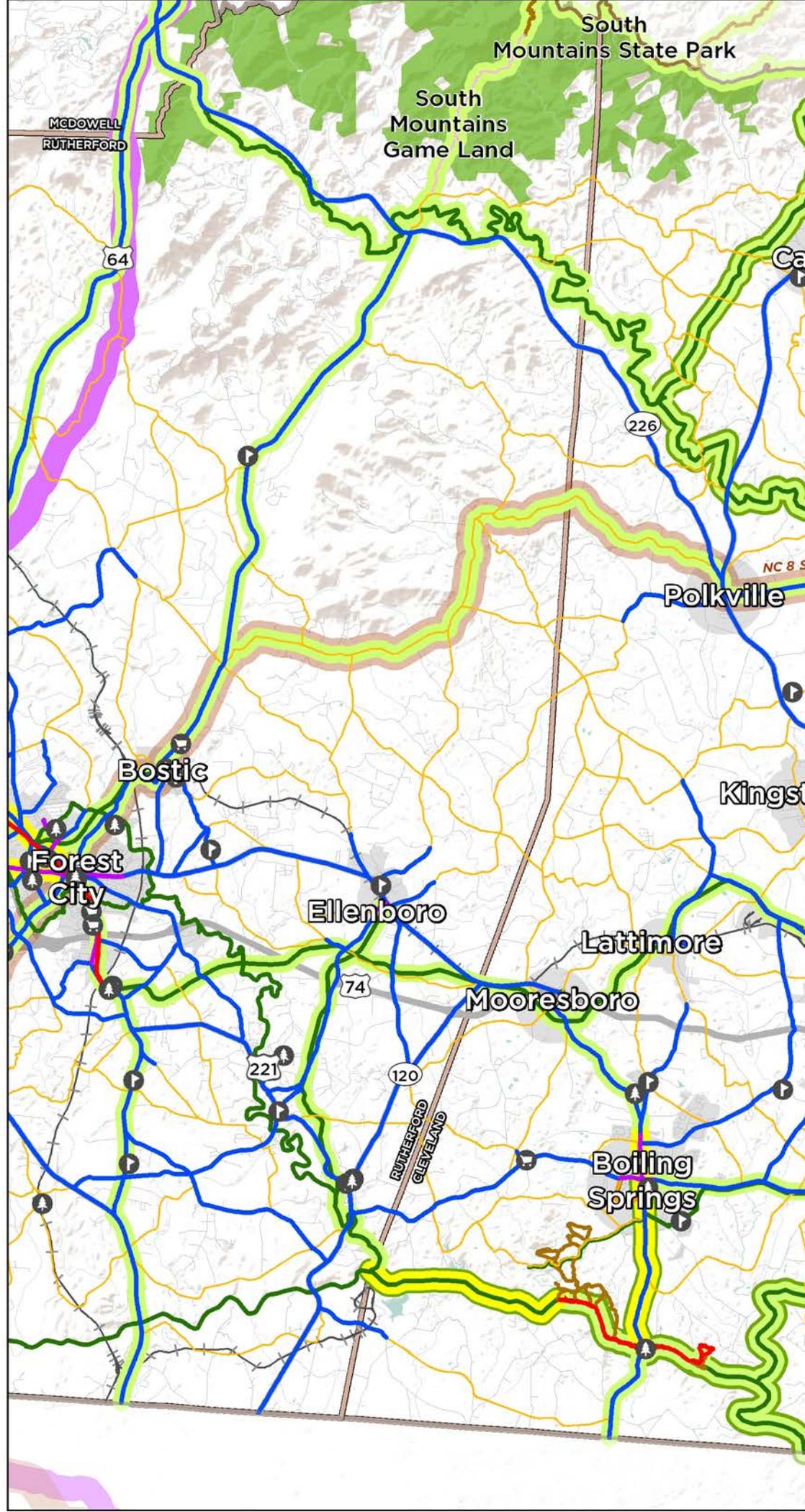
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

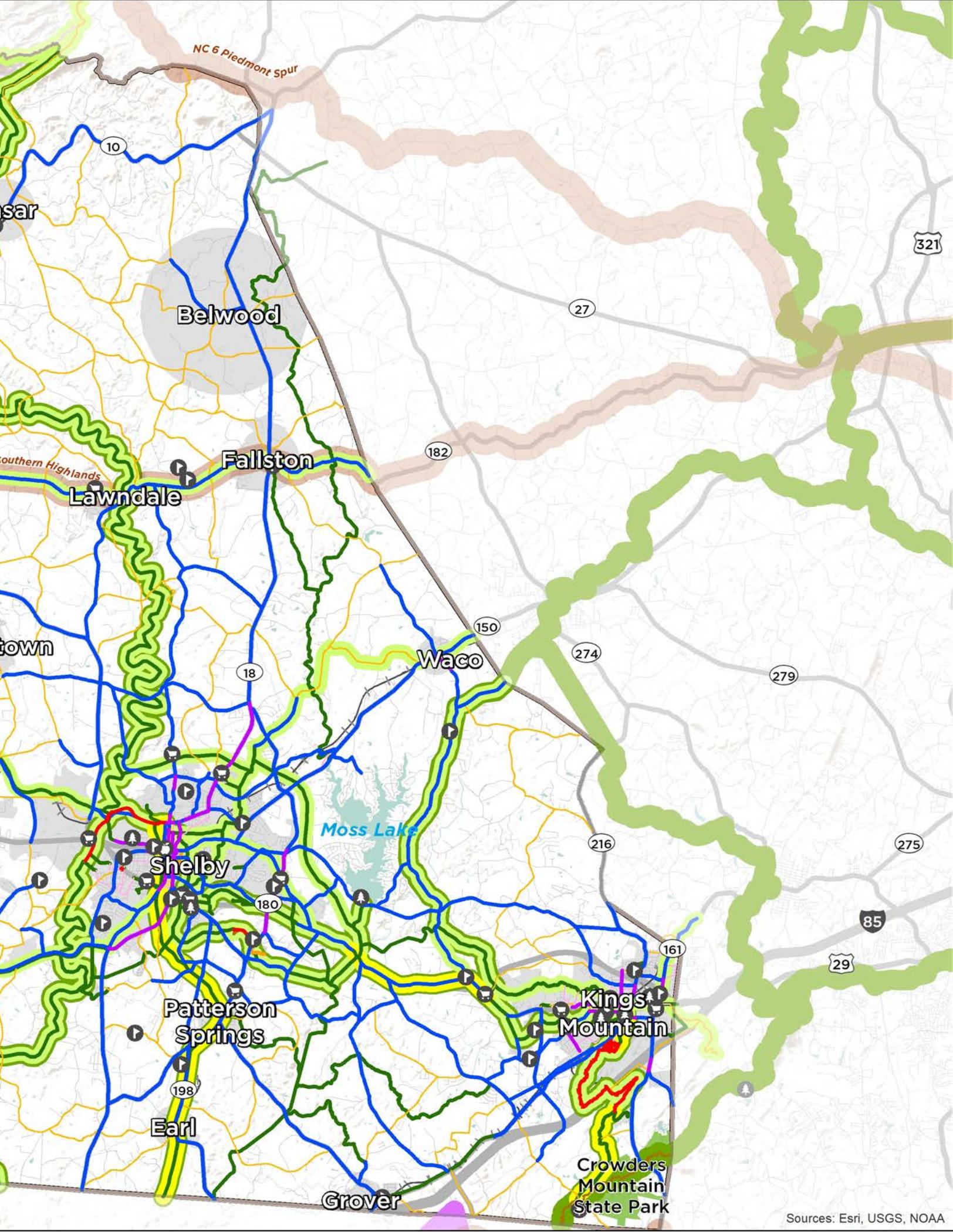
Regional/Statewide

- State Bike Route
- Carolina Thread Trail
- Overmountain Victory Trail Alignment

Other Features

- 🌲 Park
- 🎓 School
- 🏡 Farmers' Market
- 🛒 Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





NC 6 Piedmont Spur

10

Belwood

27

321

Fallston

182

Southern Highlands

Lawndale

150

Waco

274

279

18

Moss Lake

216

Shelby

275

180

85

Patterson Springs

Kings Mountain

29

Earl

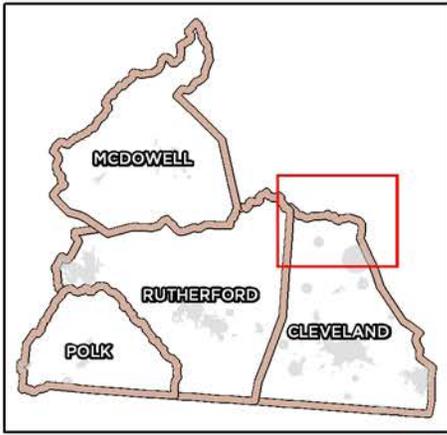
198

161

Grover

Crowders Mountain State Park

CLEVELAND COUNTY NORTH



Existing

- Hiking/Mt Biking Trail

Proposed

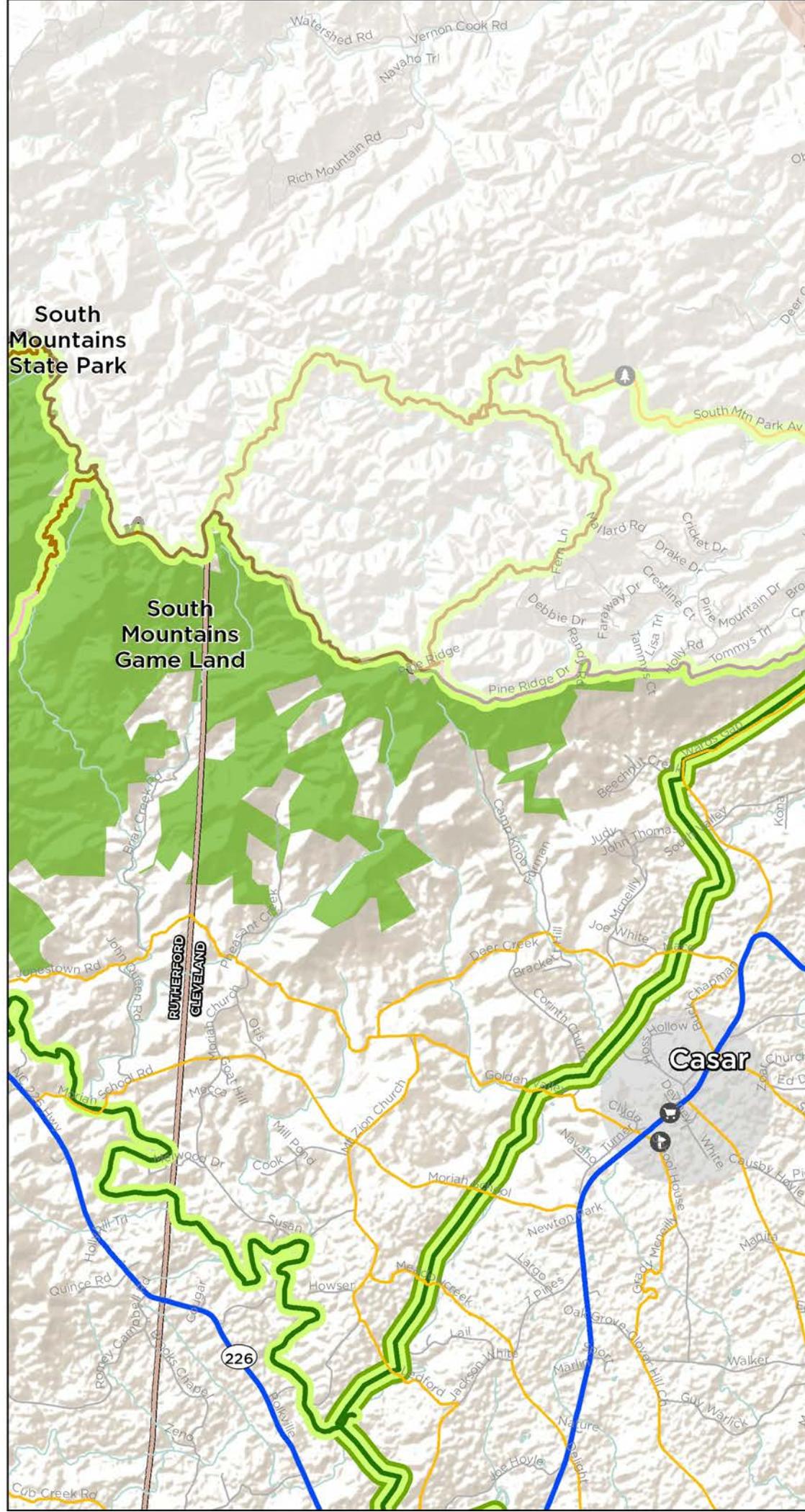
- Shared Use Path (Greenway)
- Separated Bike Lane
- Paved Shoulder
- Shared Lane
- Strategic Network

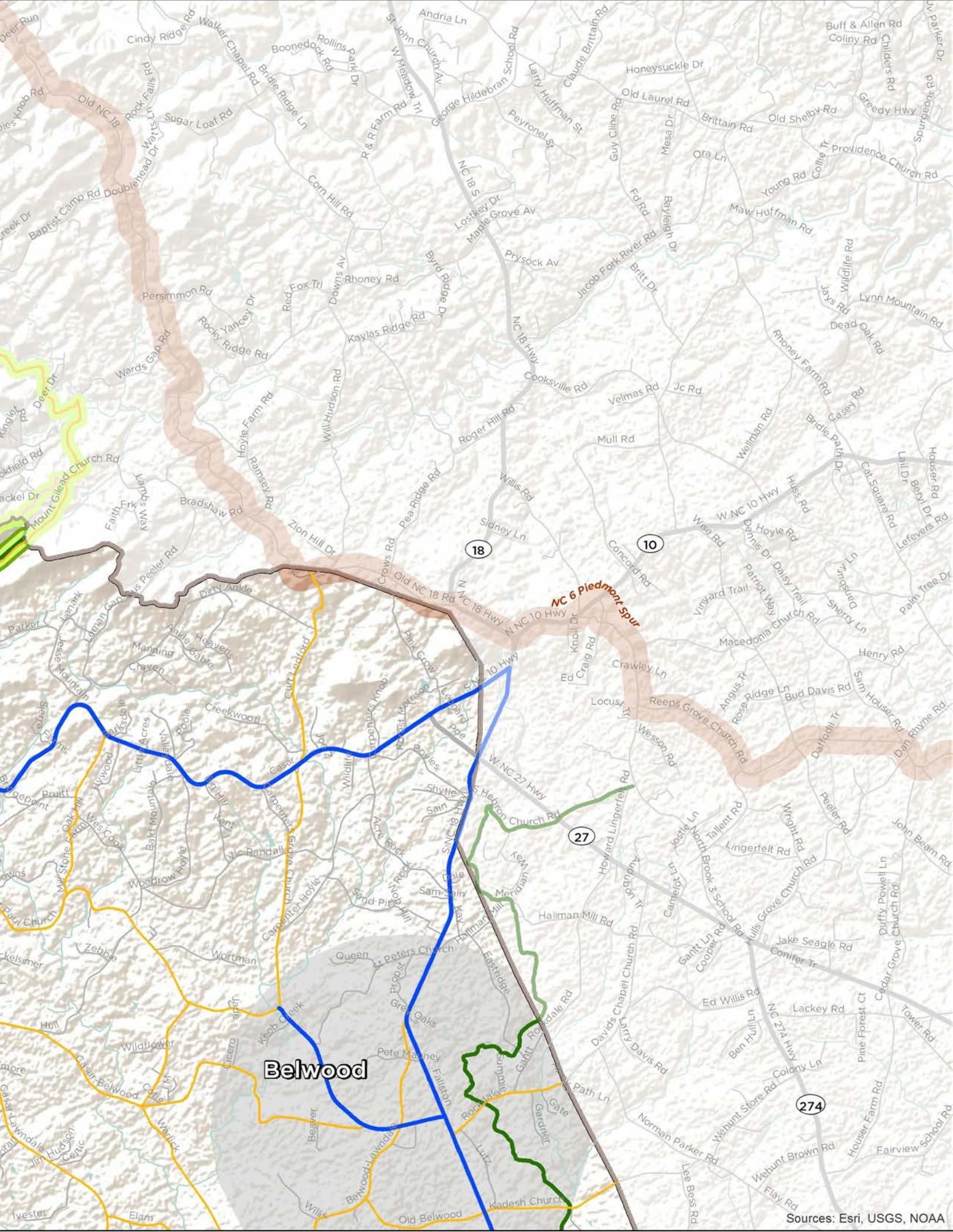
Regional/Statewide

- State Bike Route
- Carolina Thread Trail

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body

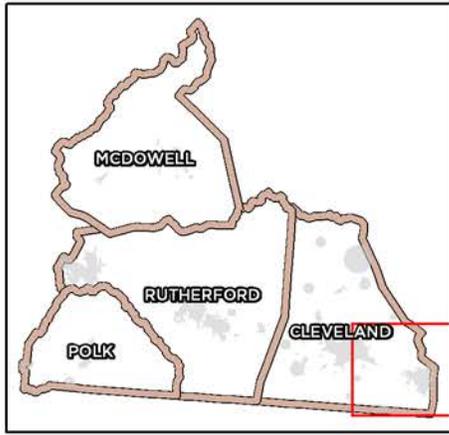




Belwood

NC 6 Piedmont Spur

CLEVELAND COUNTY SE



Existing

- Shared Use Path
- Bike
- Hiking/Mt Biking Trail
- Other

Proposed

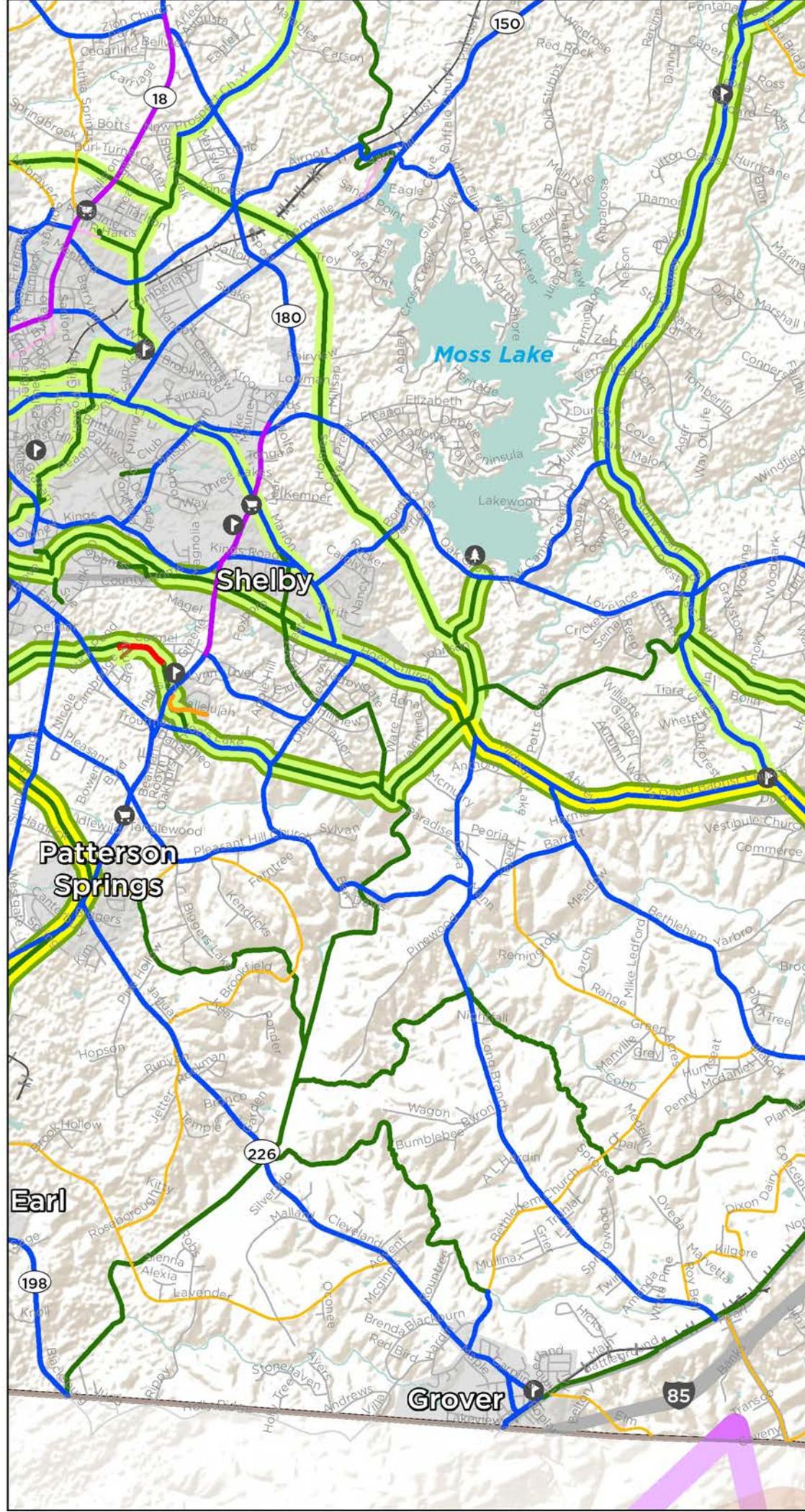
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

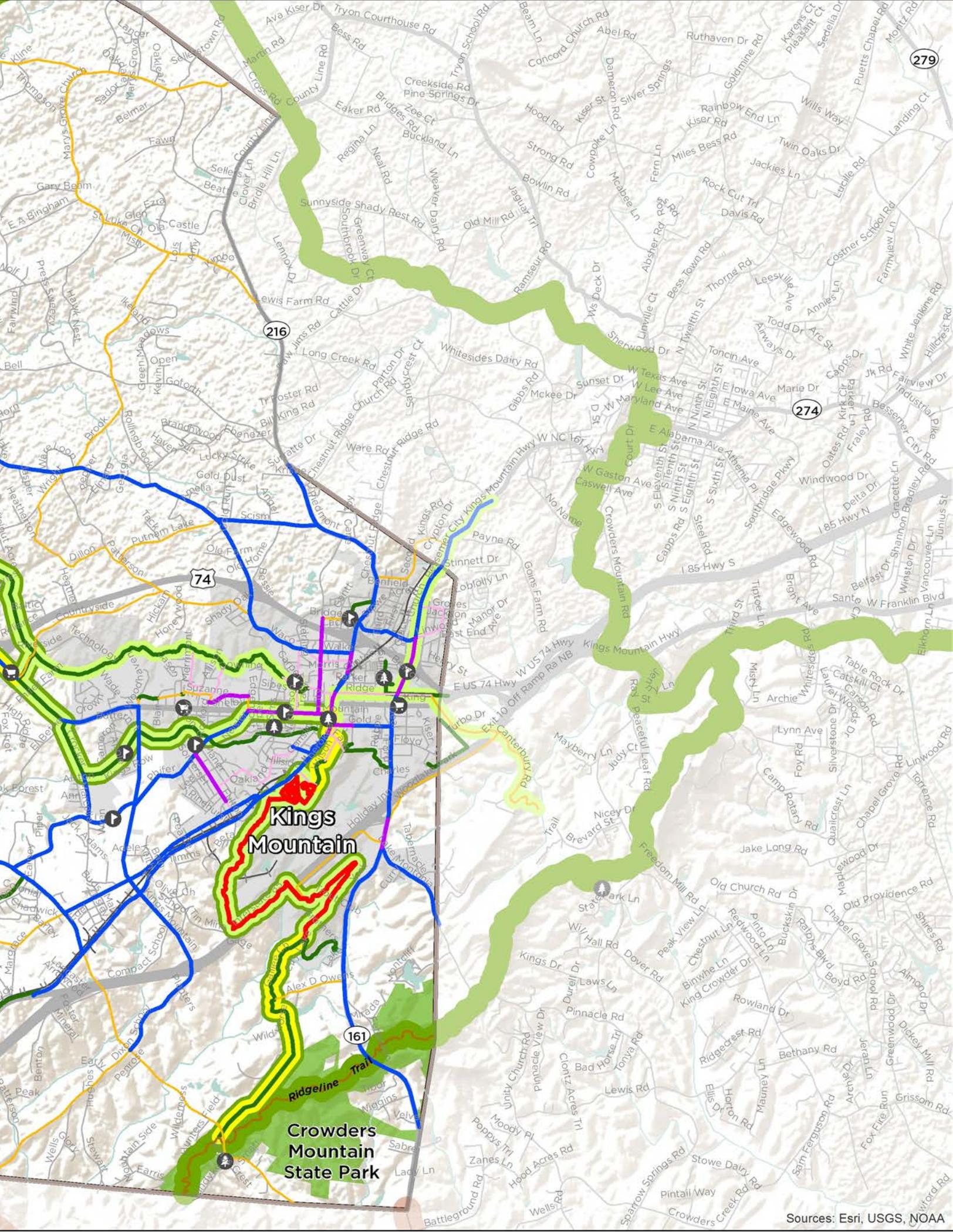
Regional/Statewide

- Carolina Thread Trail
- Overmountain Victory Trail Alignment

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body

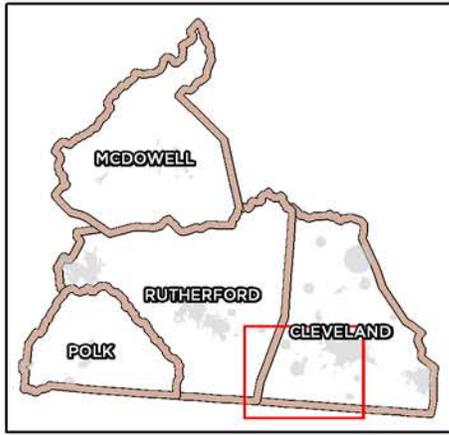




Kings Mountain

Ridgeline Trail
Crowders Mountain State Park

CLEVELAND COUNTY SW



Existing

- Shared Use Path
- Bike
- Hiking/Mt Biking Trail
- Other

Proposed

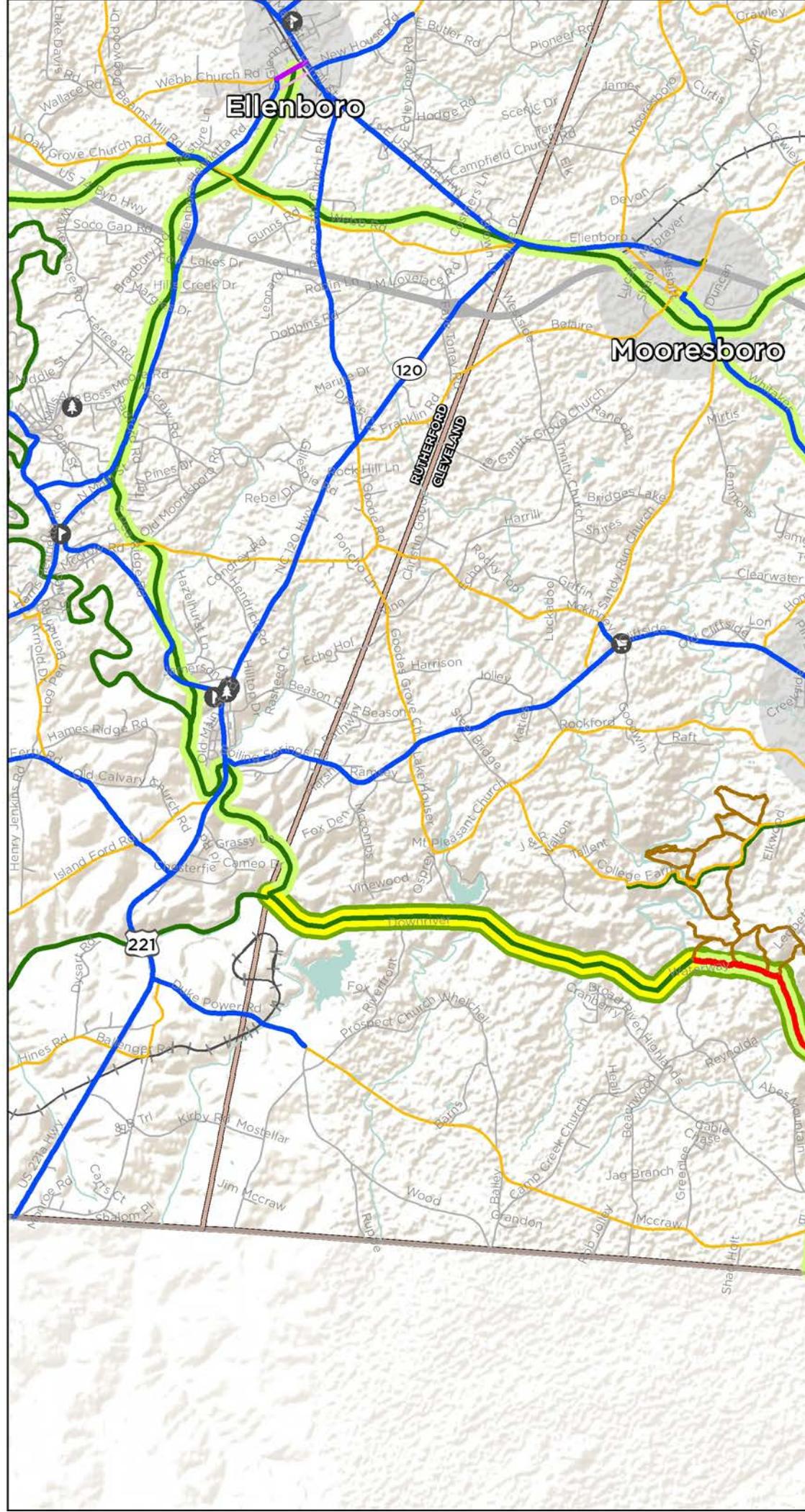
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

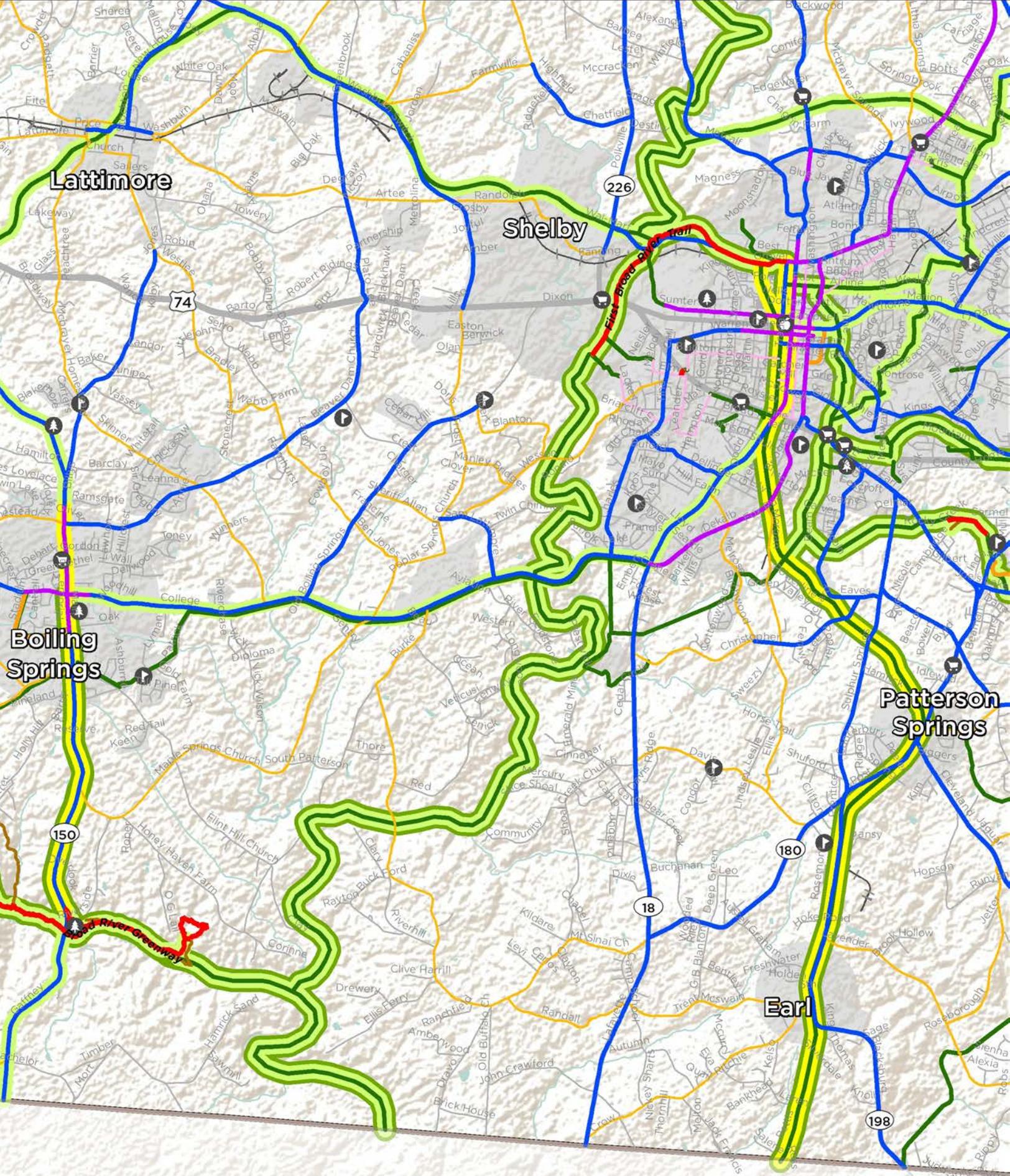
Regional/Statewide

- Carolina Thread Trail

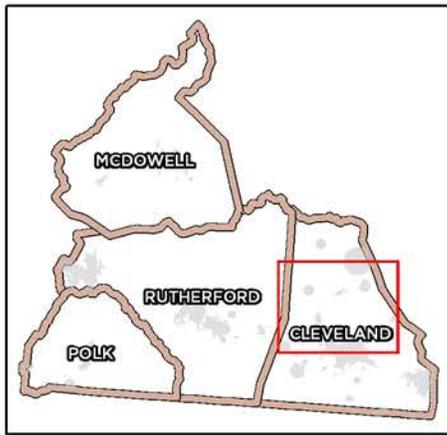
Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





CLEVELAND COUNTY CENTRAL



Existing

- Shared Use Path
- Bike
- Hiking/Mt Biking Trail
- Other

Proposed

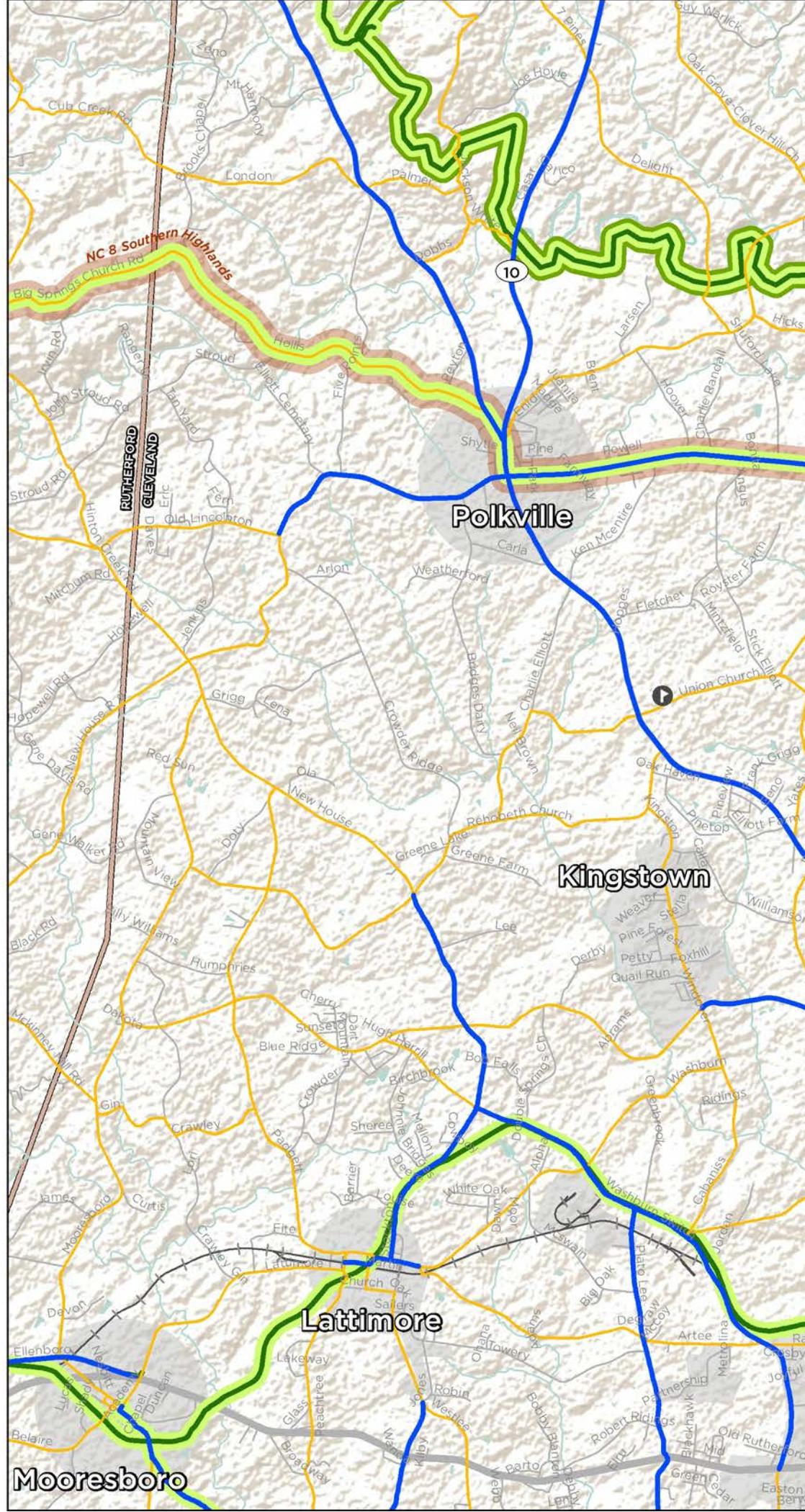
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

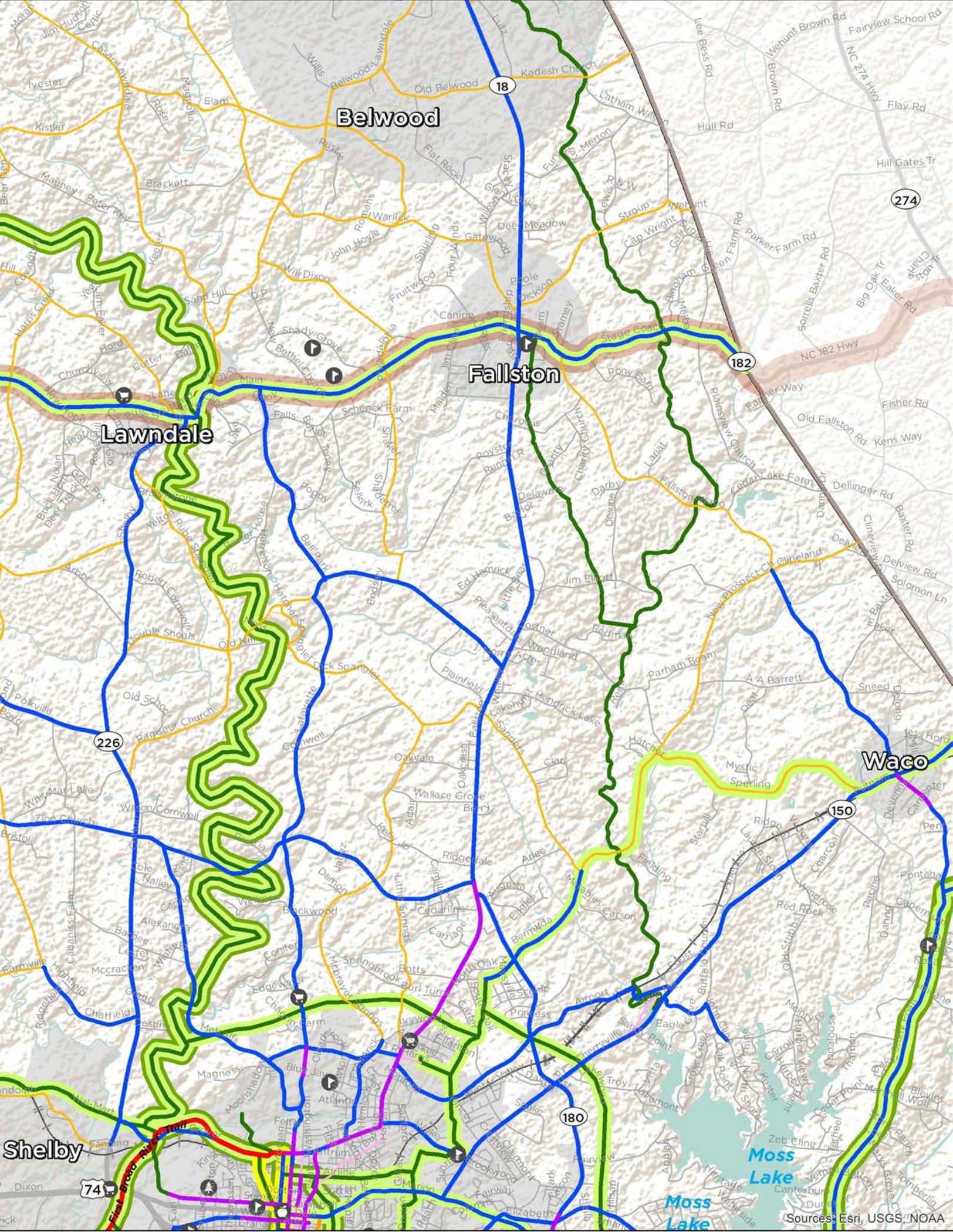
Regional/Statewide

- State Bike Route
- Carolina Thread Trail

Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





Belwood

Fallston

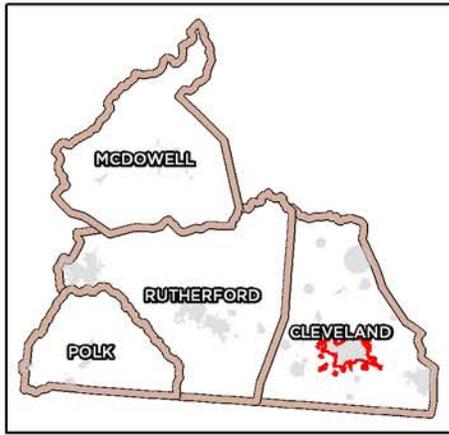
Lawndale

Waco

Shelby

Sources: Esri, USGS, NOAA

SHELBY



Existing

- Shared Use Path
- Bike Lane

Proposed

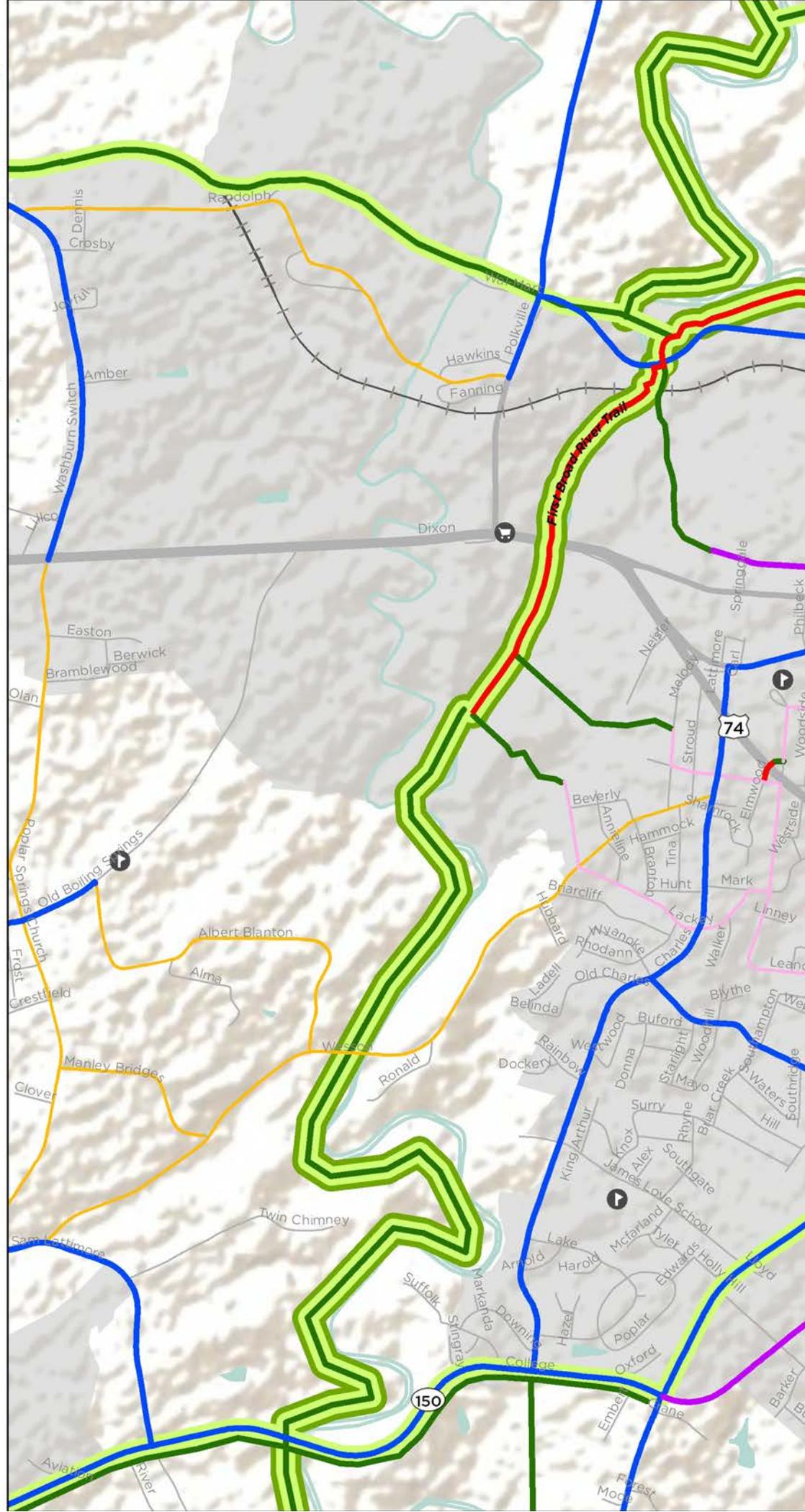
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

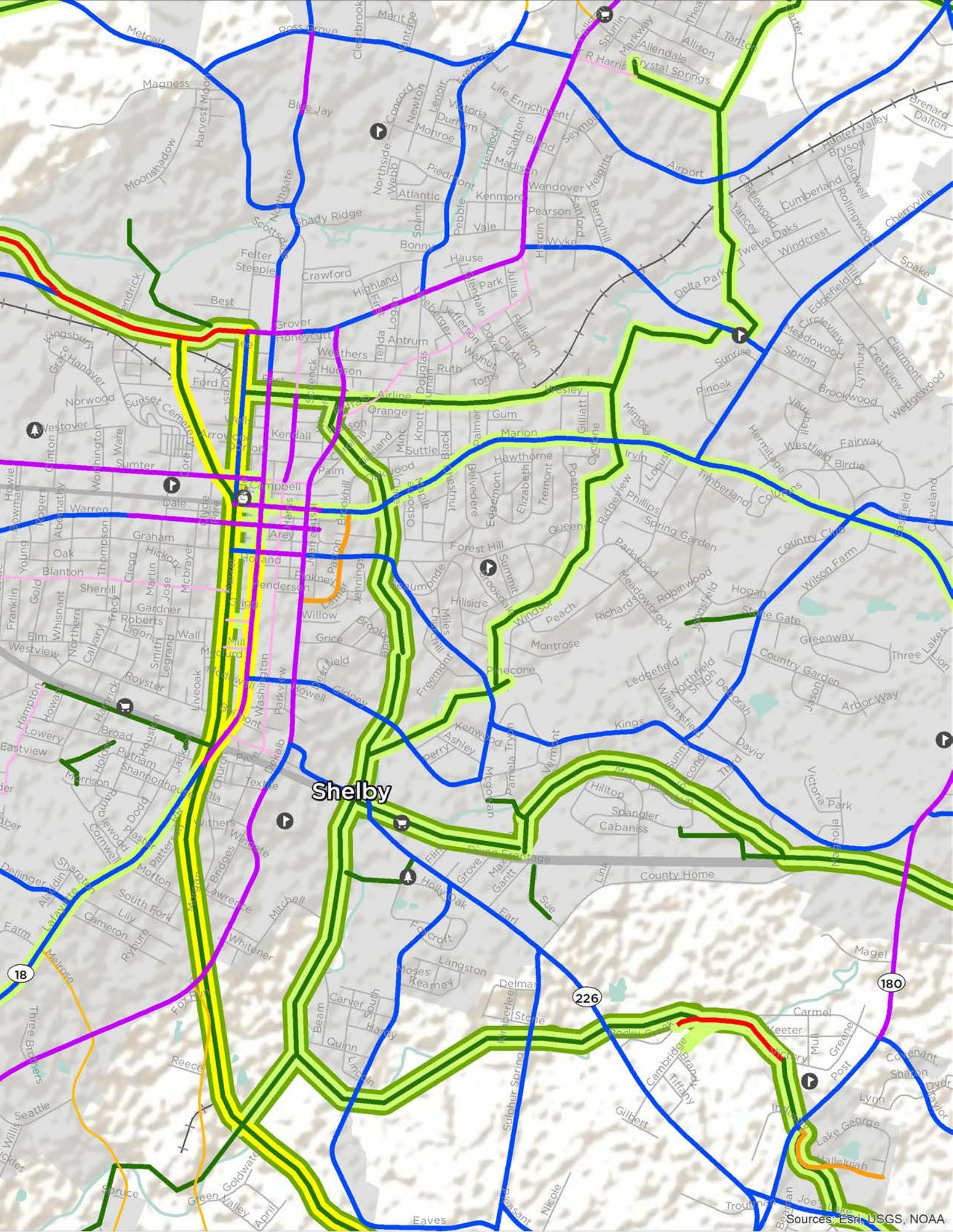
Regional/Statewide

- Carolina Thread Trail

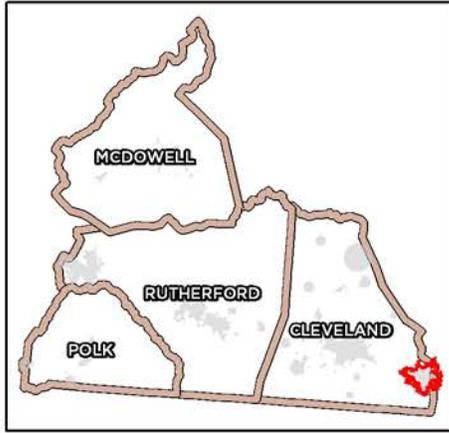
Other Features

- Park
- School
- Farmers' Market
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





KINGS MOUNTAIN



Existing

- Shared Use Path

Proposed

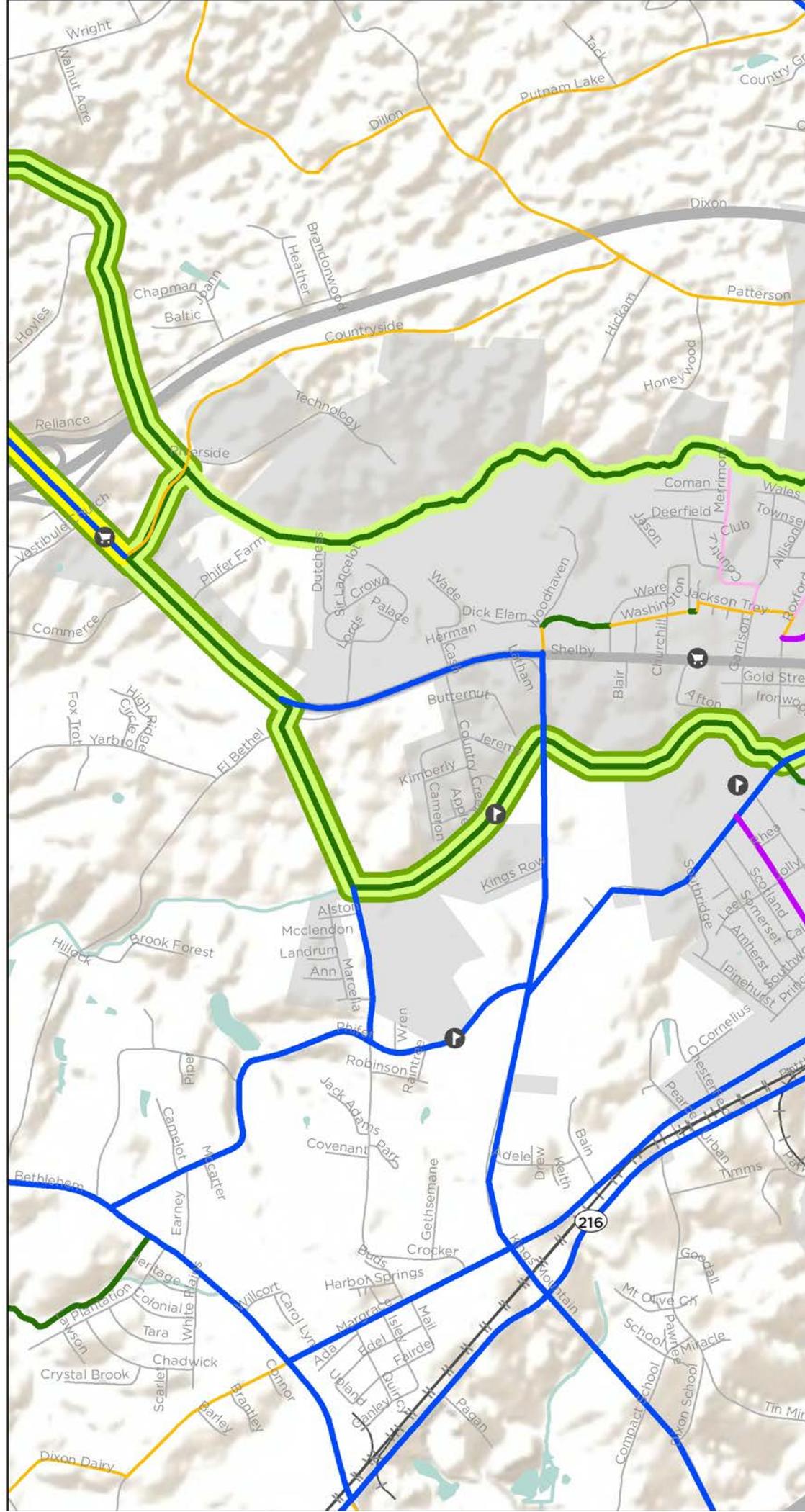
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Shared Lane
- Priority Project
- Strategic Network

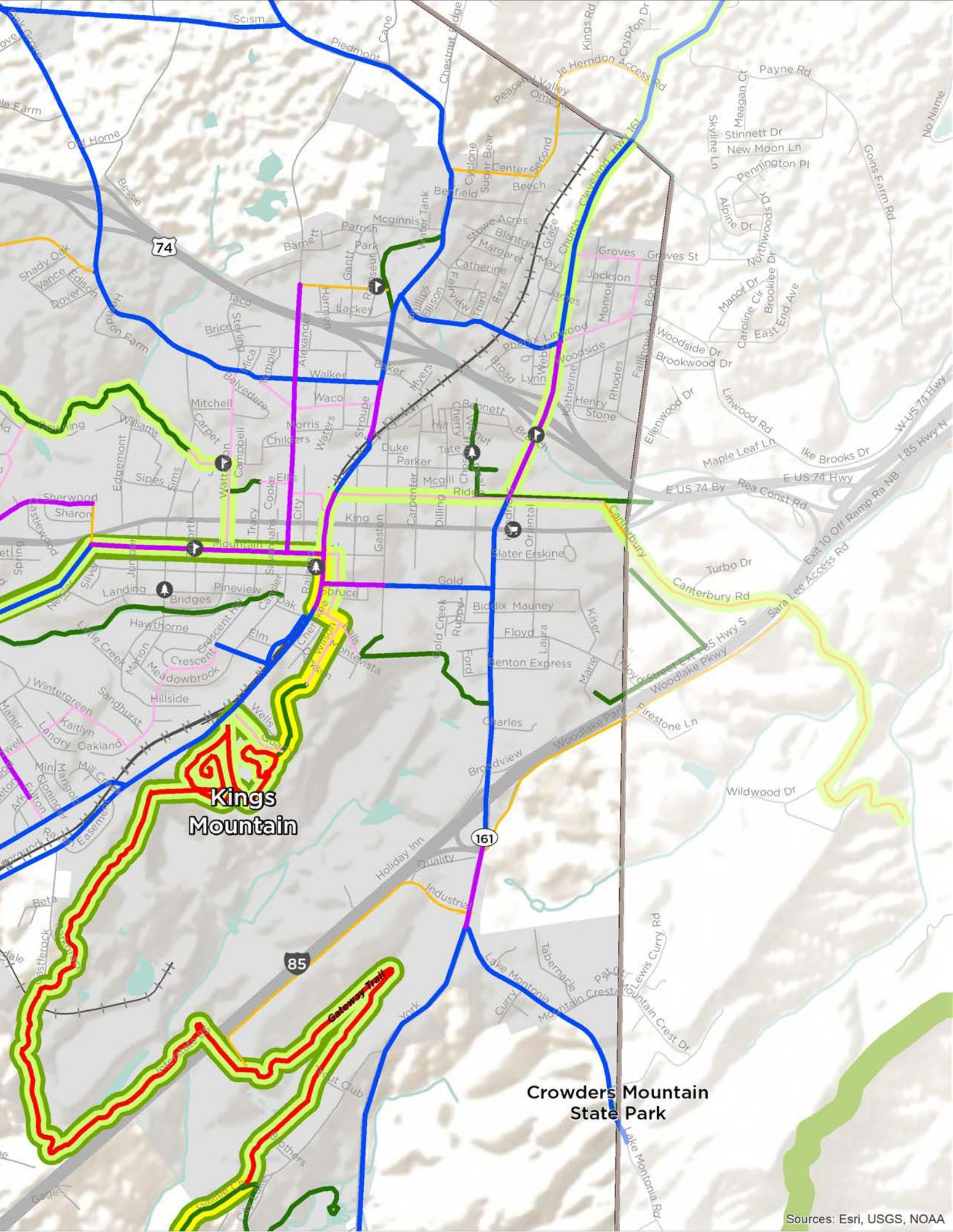
Regional/Statewide

- Carolina Thread Trail

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Protected Public Lands
- Stream
- Water Body





74

161

85

Kings Mountain

Crowders Mountain State Park

Gateway Trail

BOILING SPRINGS



Existing

- Shared Use Path
- Bike Lane
- Hiking/Mt Biking Trail

Proposed

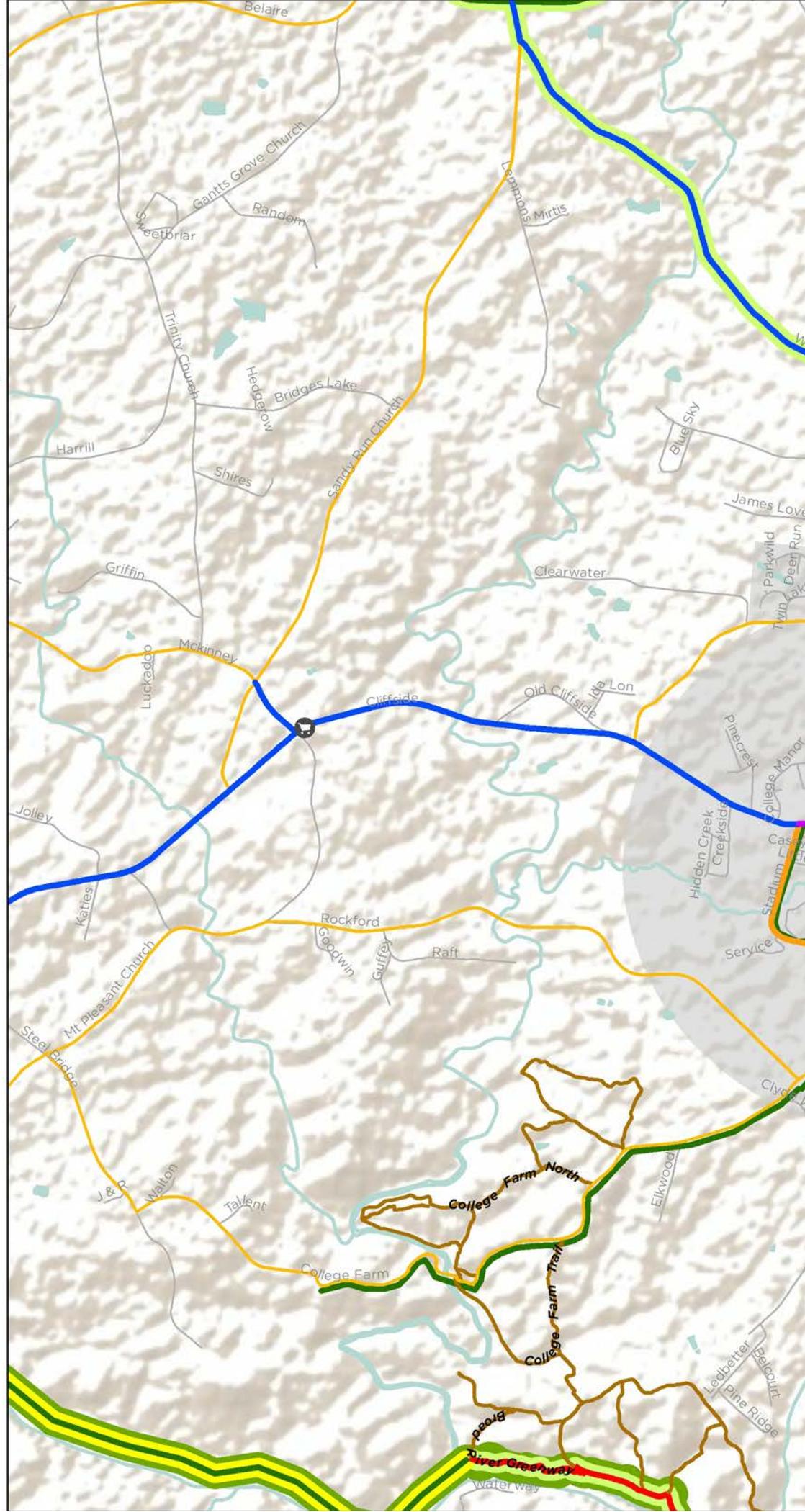
- Shared Use Path (Greenway)
- Separated Bike Lane
- Separated Bike Lane (Potentially Within Existing Curb)
- Paved Shoulder
- Priority Project
- Strategic Network

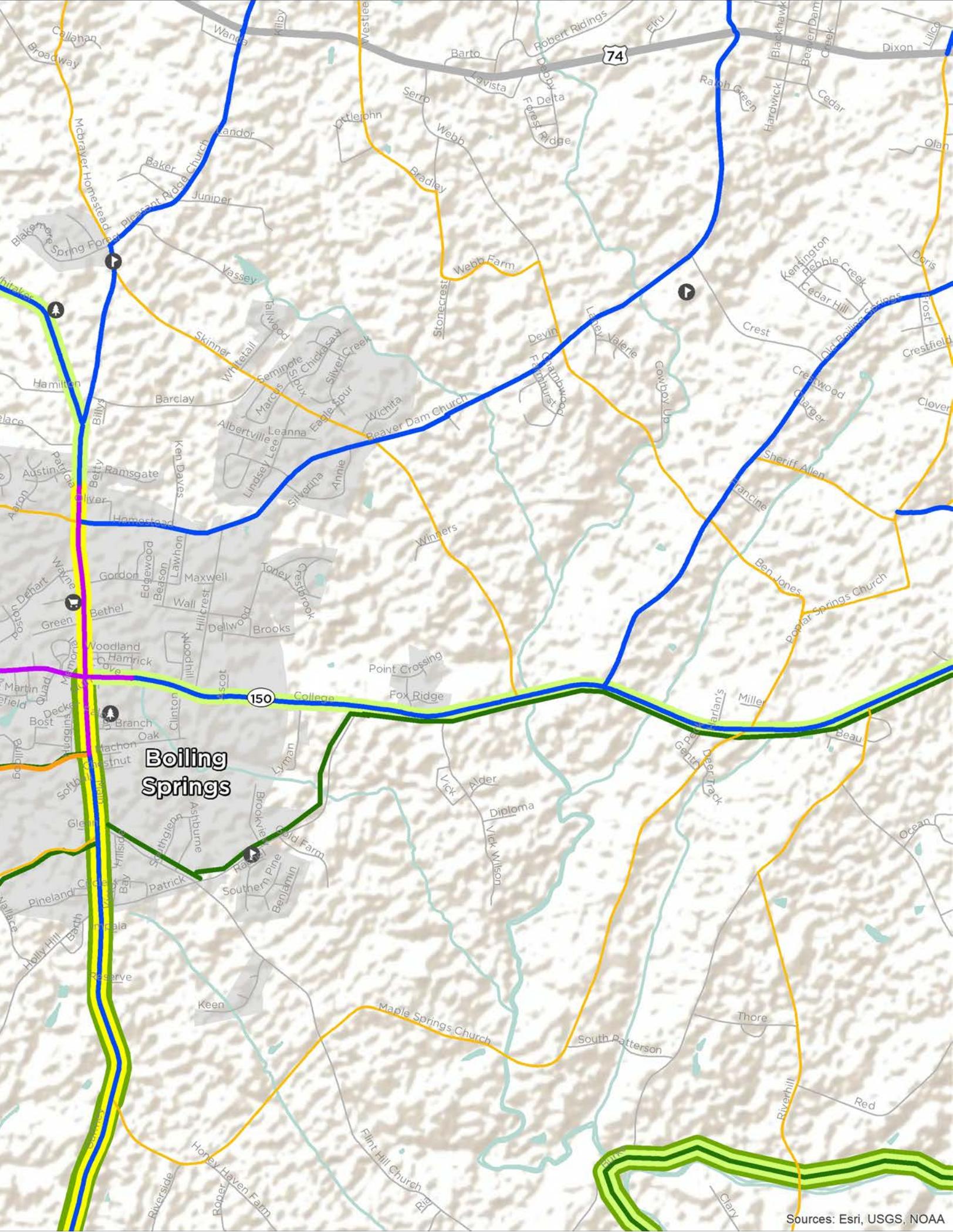
Regional/Statewide

- Carolina Thread Trail

Other Features

- Park
- School
- Grocery Store
- County Boundary
- Municipal Boundary
- Stream
- Water Body





Boiling Springs



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