

FINAL REPORT  
2021



**alta**

PREPARED for HARNETT COUNTY, NORTH CAROLINA  
PREPARED by ALTA PLANNING + DESIGN



## ACKNOWLEDGMENTS

Thank you to the 850+ local residents, community leaders, and government staff who participated in the development of this plan through meetings, interviews, and review of the draft plan. Special thanks to those who participated as project steering committee members, listed below.

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***This plan was unanimously adopted by the Harnett County Board of Commissioners on January 19, 2021***



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## INTENDED AUDIENCE

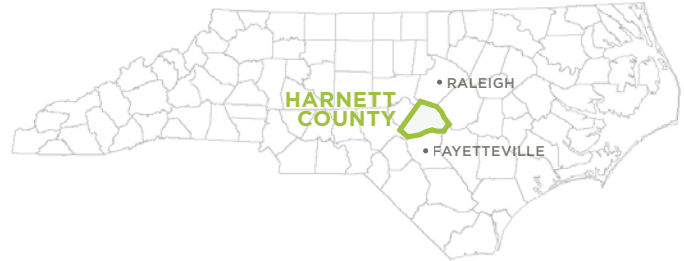
The intended audience for this document includes residents, elected officials, government planners, land owners, developers, and all people interested in trails, active transportation, recreation, health, wellness, conservation, economic development, tourism, and overall quality of life in Harnett County, North Carolina.





# EXECUTIVE SUMMARY

## for the HARNETT COUNTY BICYCLE, PEDESTRIAN & GREENWAY PLAN



### BACKGROUND and PURPOSE

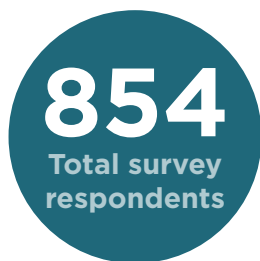
The plan focuses on bicycle, pedestrian, and greenway routes and trails, setting the stage for implementation of a County-wide multi-use trail system. These trails will link parks, schools, municipalities, cultural points of interest, and residential areas within Harnett County, and will be designed to connect to surrounding counties. The goal is to develop a community-supported plan that can be successfully implemented through a capital improvement plan as well as through programmatic strategies and operations.

### VISION

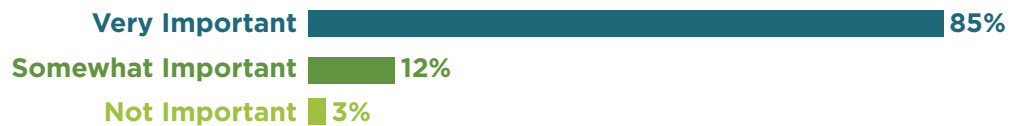
Greenways in Harnett County will boost tourism, economic development, and quality of life by connecting residents and visitors to downtown shops and restaurants, the Cape Fear River, Raven Rock State Park, the East Coast Greenway, conservation lands, county parks, and existing trail systems in neighboring counties. In addition to tourism benefits, greenways will also provide close-to-home opportunities for health, wellness, access to nature, transportation, and recreation for local residents.

### THE PLANNING PROCESS

The planning process includes input from the public, direction from a project steering committee, and presentations of the draft and final plans. The public input phase included comments from **more than 850** county residents and visitors.



*How important to you is the goal of creating more opportunities for walking, bicycling, and trails in Harnett County?*



Very excited for Harnett County to complete the greenway master plan and start to construct new trails.

This would be great for our county. The positive economic impact of making areas more accessible for walking and cycling is enormous. Countless areas across this country have already seen that to be the case and their populations have seen improvement in standard of living.

I would like to see this done all across the county ... not just one area.

See 100+ comments and ideas submitted by the public at the end of Chapter 1.



## HEALTH *and* ECONOMIC IMPACTS

A complete Harnett County greenway system will provide residents and visitors a fun and healthy way to explore parks, natural areas, historic sites, shopping, and other regional destinations. It will also serve as an active transportation system, providing a safe connection for travel between home, work, and play. When the trail system is completed, residents in Harnett County will experience improvements in their quality of life, including transportation, health, and economic benefits.



Chapter 2 highlights health and economic impacts and benefits observed in multiple studies for existing trail systems in Virginia, South Carolina, and Georgia. Harnett County could expect similar results once a connected, regional system of trails is implemented, benefiting further from large nearby populations in Raleigh and Fayetteville, that could help boost trail-related tourism and spending.



### ECONOMIC IMPACT CASE STUDY *(Chapter 2)*

“We’ve probably **quadrupled our number of downtown businesses**. We used to have dozens of empty buildings on Main Street. Now there are only a handful. Even on U.S. 25, which is our bypass, we’ve seen considerable growth. I think Travelers Rest has more media exposure and **people are more enticed to come here and make an investment because of the trail.**”

- Diana Turner, Travelers Rest City Administrator

### RETURN ON INVESTMENT FOR TRAILS & GREENWAYS *(Appx B)*

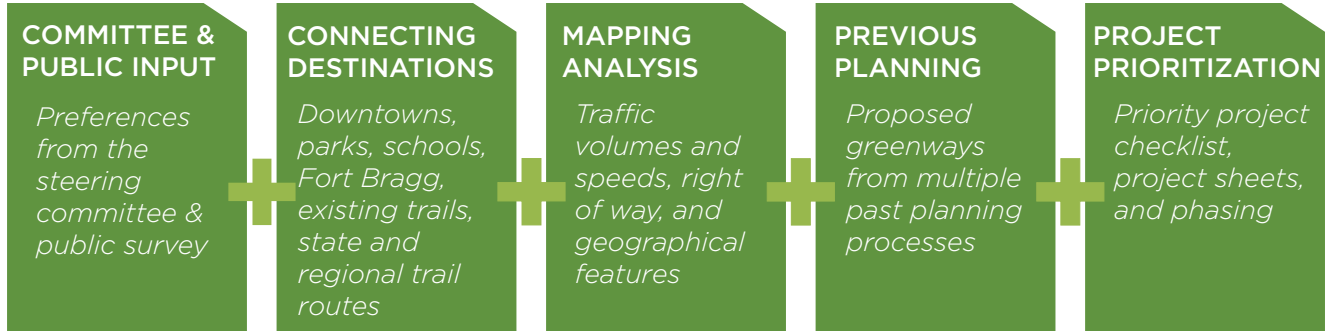
A 2018 study looking at the economic impact of four greenways in North Carolina (Brevard Greenway, Little Sugar Creek Greenway, American Tobacco Trail, and Duck Trail) found that **every \$1.00 of initial trail construction supports \$1.72 annually from sales revenue, sales tax revenue, and benefits related to health and transportation.**

- Institute of Transportation Research and Education. (2017). *Evaluating the Economic Impact of Shared Use Paths in North Carolina.* <https://itre.ncsu.edu/focus/bike-ped/sup-economic-impacts/>



## BASIS OF RECOMMENDATIONS

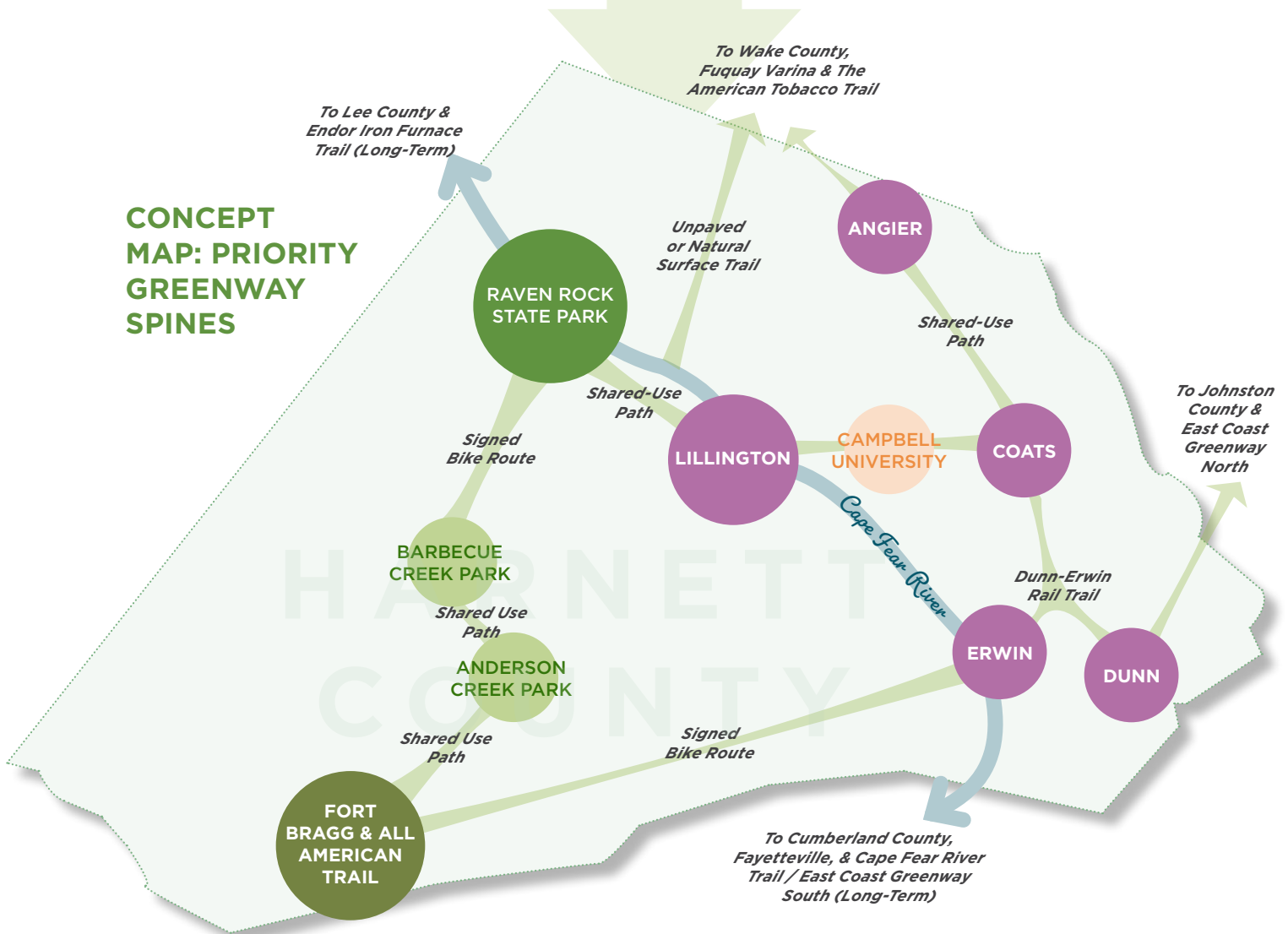
The proposed network is a result of a collaborative planning process that involved a review of recent and past planning efforts, public engagement, data collection, and technical analysis.



### Chapter 3 Maps & Project Sheets

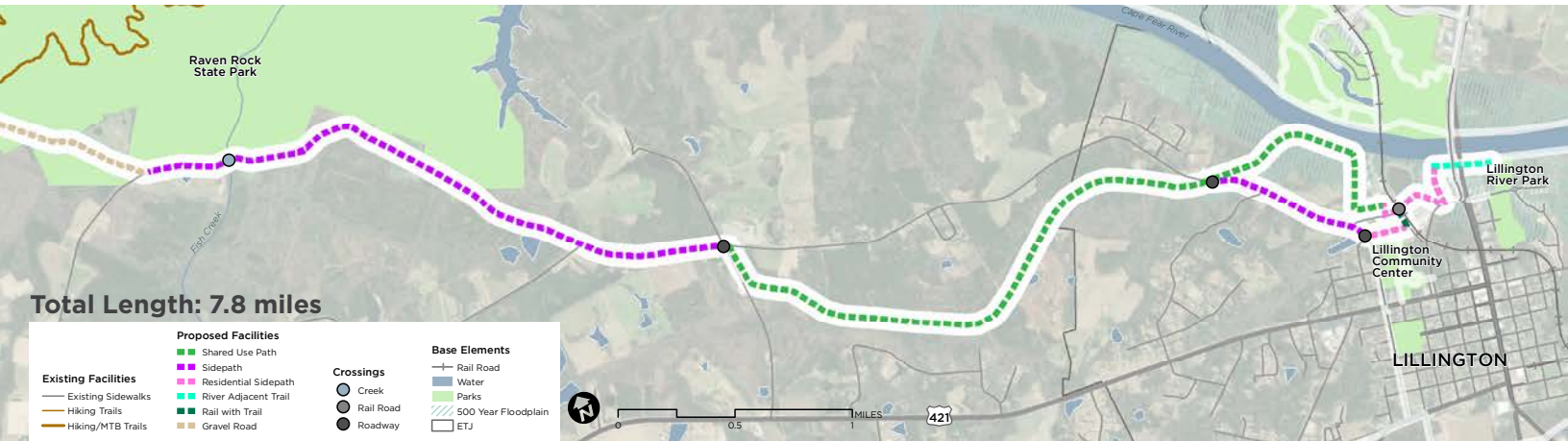
From the inputs above, the following priority greenway spine concept and projects sheets were developed.

## CONCEPT MAP: PRIORITY GREENWAY SPINES

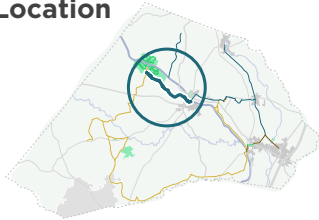


## TOP PRIORITY PROJECT: RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK

See Chapter 3 for details on this project and all other priority projects.



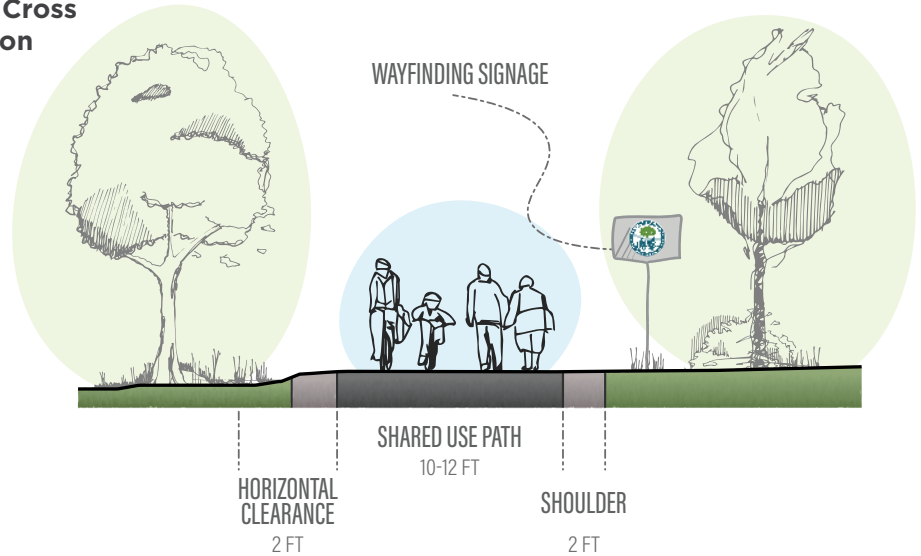
### Location



### Implementation Stakeholders:

- Harnett County
- Town of Lillington
- NCDOT
- NC State Parks
- Mid-Carolina RPO
- Norfolk Southern
- Adjacent Landowners

### Main Cross Section



## KEY RESOURCES FOR IMPLEMENTATION

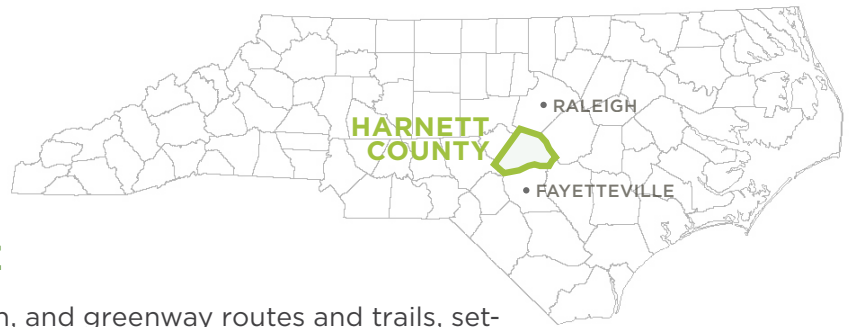
(Chapter 4 and Appendix)

- Short-Term Action Steps (p. 76): *Get started with these steps!*
- Policy Recommendations (p. 80), Long-Term Vision (p. 86), & Greenway Network Maps (p. 116): *Align future development and NCDOT projects with trails as Harnett County continues to grow*
- Review the Potential Funding Sources by Project (p. 96) and develop a long-term funding strategy; Use the Funding Resources in the appendix (p. 104) to learn more about various funding options and approaches.



# 1

## CHAPTER 1: INTRODUCTION



### BACKGROUND and PURPOSE

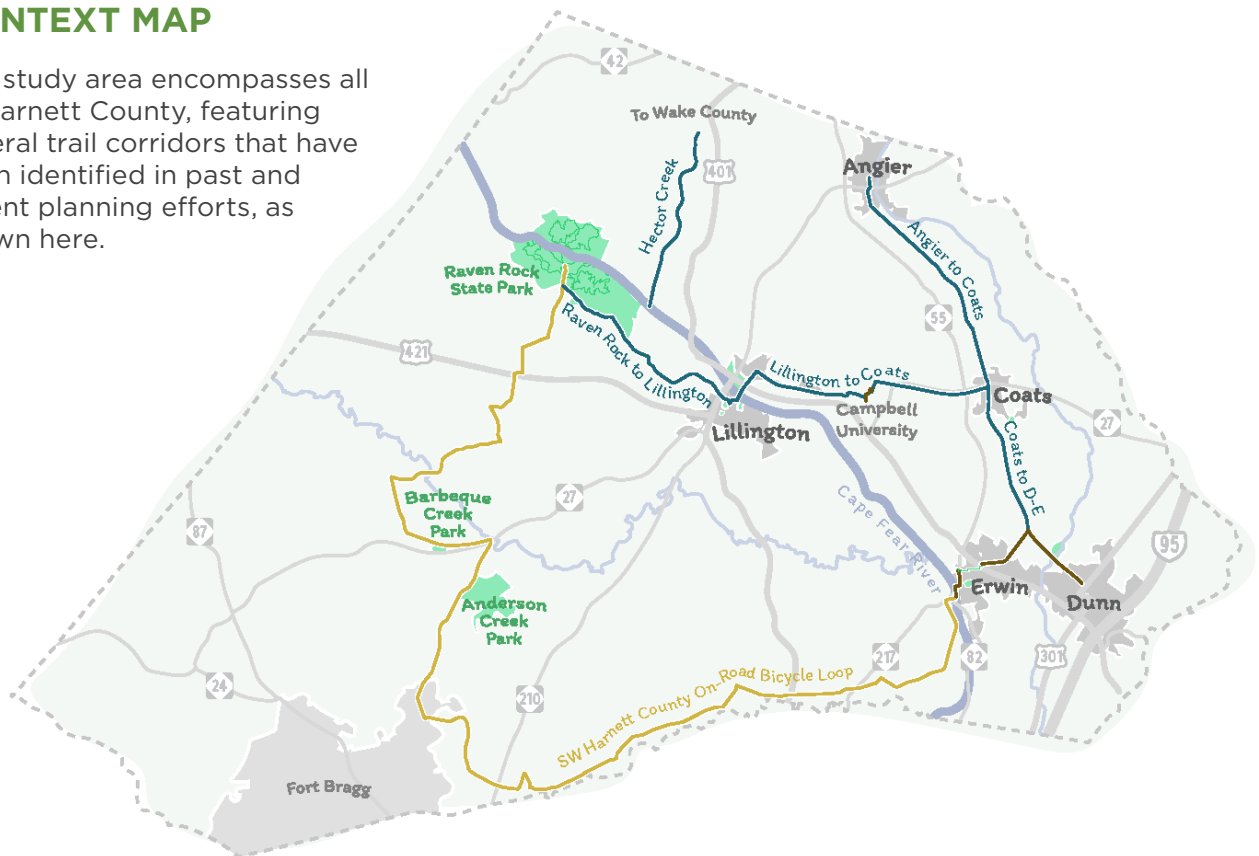
The plan focuses on bicycle, pedestrian, and greenway routes and trails, setting the stage for implementation of a County-wide multi-use trail system. These trails will link parks, schools, municipalities, cultural points of interest, and residential areas within Harnett County, and will be designed to connect to surrounding counties. The goal is to develop a community-supported plan that can be successfully implemented through a capital improvement plan as well as through programmatic strategies and operations.

### VISION

Greenways in Harnett County will boost tourism, economic development, and quality of life by connecting residents and visitors to downtown shops and restaurants, the Cape Fear River, Raven Rock State Park, the East Coast Greenway, conservation lands, county parks, and existing trail systems in neighboring counties. In addition to tourism benefits, greenways will also provide close-to-home opportunities for health, wellness, access to nature, transportation, and recreation for local residents.

### CONTEXT MAP

The study area encompasses all of Harnett County, featuring several trail corridors that have been identified in past and recent planning efforts, as shown here.



## THE PLANNING PROCESS

The planning process includes input from the public, direction from a project steering committee, and presentations of the draft and final plans. The public input phase included comments from **more than 850** county residents and visitors.



*Cape Fear River Trail Park in Harnett County. Photo source: Harnett County.*





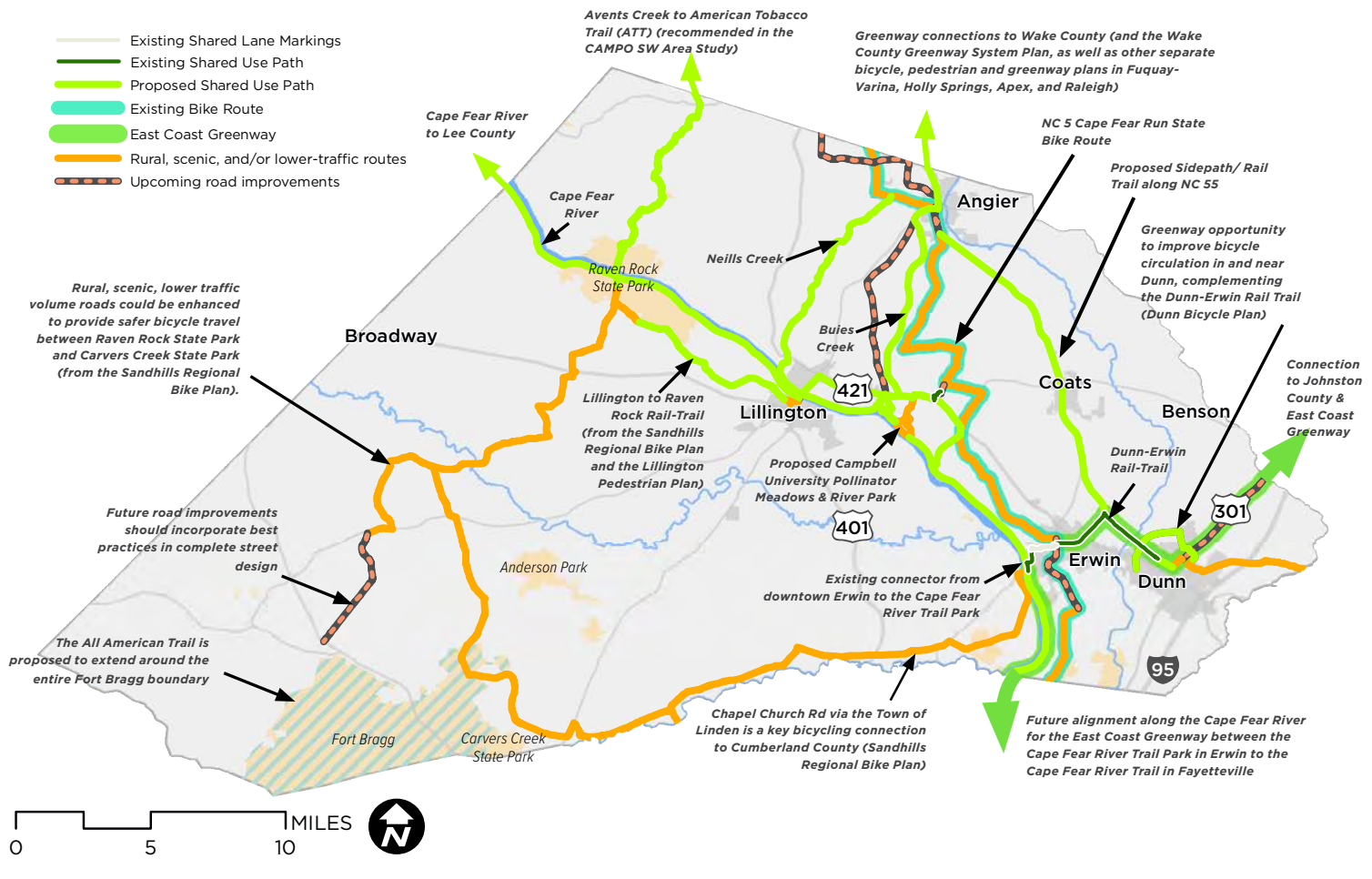
# EXISTING RESOURCES

## BICYCLE, PEDESTRIAN, *and* GREENWAY RESOURCES IN HARNETT COUNTY

The resources below serve as excellent building blocks to create a more complete and connected system of trails and recreation resources throughout the county.

- Dunn-Erwin Rail-Trail:** The Dunn-Erwin Rail Trail connects the two downtown areas (Dunn and Erwin) while allowing people to stroll through farmlands, beside cotton fields and across wetlands. The 5-mile trail of crushed stone is perfect for the casual walker, biker or family and is also used by serious runners because of its length and flat, well maintained surface. Dogs on leashes are welcome, but horses and ATVs are not permitted. At multiple points on the path, there are informative signs with a map as well as historical points of interest and attractions along the trail.
- East Coast Greenway:** A multi-state trail system running from Maine to Florida that is approximately 33% complete. Designated sections in Harnett include the Dunn-Erwin Rail Trail and a connector to the Cape Fear River Trail Park.
- Triangle Trails Initiative:** A newly launched collaboration between government, business, anchor institutions and civic leaders to make the Research Triangle Region a national leader in greenways and trails. Triangle Trails will work on behalf of the region to promote the extensive regional greenway system. The Triangle Trails Initiative region includes 14 Triangle area counties (including Harnett County).

## EXISTING RESOURCES AND EXISTING PLANS MAP







- **Raven Rock State Park Trails:** 26 miles of a variety of easy-to-moderate mountain biking, hiking, and bridle trails.
- **Harnett County Parks:** Parks and recreation facilities offering a variety of recreation opportunities:
  - *Neill's Creek County Park:* 25 acres adjacent to Harnett Central High School; No designated trails.
  - *Barbecue Creek County Park:* 0.5 miles of walking trails (walking the outer loop of concrete walking trail around the park is 1/3 mile in length)
  - *South Harnett Park:* 8 acres; no designated trails.
  - *Anderson Creek County Park:* 1,014 acres between Nursery Rd and Powell Farm Rd including hiking trails; When completed, will also include bicycle and equestrian trails.
  - *Cape Fear River Trail Park:* 16 acres of walking trails, overlooks, canoe access, and picnic shelter with restrooms; recently designated as part of the East Coast Greenway.
  - *Boone Trail Community Center and Library:* Features many programmed activities and a gravel-screened walking trail.
  - *Cape Fear Shiner County Park:* Phase one includes 3.25 miles of trails.
  - *Patriots Park at Ponderosa:* Will include both paved trails and natural surface trails.
- **North Carolina Bicycle Route 5 (Cape Fear Run):** This 160-mile route roughly parallels the course of the Cape Fear River through the southeast coastal plain. Rolling hills give way to flat land in the swamps and Carolina bays. NC 5 begins at its connection with Salem St (Old US 1) in Apex, continuing through Holly Springs, Fuquay-Varina and Harnett County, passing near Fayetteville, and ending in Wilmington at its intersection with the NC 3 route.

## RESOURCES *in* SURROUNDING AREAS

This plan also aims to connect to regional bicycle, pedestrian, and trail resources, such as those listed below.

- **All American Trail:** An unpaved pathway for hikers, runners and bicyclists along the southern boundary of Fort Bragg. The trail will eventually circumnavigate the entire boundary of Fort Bragg (approximately 70 miles in length). There is opportunity for Harnett County to connect a trail or bicycle route south to the future northern boundary extension of the All American Trail.
- **Cape Fear River Trail (CRFT):** A 5.3-mile paved path for walkers, joggers, bicyclists and others utilizing non-motorized transportation. Just under three miles of the Cape Fear Mountain Bike Trail is now accessible off of the Cape Fear River. There is opportunity for Harnett County to connect southeast along the Cape Fear River, eventually connecting to the northern end of the CRFT.
- **American Tobacco Trail (ATT):** A 22-mile rail-to-trail that crosses through the City of Durham; Durham, Chatham, and Wake counties; the planning jurisdictions of the Towns of Cary and Apex; and passes through the Jordan Lake project land of the U.S. Army Corps of Engineers. There is an opportunity for Harnett County to connect north to Wake County, and subsequently to the southern end of the ATT.



## EXISTING PLANS

### PAST PLANS WITH BICYCLE, PEDESTRIAN, AND GREENWAY RECOMMENDATIONS IN HARNETT COUNTY

The following existing plans were taken into consideration when weighing opportunities and constraints for county wide bicycle, pedestrian and greenway connections.



Existing Plan	Relevant Findings and Recommendations
<b>Grow Harnett County Comprehensive Growth Plan (2015)</b>	This plan was spurred by the population increase that the county experienced in recent decades. It addresses growth strategies related to land use, utilities, natural resources, transportation, and economic development. The plan recognizes the need to develop a county-wide greenway system, providing multi-modal transportation options and both active and passive recreation opportunities.
<b>Harnett County Comprehensive Parks, Recreation, Greenway, and Blueways Master Plan (2017)</b>	This plan outlines greenway and blueway connections with county wide strategies to enhance the effectiveness of recreational services to the growing population of Harnett County. The plan also addresses provisions for additional river access points along the Cape Fear and Upper Little Rivers.
<b>Harnett County Comprehensive Transportation Plan (2011 and 2017 addendum)</b>	This plan makes long range planning recommendations based on current and future traffic behavior. In addition to motorized traffic, the plan identifies projects to enhance the mobility options for walking and bicycling. These enhancements include facilities such as bike lanes, sidewalks, and multi use paths.
<b>Northwest Harnett Small Area Plan (2019)</b>	This plan recommends multi-use paths connecting Lillington, Raven Rock State Park, Chatham County, Wake County, Angier, and Campbell University in Buies Creek. The plan also makes recommendations for the acquisition and development of recreation access points along the Cape Fear River for blueway use.
<b>Capital Area Metropolitan Planning Organization (CAMPO) South West Area Study Update (2019)</b>	This study was initiated by CAMPO in cooperation with NCDOT to address the regional transportation needs and demands associated with the growth of southwestern Wake County and northern Harnett County. It features three proposed "low-stress" multiuse trail corridors in Harnett County, including 1) Wake County to Raven Rock State Park (Avents Creek corridor), 2) along the Cape Fear River from Raven Rock State Park to Lillington and then north to Angier, and 3) Fuquay Varina to Angier, mainly along Rawls Church Rd.



Resource	Relevant Findings and Recommendations
<b>Sandhills Regional Bicycle Plan (2019)</b>	<p>This plan promotes comprehensive bicycle infrastructure throughout the region, including Harnett County. The plan addresses the multifaceted benefits of expanded bicycling infrastructure including economic growth, environmental protection, livability, and health. The plan identifies the potential connection between Raven Rock State Park and Downtown Lillington, as well as the connection to Campbell University from Lillington via a shared-use path.</p> <p>The plan also included a Bicycle Tourism Map for Harnett County, identifying a bicycle level of service for roads throughout the county. This map can be used to identify recommended routes for longer-distance recreational riding on existing roadways.</p>
<b>NCDOT Complete Streets Policy Update and Implementation Guide (2019)</b>	<p>Complete Streets is North Carolina’s approach to interdependent, multi-modal transportation networks that safely accommodate access and travel for all users. This policy requires NCDOT planners and designers consider and incorporate multimodal facilities in the design and improvement of all appropriate transportation projects in North Carolina. Regarding cost share, the policy states that, <i>“Bicycle and pedestrian and public transportation facilities that appear in a state, regional or locally adopted transportation plan will be included as part of the proposed roadway project. NCDOT will fully fund the cost of designing, acquiring right of way, and constructing the identified facilities.”</i> The full policy, including exceptions to the policy, can be found here: <a href="https://connect.ncdot.gov/projects/Project-Management/Documents/CS%20Policy%20Update%20Memo%20Secretary%208.28.19.pdf">https://connect.ncdot.gov/projects/Project-Management/Documents/CS%20Policy%20Update%20Memo%20Secretary%208.28.19.pdf</a></p>
<b>Lillington Pedestrian Plan (2020)</b>	<p>This plan, developed by the Town of Lillington and NCDOT, makes recommendations for bicycle and pedestrian facilities and programs in Lillington. Lillington currently has 6.35 miles of existing sidewalks. This plan looks at how those can be improved through access, infrastructure updates, and extension so that residents and visitors can better utilize them. The plan features proposed routing for trail connections through Downtown, including connections over the Cape Fear River to the Harnett County Government Complex, and westward toward the proposed Raven Rock connection outlined in other plans listed above.</p>
<b>Campbell University Pollinator Meadows &amp; River Park (2020)</b>	<p>There is active, ongoing interest and support from Campbell University to establish a series of pollinator meadows, hiking trails, electric vehicle paths (for golf carts), camping areas, and a vehicle access network (for EMS and mobility-impaired individuals) on the University’s 325-acre abandoned ‘back-nine’ golf course at Keith Hills on the Cape Fear River. The project would be supported by a 2,500-plant nursery (under development) at Little River Eco Farm in Erwin.</p>
<b>The Great Trails State Plan (2020)</b>	<p>The Great Trails State Plan is being developed by NCDOT to identify a proposed network of shared-use paths connecting to every county in North Carolina. A key focus of the plan is to connect to state parks. The Lillington to Raven Rock connection could be a key component of the Great Trails State Plan within NCDOT Division 6, along with planned future connections for the East Coast Greenway Corridor heading north and south from the eastern side of Harnett County.</p>
<b>Other regional Transportation Plans and Municipal Plans</b>	<p>Plans from neighboring regions (like the Wake County Greenway Plan and the City of Fayetteville Bicycle Plan) and recommendations from other local plans (like the City of Dunn Bicycle Plan and the Lillington Comprehensive Transportation Plan) were also reviewed for potential connections.</p>





## KEY CONSIDERATIONS

### THE PROJECT STEERING COMMITTEE

The plan was guided by a Steering Committee representing a range of perspectives, and draws upon a large group of stakeholders for input throughout the process, including, but not limited to:

- Representatives from Harnett County Parks and Recreation, Planning Services, County Manager's Office, GIS, Community Relations, Health Department, School District, Economic Development, Planning Board, Parks and Rec Advisory Committee, and Board of Commissioners.
- Representatives from Angier, Coats, Dunn, Erwin, and Lillington
- The North Carolina Department of Transportation
- Regional planning agencies (CAMPO, FAMPO, and Mid Carolina RPO)
- Campbell University and Carolina Central Community College
- NC State Parks/Raven Rock State Park
- The East Coast Greenway Alliance
- Dunn Area Tourism Authority
- Harnett Health Foundation
- The Conservation Fund of North Carolina
- Local trail advocates, business leaders, and developers



**Existing Parks  
and Trails**



**Existing Plans  
and Programs**



**Committee and  
Public Input**

*This plan will combine and take into account these main inputs to develop recommendations for the countywide bicycle, pedestrian, and greenway system. Photo sources: Raven Rock State Park Facebook page, Dunn-Erwin Rail Trail Facebook page, and Alta Planning + Design.*



The Steering Committee members shared their perspectives, concerns, and ideas on the overall project, organized into the following key considerations:

## CREATING CONNECTIVITY

- This plan should connect the County’s municipalities, parks, public lands, and schools, providing links for transportation as well as recreation.
- Raven Rock State Park should be a key connection. Overcrowding has been a huge concern in 2020, with increased visitation since the COVID-19 pandemic began. A connector trail from Lillington could help spread bicyclists and pedestrians out of the park, and could provide a potential economic impact for Lillington from park and users.
- A trail south of the Cape Fear River through Raven Rock and continuing west could connect to the Deep River Endor trail which is planned to connect to downtown Sanford.
- The Cape Fear River needs to be highlighted in this plan, as a huge asset for Harnett County. Highlight access and trail connectivity options along the river to the extent possible. Clayton Riverwalk is a nearby river trail example.
  - Same with the Upper Little River, where access for two locations is underway; access to the Cape Fear may be more difficult to acquire.
  - More canoe in campsites along the river would benefit the county.
- Water and sewer lines should be explored for trail development, creating ‘fingers of connectivity’ to and through municipalities.
- Future trail connections were identified in the Capital Area MPO’s Southwest Area Study, between northern Harnett County and southern Wake County, potentially connecting to the American Tobacco Trail.
- Utilize rivers, creeks, and abandoned rail beds where possible. The White Oak Greenway is a good example of a well-designed suburban greenway along a riparian corridor. Lower elevation “wetland” areas will likely require elevated decking.
- Consider connections to bicycle and pedestrian projects that have been previously submitted through NCDOT’s project prioritization process as well (SPOT).
- Consider future connections to southwestern Harnett County and the All-American Trail, which is an existing unpaved shared use path along the southern and western border of Fort Bragg. If the All American Trail continued all the way around the base it would be a huge opportunity for connectivity to southwestern Harnett County neighborhoods.



## PARTNERSHIP OPPORTUNITIES

### ***Development Community:***

- Where possible, weave greenways into future development and connect to the greater trail system and adjacent destinations.
- The northern part of Harnett County has experienced a significant amount of new development. These developers have been seeing high demand for walking trails and nature trails and want to connect to part of a larger trail system. For example, in the Serenity development in northwestern Harnett County, trails are currently being designed and integrated into the layout.

### ***Conservation & Education Community:***

- Work with conservation organizations such as the Conservation Fund, Triangle Land Conservancy, and Three Rivers Land Trust. Protect environmentally sensitive lands where possible. Provide private landowner incentives and partner with local landowners to donate or purchase trail easements and conservation easements.
- Campbell University is a potential partner with their plan for Pollinator Meadows and River Park, which includes hiking trails between the university and the Cape Fear River.
- Organizations such as Sustainable Sandhills that support sustainable transportation in addition to broader focus areas (land use, energy, water, waste, and design) are important to engage and partner with when opportunities arise.

### ***The East Coast Greenway (ECG):***

- The ECG is a multi-state trail system running from Maine to Florida. The greenway is under development with approximately 33% complete.
- The ECG connects through eastern Harnett County with recently designated sections along the Dunn-Erwin Rail Trail and the connector to the Cape Fear River Trail Park.
- A feasibility study is needed to examine alignment options from the Cape Fear River Trail Park south to Fayetteville; the same is needed for connecting north of Dunn toward Smithfield. These sections could be accomplished through regional partnerships with neighboring counties and municipalities.



*The Dunn-Erwin Rail Trail is officially designated as part of the East Coast Greenway. Photo source: Dunn-Erwin Trail Facebook page.*



## RAIL-TRAIL OPPORTUNITIES

- Many rail-trail conversions in the U.S. utilize the railbanking process (including the Dunn-Erwin Rail Trail in Harnett County, which was federally railbanked in the early 2000's): <https://www.railstotrails.org/build-trails/trail-building-toolbox/acquisition/railbanking/>
- The section of the Norfolk Southern rail line from Fuquay-Varina through the northwest corner of Harnett County (NS branch that connects into Chatham County) is currently listed as 'inactive'. Outreach to Norfolk Southern and Fuquay-Varina should be conducted to explore this rail-with-trail or rail-to-trail opportunity.
- Rail-with-trail opportunities (trails within active railroad corridor right-of-way) are less common, but are sometimes viable as long as the railroad owner is amenable to trail. There are few examples in NC, but one of them is just south of Harnett County, along the Cape Fear River Trail. The Cape Fear River Trail utilizes the right-of-way of an active class 1 Norfolk Southern line, and required a large effort by City of Fayetteville to implement.
- There is opportunity for part of the Lillington to Raven Rock State Park trail could be made along the former "Becker spur" railroad corridor, where the County acquired the railroad easement.
- There is less opportunity in the abandoned rail corridor from Angier and Coats to the Dunn-Erwin Rail Trail (along NC 55), since most of the former corridor has reverted to adjacent property owners.
- The abandoned rail corridor along NC 87 and NC 24 in southwestern Harnett County could be explored for future trail opportunities.
- Rails to Trails Conservancy's "America's Rails-with-Trails" resource book is a helpful resource for these types of projects (created in 2013, with an update to be released in 2021): <https://www.railstotrails.org/resource-library/resources/americas-rails-with-trails/>

## TRAIL TYPES, TRAIL USERS, *and* GETTING SHOVEL-READY

- Consider a diversity of trail types and users, including equestrians where possible. A good example is the trail system around Johnson Park in Raleigh, which has an assortment of paved and unpaved trails.
- Plan for both recreation and transportation purposes, taking advantage of the natural amenities in Harnett County (Cape Fear River, parks, etc.) while enabling large segments of the population to reach them safely from population centers.
- Get this plan in place, narrow down top priorities, and focus on getting them shovel ready.



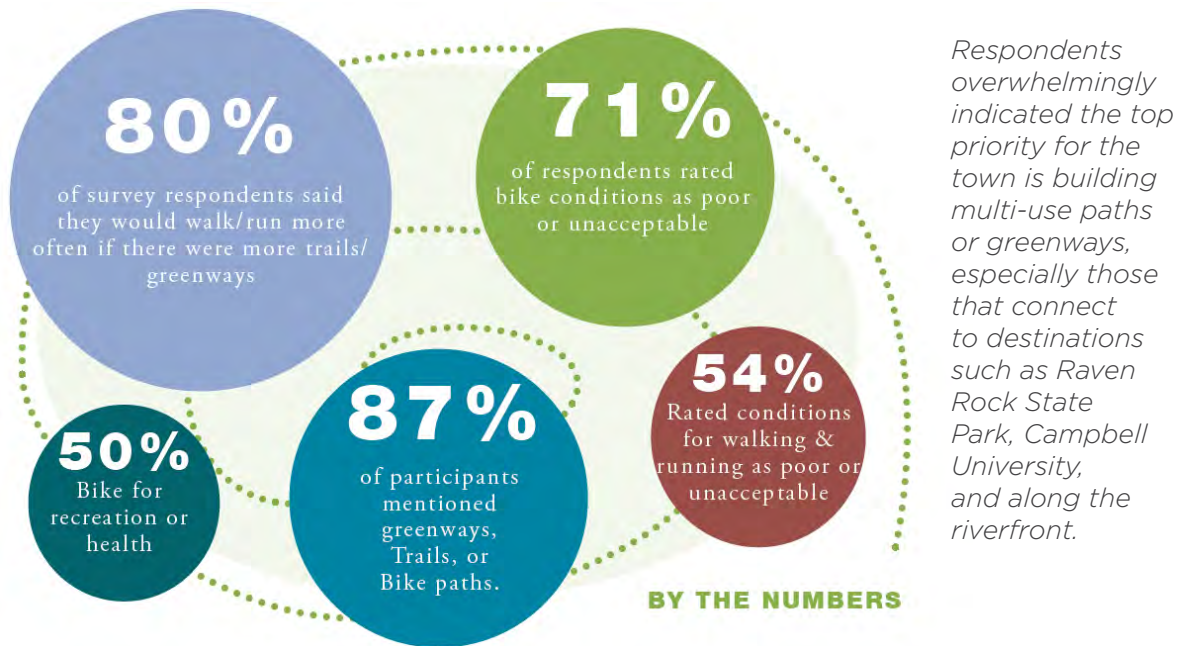


## PUBLIC INPUT

### PUBLIC FEEDBACK HIGHLIGHTS FROM RECENT PLANS

The public input results below highlight some of the feedback collected during past planning processes.

Lillington Pedestrian Plan survey (2019/2020): Residents were surveyed on ways to improve the walking and bicycling environment in Lillington.



The Sandhills Regional Bicycle Plan survey (2017/2018): 440+ respondents from the Sandhills Region, including Harnett County.



**77%**  
77% of respondents said that greenways and separated bike lanes would encourage them to bike more often.



### THE TOP THREE DESTINATIONS

The top three destinations that are most important to connect with bikeways are:

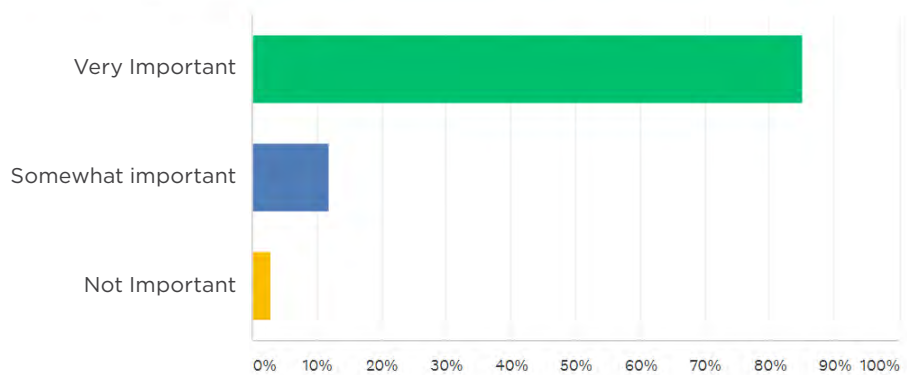
1. Parks within cities and towns
2. Trails or greenways
3. State parks and natural areas



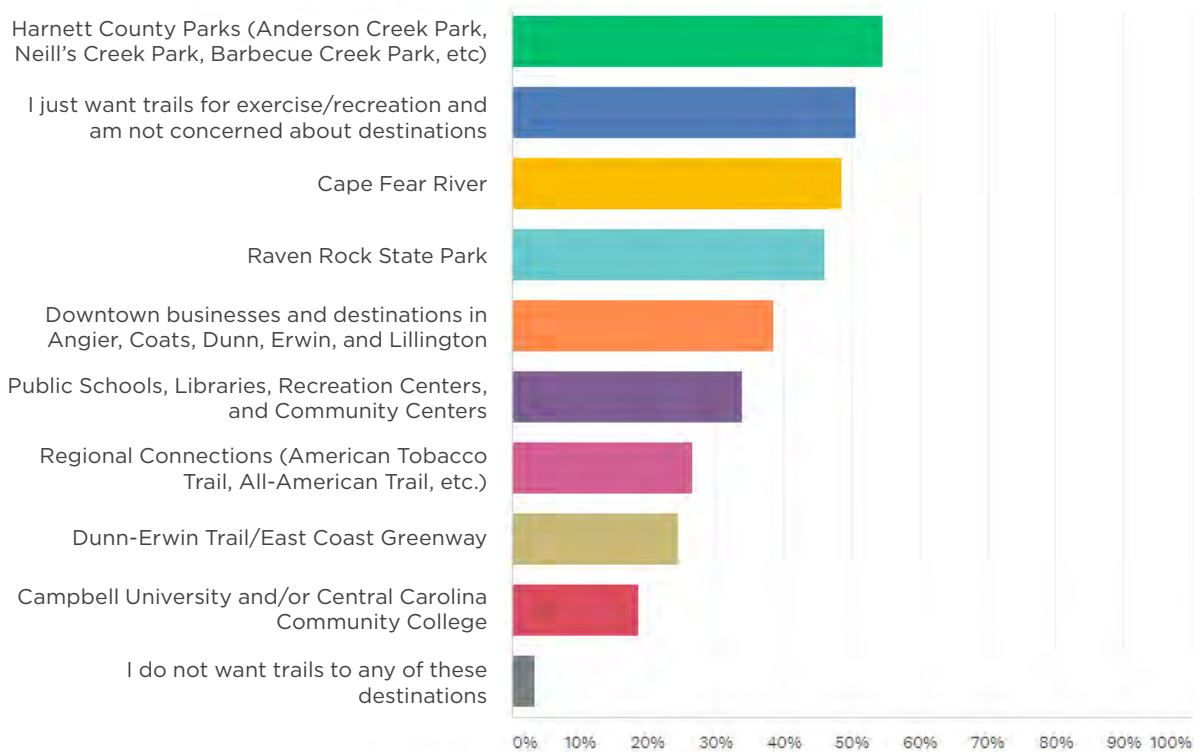
## 2020 PUBLIC SURVEY RESULTS AND WEBINARS

The public input results below are from this plan's public survey, which ran through Summer 2020, with more than 850 respondents. Two virtual workshops were also held in October 2020 with a total of over 50 participants.

How important to you is the goal of creating more opportunities for walking, bicycling, and trails in Harnett County? Select one.

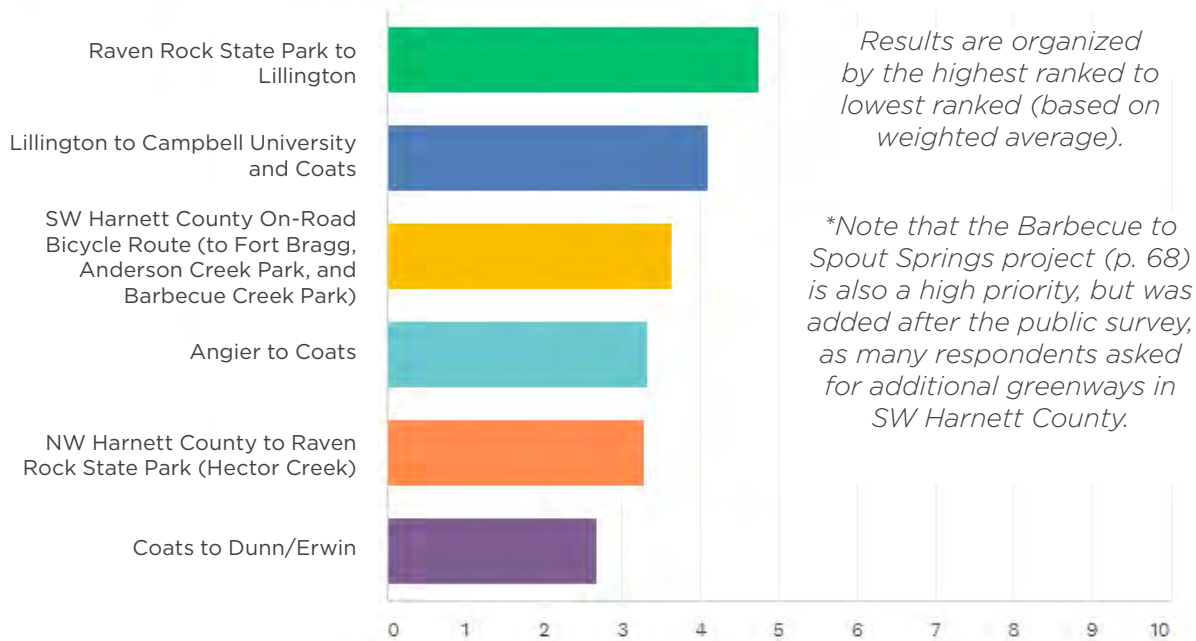


What destinations would you most like to get to by walking, bicycling, and greenway trails? Select all that apply.

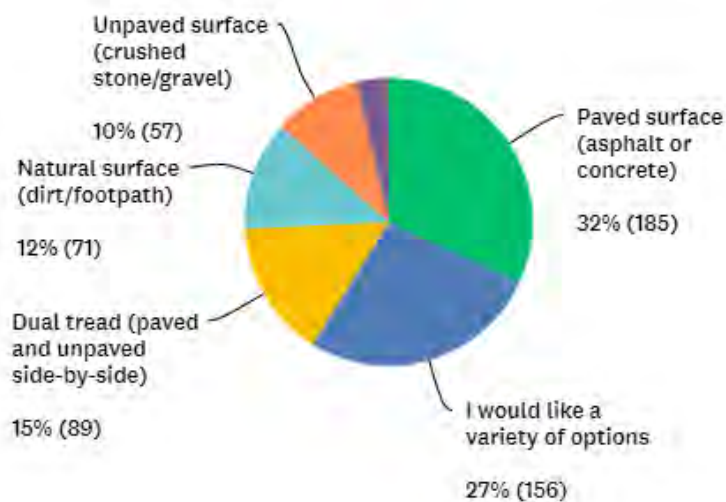




Please rank the following potential future trail connections, in terms of priority (these were recommended in other recent County and regional plans).



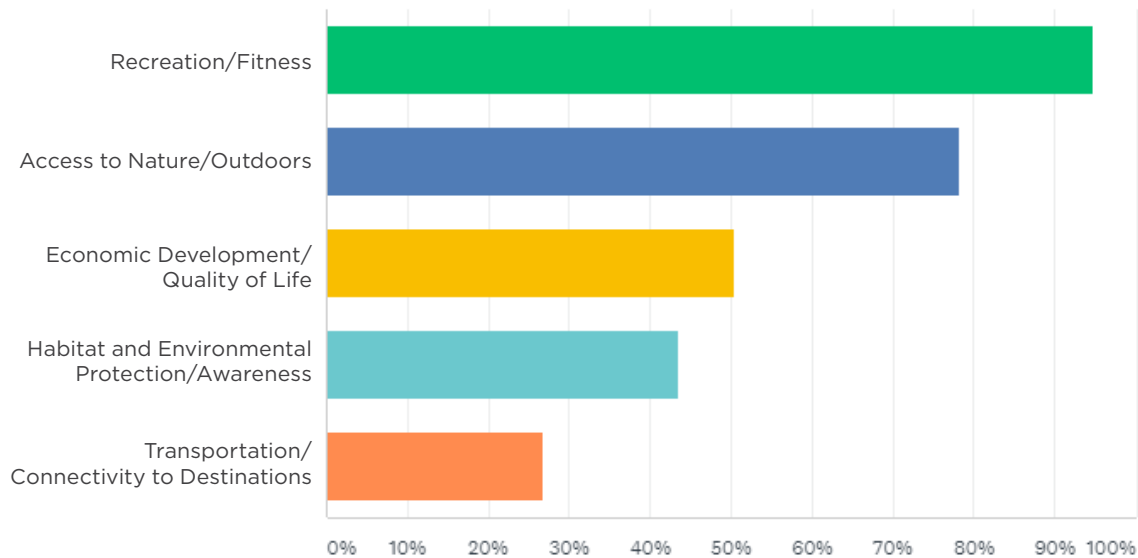
What type of trail surface do you prefer?







What are the most important benefits and uses of greenway trails? Select all that apply.



### EXAMPLE QUOTES FROM THE 2020 PUBLIC SURVEY

I think the important thing is to get one or two trails established quickly. They don't need to be fancy at first, as time goes on upgrades can be made as more money becomes available. Don't think we need to have a trail completely finished before it's opened to the public. Things like water fountains, benches or restrooms can be added later.

Very excited for Harnett County to complete the greenway master plan and start to construct new trails.

I would like to see this done all across the county ... not just one area.

This would be great for our county. The positive economic impact of making areas more accessible for walking and cycling is enormous. Countless areas across this country have already seen that to be the case and their populations have seen improvement in standard of living.

I grew up in Dunn and one of the best things that happened was the creation of a few trails there. My mother was able to get out and walk safely in the town even in her 70s. My hope is that all communities, especially those rural ones, understand the importance of trails for a variety of reasons.

*See the full table of all 100+ open-ended comments and ideas submitted by the public on the following pages.*



## ARE THERE OTHER SPECIFIC LOCATIONS WITHIN HARNETT COUNTY (AND ITS MUNICIPALITIES) THAT YOU BELIEVE WOULD BE IDEAL FOR NEW GREENWAY TRAILS? PLEASE BE AS SPECIFIC AS POSSIBLE.

Responses to this question clearly displayed a desire to add a proposed greenway in the southwestern part of Harnett County. These are generally grouped by area of the county in which the comment references.

Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible.	
1	There has been talk of a mountain bike trail at Anderson Creek park but I have not seen anything actually happen with that. Anything that would extend the East Coast greenway would be amazing.
2	Something in the Anderson Creek area.
3	In the Anderson Creek area near Ray Road and 210. In the open and not isolated. Where people can feel safe.
4	trail from highland to western harnett schools would be great, if practical.
5	The Highland Elementary/Middle school and WHHS District area.
6	Johnsonville area proposed Patriot Park to Anderson Creek Park or Fort Bragg.
7	There's got to be more options for walking trails in the southern and western parts of the county!
8	Carolina Lakes
9	Behind Sprout Springs church
10	Carolina Lakes
11	Would appreciate something near Buffalo Lakes Rd. Specifically joining Carolina Lakes Subdivision.
12	Carolina lakes community must be included! We are a community of 2,000 homes
13	Carolina lakes
14	Carolina Lakes
15	Buffalo Lake area
16	Western Harnett would be a great place to add more trails. Would be highly used by the large military community in the area.
17	Overhills Rd from Elliott Bridge Rd to Ray Rd
18	Carolina lakes area that is always forgotten about
19	Maybe one to a new High School in the SW side of the county?
20	Absolutely near carolina lakes please
21	Benhaven, Highland, Buffalo Lakes area
22	Spout Springs area, from Buffalo lakes road towards Cameron/Spring Lake. Carolina Lakes community is a beautiful area for Greenway Trails, that would be use constantly.
23	Carolina lakes in western harnett
24	From neighborhoods to schools (ie along Alpine Dr and Buffalo Lake Rd to Highland Schools, along 27 to Western Harnett Schools, etc)
25	Carolina Lakes areas to other outside trails and bike paths
26	The Carolina Lakes area
27	Near Cameron/ Sanford
28	Carolina Seasons on Ponderosa Trail, Cameron, NC
29	Cameron, Carolina Lakes
30	There's a huge parcel of land right across from Highland Middle and highland elementary. Eight by buffalo lake too. So it would be very nice.
31	Buffalo Lake Road & Hwy 24/27
32	Near Anderson Creek area or 87



**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible. (continued)**

33	Between Anderson Creek and Barbeque Creek
34	Carolina Lakes to Raven Rock
35	Buffalo lakes Rd
36	Housing communities on buffalo lakes road in southwest harnett county
37	SW Harnett
38	Harnett co industrial park By benhaven school area
39	All the schoolers that are far from any city attending schools such as Highland and Benhaven could benefit highly from this trail.
40	western harnett. We have space just need something on this side due to the expansion of the communities
41	I would love to see a park or trail in the spout springs (carolina lakes) area we really don't have anything close by.
42	The south west corner
43	Buffalo lake Road
44	Down 87 from Cameron to fort bragg
45	Carolina lakes/Cameron down to spring lake/fort bragg. It would allow many members to bike to work, reducing the numbers of cars on 87 daily
46	Southwest Harnett County for a hiking biking path to Bragg.
47	Please put something in southern Harnett County, we don't have any parks.
48	Patriots Park
49	Highland elementary
50	Buffalo lake road
51	Buffalo Lake Road. There are several subdivisions and a few shopping areas and schools, but you can't safely walk to any of them.
52	Spout springs buffalo lakes area
53	Spout Springs
54	Buffalo Lake Rd. would be a perfect space
55	The area around Buffalo Lake Rd. There are soooo many neighborhoods that could be connected by sidewalks/trails that could also lead to the Highland schools.
56	Barbecue Church/Buffalo Lake Road Area/Highway 87 area. We have nothing here especially with the highly concentrated population
57	Buffalo Lake Rd between HWY 87 and HWY 24
58	buffalo lake road.
59	See above, Western Harnett county. Alpine/ Tingen to Buffalo lake. Specifically to Highland elementary and middle. I'd also love to see a park near by as well.
60	Western Harnett area
61	South western Harnett County could use some love! We don't have any parks right near us and we have to go about 15-20 minutes to anderson creek park to hike. Thanks for doing this, it's an awesome idea!
62	Alpine Rd. Buffalo Lake Rd to Tingen. Buffalo Lake Food Lion to Highland Schools.
63	Around Highland Elementary School to Crestview Subdivision.
64	Carolina lakes road area.
65	No priorities listed in #3 for western harnett? Buffalo lake rd. Areas from anderson creek to overhills
66	Far western Harnett County. I feel as though Harnett County never considers the far west area and Johnsonville area!
67	Highway 87 near the new shopping centers and Linden Oaks, the YMCA and other amenities in this area. There are a lot of people who also walk along side the highway and could use this greenway to safely travel to work. This area has been building at a rapid pace but infrastructure is lacking. The military has brought a lot of people to this area and I believe that they are deserving of this.
68	HWY 87-24, to cavers creek area. All. We live in a sub division and across the subdivision is a small shopping plaza with eating and dance classes for kids yet we can't safely cross the street. Their is no pedestrian crossing. Or sidewalks to go in any directions out of Northridge plantation or other neighboring subdivision.
69	Spring Lake or Sanford





**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails?  
Please be as specific as possible. (continued)**

70	Don't forget Western Harnett- to Lillington
71	Western Harnett County please
72	Western Harnett County!!!
73	Anderson Creek Park connected to Lemuel Black then Lemuel Back connected to nursery road and also out to 210. Then one could make a huge loop from anywhere on these roads. Always see lots of people running/walking trails at Anderson Creek but just not enough mileage so we run out onto the road to get more distance. Scary traffic at times.
74	A connection from Anderson Creek Park to Fort Bragg area to other trails (Raven Rock, trails in Spring Lake, Lillington, up to NC State/ Raleigh)
75	Anderson Creek area to Lillington
76	Near Overhills/Buffalo Lakes Road, 87 Linden Oaks
77	By the new YMCA area
78	Cameron/Near YMCA
79	Spout Springs area
80	Trails close to the Linden Oaks, Richmond Park and Lexington Plantation communities would be great. It would provide places to run, walk and ride bikes. There are areas like that now in the area.
81	87, buffalo lakes rd, 24/27 There are a lot of military around this area that love outdoor activities.
82	The Anderson Creek area- closer to Ray Rd - new sidewalks are nice but it would be nice to also have a more centrally located and lit place to exercise.
83	The side of Nursery road leading to Anderson Creek Park. Coming from Forest Oaks and Woodshire, there is a nice spot for a trail running along Nursery.
84	In the woodline going from Buffalo Lake Road area to Fort Bragg. A join operation between Bragg and Harnett to increase Physical Training areas and foot traffic to local businesses.
85	Alpine and tingen road and buffalo lake road
86	The nursery area has no sidewalks or parks that are really accessible. This would really improve the enjoyment of the area and less people causing problems trying to ride on the roads
87	Connections between schools on the west side would be neat (at least for middle/high school. I'd love to be able to go between Western Harnett, Highland, and Overhills.
88	Continue to develop Anderson Creek Park.
89	Anderson Creek Park to barbecue creek park
90	Along Hwy 27 to Dollar General at Hwy 24 and along Ponderosa to Patriot Park
91	Spout Springs to Raven Rock corridor
92	Historic Barbecue Presbyterrian Church to Cameron Hill Presbyterrian Church (Historic) to Overhills.
93	Literally anything in Western Harnett
94	Carolina Lakes neighborhood to and around schools
95	Fort Bragg near the Walmart to spring lake/Fayetteville
96	Somewhere on 87
97	OLD HISTORIC RAILROAD BED THE TRAVELS HWY 87 OR MAYBE THE OLD SOUTH PLANK ROAD TO CAMERON
98	Yes. Use the old rail line from Fv to Moncure or southern Wake , connect to the ATT.this area is exploding and land will be gone it is not bought soon.
99	Connecting the proposed Sanford greenway with a Harnett county loop.
100	The new potential Patriot park
101	parallel to NC 87 or NC 27
102	A trail to extend further west to service the communities around HWY 87 that has seen substantial growth in the past several years.
103	Between Overhills Creek Subdivison, Country Squire and Overhills Elementary.
104	Anderson creek park area to accommodate Carolina lakes and Anderson creek residents



**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible. (continued)**

105	I live by Buffalo Lakes Road, and I wish that area had...sidewalks at least. Something to make the area runnable. The school kids want to walk and run there but it's just plain dangerous. There's nothing in that area that is safe for exercising.
106	A connection between Spout Springs and Anderson Creek that could tie into the SW Harnett County trails proposed.
107	Ray Road Nursery Road NC 270 Overhills Road
108	Spout Springs, Carolina Lakes, Linden Oaks to Pope/Fort Bragg.
109	A trail to the new YMCA
110	Western part of the county/ Barbecue, Spout Springs area
111	At the end of Caldwell st on Overhills creek there is an area that may work but it connects with a neighborhood. Maybe close the side of the neighborhood and open a new entrance
112	Carolina lakes/ buffalo lakes
113	Buffalo lake road
114	Buffalo Lakes Road, 24/27, 87
115	The Johnsonville area.
116	Western Harnett, Johnsonville, over to Buffalo Lake Rd. to Barbecue Creek, to Anderson Creek and from Barbecue Creek over to Raven Rock then over to Lillington.
117	Cameron Carolina lakes area
118	Buffalo lake road to Anderson creek park or barbecue creek park
119	Don't know specific locations available, but would love more biking and walking trails in Western Harnett County.
120	I live in the Carolina Lakes community off of Buffalo Lake road. Because of the military, lots of residents filter through and are always asking where to find the nearest biking, hiking, and walking trails. I think if a greenway were here, it would've heavily trafficked.
121	Can we get something out here in Western Harnett?
122	Ray Road to Fort Bragg
123	Buffalo Lake Road area to Highland Schools to Barbecue Creek Park. A lot of people utilize Buffalo Lake Road for running. A greenway Trail would make this activity a lot safer for citizens in this area.
124	I am also from Europe where we walk a lot more than we are able to in the standard suburban neighborhoods of Harnett County. Many of my fellow friends and country people have shared they would like more opportunities to walk to places around common and more populated areas such as the Buffalo Lake area.
125	Spout Springs area in Western Harnett
126	WESTERN HARNETT! CAMERON/SPOUT SPRINGS
127	Some waterways in western Harnett that would be good to have accessible for recreation.
128	Spring lake
129	It would be nice to have something in the western part of the county - Cameron/Sanford/Broadway/Spring Lake area. These areas often seem disconnected from the rest of the county.
130	yes I have thought for years that the old rail line running from Swan Station, Olivia, Pineview, Johnsonville then Linden Oaks. The railroad bed is there and there is history along the way
131	Sanford Cameron carthage
132	To Sanford
133	Cameron, by the foodlion and Walmart on 87
134	Cameron area
135	It would be great to connect Angier to Lillington. Not sure how that would be possible or where would be appropriate for a greenway trail, but it would be great to connect the two towns especially with Angier having Jack Marley park,
136	Erwin to Lillington, Lillington to Harnett Central
137	If not greenways, sidewalks to Harnett central schools down neils creek rd.
138	Angier to Lillington Lillington to Fuquay Varina
139	Angier to Raven Rock and Angier to Fuquay-Varina, connecting to Wake County Greenways
140	Lillington to Bunnlevel



**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails?  
Please be as specific as possible. (continued)**

141	Bunnlevel
142	A collaborations with neighboring counties to try and connect some of the already local existing trail.
143	Wake county to harnett county
144	Old Benhaven school & Boone Trail school areas.
145	Old Boone Trail Elementary School site
146	Boone Trail region
147	Carolina lakes/ buffalo lakes
148	Wake (holly springs-Fuquay)
149	More in the Boone Trail area please.
150	The Boone Trail Community Center has land perfect for new bike trails, please use it!
151	A trail could be placed along the rails which run along 401 from Lillington to Fuquay.
152	North Harnett county along 401 from lillington to Fuquay
153	It would be nice to have something near Ballard Woods subdivision off of Ballard Road that goes East toward Harnett Central High School and 210 and/or goes West toward Hector Creek and Raven Rock Park
154	Any off 401 near lillington and going to fuquay
155	Angier to Lillington, which gives people all along Hwy 210 access.
156	Trails near Jack Marley Park or northern Harnett
157	I believe Angier has a great need for this with Jack Marley park to connect to the downtown area and library
158	Lillington to Angier, or buies creek, coats, or any variation of all
159	Lillington to Angier
160	Along 401 from Lillington to Fuquay
161	A link from Angier through to the American tobacco trail
162	Fuquay area of Harnett County. A creek trail would be wonderful.
163	North harnett to south wake
164	DT Angier to DT Lillington
165	Lillington to Angier in order to enjoy parks, businesses and festivals there without having to go all the way to costs first
166	Would love a River trail from the park in Erwin to Lillington on either side of the river.
167	Cape Fear River
168	Anywhere along the river, it nice to view wildlife and hear the water on greenway in Raleigh and Mt. Airy.
169	Access to enjoy the River should be a priority.
170	Anywhere along the Cape Fear and definitely a Greenway safely connecting Harnett County to Fort Bragg.
171	down the river would be great
172	Cape fear
173	I think the areas along the Cape Fear can be developed for walk/run/bike paths.
174	Erwin/Cape Fear River
175	Along the Cape Fear River
176	Greenway beside cape fear river!
177	Cape Fear River trail from Lillington to Erwin
178	A connection from Anderson creek park to cape fear river trail would be nice too.
179	Erwin to Averysboro Battlefield.
180	A potential connector from Averagesboro Battlefield to Bentonville Battlefield, which is along the Mountains to Sea Trail.
181	Along the river from Lillington to Erwin.
182	Lillington to Erwin along the Cape Fear River





**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible. (continued)**

183	Cape Fear River (Similar to Neuse River Trail) with connections to other trails in the future.
184	Anywhere on the cape fear river
185	A route along the Cape Fear, simliar to the Neuse River Greenway, would be super.
186	River trails would be great
187	A greenway along the Cape Fear River near downtown Lillington.
188	Greenway along cape fear river that eventually connects to American tobacco trail, and links with Cape Fear river trail by Methodist.
189	If right-of-way could be established, a hiking/mountain bike trail along the Cape Fear would be fantastic. You could have a pretty nice adventure race (paddle, run, bike) similar to the Captain Thurmond's Challenge in Fayetteville, West Virginia with such a setup.
190	I think it would be ideal if you can build paths that walk along right next to the cape fear river
191	Kipling to Lillington to Angier
192	The old rail bed between Angier and the north. There is tremendous growth north of Angier and the old rail bed where the tracks have been pulled up would be ideal for connecting our northern town neighbors to downtown Angier. This trail could also be connected in Angier to the the trail from Angier to Coats.
193	Lillington/NW Harnett to Angier is the only other connections I could see.
194	I would like to have a greenway trail from the beginning of Mcdougald Road to Lillington. This area of the county appears to not be represented well in the proposed Plan.
195	Angier to Lillington trail
196	Pathway along 210 from Angier to Lillington shopping.
197	fuquay to lillington along the existing sewer lines which are cleared and graded ready for improvement for ped/bike/equestrian travel .
198	Somewhere near Angier.
199	Harnett Central High school area
200	Adjacent to Old Stage Rd
201	Why nothing between Angier and lillington
202	Angier to FV Angier to Buies Creek A connection to the Co's NW area park (oakridge river rd) connection/ access to the parks & schools @ Hwy 210 & Harnett Central Rd
203	Angier to Lillington as a connector to a potential Lillington to Raven Rock / Campbell trail.
204	At the bottom of the hill on Harnett Central Road between Harnett Central and Kipling, there is a dirt road that goes for miles. It roughly follows Neills Creek. From Google maps, it appears this small clearing goes south all the way back to Lillington and north toward Fuquay. It seems that this clearing is a sewage line or some other line and would be a very easy and cheap place to put a greenway as is done in many other cities.
205	Connectins to Wake county trails.
206	New subdivision off Rawls Church Rd, possibly connecting to Fuquay trails
207	Area behind the Lillington ball fields along the river
208	Lillington, along the cape fear river with parking near the bridge
209	I think a side walk or a trail going down the old highway 421 down Old Road into town would be great. I see so many people walking (they probably don't own vehicles) and this is dangerous.
210	Town of Lillington
211	Within and around Lillington. The intersection of so many major thoroughfares makes it dangerous to walk, let alone bicycle or take children out to bicycle or skate. The cvs intersection and the McDonald's intersection can be deadly to pedestrians or anyone on a bicycle.
212	shawtown community
213	Is there any way to put one from Lillington down 27? People walk down this road all the time and it's not safe for them.
214	Downtown area, SW Lillington
215	Maybe something in the shawtown area except that boys and girl club t hat doesnt benefit those citizen per say
216	401 into Lillington
217	I think, a greenway at least from Lillington, along Cape Fear River to Ravenrock would be great



**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible. (continued)**

218	Raven rock to Lillington. It makes the most sense because it has the highest tourism in the county. It is also the center of the county and is the county seat. Lillington has many outdoor activities and this would be another wonderful activity to add to the list. Raven Rock, Cape Fear Adventures, and a Greenway. Lillington is a perfect choice!
219	A bike-ped bridge over the Cape Fear River to connect the 2 sides of Raven Rock State Park.
220	1) From the Campbell University trail to Erwin along the Cape Fear 2) tie Hector Creek to Angier
221	Hectors Creek to Raven Rock
222	Somewhere in the area between Kipling and Cokesbury would be nice!
223	I'd like trails in the woods off of Ballard Road and 401...local places to walk that I don't have to drive a half hour to
224	Connecting Hector's creek to the colonial pipeline and trails in HollySprings/ Apex would create more possibility of the Cape Fear river and Lillington as a weekend destination.
225	Connecting Hectors Creek to Angier
226	No! Stop wasting money on stuff like this. We don't want to become another Wake county.
227	CARVERS CREEK STATE PARK
228	Any area around Campbell University/Buies Creek; the new library being built in Lillington
229	Attached to any sewer or powerline easements to create a large hub (Lillington and Campbell) and spoke type pathway system.
230	Cape Fear River Trail to Campbell-Lillington
231	Buies Creek, Keith Hills, Campbell, and Lillington to Erwin
232	CU to Erwin to connect to Dunn & Cape Fear River Park. Maybe eventually add trail from park to Lillington going up other side of river area.
233	Campbell to Keith Hills
234	Campbell to Keith Hills
235	I would love to be able to have a bike trail parallel to Highway 421 to be able to ride safely straight from Erwin to Campbell University.
236	Erwin to Campbell University/Buies Creek
237	NC-27 and Leslie Campbell Avenue leading toward and away from Campbell.
238	Coats is the only place I know of that doesn't have a trail or park. Angier has a park and trail dunn has one erwin has one but nothing in coats at all
239	I think the Angier to Coats connection is increasingly important due to the continuous residential development between the two towns.
240	I think it'd be a better idea to just widen the roads for cars. That would be money better spent because the amount of people who'd be using these 'greenways' would be minimal unless someone's getting a payoff. Don't feel anything > you know human nature ...
241	It would be great to extend the Dunn Erwin Trail.
242	Don't waste our tax dollars on this needless cause.
243	None. It's a waste of taxpayers money. Many other priorities are far more important than this. If it is needed let it be a private venture and see how many folks are willing to pay for its creation and continued maintenance.
244	Christian light road near the horse trails for raven rock would be a great area to look into. You could also look into the side roads of lillington near the regional water/utilities areA in that area leading down towards the cape fear river.
245	Off of Cokesbury Road, there is a large plot of vacant (forested) land between Shooting Star Lane and River Road that backs to the Cape Fear River and Raven Rock State Park. It would also be great to have a trail running parallel to the Cape Fear River, similar to the Neuse River trail.
246	Dunn to Erwin
247	Dunn Schools!
248	I find them already marked here
249	Greenways and walk ways to all schools and communities they serve. Also to shopping centers to allow the use of bikes for shopping.
250	More forest trails,
256	Keep it central to Harnett County so more people can utilize it. Having this on one side of the county will only be beneficial to communities in that area. Having something more centralized will benefit more of the county.



**Are there other specific locations within Harnett County (and its municipalities) that you believe would be ideal for new greenway trails? Please be as specific as possible. (continued)**

257	Junney road
258	Bike lanes in the town of Dunn, Coats, Anger, and Lillington.
259	Maybe making it a loop rather making it a trail. Make it a loop that connects all regions and people can enjoy it anywhere they live.
260	There are so many open spaces in and around unincorporated Angier, along northern Harnett County. Too many developments are going up here, and it's really sad.
261	Near public community services such as libraries. They could offer story walk programs.
262	To connect the major towns and cities
263	Please look into building a pump track. Velosolutions build these courses for all ages and skill levels. We travel hundreds of miles just to ride these parks. Only courses I'm aware of in North Carolina are George poston park in Gaston county and the city of Carrboro has one at the MLK park. Thanks
264	No, just looking forward to having more trail options.
265	Just making our roads more cyclist friendly. On a separate note, enforcing laws to keep cyclist safe from dogs and angry drivers. I find most drivers are very courteous, however I have been run off the road before. Additionally been chased by over 15 dogs on different occasions. My bike has been pushed and I have had my shoe bit, both on highway 27.
266	Any new greenway trails are for the best for the County!! Anytime we can keep the farms and few space and be able to walk to them or by them is a win for all!
267	Anywhere a trail can be placed that continues for several miles without a highway crossing.
268	I cannot think of any specifically, but the more the merrier
269	Anywhere!
270	We are so new to the area to make these suggestions but we are excited to explore this beautiful county!
271	Stop trying to make our county "Wake"
272	No more for western Harnett, West of Hwy 87!
273	I think the top priority should be Coats to Dunn/Erwin since there is already a connection from Dunn to Erwin. If you do that connection first then you have connected three towns together. Build on the existing connections.
274	Yes, hiking and cross country trails at the new schools built in our county. Nothing until we get new schools!!!
275	You have a beautiful sidewalk on ray road that isn't maintained.
276	Wood-shire and Forrest Oak would Benefit from a walking trail it's right behind the a State park. Thank you ☺
277	I live on River Road... off Christian Light.... my fingers are crossed that someone near this area for sure.
278	Please benches/rest areas along the routes. Coats lacks a park accessible by walking from most of its residents, a greenway could open up that possibility for downtown residents.



## CHAPTER 2: HEALTH AND ECONOMIC IMPACT

### HEALTH *and* ECONOMIC IMPACTS

A complete Harnett County greenway system will provide residents and visitors a fun and healthy way to explore parks, natural areas, historic sites, shopping, and other regional destinations. It will also serve as an active transportation system, providing a safe connection for travel between home, work, and play. When the trail system is completed, residents in Harnett County will experience improvements in their quality of life, including transportation, health, and economic benefits.

The pages that follow highlight health and economic impacts and benefits observed in multiple studies for existing trail systems in Virginia, South Carolina, and Georgia. Harnett County could expect similar results once a connected, regional system of trails is implemented, benefiting further from large nearby populations in Raleigh and Fayetteville, that could help boost trail-related tourism and spending.

*See Appendix B for more on the economic, health, and environmental benefits of bicycle, pedestrian, and trail facilities.*





*The Virginia Creeper Trail. Photo source: Alta Planning + Design.*

## 2020 TRAIL COUNTS IN NC

Trail counts across the country were at all-time highs in 2020, largely due to the impact of COVID-19 and the changes in lifestyle during the pandemic. This could be for a number of reasons. Many gyms have been closed for a large portion of the year, forcing people to find new ways to exercise. Many people are telecommuting, meaning they have more time in the day to use trails. Options for long-distance vacationing and entertainment generally are limited, making people look for closer-to-home activities that still allow them to get out of the house. Whatever the reason, the data is clear: Trail use is at an all-time high, and the associated benefits of trails stand to rise with increased trail use. As people form new habits, and as they invest in bicycles and gear associated with hiking, biking, and water trails, the increase in trail use may be sustained well after the pandemic.





## CASE STUDY:

# VIRGINIA CREEPER TRAIL

**RELEVANCE TO HARNETT COUNTY:** Rural character and economic impact for small towns

**LENGTH:** 34 mi

**LOCATION:** Connects Abington to Whitetop, Virginia

**TYPE:** Rail to Trail

**CHARACTERISTICS:** unpaved, boardwalks/bridges

**DATE ESTABLISHED:** 1977

**OWNER:** USDA Forest Service, City of Abington, Town of Damascus



## BACKGROUND

The first idea for converting the abandoned rail line into a trail is traced back to 1977. The community was initially opposed and wanted the right-of-way to be given to local landowners. However, the USDA Forest Service purchased most of the corridor before opposition could move any further. The remainder of the corridor, connecting the Town of Damascus to the City of Abington, was purchased by these municipalities. The southern portion of the trail, owned by the USDA Forest Service, runs through Jefferson National Forest, and is managed by the Mount Rodgers National Recreation Area staff.







The Virginia Creeper Trail generates about **\$1.6 million** per year in direct expenditures.

*“Damascus is a little mill town that was saved by the trail,”* states Wayne Miller, president of the Virginia Creeper Trail Club. *“It was on its last legs. The old industries were shutting down. Now it supports eight bike shops that service the trail.”*

There is a large portion of local trail users that frequently visit the trail. It was calculated that approximately half of local users are considered avid, visiting the trail an average of over 200 times per year. The average time spent on the trail was 2.2 hours with an average distance of 12.9 miles traveled. Biking is the most common activity along the trail, averaging 56% of all trips. Walking is the next most common with 33%, and the remaining 12% includes jogging, camping, nature viewing, horse riding, and fishing.

Over 80% of trail users feel they receive a high amount of health, fitness, and nature viewing benefits from the trail. In an “other” category, 67% of trail users expressed that they receive high benefits from using the trail for relaxation and/or fishing. The trail can also be used as a social experience for its users. The average size group on the trail is about 3 people, with groups of less than 4 people making up 88% of trips. The remaining 12% represent groups of 5 to 50 people.

#### WEB SOURCES:

[www.visitdamascus.org/wp-content/uploads/2016/06/Final-Report\\_Impact-of-Trails\\_Fall2011Studio\\_VT.pdf](http://www.visitdamascus.org/wp-content/uploads/2016/06/Final-Report_Impact-of-Trails_Fall2011Studio_VT.pdf)

[ecocitiesemerging.org/virginia-creeper-trail-saved-tiny-mill-town/](http://ecocitiesemerging.org/virginia-creeper-trail-saved-tiny-mill-town/)

[www.dcr.virginia.gov/recreational-planning/document/userdems-vct.pdf](http://www.dcr.virginia.gov/recreational-planning/document/userdems-vct.pdf)

[vacreepertrail.com/history/vacreeperhistory.htm](http://vacreepertrail.com/history/vacreeperhistory.htm)

#### PHOTO SOURCES:

<https://www.flickr.com/photos/railstotrails/8703950057/>  
[arietelouise.com/2019/03/30/silver-comet-trail-day-2/](https://www.flickr.com/photos/arietelouise.com/2019/03/30/silver-comet-trail-day-2/)

<https://shewearsmanyhats.com/the-virginia-creeper-trail/>

## BENEFITS SUMMARY

A study of the trail’s economic benefits was conducted in 2004. The average distance travelled for non-local users was 260 miles. Of the trips surveyed, close to 15% of them were multi-day trail users. These users are estimated to spend about 4 times more money than that of a day-trip trail user. The study concluded that the trail generates about \$1.6 million per year in direct expenditures. A report in 2007 quantified that this amount of money supports 27 jobs and \$610,000 in earnings. Considering that the total population of residents around the trail is less than 10,000 people, this money contributes to a large portion of the local economy.

The town of Damascus has seen huge benefits from the introduction of the Virginia Creeper Trail. A local business owner remarked, *“There is not a business in the community that is not impacted by the trail users. Although some do not cater to the tourist/trail user directly, they all cater to the owners and employees of the tourist/trail user business, all of whom would not be living in the community if not for the trail.”* A survey given through a 2011 economic study of the trail quantities that 61% of business’ incomes are generated by the trail, with some businesses projecting up to 79%. Of these latter businesses that were surveyed, it is estimated that they generated about \$98,000 of lodging and meal taxes in 2010.



# CASE STUDY: PH SWAMP RABBIT TRAIL

**RELEVANCE TO HARNETT COUNTY:** Rural county (Greenville County, SC) experiencing growth pressure from nearby city (City of Greenville, SC)

**LENGTH:** 22 mi

**LOCATION:** Connects Travelers Rest to City of Greenville, SC

**TYPE:** River Corridor and Rail-to-Trail

**CHARACTERISTICS:** Asphalt, boardwalk, concrete, 10' wide

**DATE ESTABLISHED:** 2009

**OWNER:** Greenville County Economic Development Corp.

**MAJOR CONTRIBUTING AGENCIES:** Prisma Health (once Greenville Health System), Upstate Forever, Appalachian Regional Commission

## BACKGROUND

The Swamp Rabbit Trail's namesake comes from an old rail line known as the Swamp Rabbit. The line ran from downtown Greenville to River Falls. In 1998, the rail line officially ceased operations (although it had been abandoned for 20 years), and the whole line was put on the market. Upstate Forever (a conservation focused non-profit of South Carolina) saw this as an opportunity and worked with Greenville County to acquire it. Upstate Forever started working quickly, and consulted with Rails to Trails to place the line in the "Rail Trail Bank". This gave the County the time it needed to purchase the land, but Upstate Forever was acquiring funds to purchase the land themselves in case the County missed the opportunity in time. The land was purchased by the Greenville County Economic Development Corporation in 1999.

In order for a rail-to-trail to be established, the official closure of rail operations must be approved by the Surface Transportation Board (STB). Greenville County spent some time debating whether this was ultimately the best move. Members of Upstate Forever voluntarily removed overgrowth from the rail line to build up public support for the trail, and Greenville County eventually filed with STB. However, the rail line still had to be bid upon in case any other rail service would like to purchase the property and resume service. STB kept the \$700,000 price up for sale until 2006 when it was declared abandoned.







In the time that the County was waiting to officially repurpose the rail line, Clemson University was hired to conduct a study along 16 miles of the Reedy River corridor, for which most of the Swamp Rabbit Trail now aligns. The master plan not only served as a vision for the SRT, but also contributed to mill renovations, Falls Park, Unity Park, the downtown revitalization of Travelers Rest, and several other Greenville County attractions that can be linked to the corridor.

In addition to the master plan, another study focused on Community Wide Recreation Needs in 2002. Key points concluded: trails and large, multi-purpose parks were the most needed facilities in the county; half of county residents felt that there were not enough parks and trails near their homes; and over 80% of residents felt that Greenville County should fund improvements in parks over other priorities.

When the trail was declared abandoned in 2006, Upstate Forever served as the interim trail operator until the County could get rid of the rails and start the process of implementing the trail. There was some debate on how to remove the rails, but an opportunity to sell the high-priced steel for \$1 million was presented, and that sent implementation into action. The first section of trail was built between Travelers Rest (which remains as the northernmost end of the trail) and Furman University - a 5 mile long corridor. A \$1 million donation (in the form of \$100,000 each year, for 10 years) was given by the Greenville Health System (a non-profit now known as Prisma Health), for which the trail has been named. There were also two initial \$250,000 donations by the Appalachian Regional Council, which made the trail possible. Operation costs are estimated to be \$60,000 per year.







## BENEFITS SUMMARY

Trails are the most used recreational facilities in Greenville County. Once seen as only a recreational amenity, the Swamp Rabbit Trail has spurred the creation of many trails in greater Greenville County, and they serve as viable transportation options. About 12% of trail visitors use the trails for transportation. New trails are being created that extend from the River, to communities further east and west of the river. Current and future segments are now associated with colors, much like a transit line.

As of 2018, there have been over a half million users of the Swamp Rabbit Trail per year. Greenville County trails have seen a 20% increase in overall trail use and a 13% increase in minority use. Out-of-town users account for 25% of trail visitors, and an increase in sales and revenue for the area ranges from 10% to 85%. In its fourth year after establishment, the trail was reported to have generated \$6.7 million in tourism revenue. In 2016, Greenville County Recreation estimated that the trail consistently generates \$7 million in economic gain per year. And that was just studying the first 9.7 miles of the trail. As a comparison, the first 13 mi of the trail had cost \$2.7 million to build.

Travelers Rest, the town near the northern most end of the trail, has seen transformative changes. City staff have seen this first hand: **“... probably the single most important thing that’s happened to the city of Travelers Rest in years,”** recalled Mayor Wayne McCall.

*“We’ve probably quadrupled our number of downtown businesses. We used to have dozens of empty buildings on Main Street. Now there are only a handful. Even on U.S. 25, which is our bypass, we’ve seen considerable growth. I think Travelers Rest has more media exposure and people are more enticed to come here and make an investment because of the trail.”*

*- Diana Turner, Travelers Rest City Administrator*



*As of 2018, there have been over a **half million users** of the Swamp Rabbit Trail per year.*

Business owners and employees can also speak first-hand about the positive changes that have come from the presence of the trail. “The trail has a 100 percent genuine community feeling,” said Matthew Craft, store manager of Sunrift Adventures. “Our business is booming because of the trail. In addition to daily trail traffic, organized races like the Swamp Rabbit 5K bring in people who would never have come before.” The City of Greenville may serve as the heart of the county, but surrounding communities have been able to create their unique attractions. Travelers Rest has seen diversification in their businesses, which have contributed to a new sense of place in Travelers Rest. Andy O’Mara, a local pizza business owner, remarked, “People say, ‘Let’s go out to eat,’ and they don’t talk about going to Greenville. They go to Travelers Rest.”



The health impacts of the trail are seen through the numbers of users that have risen over the years. The average amount of time trail users spend on the trails is 1.5 hours per visit, which is substantial for health impacts, regardless of the distance traveled and type of activity. Travelers Rest has implemented more infrastructure conducive for walking and biking, due to impacts of the trail. The city has undergone vehicular lane reductions, widened sidewalks, and built new parks in the years since the trail has opened, creating a larger network for recreation.

#### WEB SOURCES:

[www.upstateforever.org/blog/land-planning-policy/the-trail-that-almost-wasnt](http://www.upstateforever.org/blog/land-planning-policy/the-trail-that-almost-wasnt)

[www.upstateforever.org/blog/land-planning-policy/greenville-owes-much-to-the-reedy-river-master-plan](http://www.upstateforever.org/blog/land-planning-policy/greenville-owes-much-to-the-reedy-river-master-plan)

[www.upstateforever.org/blog/connecting-people-to-nature/the-ghs-swamp-rabbit-trail-more-than-just-recreation](http://www.upstateforever.org/blog/connecting-people-to-nature/the-ghs-swamp-rabbit-trail-more-than-just-recreation)

[www.greenway.org/uploads/attachments/cj9ioymsb0tmn8aqinsy0154r-b-sanders-se-greenway-summit.pdf](http://www.greenway.org/uploads/attachments/cj9ioymsb0tmn8aqinsy0154r-b-sanders-se-greenway-summit.pdf)

[www.blueridgenow.com/article/NC/20140518/News/606026982/HT](http://www.blueridgenow.com/article/NC/20140518/News/606026982/HT)

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[eatSMARTmovemore.org/pdf/Economic\\_Impact\\_Report\\_2016.pdf](http://eatSMARTmovemore.org/pdf/Economic_Impact_Report_2016.pdf)

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[www.visitgreenvillesc.com/listing/prisma-health-swamp-rabbit-trail/6594/](http://www.visitgreenvillesc.com/listing/prisma-health-swamp-rabbit-trail/6594/)

[www.railstotrails.org/trailblog/2016/february/14/south-carolina-s-greenville-health-system-swamp-rabbit-trail/](http://www.railstotrails.org/trailblog/2016/february/14/south-carolina-s-greenville-health-system-swamp-rabbit-trail/)





## CASE STUDY:

# SILVER COMET TRAIL

**RELEVANCE TO HARNETT COUNTY:** Rural and small town trail tourism that draws on larger metro area population (from Atlanta)

**LENGTH:** 61.5 mi

**LOCATION:** Connects Smyrna, Georgia to the Alabama state line

**TYPE:** Rail to Trail

**CHARACTERISTICS:** concrete, multiple bridges

**DATE ESTABLISHED:** 1998

**OWNER:** GDOT

**MAJOR CONTRIBUTING AGENCIES:** Georgia State Parks, PATH Foundation, Cobb County DOT, Paulding County, and Polk County



## BACKGROUND

The Silver Comet was the name of the passenger train that once moved people from New York City to Birmingham, Alabama. In 1992, Georgia Department of Transportation (GDOT) purchased the once inactive rail line, envisioning the corridor would be used for high-speed transit. Many organizations and municipalities were part of the implementation process, but the PATH Foundation ultimately oversaw operations and construction of the trail. It was in 1998 that it became a shared-use, non-motorized path. The Silver Comet Trail is currently 61.5 miles, and passes through 7 cities

and 3 counties. As of 2008, around the time that the final mile of the Silver Comet Trail was being implemented, a connection to the 33 mile long Chief Ladiga Trail in Alabama was created. A new branch off the trail is proposed to lead up into North Georgia and into Tennessee, which would expand the trail another 66 miles. The trail is maintained by the surrounding counties and volunteer organizations like GRITS (Georgia Rails Into Trails Society). In 2013, the Silver Comet Trail still held the title for the longest and oldest paved rail-to-trail in the nation, but has since been surpassed by longer trails.





*The Silver Comet Trail serves an estimated **1.9 million users** per year*



## BENEFITS SUMMARY

The Silver Comet Trail serves an estimated 1.9 million users per year, with over 400,000 people using the Smyrna trailhead (the easternmost trailhead, located in metro Atlanta) alone. Over 71% of users are known to be bicyclists, particularly in more remote areas. Thus, it is assumed that a large portion of pedestrian trips are by local users. About 97% of people use the trail for exercise and recreation, with some people using it for commuting. A study recorded users from 23 counties and 8 states, within just a two week period.

The average visitor to the trail spends \$50, and about 20% of users take a multi-day visit to the trail. An Inn Owner in Dallas, Georgia estimates that more than half of her customers are brought in because of the Silver Comet Trail. This helps to explain the large revenue generated by the direct spending of trail users: \$57 million per year. The trail is estimated to support about 1,300 jobs in Georgia and \$37 million in earnings. The total estimated taxes collected by direct and indirect spending is about \$3.5 million per year. It is estimated that the Silver Comet Trail contributes a 4-7% increase in property values for land within a quarter mile of it.

As of 2013, the breakdown of revenue generated by the trail is as such:

- Recreational Spending: \$47 million
- Tourism Spending: \$10 million
- Regional Spillover: \$98 million
- State Spillover Impact: \$118 million
- Statewide Fiscal Impact: \$4 million
- Property Value Increases: \$182 million
- Property Tax Gains: \$2 million

The total revenue of the current trail is estimated to be \$461 million, and the future expansion expects \$274 million to be added onto that. **In 2013, a study estimated that every \$1 spent on the trail's investment results in at least \$3 in economic return, but should the Silver Comet Trail expand, it is estimated that Georgians would gain \$4.64 in direct and indirect economic benefits - an over 400% return on investment.**

### WEB SOURCES:

[www.bwnwga.org/wp-content/uploads/Silver-Comet-Executive-Summary\\_all072213.pdf](http://www.bwnwga.org/wp-content/uploads/Silver-Comet-Executive-Summary_all072213.pdf)

[www.railstotrails.org/trailblog/2014/may/07/the-profitable-tail-of-the-silver-comet-trail/](http://www.railstotrails.org/trailblog/2014/may/07/the-profitable-tail-of-the-silver-comet-trail/)

### PHOTO SOURCES:

[www.cobbcounty.org/transportation/news/upcoming-silver-comet-trail-closures](http://www.cobbcounty.org/transportation/news/upcoming-silver-comet-trail-closures)

[arletelouise.com/2019/03/30/silver-comet-trail-day-2/](http://arletelouise.com/2019/03/30/silver-comet-trail-day-2/)

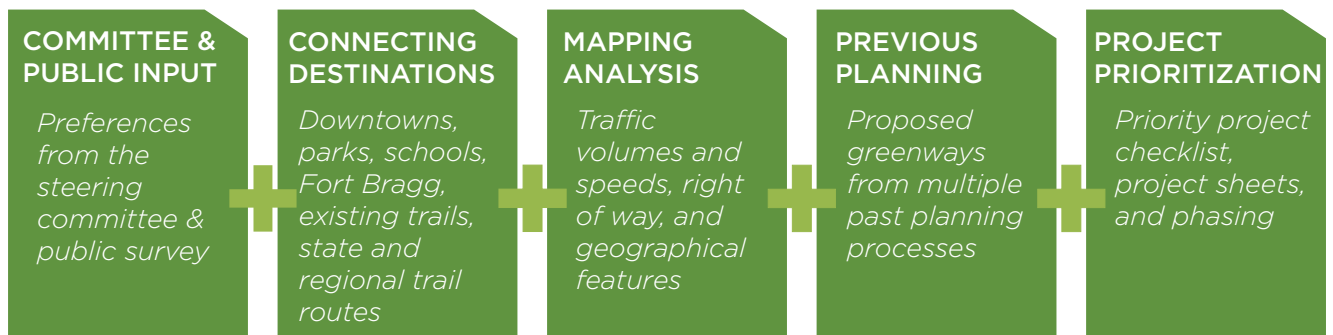
# CHAPTER 3: RECOMMENDATIONS

## OVERVIEW

This chapter details a recommended series of priority spines for a County-wide Bicycle, Pedestrian, and Greenway Network. The chapter features an overall concept map, typical trail cross-sections, and a series of project sheets that go into more detail about the priority greenway spines. Project phasing is further detailed in Chapter 4: Implementation.

## BASIS OF RECOMMENDATIONS

The proposed network is a result of a collaborative planning process that involved a review of recent and past planning efforts, public engagement, data collection, and technical analysis.



### **Chapter 3 Maps & Project Sheets**

From the inputs above, the following priority greenway spine concept and projects sheets were developed.

## PRIORITY GREENWAY SPINE CONCEPT

This map focuses on the proposed priority greenway spines. The spine network is composed of priorities that were the most consistently mentioned in previous planning efforts, committee meetings, stakeholder discussions, and public outreach during this planning process. They fulfill a variety of prioritization criteria that will help them score high in future funding applications, and are geographically distributed across the county.

## TYPICAL TRAIL CROSS-SECTIONS

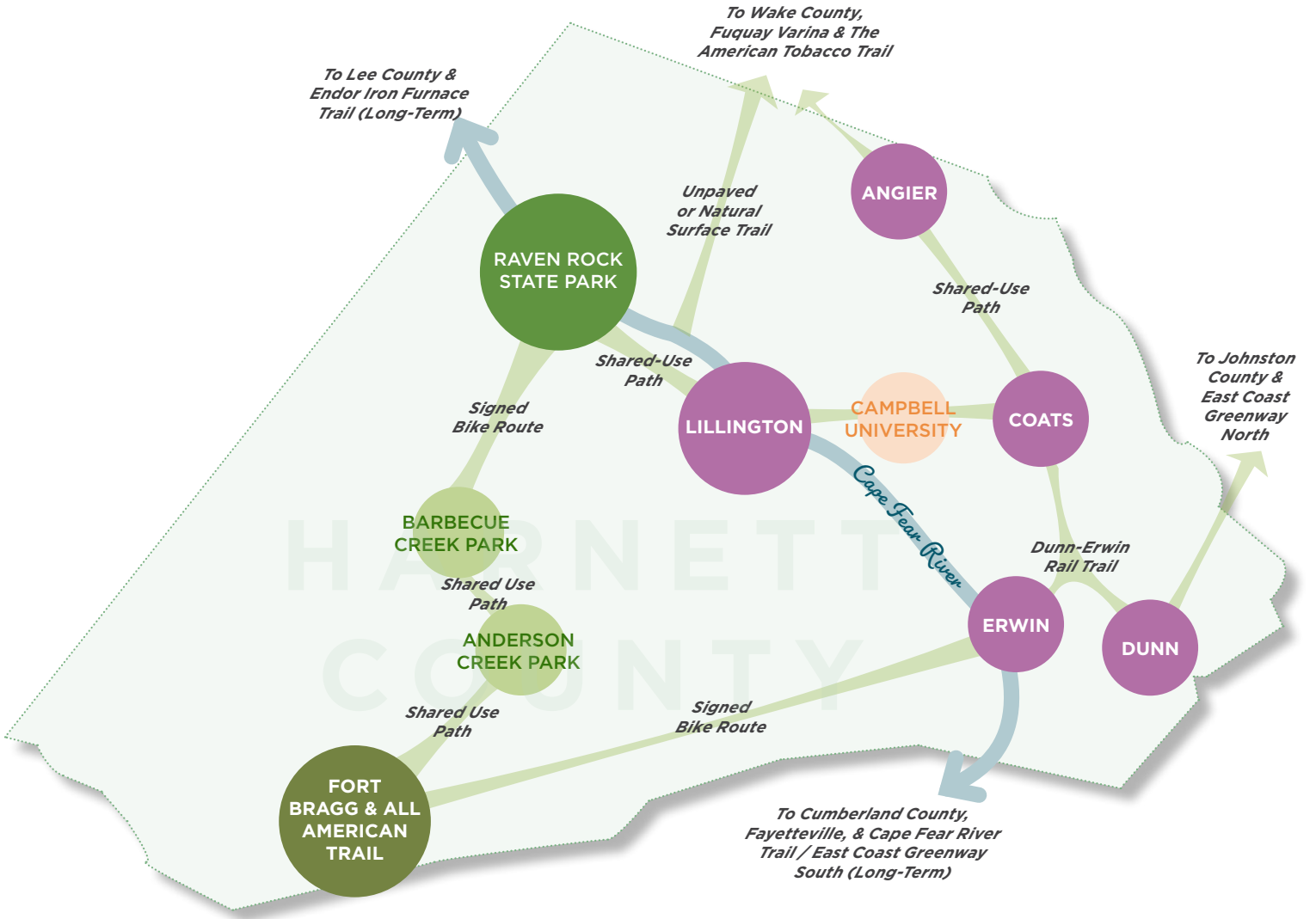
This series of trail cross-sections provides further detail to different trail configurations based on context.

## PROJECT SHEETS FOR THE PRIORITY GREENWAY SPINES

This series of project summaries can be used when applying for future funding, or when communicating the priority project details to potential partners during implementation.



# CONCEPT MAP: PRIORITY GREENWAY SPINES





# TYPICAL TRAIL CROSS-SECTIONS

There are multiple unique trail cross-sections that could be used to complete the proposed projects, depending on the context of each specific trail segment. Some sections of trail could be along a former (or even active) rail corridor, along a roadway corridor or utility corridor, next to a river or creek, and other segments may be needed along low traffic volume gravel roads or paved shoulders.

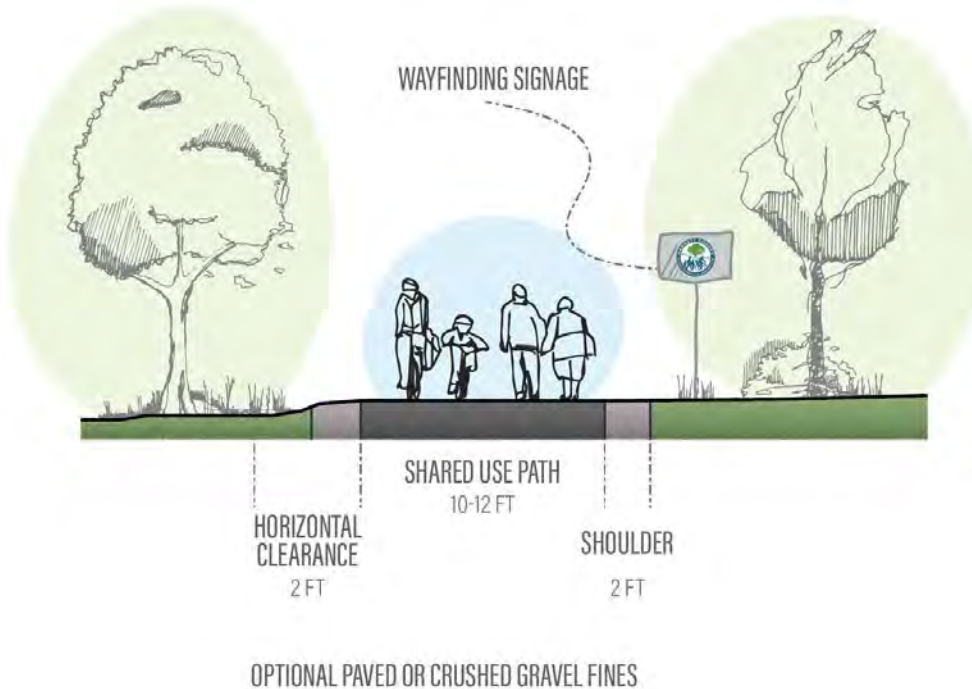
Most of these cross-sections fall under the umbrella of 'shared use paths'. A shared use path provides a travel area separate from motorized traffic for bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. Shared use paths can provide a low-stress experience for a variety of users using the network for transportation or recreation.<sup>1</sup>

## NCDOT SIDEPATH CROSS-SECTIONS

NCDOT's typical cross-sections include guidance for sidepaths along numerous highway cross-section types (from 2 Lane to 6 Lane). Please see NCDOT typical cross-sections 2M, 2N, 2O, 2P, 2Q, 3D, 3E, 4H, 4I, 4J, 4K, 4L, 5B, 6G, 6H, and 6I here: <https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Highway%20Typical%20Sections%20for%20SPOT%20Online.pdf>

For the purposes of this plan, sidepaths graphics are shown for "major" and "minor" highways and for "residential" areas. The main distinction drawn is that for "major" highways that generally have higher traffic volumes and higher speeds, greater separation between the sidepath and roadway edge are recommended, whereas for residential areas, less separation is generally needed. For both "major" and "minor" highways, sidepath separation from the roadway edge should be at least 9', but can be even greater depending on the adjacent roadway characteristics (such as traffic volumes/speeds) and design features (such as drainage and right of way). They can be less than 9', especially if a vertical barrier is installed, in constrained situations.

## SHARED USE PATH



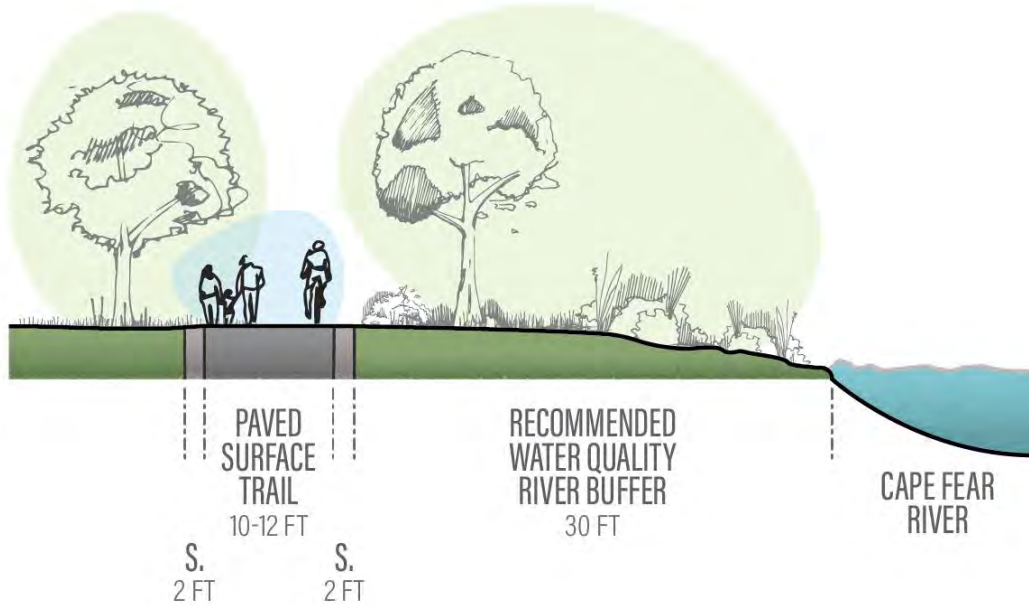
USER GROUP:  
Multi-Use

MATERIAL:  
Paved Asphalt;  
Optional: paved or  
crushed gravel fines

WIDTH:  
10-12 ft

<sup>1</sup> See the Small Town and Rural Multimodal Network Design Guide (as well as Appendix A) for further design guidance.

### RIVER ADJACENT TRAIL



USER GROUP:  
Multi-Use

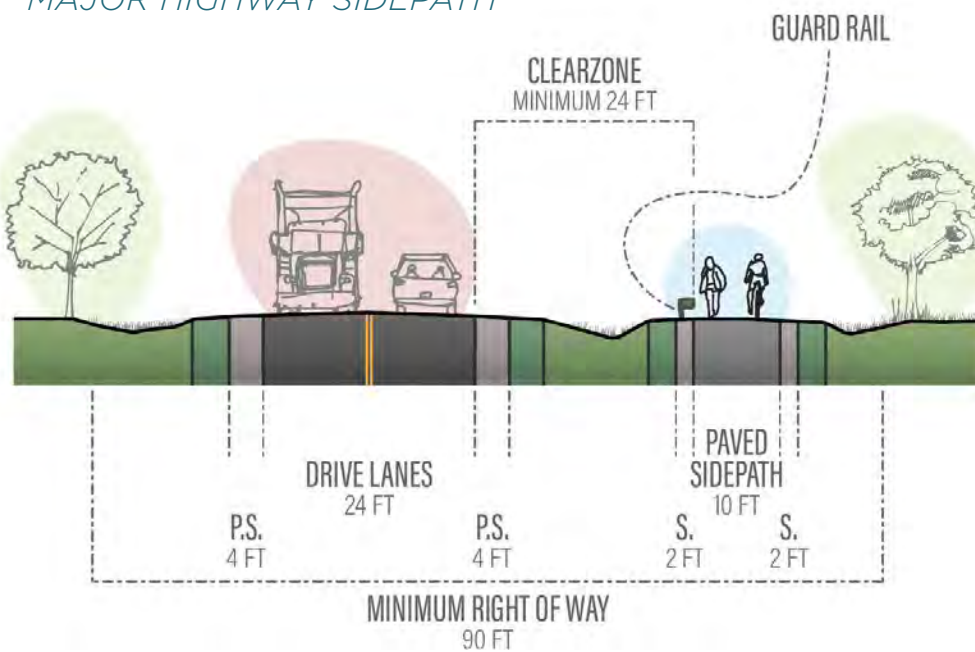
MATERIAL:  
Paved Asphalt;  
Optional: paved or crushed gravel fines

WIDTH:  
10-12 ft

S. = Shoulder

**NCDOT SIDEPATH CROSS-SECTIONS:** \*See page 38 for additional information related to *NCDOT Highway Typical Sections* and sidepaths

### MAJOR HIGHWAY SIDEPATH



USER GROUP:  
Multi-Use

MATERIAL:  
Paved Asphalt

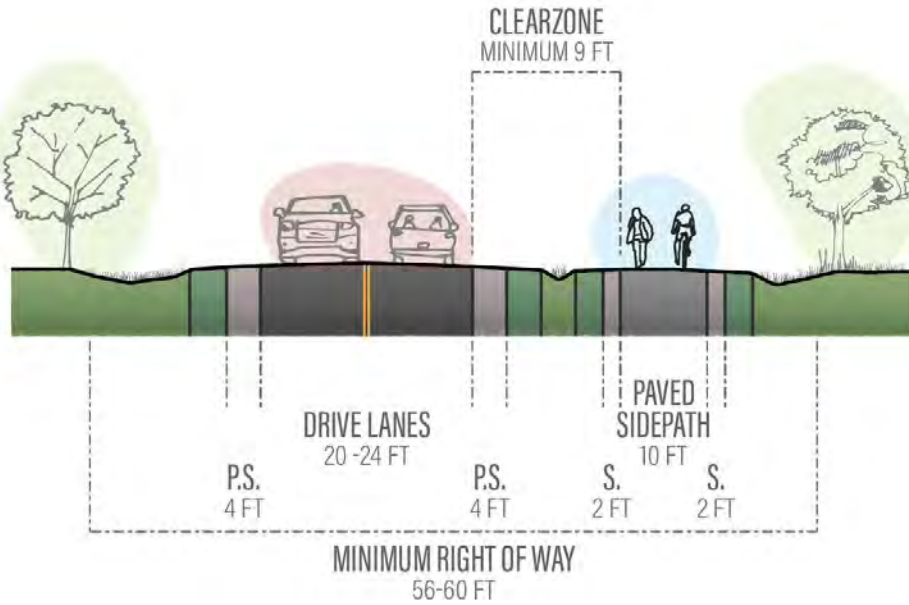
WIDTH:  
10 ft

P.S. = Paved Shoulder  
S. = Shoulder



**NCDOT SIDEPATH CROSS-SECTIONS:** See page 38 for additional information related to NCDOT Highway Typical Sections and sidepaths.

### MINOR HIGHWAY SIDEPATH



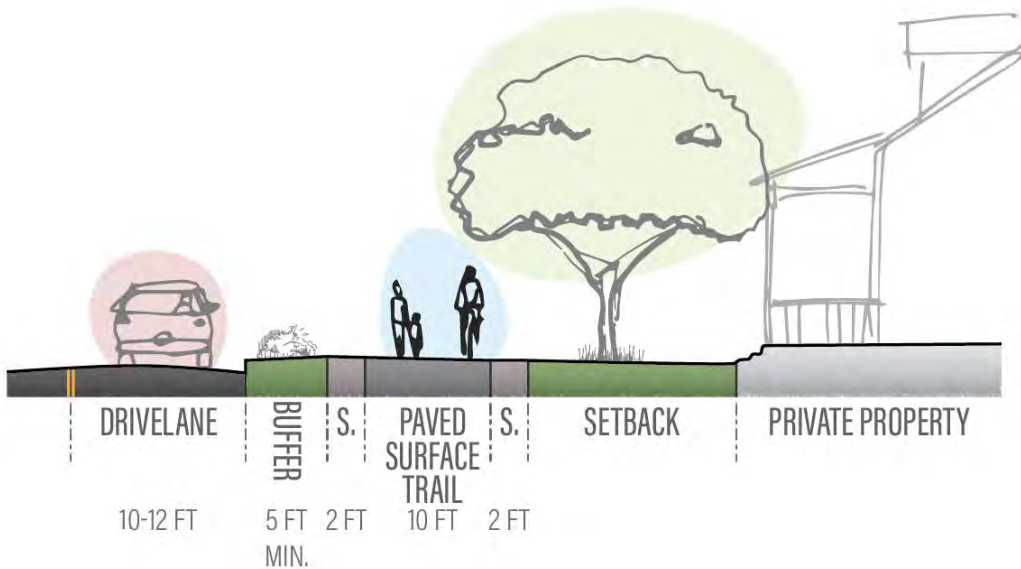
**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt

**WIDTH:**  
10 ft

*P.S. = Paved Shoulder*  
*S. = Shoulder*

### RESIDENTIAL SIDEPATH



**USER GROUP:**  
Multi-Use

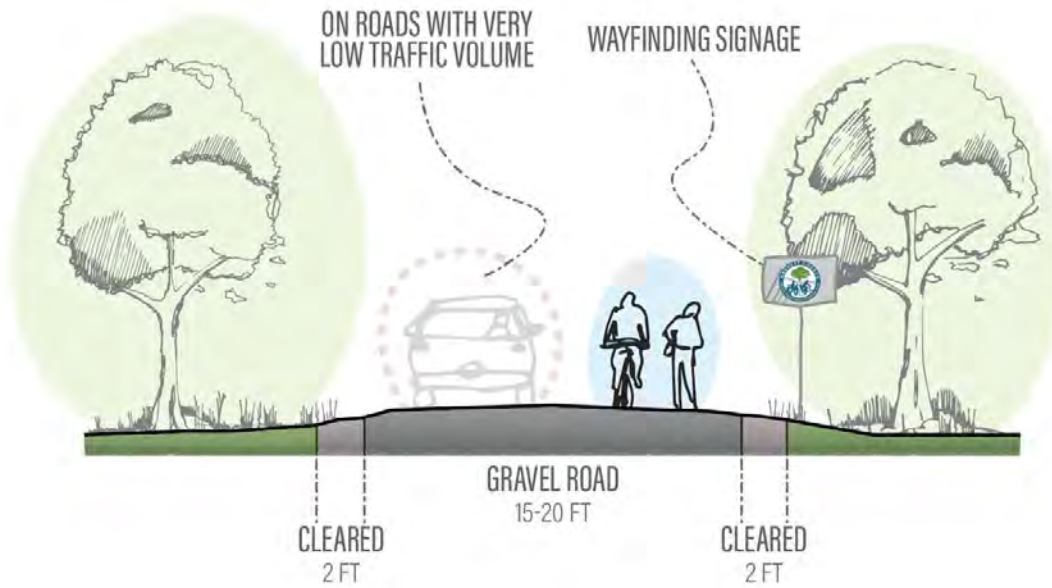
**MATERIAL:**  
Concrete

**WIDTH:**  
10 ft

*S. = Shoulder*



## GRAVEL ROAD

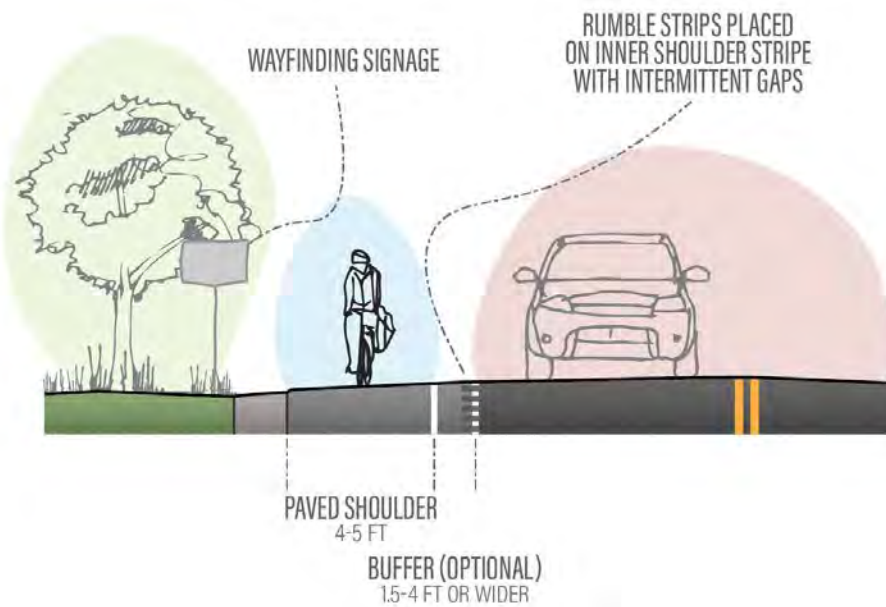


**USER GROUP:**  
Hikers and Cyclists

**MATERIAL:**  
Paved or crushed gravel fines

**WIDTH:**  
Varies

## PAVED SHOULDER



**USER GROUP:**  
Cyclists

**MATERIAL:**  
Paved Asphalt

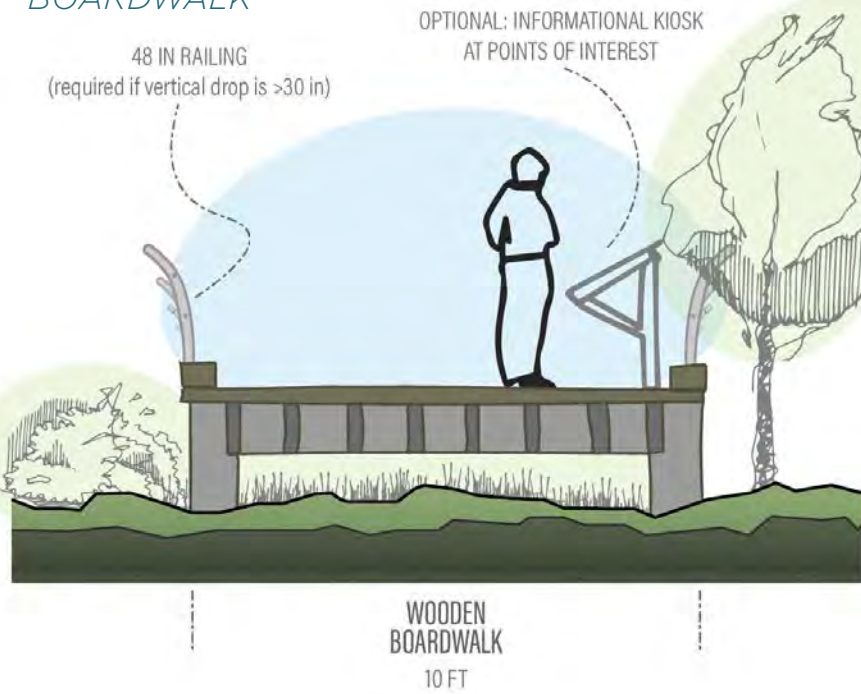
**WIDTH:**  
4-6 ft



## BOARDWALK

48 IN RAILING  
(required if vertical drop is >30 in)

OPTIONAL: INFORMATIONAL KIOSK  
AT POINTS OF INTEREST

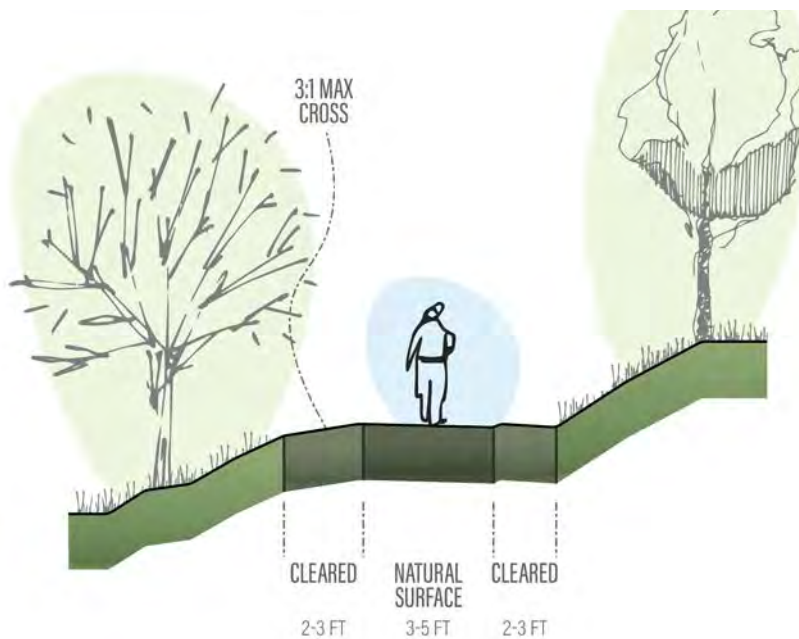


USER GROUP:  
Multi-Use

MATERIAL:  
Wood Decking

WIDTH:  
10 ft

## NATURAL SURFACE TRAIL



USER GROUP:  
Hikers and Mountain  
Bikers

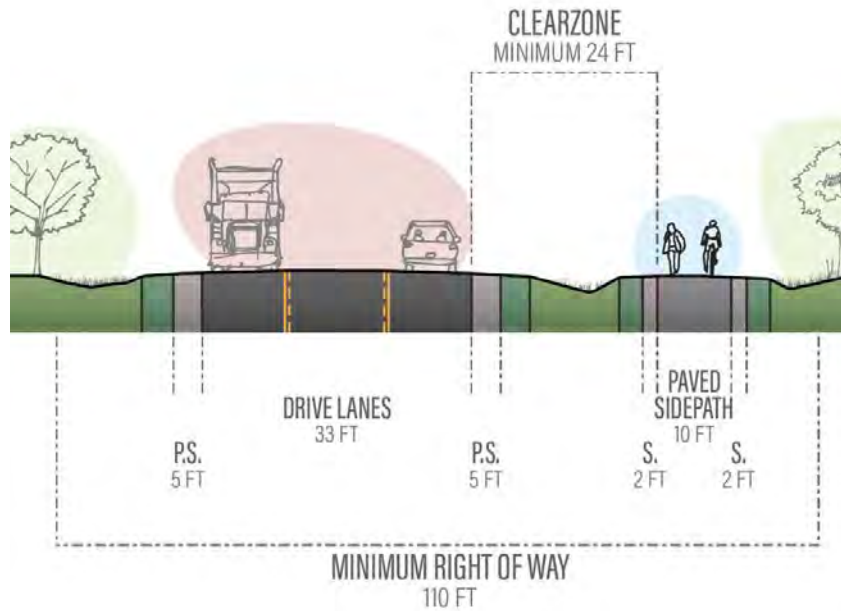
MATERIAL:  
Native Soil

WIDTH:  
3-5 ft

## MAJOR HIGHWAY SIDEPATH (3 LANE ROAD)

### NCDOT SIDEPATH CROSS-SECTIONS

See page 38 for additional information related to NCDOT Highway Typical Sections and sidepaths.



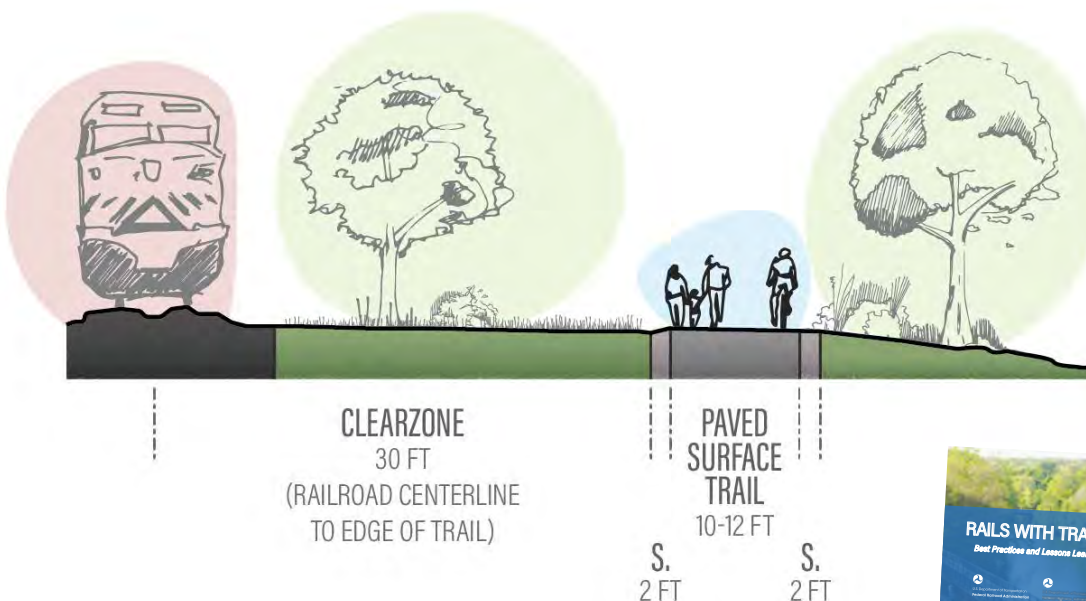
USER GROUP:  
Multi-Use

MATERIAL:  
Paved Asphalt

WIDTH:  
10 ft

P.S. = Paved Shoulder  
S. = Shoulder

## SHARED USE PATH (RAIL-WITH-TRAIL)



USER GROUP:  
Multi-Use

MATERIAL:  
Paved Asphalt;  
Optional: paved or  
crushed gravel fines

WIDTH:  
10-12 ft

S. = Shoulder

**Did You Know?** There are more than 350 trails along active railroad corridors spread across the United States, totaling close to 1,000 miles. To download the full report *Rails-with-Trails: Best Practices and Lessons Learned*, visit: [https://railroads.dot.gov/sites/fra.dot.gov/files/2020-04/RWT\\_Report\\_Final\\_031620\\_0.pdf](https://railroads.dot.gov/sites/fra.dot.gov/files/2020-04/RWT_Report_Final_031620_0.pdf)







# PRIORITY PROJECT CHECKLIST

		Facility Types*	Distance	Estimated Cost Range	Uses Mostly Public Land or Street ROW	Connects to a Park, Rec Center, School, or University	Connects to a Historic Downtown or Cultural Area	Connects to a Designated Bike Route or Existing Facility	In an Adopted Plan	Reported Bike or Ped Crash Along Route	Supported in Stakeholder & Public Feedback
RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK	<b>A</b> RAVEN ROCK STATE PARK TO S. RIVER RD TRAILHEAD	Sidepath	3.6 mi	\$3.5-4.5 M	✓	✓		✓	✓		✓
	<b>B</b> S. RIVER RD TRAILHEAD TO LILLINGTON RIVER PARK	Rail-to-Trail	4 mi	\$3.5-4.5 M	✓	✓	✓	✓	✓		✓
LILLINGTON TO COATS	<b>C</b> LILLINGTON TO CAMPBELL UNIVERSITY	SUP & Sidepath	7 mi	\$13-15 M	✓	✓	✓	✓	✓	✓	✓
	<b>D</b> CAMPBELL UNIVERSITY TO COATS	SUP & Sidepath	4 mi		✓	✓	✓	✓	✓	✓	✓
<b>E</b> COATS TO DUNN-ERWIN RAIL TRAIL		SUP & Sidepath	5 mi	\$4-5 M	✓	✓	✓	✓	✓	✓	✓
<b>F</b> COATS TO ANGIER RAIL TRAIL		SUP & Sidepath	8.4 mi	\$9-10 M		✓	✓	✓	✓	✓	✓
<b>G</b> SW HARNETT COUNTY ON-ROAD BICYCLE ROUTE		Signed Route/Paved Shoulders	41 mi	See Cutsheet	✓	✓	✓	✓	✓	✓	✓
<b>H</b> BARBECUE TO SPOUT SPRINGS		SUP & Sidepath	13.5 mi	N/A	✓	✓			✓	✓	✓
<b>I</b> HECTOR CREEK TRAIL		SUP and/or Natural Surface	9.7 mi	N/A		✓	✓			✓	✓

\*SUP = Shared Use Path

✓ = Faded check marks indicate only partially fulfilled criteria.

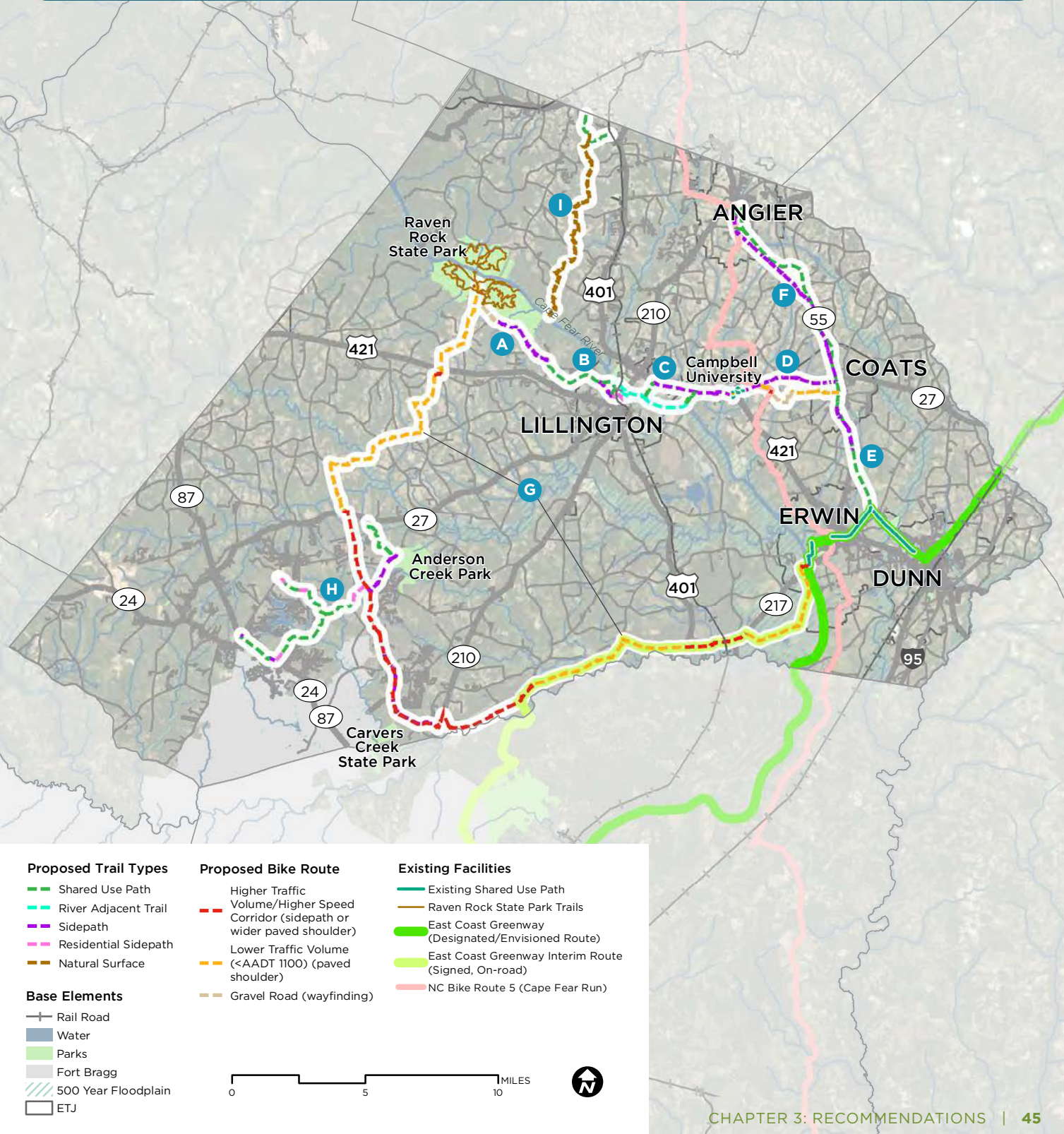
## RECOMMENDATION FOR PRELIMINARY DESIGN ANALYSIS

The top project listed above is for a rail-to-trail and sidepath project, from Lillington River Park to Raven Rock State Park. The project is divided into two segments, with a proposed trailhead at the intersection of River Road and Jim Christian Rd, which is roughly a mid-point. This project is recommended as a priority for all the criteria met, but most importantly because the majority of the project lies within publicly-owned right-of-way, and because the project was identified as a priority by Harnett County residents through this plan's public survey. Furthermore, this project is a top recommendation of multiple recent plans, most notably, the Lillington Pedestrian Plan (2020) and the Sandhills Regional Bicycle Plan (2017).

## PROJECT SHEETS

The series of maps that follow show an analysis of of the priority greenway spines, including factors of feasibility identified by the Steering Committee and project consultants. It serves as an inventory of the alignment factors at play in weighing priorities and next steps.

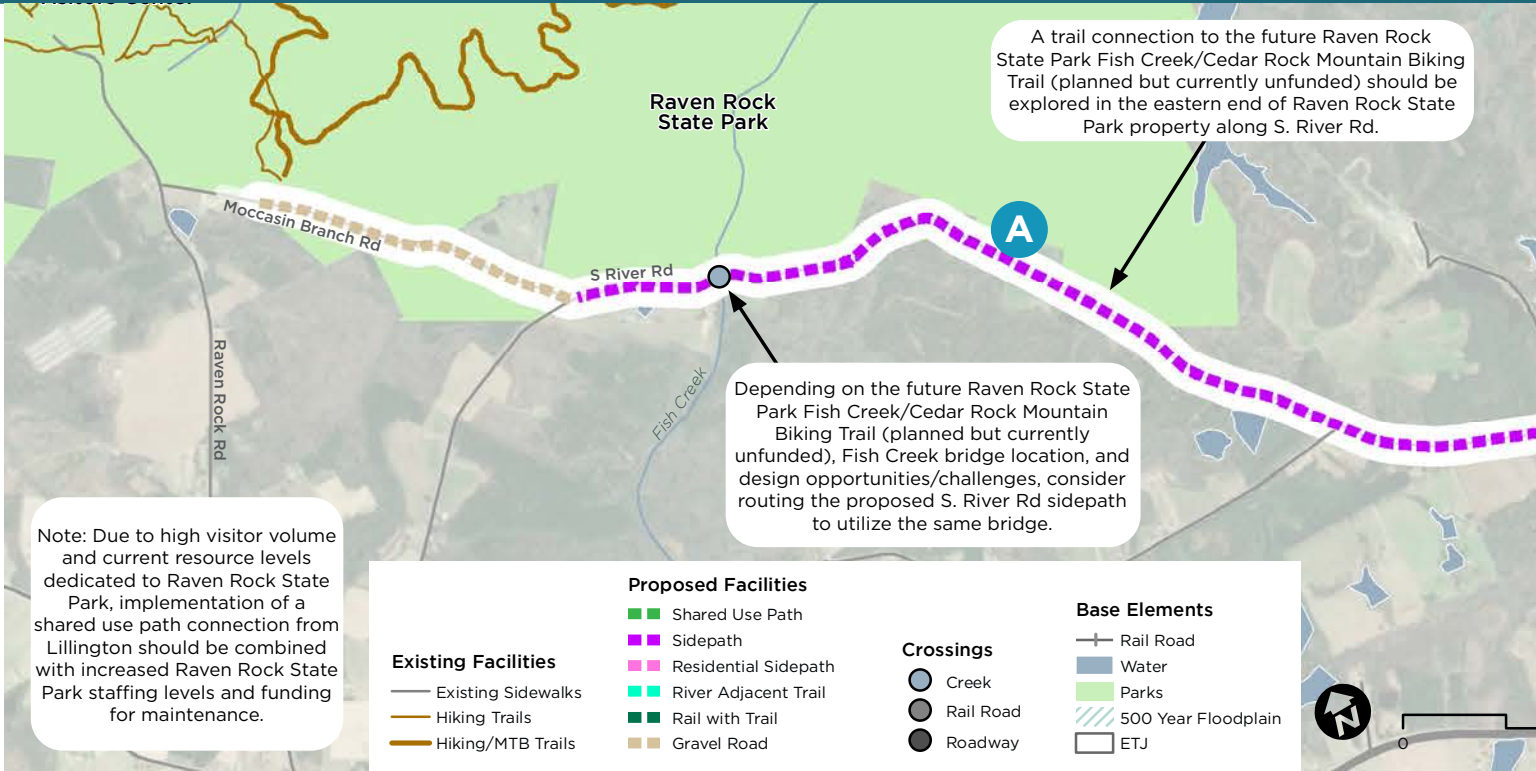
**Priority Greenway Spines:** These corridors were analyzed in further detail for feasibility in a series of project sheets that follow. While implementation efforts for many segments of the proposed priority spine greenway network can move forward in the near term, some segments will likely be medium-term or longer-term efforts. See the project sheets that follow for further detail, as well as Chapter 4 for further discussion on phasing.



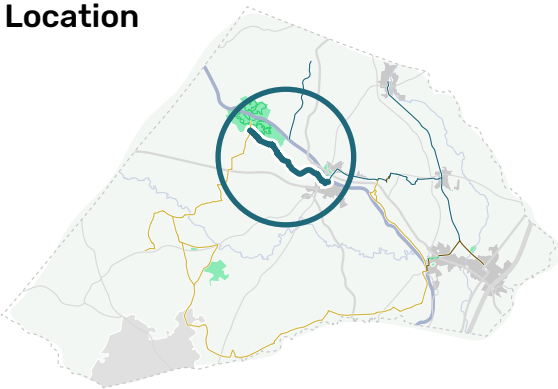




# A B Raven Rock State Park to Lillington River Park

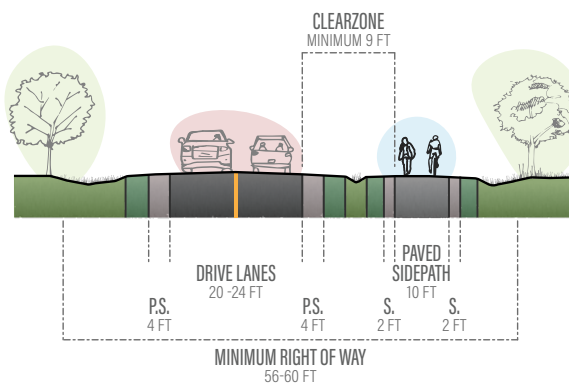


## Location



## PROPOSED TRAIL CROSS-SECTIONS

### Minor Highway Sidepath



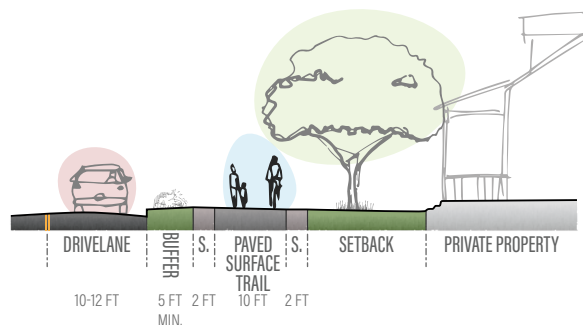
*NCDOT SIDEPATH CROSS-SECTIONS:*  
\*See page 38 for additional information related to *NCDOT Highway Typical Sections and sidepaths*

**Total Length:** 7.8 miles

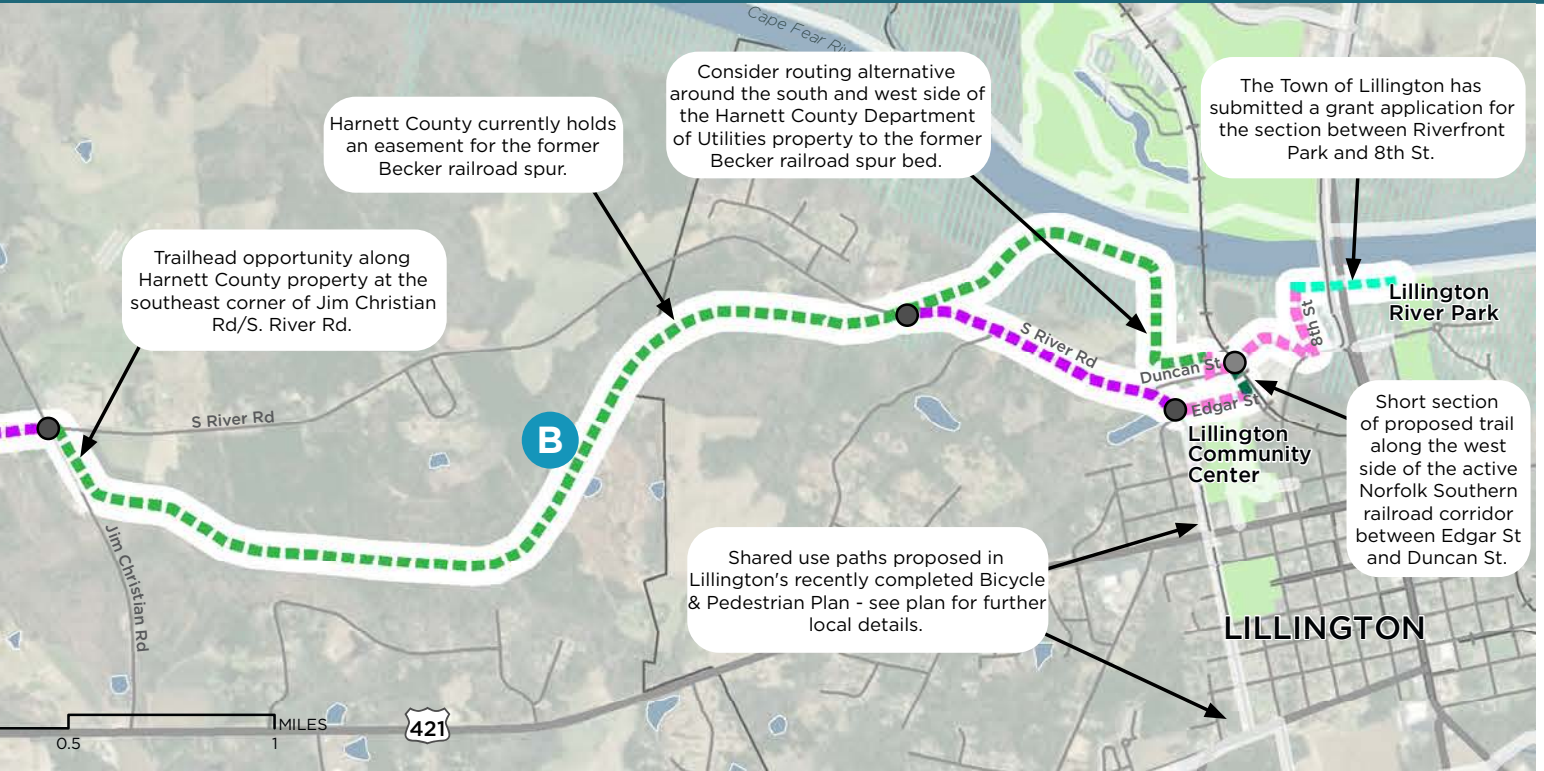
### Implementation Stakeholders:

- » Harnett County
- » Town of Lillington
- » NCDOT
- » NC State Parks
- » Mid-Carolina RPO
- » Norfolk Southern
- » Adjacent Landowners

### Residential Sidepath

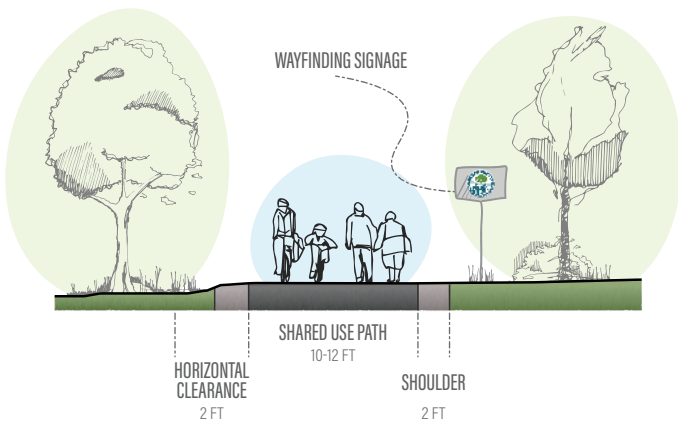




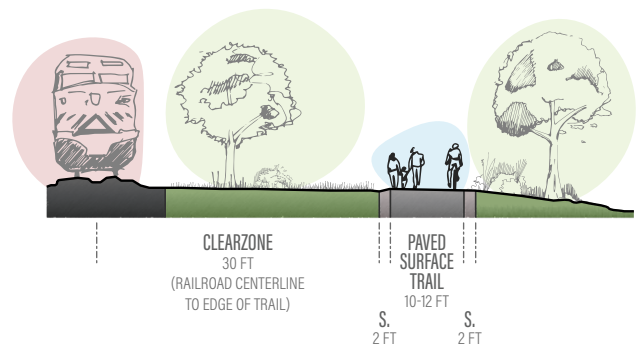


### PROPOSED TRAIL CROSS-SECTIONS (CONTINUED)

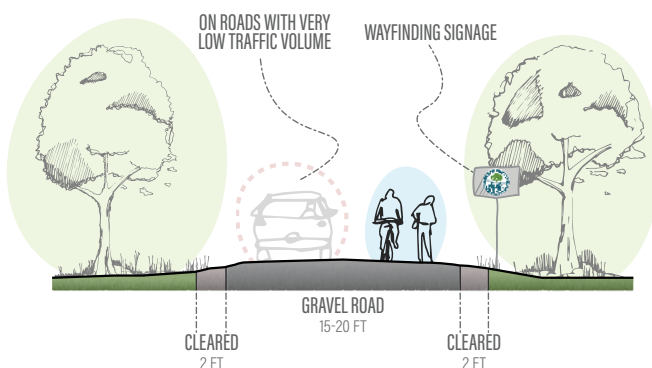
#### Shared Use Path ■■■



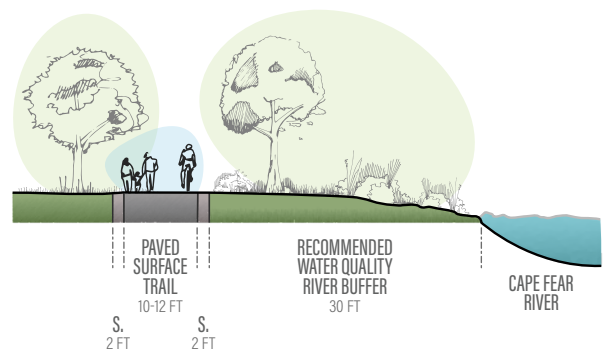
#### Rail with Trail ■■■



#### Gravel Road ■■■■



#### River Adjacent Trail ■■■■





# A B Raven Rock State Park to Lillington River Park

## SUPPORT IN PREVIOUS PLANS

This project has been identified in numerous local and regional plans over the past five years. Below is a snapshot of these plans highlighting elements of, or the entirety of this project.

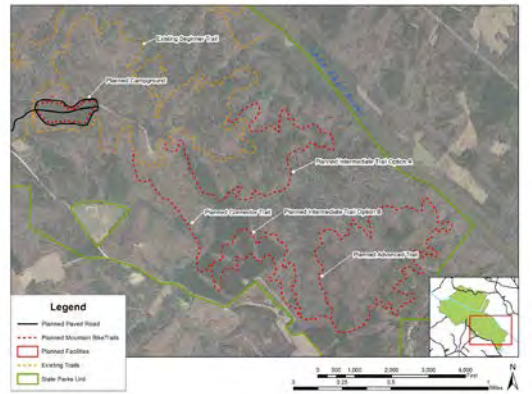
### Lillington Bicycle & Pedestrian Plan (2020)



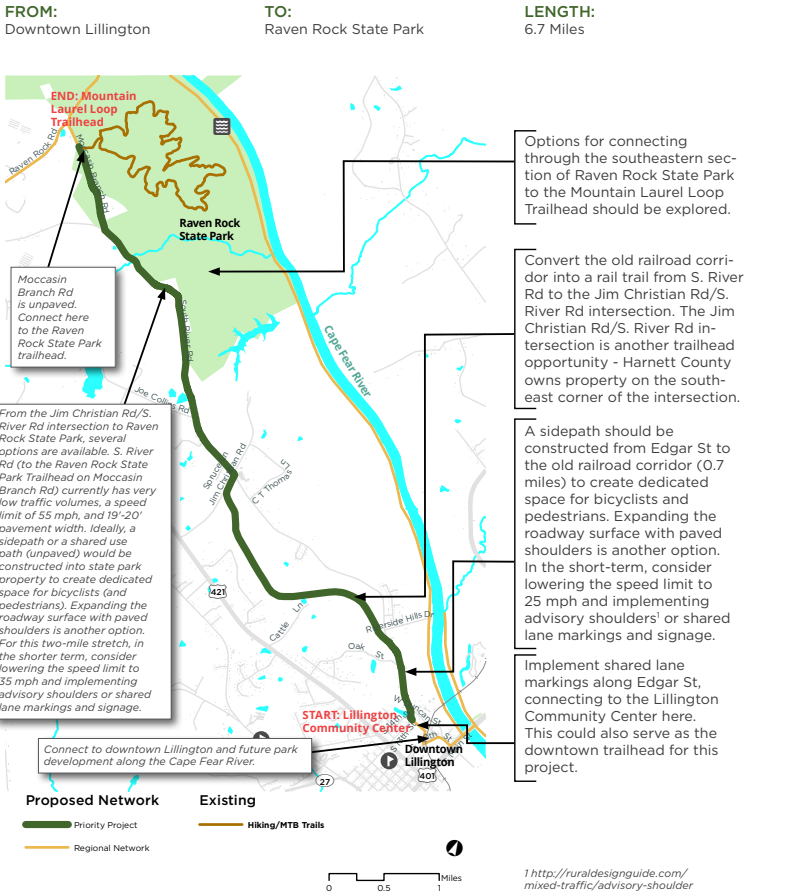
### Grow Harnett County (2018)



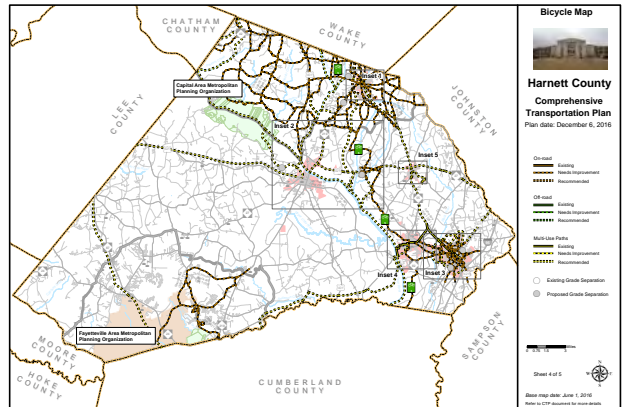
### Raven Rock State Park General Management Plan (2017)



### Sandhills Regional Bicycle Plan (2019)



### Harnett County CTP (2016)





**PLANNING ESTIMATE  
HARNETT BICYCLE & PEDESTRIAN PLAN**

**RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK:  
SEGMENT 1 - S RIVER RD FROM MOCCASIN BRANCH RD TO JIM CHRISTIAN RD**

LOCATION:

DESCRIPTION:

**14030 LF 10' WIDE ASPHALT SIDE PATH**

<b>TOTAL LENGTH:</b>	<b>2.7 MILES</b>
<b>EST. CONSTRUCTION COST:*</b>	<b>\$3,400,000</b>

COUNTY: HARNETT

DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$128,000.00	\$128,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$75,000.00	\$75,000.00
0003	0043000000-N	226	GRADING	1	LS	\$951,000.00	\$951,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	6,100	TON	\$40.00	\$244,000.00
0005	1275000000-E	600	PRIME COAT	6,000	GAL	\$12.50	\$75,000.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	1,780	TON	\$150.00	\$267,000.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	110	TON	\$600.00	\$66,000.00
0008	3030000000-E	862	STEEL BM GUARDRAIL	270	LF	\$50.00	\$13,500.00
0009	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$54,000.00	\$54,000.00
0010			WOOD SAFETY RAILING	180	LF	\$45.00	\$8,100.00
0011			UTILITY POLE RELOCATION	6	EA	\$20,000.00	\$120,000.00
0012			GUY WIRE RELOCATION	2	EA	\$2,500.00	\$5,000.00
0013			DRAINAGE ALLOWANCE	1	LS	\$160,000.00	\$160,000.00
0014			EROSION CONTROL ALLOWANCE	1	LS	\$106,000.00	\$106,000.00
0015			MINOR ITEMS (5%)	1	LS	\$103,000.00	\$103,000.00

CONSTRUCTION COST SUBTOTAL	\$2,376,000.00
CONTINGENCY (30%)	\$712,800.00
OPINION OF PROBABLE CONSTRUCTION COST	\$3,088,800.00
NCDOT ADMINISTRATION FEE (10%)	\$308,880.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2020)</b>	<b>\$3,397,680.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY CJA  
DATE 11/2/2020





**A B**

# Raven Rock State Park to Lillington River Park



## PLANNING ESTIMATE HARNETT BICYCLE & PEDESTRIAN PLAN

### RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK: SEGMENT 2 - RAIL TRAIL FROM S. RIVER RD/JIM CHRISTIAN RD INTERSECTION TO S. RIVER RD

LOCATION: \_\_\_\_\_  
 DESCRIPTION: **10518 LF 12' WIDE ASPHALT SHARED USE PATH**  
**2680 LF 10' WIDE ASPHALT SHARED USE PATH**  
**TRAILHEAD WITH PARKING LOT**

**TOTAL LENGTH: 2.5 MILES**  
**EST. CONSTRUCTION COST:\* \$3,000,000**

COUNTY: HARNETT DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$112,000.00	\$112,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$65,000.00	\$65,000.00
0003	0043000000-N	226	GRADING	1	LS	\$561,000.00	\$561,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	6,500	TON	\$40.00	\$260,000.00
0005	1275000000-E	600	PRIME COAT	6,460	GAL	\$12.50	\$80,750.00
0006	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	90	TON	\$170.00	\$15,300.00
0007	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	120	TON	\$170.00	\$20,400.00
0008	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	1,990	TON	\$150.00	\$298,500.00
0009	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	130	TON	\$600.00	\$78,000.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$5,000.00	\$5,000.00
0011			WOOD SAFETY RAILING	5,660	LF	\$45.00	\$254,700.00
0012			BIKE REPAIR STATION	1	EA	\$2,500.00	\$2,500.00
0013			INFO PANEL	1	EA	\$1,500.00	\$1,500.00
0014			BENCH	2	EA	\$1,500.00	\$3,000.00
0015			EROSION CONTROL ALLOWANCE	1	LS	\$198,000.00	\$198,000.00
0016			MINOR ITEMS (5%)	1	LS	\$89,000.00	\$89,000.00

CONSTRUCTION COST SUBTOTAL	\$2,045,000.00
CONTINGENCY (30%)	\$613,500.00
OPINION OF PROBABLE CONSTRUCTION COST	\$2,658,500.00
NCDOT ADMINISTRATION FEE (10%)	\$265,850.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2020)</b>	<b>\$2,924,350.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY \_\_\_\_\_ CJA  
 DATE \_\_\_\_\_ 11/2/2020



**PLANNING ESTIMATE**  
**HARNETT BICYCLE & PEDESTRIAN PLAN**

**RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK:  
 SEGMENT 3 OPTION A - ALONG CAPE FEAR RIVER FROM S RIVER RD TO W DUNCAN  
 ST**

LOCATION:

DESCRIPTION:

**2830 LF 10' WIDE ASPHALT SHARED USE PATH**  
**2530 LF 12' WIDE ASPHALT SHARED USE PATH**  
**930 LF 10' BOARDWALK**

**TOTAL LENGTH: 1.2 MILES**  
**EST. CONSTRUCTION COST: \$2,200,000**

COUNTY: HARNETT

DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$85,000.00	\$85,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$35,000.00	\$35,000.00
0003	0043000000-N	226	GRADING	1	LS	\$236,000.00	\$236,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	2,630	TON	\$40.00	\$105,200.00
0005	1275000000-E	600	PRIME COAT	2,490	GAL	\$12.50	\$31,125.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	750	TON	\$150.00	\$112,500.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	45	TON	\$600.00	\$27,000.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	240	LF	\$30.00	\$7,200.00
0009	2605000000-N	848	CONCRETE CURB RAMP	6	EA	\$3,000.00	\$18,000.00
0010	3030000000-E	862	STEEL BM GUARDRAIL	260	LF	\$50.00	\$13,000.00
0011	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$5,000.00	\$5,000.00
0012	8802040000-E	SP	CIP GRAVITY RETAINING WALLS	360	SF	\$200.00	\$72,000.00
0013			WOOD SAFETY RAILING	2,700	LF	\$45.00	\$121,500.00
0014			10' WIDE WOOD BOARDWALK	930	LF	\$500.00	\$465,000.00
0015			DRAINAGE ALLOWANCE	1	LS	\$50,000.00	\$50,000.00
0016			EROSION CONTROL ALLOWANCE	1	LS	\$81,000.00	\$81,000.00
0017			MINOR ITEMS (5%)	1	LS	\$67,000.00	\$67,000.00

CONSTRUCTION COST SUBTOTAL	\$1,532,000.00
CONTINGENCY (30%)	\$459,600.00
OPINION OF PROBABLE CONSTRUCTION COST	\$1,991,600.00
NCDOT ADMINISTRATION FEE (10%)	\$199,160.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2020)</b>	<b>\$2,190,760.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY CJA  
 DATE 11/2/2020



**A B**

# Raven Rock State Park to Lillington River Park



## PLANNING ESTIMATE HARNETT BICYCLE & PEDESTRIAN PLAN

### RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK: SEGMENT 3 OPTION B - ALONG S RIVER RD FROM RAIL TRAIL THROUGH W EDGAR ST

LOCATION: \_\_\_\_\_  
 DESCRIPTION: **4870 LF 10' WIDE ASPHALT SIDE PATH**  
**370 LF 12' WIDE ASPHALT SHARED USE PATH**

<b>TOTAL LENGTH:</b>	<b>1.0 MILES</b>
<b>EST. CONSTRUCTION COST:*</b>	<b>\$1,500,000</b>

COUNTY: HARNETT DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$54,000.00	\$54,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$30,000.00	\$30,000.00
0003	0043000000-N	226	GRADING	1	LS	\$259,000.00	\$259,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	2,410	TON	\$40.00	\$96,400.00
0005	1275000000-E	600	PRIME COAT	2,270	GAL	\$12.50	\$28,375.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	680	TON	\$150.00	\$102,000.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	45	TON	\$600.00	\$27,000.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	1,010	LF	\$30.00	\$30,300.00
0008	3030000000-E	862	STEEL BM GUARDRAIL	260	LF	\$50.00	\$13,000.00
0009	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$22,000.00	\$22,000.00
0010			WOOD BOARD FENCE	235	LF	\$45.00	\$10,575.00
0011			UTILITY POLE RELOCATION	3	EA	\$20,000.00	\$60,000.00
0012			TRANSFORMER RELOCATION	1	EA	\$5,000.00	\$5,000.00
0013			DRAINAGE ALLOWANCE	1	LS	\$170,000.00	\$170,000.00
0014			EROSION CONTROL ALLOWANCE	1	LS	\$43,000.00	\$43,000.00
0015			MINOR ITEMS (5%)	1	LS	\$43,000.00	\$43,000.00

CONSTRUCTION COST SUBTOTAL	\$994,000.00
CONTINGENCY (30%)	\$298,200.00
OPINION OF PROBABLE CONSTRUCTION COST	\$1,292,200.00
NCDOT ADMINISTRATION FEE (10%)	\$129,220.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2020)</b>	<b>\$1,421,420.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY \_\_\_\_\_ CJA  
 DATE \_\_\_\_\_ 11/2/2020





**PLANNING ESTIMATE  
HARNETT BICYCLE & PEDESTRIAN PLAN**

**RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK:  
SEGMENT 4 - ALONG W DUNCAN ST FROM RAILROAD, ALONG 8TH ST TO CAPE FEAR RIVER**

LOCATION:

DESCRIPTION:

**1720 LF 10' WIDE ASPHALT SIDE PATH**

**430 LF 12' WIDE ASPHALT SHARED USE PATH**

<b>TOTAL LENGTH:</b>	<b>0.4 MILES</b>
<b>EST. CONSTRUCTION COST:*</b>	<b>\$810,000</b>

COUNTY: HARNETT

DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$31,000.00	\$31,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$10,000.00	\$10,000.00
0003	0043000000-N	226	GRADING	1	LS	\$86,000.00	\$86,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	1,060	TON	\$40.00	\$42,400.00
0005	1275000000-E	600	PRIME COAT	950	GAL	\$12.50	\$11,875.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	290	TON	\$150.00	\$43,500.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	20	TON	\$600.00	\$12,000.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	280	LF	\$30.00	\$8,400.00
0009	2605000000-N	848	CONCRETE CURB RAMP	4	EA	\$3,000.00	\$12,000.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,000.00	\$10,000.00
0011			CHAIN LINK FENCE	380	LF	\$30.00	\$11,400.00
0012			TRANSFORMER RELOCATION	1	EA	\$5,000.00	\$5,000.00
0013			FIRE HYDRANT RELOCAITON	1	EA	\$1,500.00	\$1,500.00
0014			TRAIL RAILROAD CROSSING	1	LS	\$200,000.00	\$200,000.00
0015			DRAINAGE ALLOWANCE	1	LS	\$30,000.00	\$30,000.00
0016			EROSION CONTROL ALLOWANCE	1	LS	\$20,000.00	\$20,000.00
0017			MINOR ITEMS (5%)	1	LS	\$25,000.00	\$25,000.00

CONSTRUCTION COST SUBTOTAL	\$561,000.00
CONTINGENCY (30%)	\$168,300.00
OPINION OF PROBABLE CONSTRUCTION COST	\$729,300.00
NCDOT ADMINISTRATION FEE (10%)	\$72,930.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2020)</b>	<b>\$802,230.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

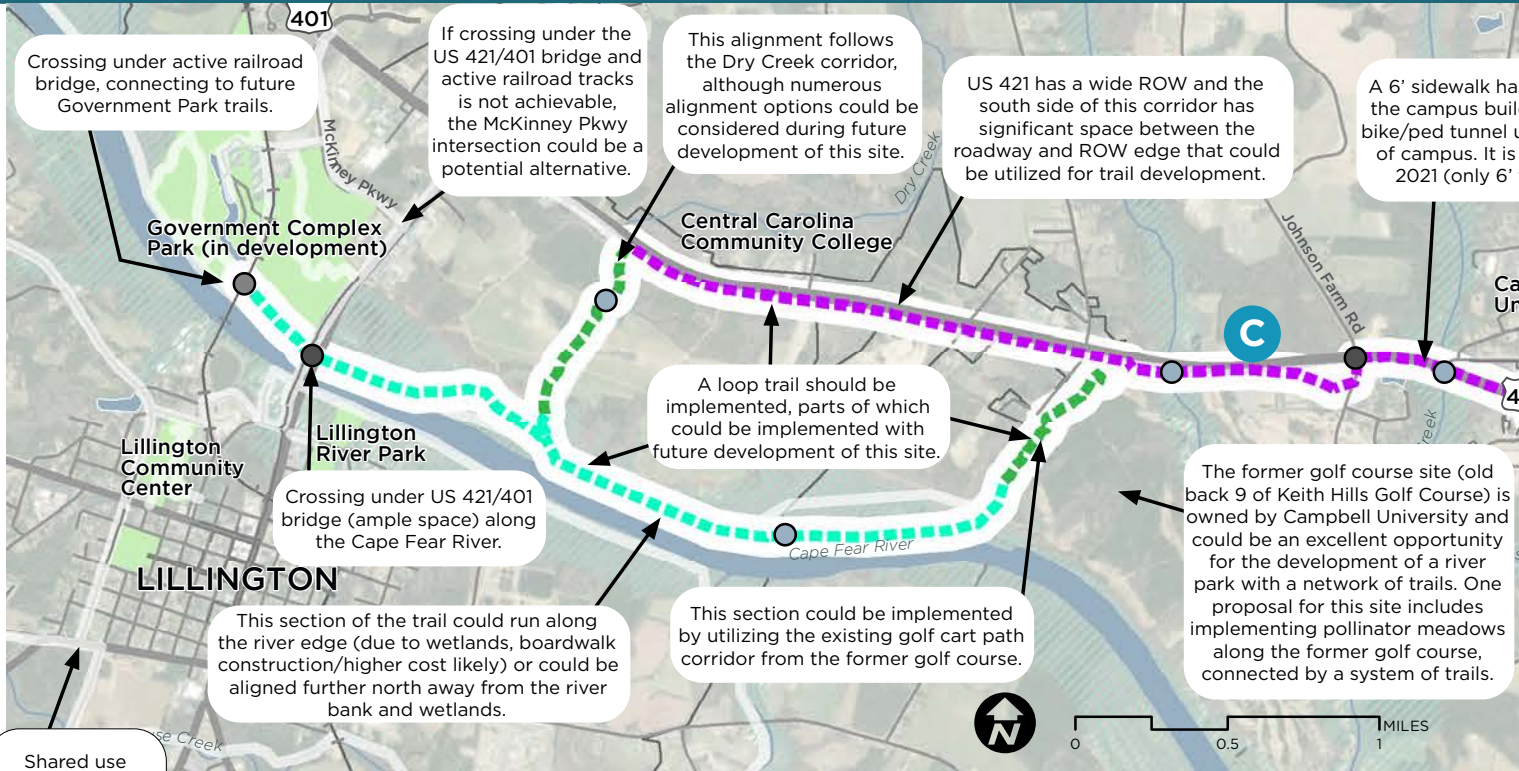
EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

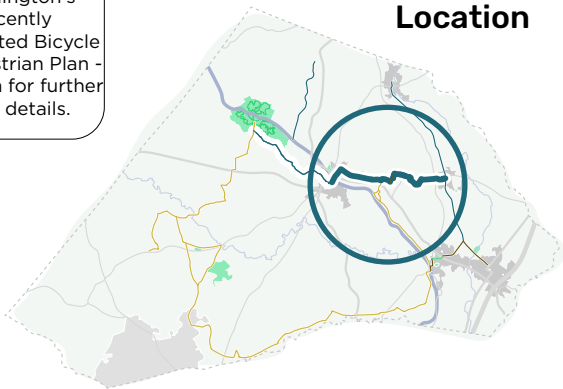
COMPUTED BY CJA  
DATE 11/2/2020



# C D Lillington to Coats

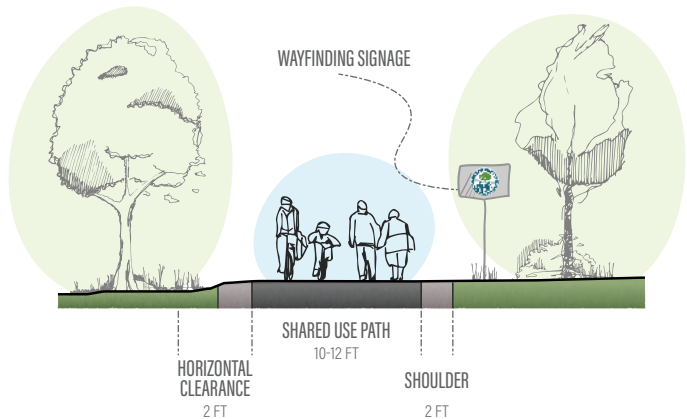


## Location

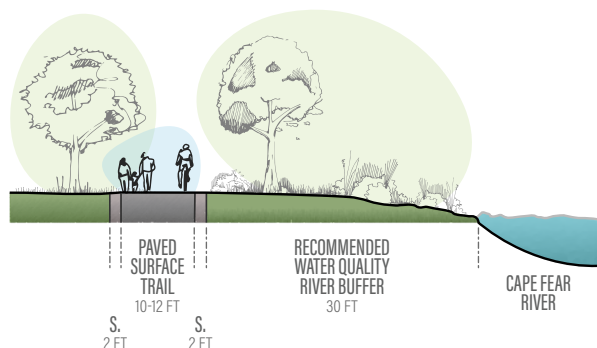


## PROPOSED TRAIL CROSS-SECTIONS

### Shared Use Path ■■■



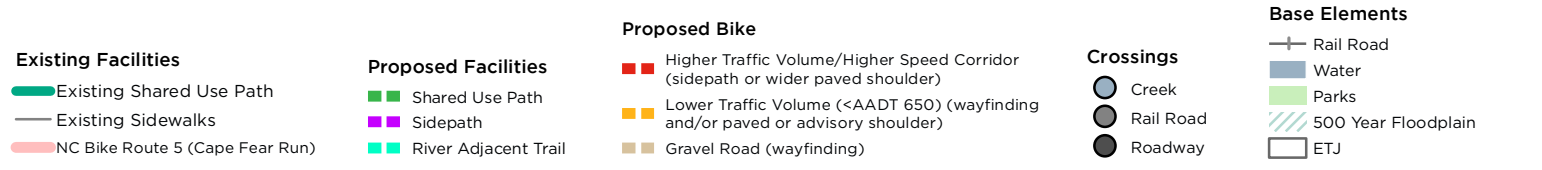
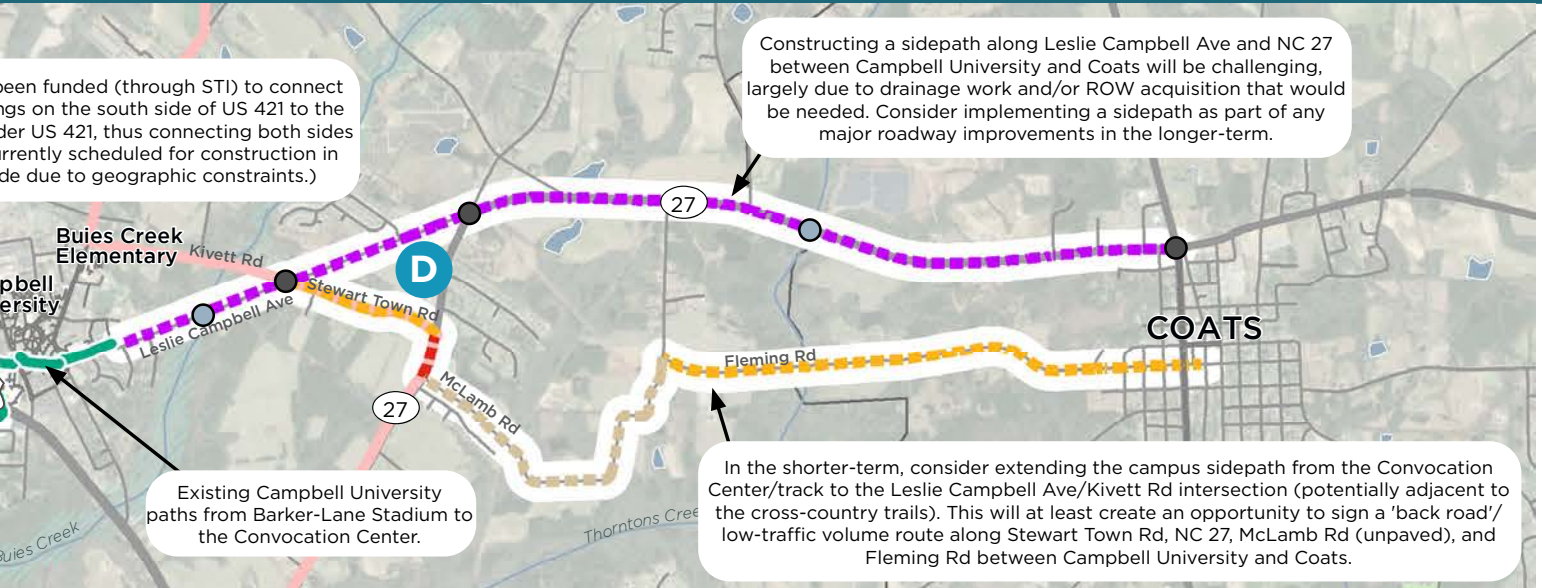
### River Adjacent Trail ■■■



**Total Length:** 11 miles

### Implementation Stakeholders:

- » Harnett County
- » Campbell University
- » Town of Lillington
- » Town of Coats
- » NCDOT
- » Mid-Carolina RPO
- » Norfolk Southern
- » Adjacent Landowners

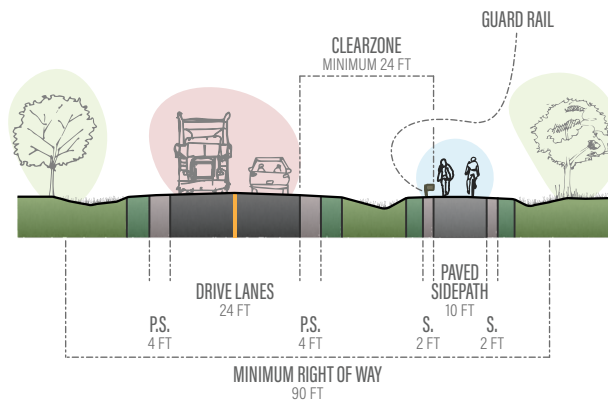


## PROPOSED TRAIL CROSS-SECTIONS (CONTINUED)

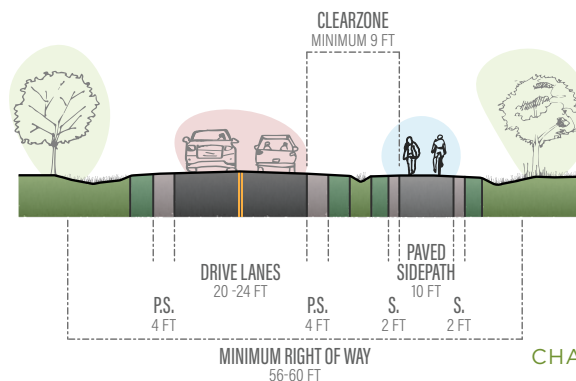
### NCDOT SIDEPATH CROSS-SECTIONS:

\*See page 38 for additional information related to *NCDOT Highway Typical Sections* and sidepaths

### Major Highway Sidepath



### Minor Highway Sidepath







# C D Lillington to Coats

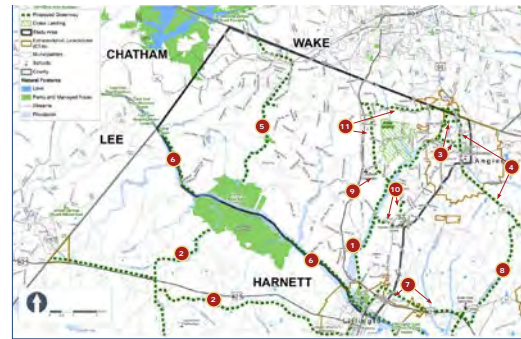
## SUPPORT IN PREVIOUS PLANS

This project has been identified in numerous local and regional plans over the past five years. Below is a snapshot of these plans highlighting elements of, or the entirety of this project.

### Lillington Bicycle & Pedestrian Plan (2020)



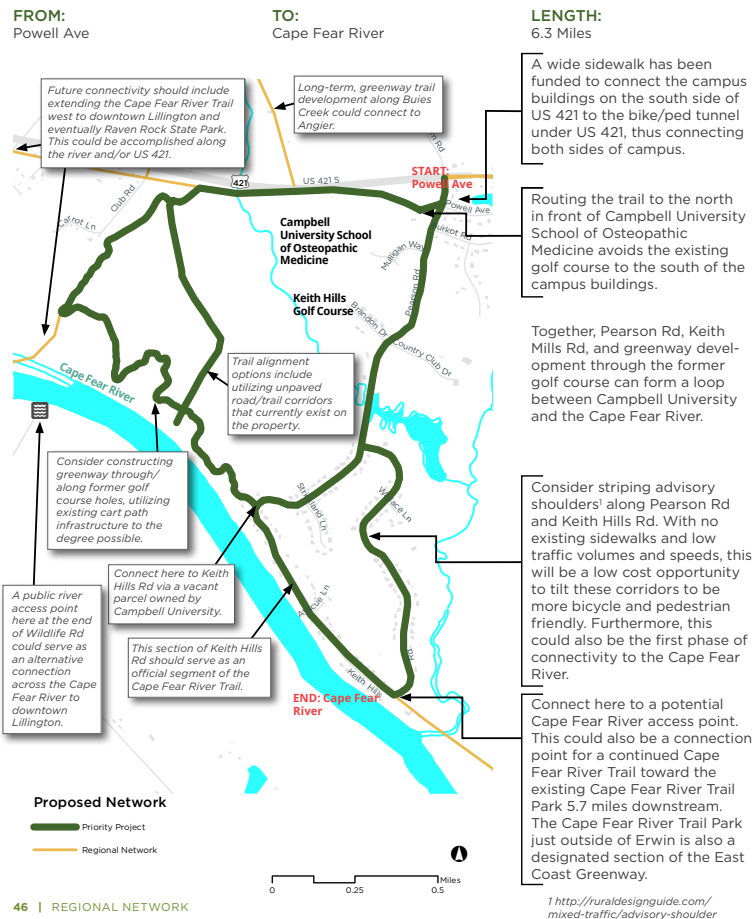
### Harnett County Northwest Area Plan (2019)



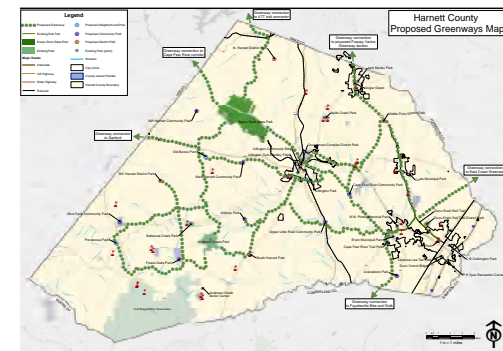
### Grow Harnett County (2018)



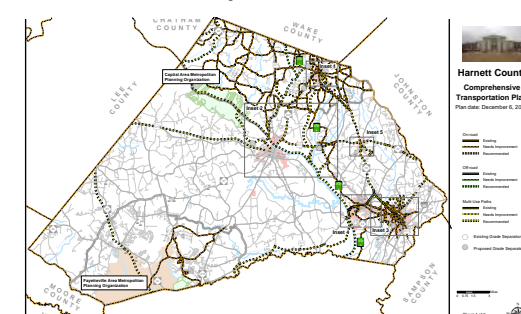
### Sandhills Regional Bicycle Plan (2019)



### Harnett County Parks & Recreation, Greenways, and Blueway Master Plan (2017)



### Harnett County CTP (2016)





NC License #P-1301

## PLANNING ESTIMATE HARNETT BICYCLE & PEDESTRIAN PLAN

LOCATION: **LILLINGTON TO COATS**

DESCRIPTION: **15970 LF 12' WIDE ASPHALT SHARED USE PATH**  
**35690 LF 10' WIDE ASPHALT SIDE PATH**  
**1900 LF WOOD BOARDWALK**  
**190 LF PEDESTRIAN BRIDGE**  
**3,300 LF UTILIZE EXISTING GOLF CART PATH**

<b>TOTAL LENGTH:</b>	<b>11 MILES</b>
<b>EST. CONSTRUCTION COST:*</b>	<b>\$13,400,000</b>

COUNTY: HARNETT DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$508,000.00	\$508,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$290,000.00	\$290,000.00
0004	0043000000-N	226	GRADING	1	LS	\$2,729,000.00	\$2,729,000.00
0005	1121000000-E	520	AGGREGATE BASE COURSE	23,500	TON	\$40.00	\$940,000.00
0006	1275000000-E	600	PRIME COAT	23,340	GAL	\$12.50	\$291,750.00
0007	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	6,940	TON	\$150.00	\$1,041,000.00
0008	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	420	TON	\$600.00	\$252,000.00
0009	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	9,600	LF	\$30.00	\$288,000.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$50,000.00	\$50,000.00
0011			PEDESTRIAN BRIDGE	190	LF	\$3,000.00	\$570,000.00
0012			10' WIDE WOOD BOARDWALK	1,900	LF	\$600.00	\$1,140,000.00
0013			DRAINAGE ALLOWANCE	1	LS	\$295,000.00	\$295,000.00
0014			EROSION CONTROL ALLOWANCE	1	LS	\$508,000.00	\$508,000.00
0015			MINOR ITEMS (5%)	1	LS	\$405,000.00	\$405,000.00

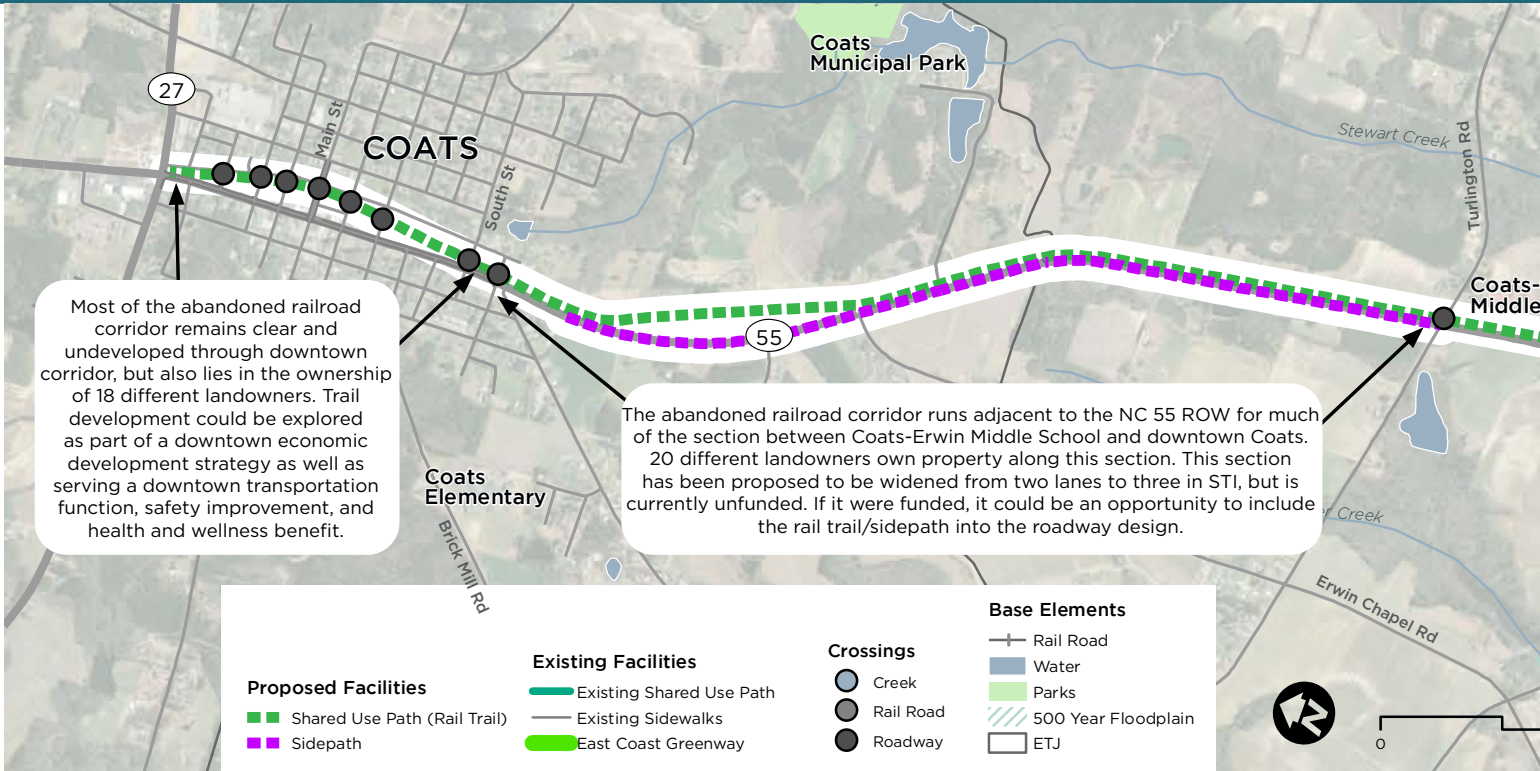
CONSTRUCTION COST SUBTOTAL	\$9,308,000.00
CONTINGENCY (30%)	\$2,792,400.00
OPINION OF PROBABLE CONSTRUCTION COST	\$12,100,400.00
NCDOT ADMINISTRATION FEE (10%)	\$1,210,040.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2019)</b>	<b>\$13,310,440.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 BASED ON 2019 UNIT PRICES, INFLATION NOT INCLUDED.  
 EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.  
 EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.  
 BOARDWALK: ASSUMES WOOD BOARDWALK. IF CONCRETE BOARDWALK INSTALLED, EXPECT GREATER UNIT COST \$1000/LF OR MORE.

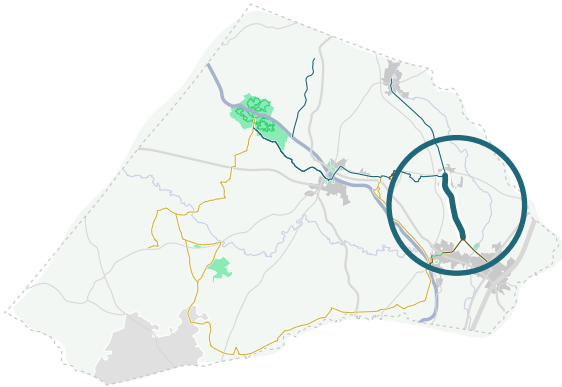
COMPUTED BY CJA  
 DATE 9/15/2020



# E Coats to Dunn-Erwin Rail Trail



## Location



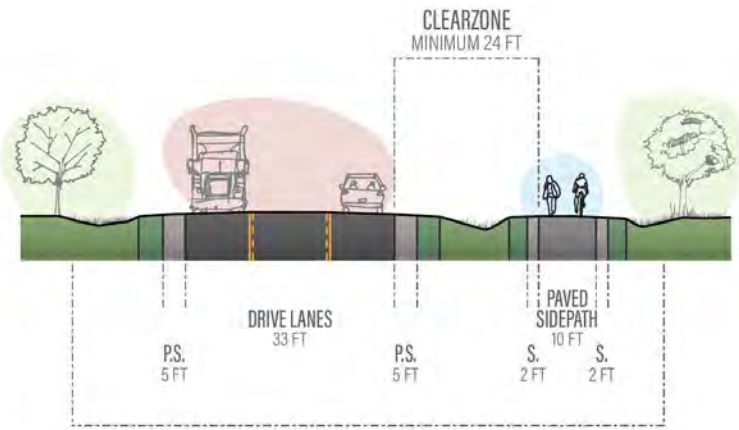
**Total Length:** 5 miles

## Implementation Stakeholders:

- » Harnett County
- » Town of Coats
- » NCDOT
- » Mid-Carolina RPO
- » Adjacent Landowners

## PROPOSED TRAIL CROSS-SECTIONS

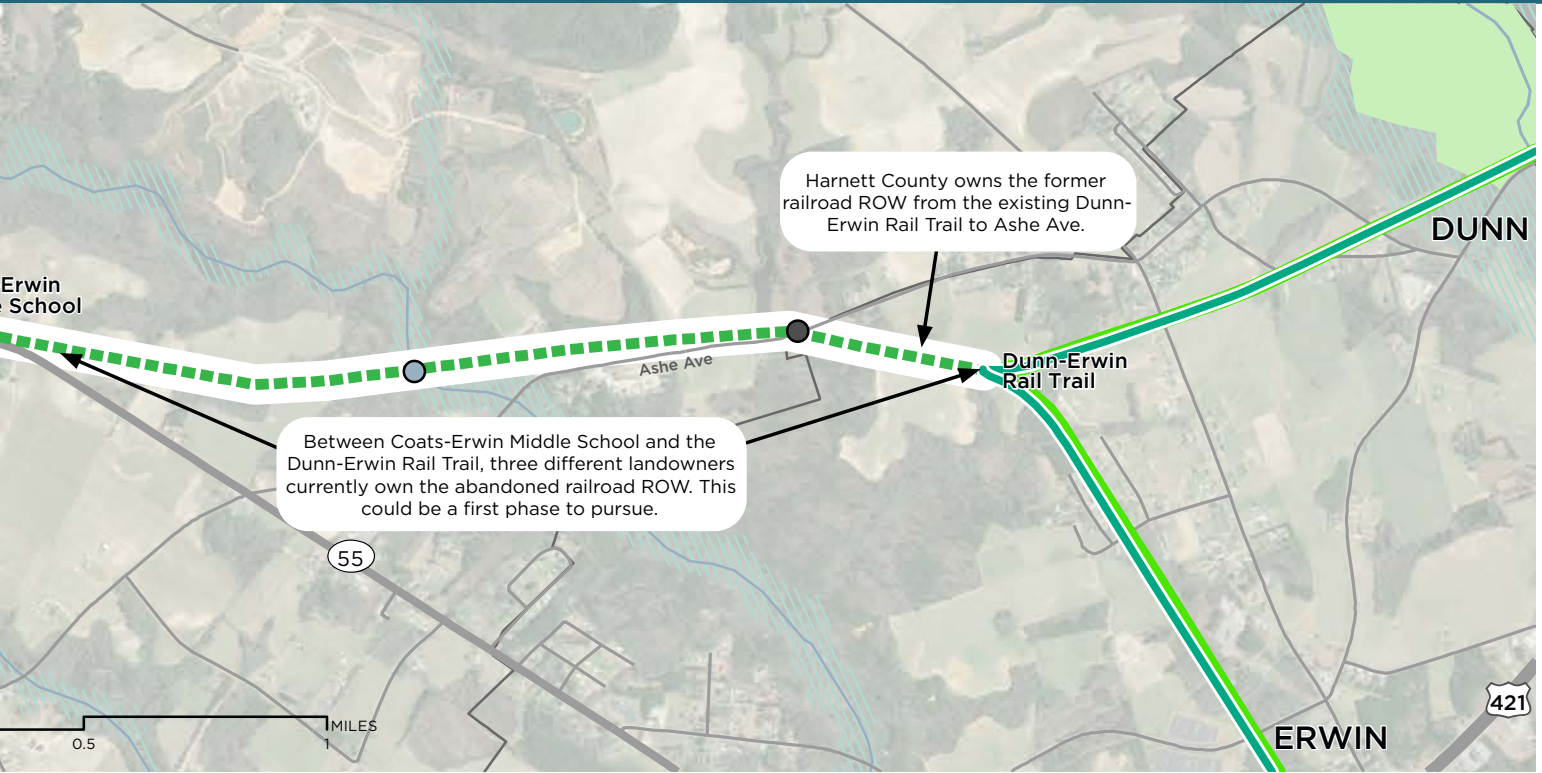
### 3 Lane Road & Sidepath



### NCDOT SIDEPATH CROSS-SECTIONS:

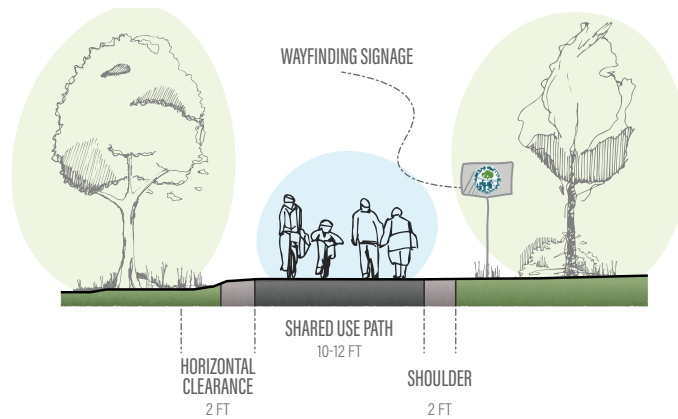
\*See page 38 for additional information related to NCDOT Highway Typical Sections and sidepaths





## PROPOSED TRAIL CROSS-SECTIONS (CONTINUED)

### Shared Use Path ■■■







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## PLANNING ESTIMATE HARNETT BICYCLE & PEDESTRIAN PLAN

LOCATION: **COATS TO DUNN-ERWIN RAIL TRAIL**

DESCRIPTION: **18700 LF 12' WIDE ASPHALT SHARED USE PATH  
7400 LF 10' WIDE ASPHALT SIDE PATH**

**TOTAL LENGTH: 5 MILES**  
**EST. CONSTRUCTION COST:\* \$4,800,000**

COUNTY: HARNETT

DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$179,000.00	\$179,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$130,000.00	\$130,000.00
0003	0043000000-N	226	GRADING	1	LS	\$1,060,000.00	\$1,060,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	12,700	TON	\$40.00	\$508,000.00
0005	1275000000-E	600	PRIME COAT	12,620	GAL	\$12.50	\$157,750.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	3,770	TON	\$150.00	\$565,500.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	230	TON	\$600.00	\$138,000.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	300	LF	\$30.00	\$9,000.00
0009	2605000000-N	848	CONCRETE CURB RAMP	11	EA	\$3,000.00	\$33,000.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$25,000.00	\$25,000.00
0011			DRAINAGE ALLOWANCE	1	LS	\$25,000.00	\$25,000.00
0012			EROSION CONTROL ALLOWANCE	1	LS	\$336,000.00	\$336,000.00
0013			MINOR ITEMS (5%)	1	LS	\$143,000.00	\$143,000.00

CONSTRUCTION COST SUBTOTAL	\$3,310,000.00
CONTINGENCY (30%)	\$993,000.00
OPINION OF PROBABLE CONSTRUCTION COST	\$4,303,000.00
NCDOT ADMINISTRATION FEE (10%)	\$430,300.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2019)</b>	<b>\$4,733,300.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

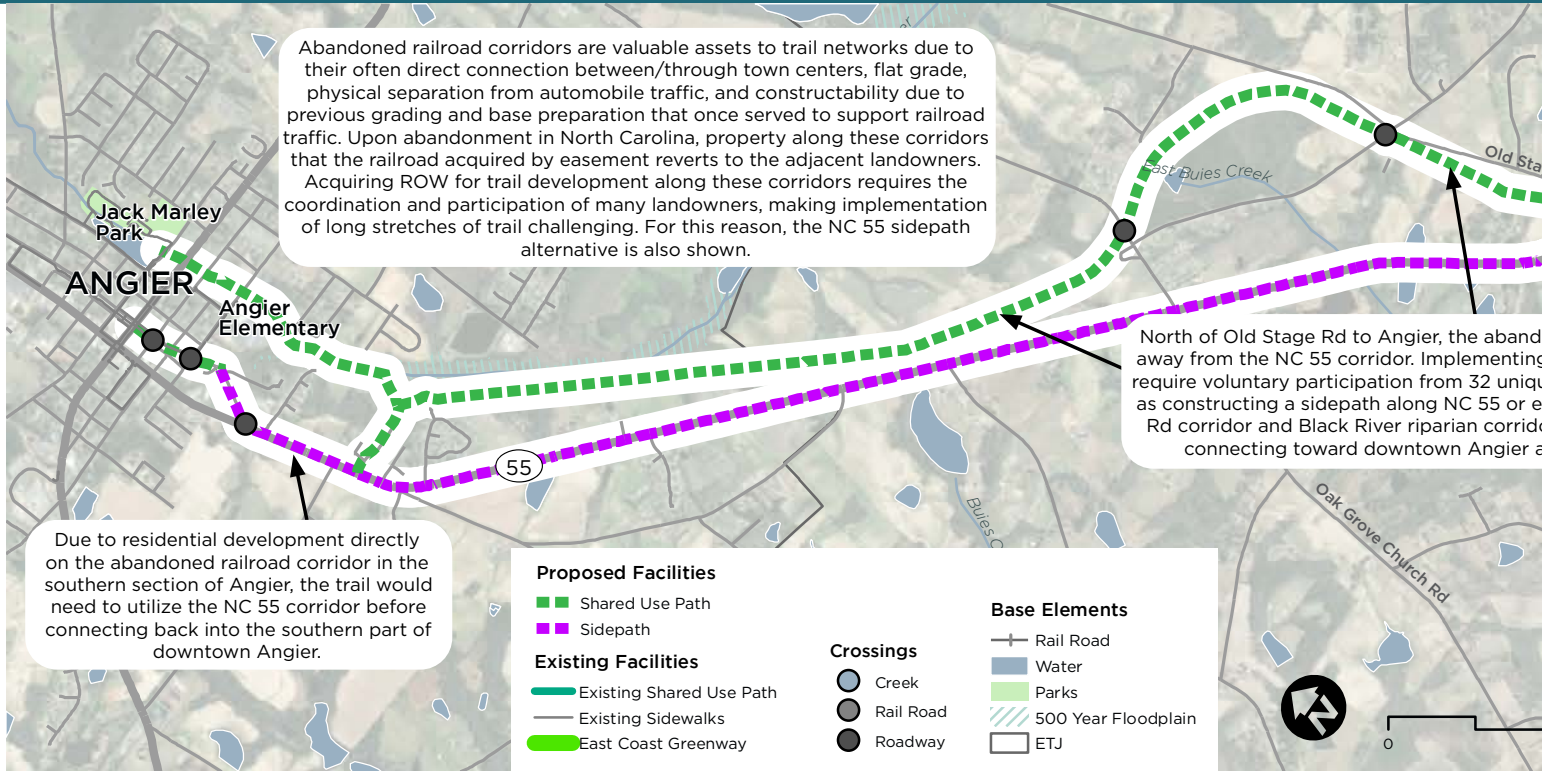
EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY CJA  
DATE 9/15/2020

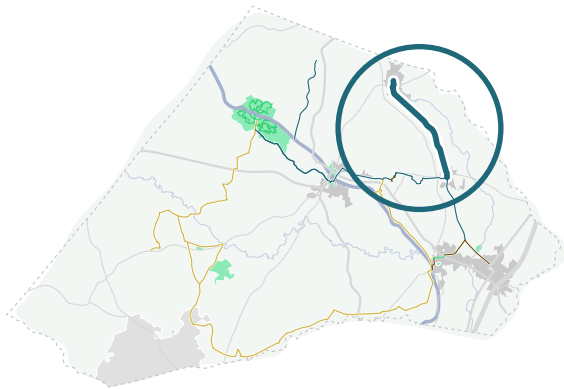




# F Coats to Angier Rail Trail

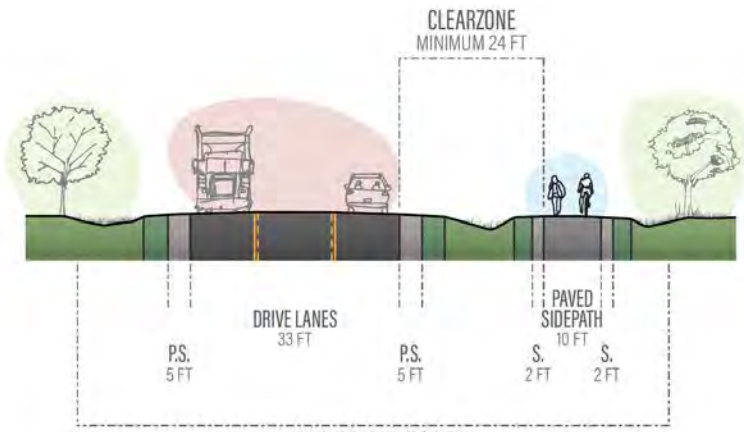


## Location



## PROPOSED TRAIL CROSS-SECTIONS

### 3 Lane Road & Sidepath

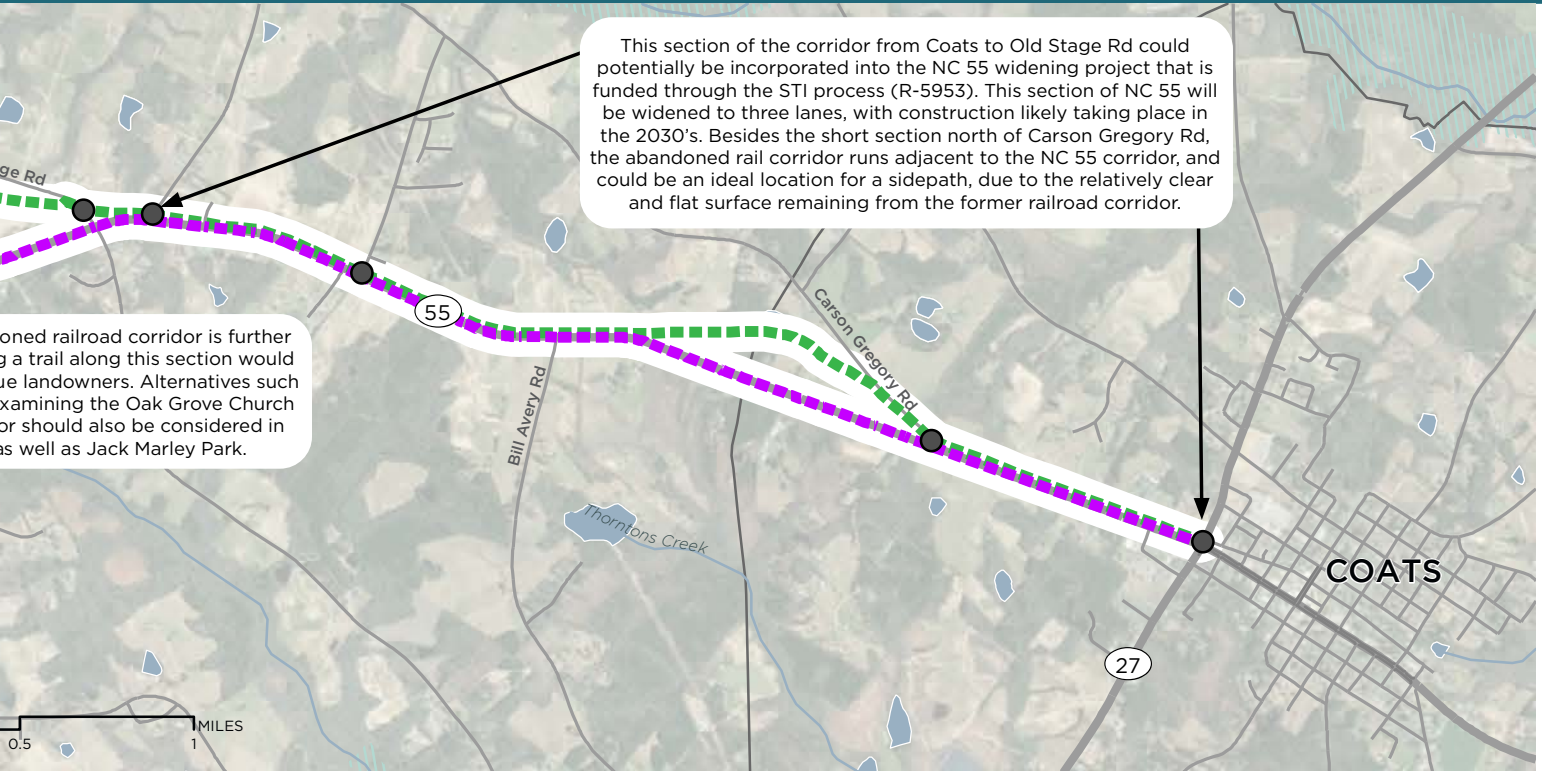


*NCDOT SIDEPATH CROSS-SECTIONS:*  
See page 38 for additional information related to NCDOT Highway Typical Sections and sidepaths.

**Total Length:** 8.4 miles

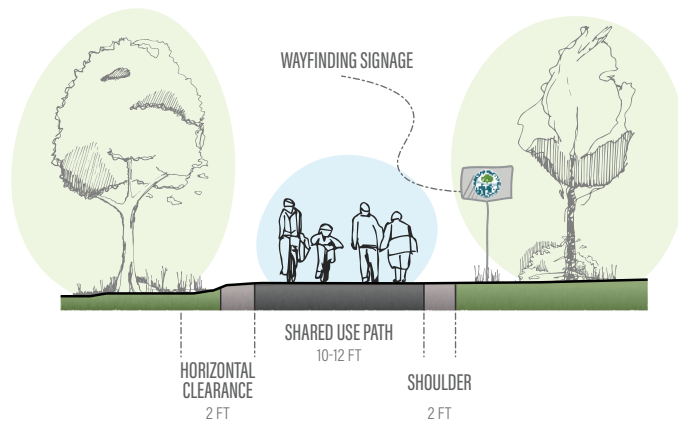
### Implementation Stakeholders:

- » Harnett County
- » Town of Coats
- » Town of Angier
- » NCDOT
- » Mid-Carolina RPO
- » Capital Area MPO
- » Adjacent Landowners



**PROPOSED TRAIL CROSS-SECTIONS (CONTINUED)**

**Shared Use Path ■■■**











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## PLANNING ESTIMATE HARNETT BICYCLE & PEDESTRIAN PLAN

LOCATION: **COATS TO ANGIER RAIL TRAIL**

DESCRIPTION: **38920 LF 12' WIDE ASPHALT SHARED USE PATH**  
**5190 LF 10' WIDE ASPHALT SIDE PATH**

<b>TOTAL LENGTH:</b>	<b>8.4 MILES</b>
<b>EST. CONSTRUCTION COST:*</b>	<b>\$9,900,000</b>

COUNTY: HARNETT DIVISION: 6

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$373,000.00	\$373,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$220,000.00	\$220,000.00
0003	0043000000-N	226	GRADING	1	LS	\$2,125,000.00	\$2,125,000.00
0004	1121000000-E	520	AGGREGATE BASE COURSE	22,000	TON	\$40.00	\$880,000.00
0005	1275000000-E	600	PRIME COAT	21,900	GAL	\$12.50	\$273,750.00
0006	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	6,550	TON	\$150.00	\$982,500.00
0007	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	395	TON	\$600.00	\$237,000.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	1,690	LF	\$30.00	\$50,700.00
0009	2605000000-N	848	CONCRETE CURB RAMP	18	EA	\$3,000.00	\$54,000.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$75,000.00	\$75,000.00
0011			UTILITY POLE RELOCATION	10	EA	\$20,000.00	\$200,000.00
0012			LIGHT POLE RELOCATION	5	EA	\$3,000.00	\$15,000.00
0013			PEDESTRIAN BRIDGE	120	LF	\$3,000.00	\$360,000.00
0014			PEDESTRIAN TRAFFIC SIGNALS: STEWART/MCKINLEY INTERSECTION	1	LS	\$15,000.00	\$15,000.00
0015			DRAINAGE ALLOWANCE	1	LS	\$93,000.00	\$93,000.00
0016			EROSION CONTROL ALLOWANCE	1	LS	\$623,000.00	\$623,000.00
0017			MINOR ITEMS (5%)	1	LS	\$299,000.00	\$299,000.00

CONSTRUCTION COST SUBTOTAL	\$6,876,000.00
CONTINGENCY (30%)	\$2,062,800.00
OPINION OF PROBABLE CONSTRUCTION COST	\$8,938,800.00
NCDOT ADMINISTRATION FEE (10%)	\$893,880.00
<b>OPINION OF TOTAL CONSTRUCTION COST (2019)</b>	<b>\$9,832,680.00</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2020 UNIT PRICES, INFLATION NOT INCLUDED.

EXCLUDES SPECIAL LANDSCAPING, LIGHTING, AND GREEN INFRASTRUCTURE.

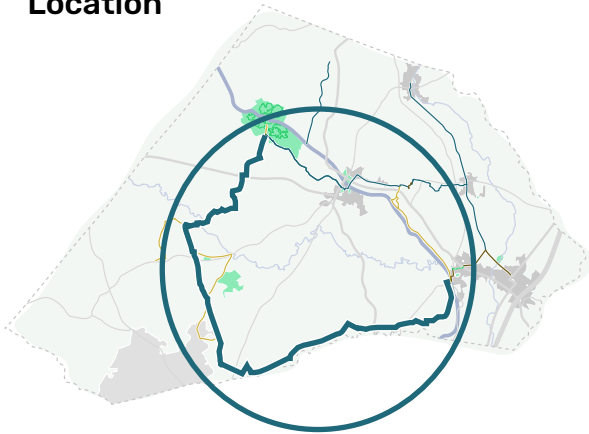
EXCLUDES ROW ACQUISITION, ENGINEERING DESIGN, PERMITTING, AND CONSTRUCTION ENGINEERING & INSPECTION.

COMPUTED BY CJA  
DATE 9/15/2020



# G SW Harnett County Bicycle Loop

## Location



## Implementation Stakeholders:

- » Harnett County
- » NCDOT
- » Mid-Carolina RPO
- » Fayetteville Area MPO
- » NC State Parks
- » East Coast Greenway Alliance

## PROPOSED BIKE ROUTE CROSS-SECTIONS

### Paved Shoulder

## Total Length: 41 miles

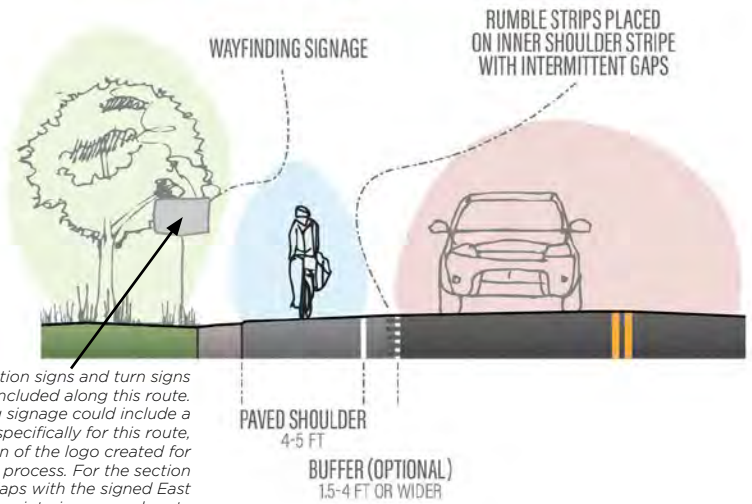
- » Raven Rock State Park to Barbecue (13 miles)
- » Barbecue to Overhills schools (7 miles)
- » Overhills schools to Cape Fear River Trail Park (21 miles)

## Support in Previous Plans

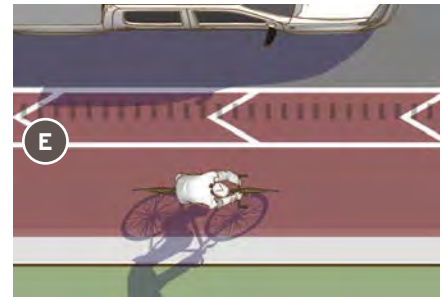
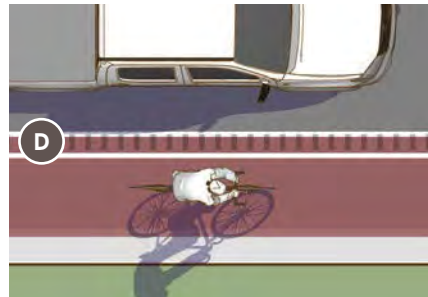
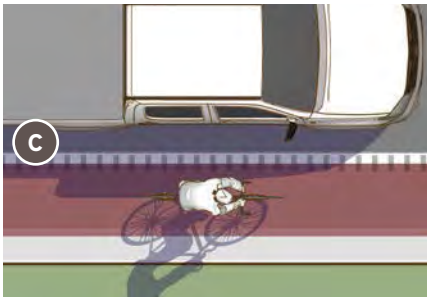
- » Sandhills Regional Bicycle Plan (2019)
- » Harnett County CTP (2016)

## Cost Considerations

Paved shoulder improvements should be coordinated with NCDOT during resurfacing or major roadway rehabilitation projects to the extent possible. The NCDOT bicycle/pedestrian cost estimator tool, accessed here - <https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx>, can provide further insight to a range of potential costs for paved shoulder improvements.



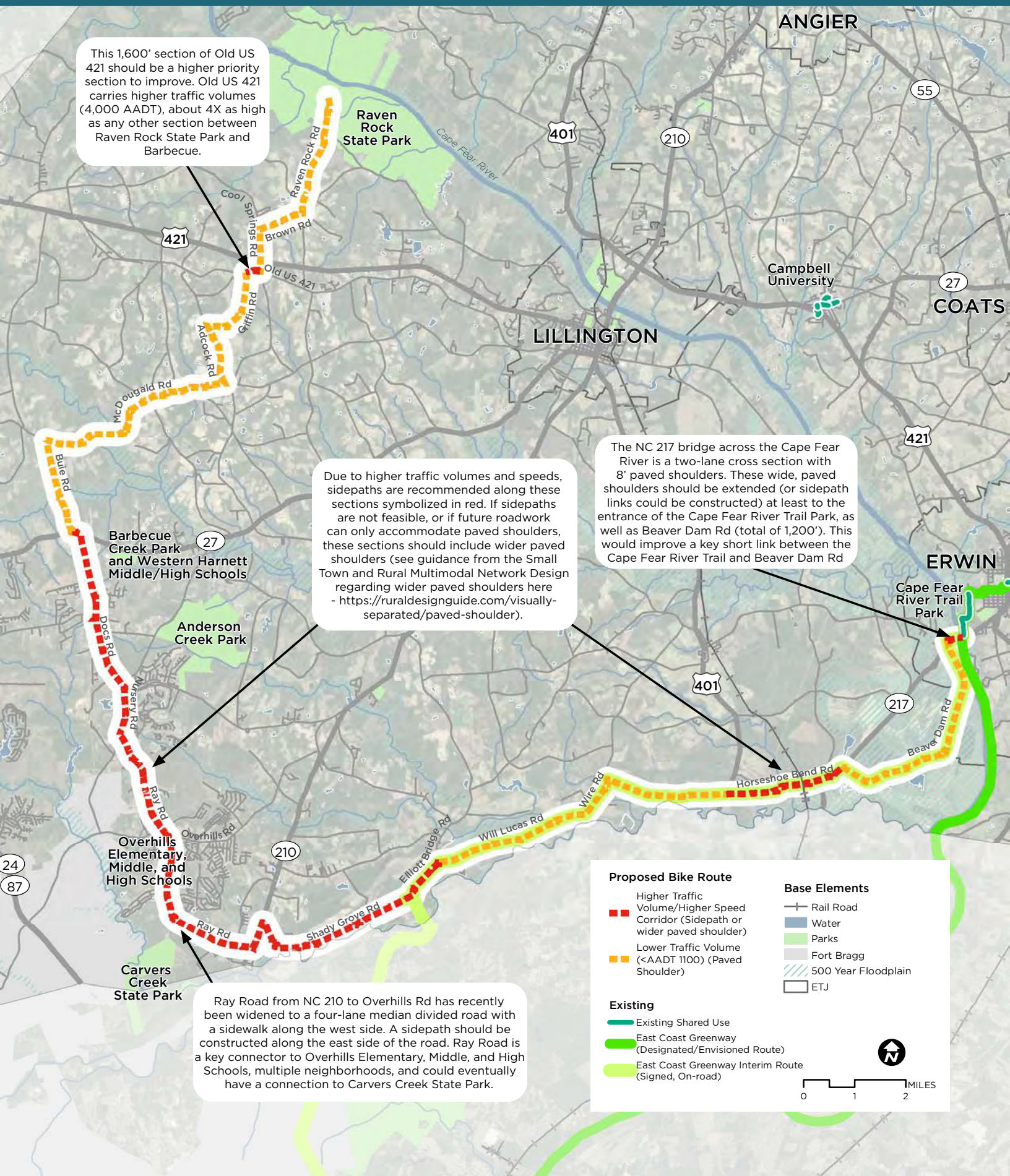
Confirmation signs and turn signs should be included along this route. This wayfinding signage could include a logo designed specifically for this route, or use a version of the logo created for this planning process. For the section that overlaps with the signed East Coast Greenway interim on-road route (see map on following page), signage placement should be coordinated with the East Coast Greenway Alliance.



The Small Town and Rural Multimodal Network Design Guide provides detailed guidance on best practices and options for creating bicycle friendly paved shoulders. The graphic above (page 3-7 of the guide) and table to the right (page 3-5) show the types of widths as well as rumble strip placement that enhance safety for both bicyclists and motorists (<https://ruraldesignguide.com/visually-separated/paved-shoulder>).

Functional classification	Volume (AADT)	Speed (Mi/h)	Recommended Minimum Paved Shoulder Width
Minor Collector	up to 1,100	35 (55 km/h)	5 ft (1.5 m)
Major Collector	up to 2,600	45 (70 km/h)	6.5 ft (2.0 m)
Minor Arterial	up to 6,000	55 (90 km/h)	7 ft (2.1 m)
Principal Arterial	up to 8,500	65 (100 km/h)	8 ft (2.4 m)





This 1,600' section of Old US 421 should be a higher priority section to improve. Old US 421 carries higher traffic volumes (4,000 AADT), about 4X as high as any other section between Raven Rock State Park and Barbecue.

Due to higher traffic volumes and speeds, sidepaths are recommended along these sections symbolized in red. If sidepaths are not feasible, or if future roadwork can only accommodate paved shoulders, these sections should include wider paved shoulders (see guidance from the Small Town and Rural Multimodal Network Design regarding wider paved shoulders here - <https://ruralsdesignguide.com/visually-separated/paved-shoulder>).

The NC 217 bridge across the Cape Fear River is a two-lane cross section with 8' paved shoulders. These wide, paved shoulders should be extended (or sidepath links could be constructed) at least to the entrance of the Cape Fear River Trail Park, as well as Beaver Dam Rd (total of 1,200'). This would improve a key short link between the Cape Fear River Trail and Beaver Dam Rd

Ray Road from NC 210 to Overhills Rd has recently been widened to a four-lane median divided road with a sidewalk along the west side. A sidepath should be constructed along the east side of the road. Ray Road is a key connector to Overhills Elementary, Middle, and High Schools, multiple neighborhoods, and could eventually have a connection to Carvers Creek State Park.

**Proposed Bike Route**

- Higher Traffic Volume/Higher Speed Corridor (Sidepath or wider paved shoulder)
- Lower Traffic Volume (<AADT 1100) (Paved Shoulder)

**Existing**

- Existing Shared Use
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)

**Base Elements**

- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ

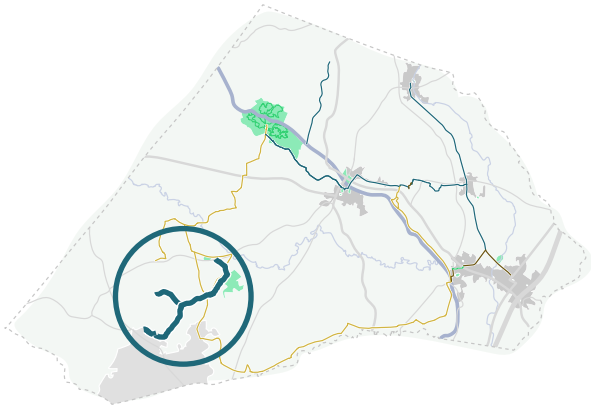
0 1 2 MILES





# H Barbecue to Spout Springs

## Location



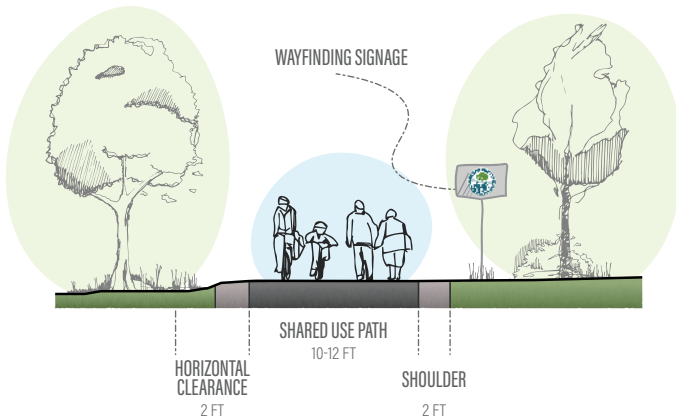
**Total Length:** 13.5 miles

### Implementation Stakeholders:

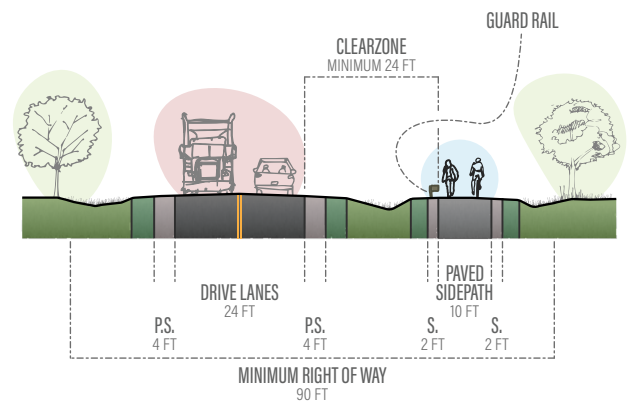
- » Harnett County
- » NCDOT
- » Mid-Carolina RPO
- » Fayetteville Area MPO
- » Carolina Lakes POA
- » Southwest Water and Sewer District
- » Adjacent Landowners

## PROPOSED TRAIL CROSS-SECTIONS

### Shared Use Path ■■■

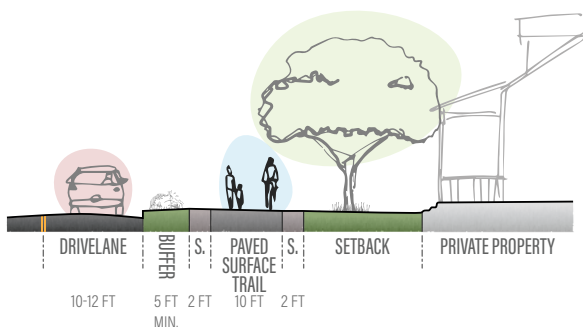


### Major Highway Sidepath ■■■■

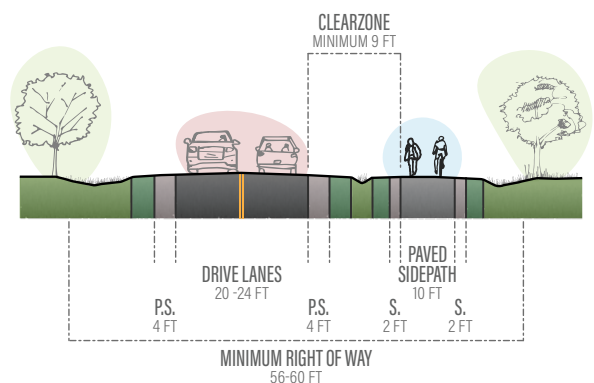


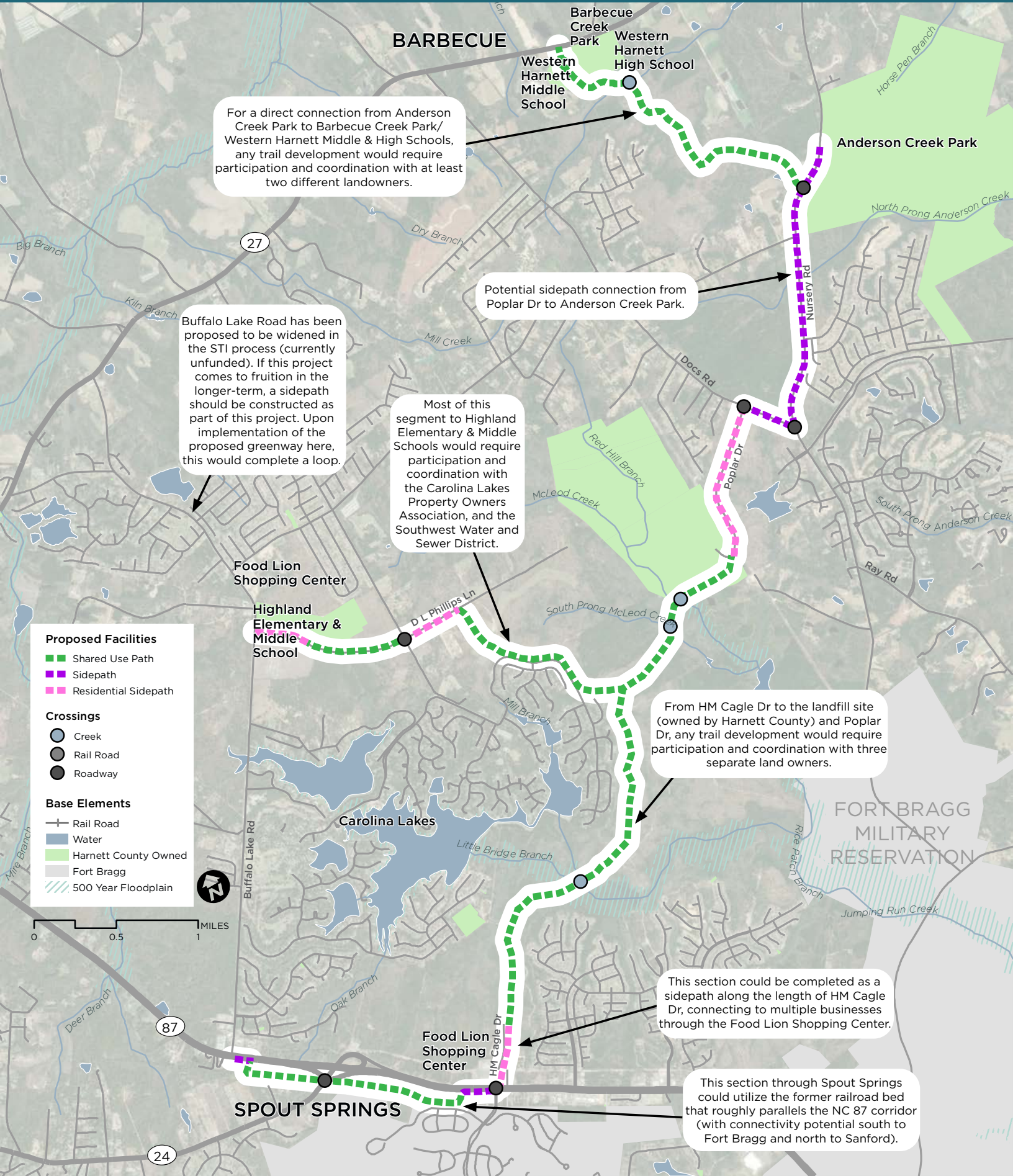
*NCDOT SIDEPATH CROSS-SECTIONS:*  
See page 38 for additional information related to *NCDOT Highway Typical Sections* and sidepaths

### Residential Sidepath ■■■■



### Minor Highway Sidepath ■■■■





### BARBECUE

For a direct connection from Anderson Creek Park to Barbecue Creek Park/Western Harnett Middle & High Schools, any trail development would require participation and coordination with at least two different landowners.

Potential sidepath connection from Poplar Dr to Anderson Creek Park.

Buffalo Lake Road has been proposed to be widened in the STI process (currently unfunded). If this project comes to fruition in the longer-term, a sidepath should be constructed as part of this project. Upon implementation of the proposed greenway here, this would complete a loop.

Most of this segment to Highland Elementary & Middle Schools would require participation and coordination with the Carolina Lakes Property Owners Association, and the Southwest Water and Sewer District.

From HM Cagle Dr to the landfill site (owned by Harnett County) and Poplar Dr, any trail development would require participation and coordination with three separate land owners.

This section could be completed as a sidepath along the length of HM Cagle Dr, connecting to multiple businesses through the Food Lion Shopping Center.

This section through Spout Springs could utilize the former railroad bed that roughly parallels the NC 87 corridor (with connectivity potential south to Fort Bragg and north to Sanford).

**Proposed Facilities**

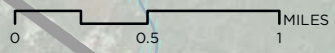
- Shared Use Path
- Sidepath
- Residential Sidepath

**Crossings**

- Creek
- Rail Road
- Roadway

**Base Elements**

- Rail Road
- Water
- Harnett County Owned
- Fort Bragg
- 500 Year Floodplain



87

24

### SPOUT SPRINGS

### FORT BRAGG MILITARY RESERVATION

### CAROLINA LAKES

Barbecue Creek Park  
Western Harnett High School  
Western Harnett Middle School

Anderson Creek Park

Food Lion Shopping Center

Highland Elementary & Middle School

Food Lion Shopping Center

Jumping Run Creek

Rice Patch Branch

South Prong McLeod Creek

Red Hill Branch

McLeod Creek

Docs Rd

Nursery Rd

Poplar Dr

Ray Rd

Horse Pen Branch

North Prong Anderson Creek

South Prong Anderson Creek

27

Mill Creek

Dry Branch

Big Branch

Kiin Branch

Deer Branch

Mill Branch

Little Bridge Branch

Oak Branch

Buffalo Lake Rd

HM Cagle Dr

D L Phillips Ln

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

Poplar Dr

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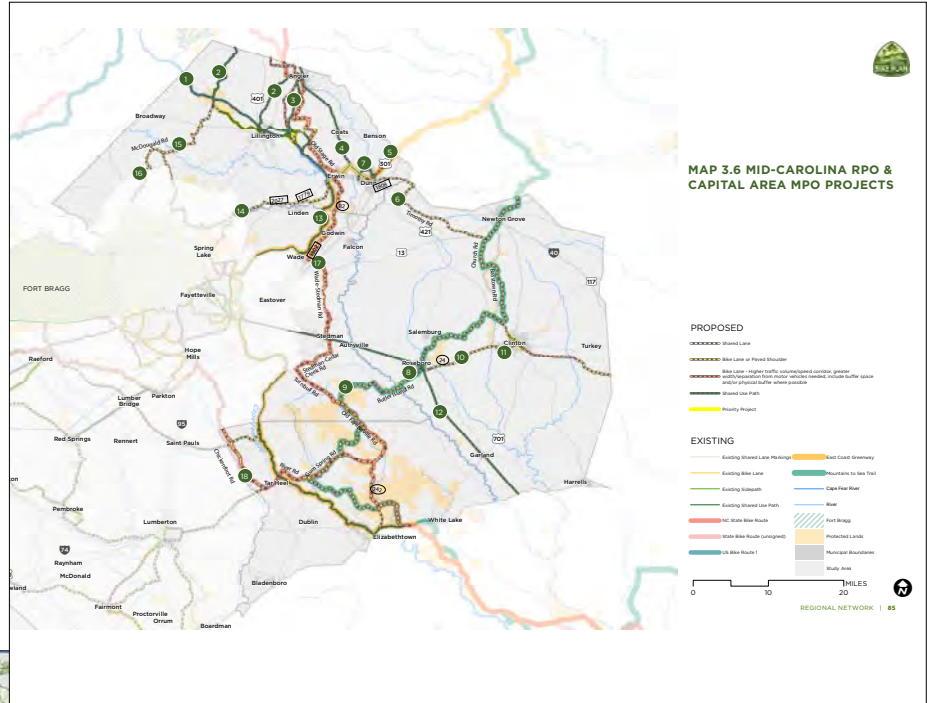


# H Barbecue to Spout Springs

## SUPPORT IN PREVIOUS PLANS

This project has been identified in numerous local and regional plans over the past five years. Below is a snapshot of these plans highlighting elements of, or the entirety of this project.

### Sandhills Regional Bicycle Plan (2019)

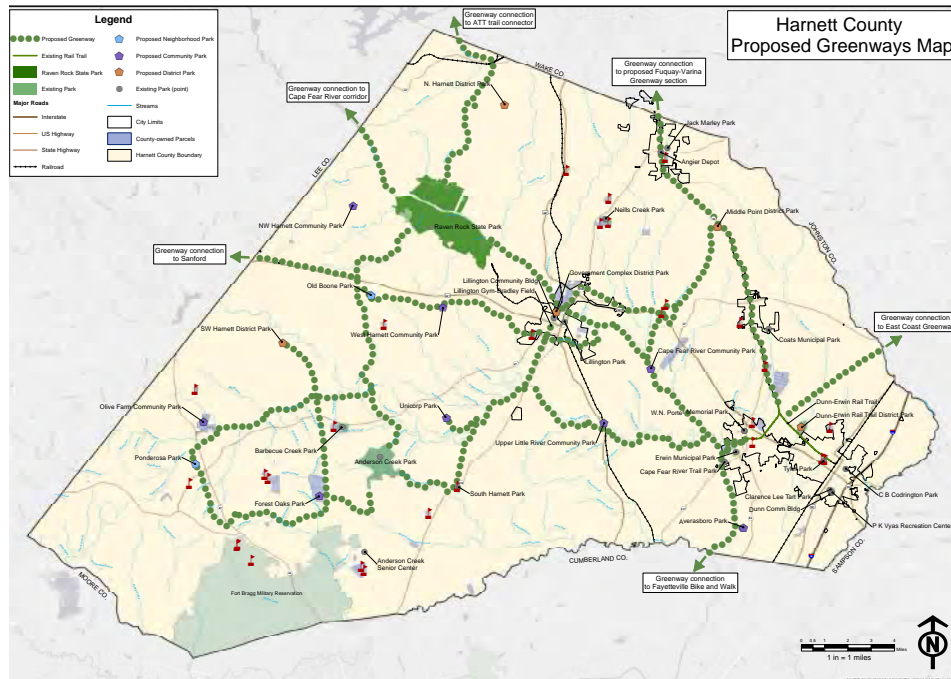


### Grow Harnett County (2018)

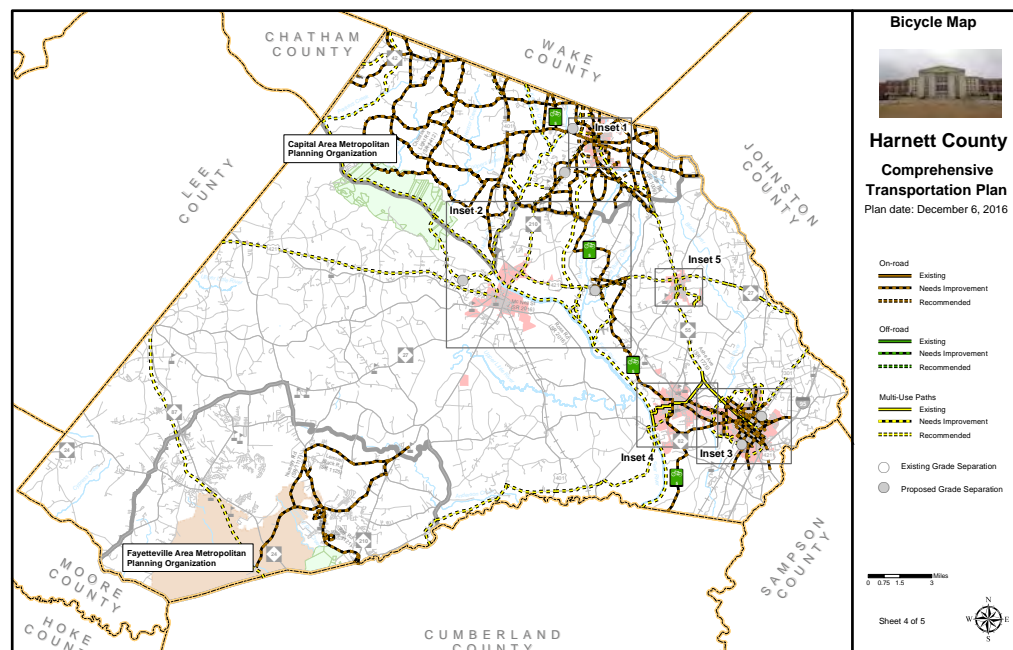




# Harnett County Parks & Recreation, Greenways, and Blueway Master Plan (2017)



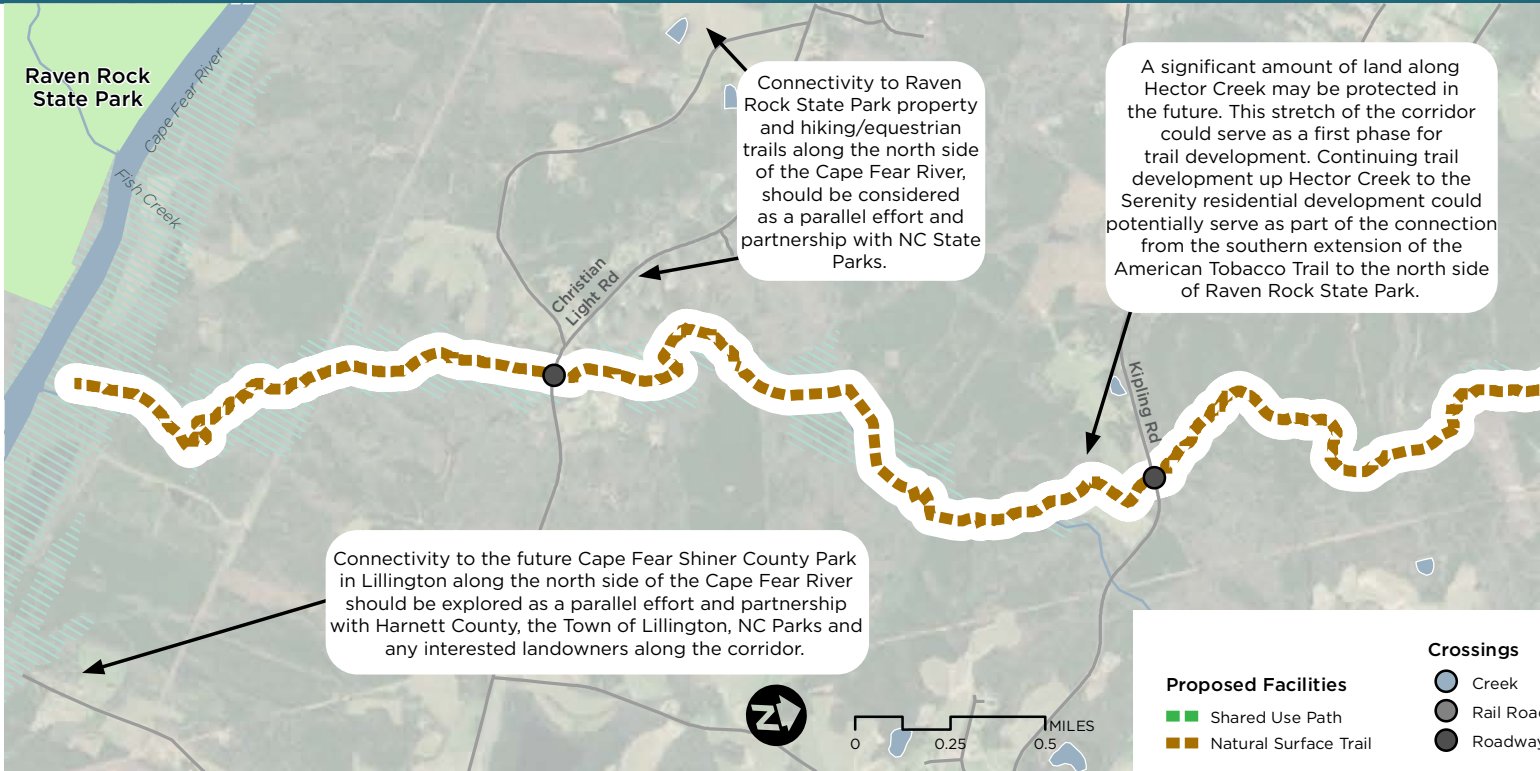
## Harnett County CTP (2016)



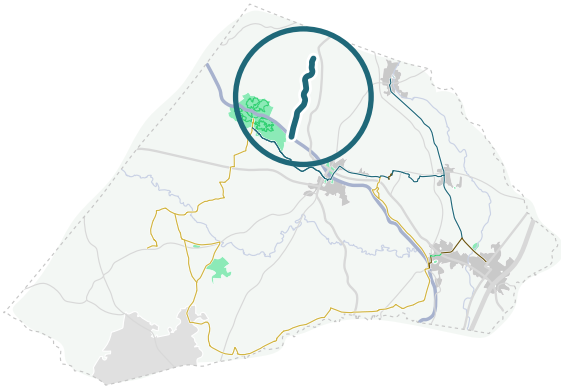
*[Planning level cost estimate TBD through further study]*



# Hector Creek Trail

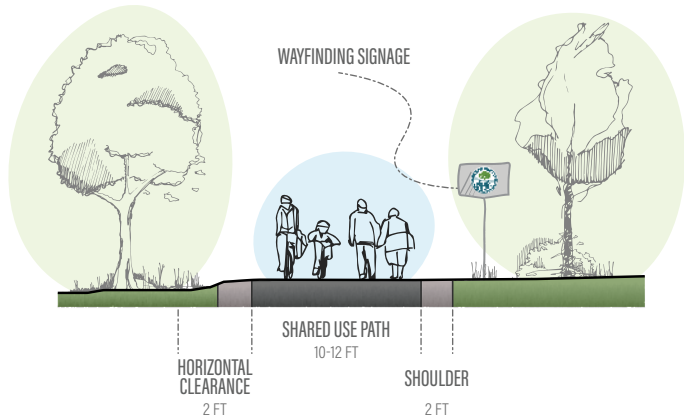


## Location



## PROPOSED TRAIL CROSS-SECTIONS

### Shared Use Path

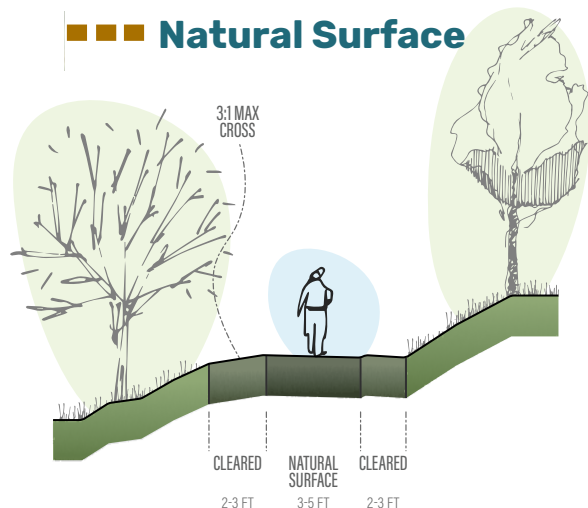


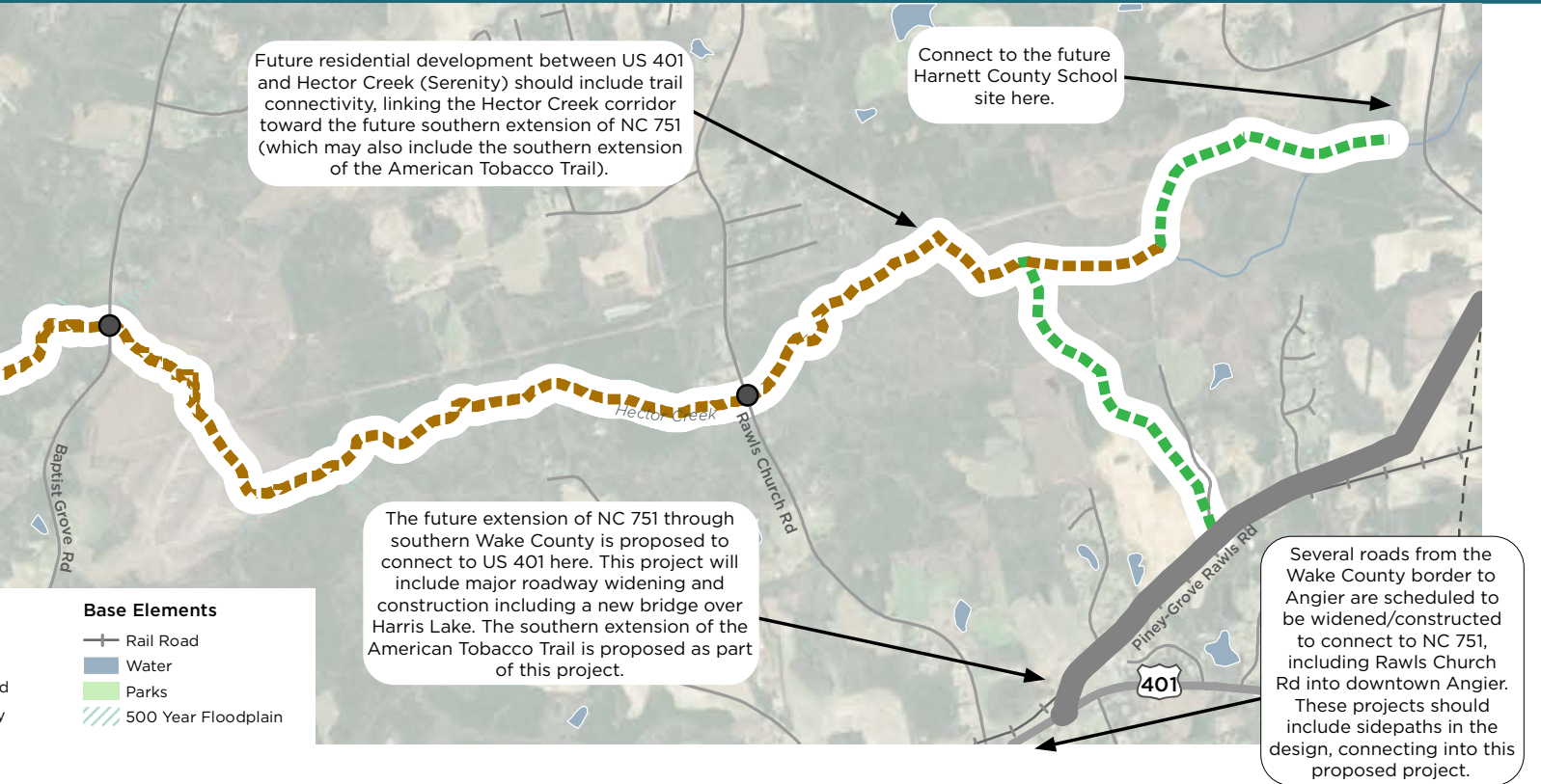
**Total Length:** 10.9 miles

### Implementation Stakeholders:

- » Harnett County
- » Greenfield Communities
- » Conservation Fund
- » NCDOT
- » Capital Area MPO
- » NC State Parks
- » Adjacent Landowners

### Natural Surface



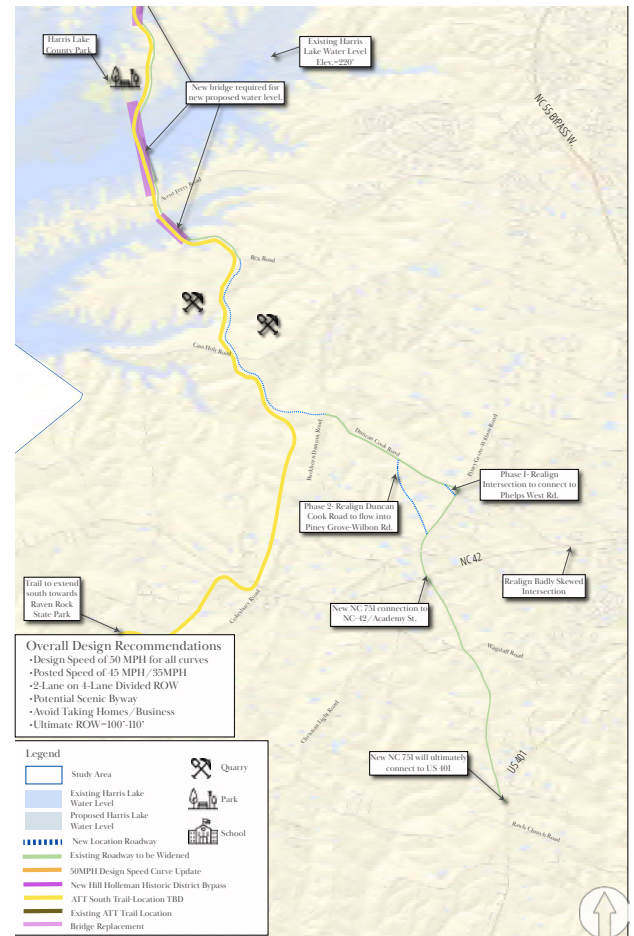
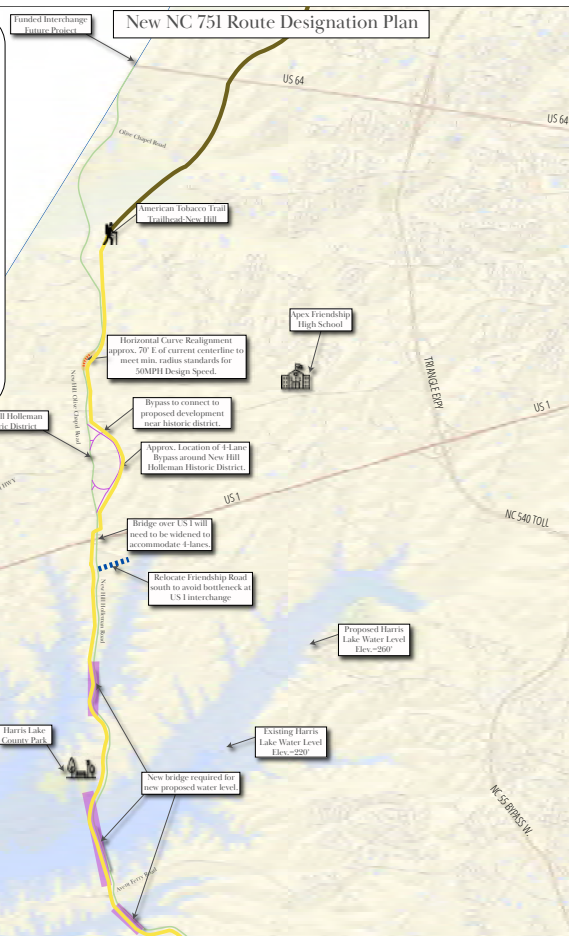


**SUPPORT IN PREVIOUS PLANS**

The southern extension of the American Tobacco Trail to Raven Rock State Park has been identified in the Southwest Area Study (2019), as shown in the project map to the right. With significant amounts of land recently placed into a conservation easement along Hector Creek in Harnett County just east of Raven Rock State Park, the proposed Hector Creek Trail could potentially serve as part of the connection from the southern extension of the American Tobacco Trail to Raven Rock State Park.

**TRAIL TYPE & COST CONSIDERATIONS**

The proposed Hector Creek trail alignment and surface type has many variables to consider. While paved trails can be more expensive to implement up-front, natural surface or unpaved trails tend to have more maintenance needs over time. In the survey responses for this plan, Harnett County residents expressed the desire for a diversity of trail types throughout the county. Hector Creek Trail could function well as a paved trail, unpaved trail, or natural surface trail, and could even include a combination of surface types for different users.





# 4

## CHAPTER 4: IMPLEMENTATION

### OVERVIEW

The trail corridor analysis in the previous chapter provides the framework for the study, while the following guidelines and action steps provide direction for the identified agencies and jurisdictions to work together and further refine. It is important for positive, successful action to take place in order to build momentum and gain support on both a county-wide and local level. Most importantly, Harnett County need not accomplish each greenway project by acting alone; success will be realized through collaboration with state, municipal, university, non-profit, and private partners.

Given the massive economic challenges faced by local government as part of the COVID-19 pandemic (as well as local partners), it is difficult to know which financial resources will be available. It may be that there are limited resources for greenway projects for years to come, but it is also possible that economic recovery packages that are focused on infrastructure and economic development projects, such as trails, will be better funded than in years past. Either way, the phased approach in this chapter takes into account short-term next steps, followed by steps to take to continue moving greenway projects forward in the medium- and long-term.



Angier, NC

### GUIDING PRINCIPLES FOR GREENWAY TRAIL DEVELOPMENT IN HARNETT COUNTY

Greenway implementation should occur within an overall framework of greenway principles. The following guiding principles are derived from past planning efforts throughout the U.S., and reflect some of the best practices that can help guide future decisions in Harnett County.

#### *THE GREENWAY SYSTEM SHOULD BE SAFE.*

Bicycling and walking routes should be physically safe and perceived as safe by users. Safe means minimal conflicts with vehicular traffic, and use of clear pavement markings and directional signage. Safe also means education about trail safety and etiquette, and crime prevention through environmental design.

#### *THE GREENWAY SYSTEM SHOULD BE ACCESSIBLE.*

Trails and trail crossings should permit the mobility of residents of all ages and abilities, employing principles of universal design. Bicyclists have a range of skill levels, and trails should be designed with a goal of providing for inexperienced bicyclists (especially children and seniors) to the greatest extent possible.

#### *GREENWAY SYSTEM IMPROVEMENTS SHOULD BE ECONOMICAL.*

Trail improvements should achieve the maximum benefit for their cost, including initial cost and maintenance cost, as well as a reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce and connect with adjacent private improvements.

### *GREENWAY TRAILS SHOULD CONNECT TO PLACES PEOPLE WANT TO GO.*

The greenway system should provide continuous direct routes and convenient connections between destinations such as downtowns, parks, the Cape Fear River, natural areas, schools, shopping centers, and neighborhoods. A complete network of trails should connect seamlessly to existing and proposed sidewalks and bicycle lanes to complete recreational and commuting routes.

### *NAVIGATING THE GREENWAY SYSTEM SHOULD BE EASY.*

As trails throughout the region are constructed and connected, the regional routes among them should use a comprehensive and consistent wayfinding system (not only Harnett County, but with connections to surrounding areas as well). Wayfinding tools should include directional signage, kiosks with detailed maps, hand-held paper maps, online components such as a website and/or app, and the overall design and branding should be consistent across the tools that are used. This will require coordination with groups like the East Coast Greenway Alliance and neighboring jurisdictions.

### *THE GREENWAY SYSTEM SHOULD BE ATTRACTIVE AND ENHANCE COMMUNITY LIVABILITY.*

Greenway trails should be compatible with the nature, history and character of the environment. Context and scale should be given thoughtful consideration. Good design should integrate with and support the development of complementary uses and should encourage preservation and construction of art, landscaping and other

items that add value to communities. These components might include places to rest along the trail, scenic viewpoints, public art, and educational/interpretive signage about natural features. These, along with historical elements and cultural references, should promote a sense of place. Public activities should be encouraged and local codes should permit commercial activities such as sponsored community runs and rides, food and drink vending at trailheads, and other trail-related events when it does not interfere with safety and accessibility.

### *GREENWAY TRAIL DESIGN GUIDELINES SHOULD AIM FOR CONSISTENCY.*

With the overall goal of consistency, guidelines used should also be flexible enough to allow for the professional judgment of the design and engineering staff of local communities. This Plan references specific national guidelines for trail facility design, as well as several adopted state and local community guidelines. Statutory and regulatory guidance may change. For this reason, the guidance and recommendations in this Plan function to complement other resources considered during a design process, and in all cases, sound engineering judgment should be used.



*Raven Rock State Park (source: Raven Rock State Park Facebook page)*



## PHASING: SHORT-TERM ACTION STEPS (INFRASTRUCTURE)

Building on the above guiding principles, there are also many important and specific actions that could take place in advance of major investments, including coordination with local stakeholders, public workshops, key organizational steps, and the development of lower-cost, priority trail projects. Following through on these priorities will allow the key stakeholders to be prepared for trail development over time, while taking advantage of strategic opportunities, both now and as they arise.

### LILLINGTON RIVER PARK TO S. RIVER RD TRAILHEAD

#### **Town of Lillington Lead** **A**

Begin designing the Lillington Connector from the Lillington River Park to Community Center.

#### **Harnett County Lead** **B**

Work with landowners to update the current railroad easement for the old Becker Spur to include trail use.

### S. RIVER RD TRAILHEAD TO RAVEN ROCK STATE PARK

#### **Harnett County and NC Parks Lead** **C**

Work with Raven Rock State Park/NC Parks to create a connection to eastern side of the park. Hire additional state park staff to manage additional trail connectivity.

### LILLINGTON TO CAMPBELL UNIVERSITY

#### **Harnett County Lead** **D**

Continue exploring alignment options as part of the Cape Fear Shiner County Park development to the east side of US 401/Main St (crossing under US 401/Main St bridge along the Cape Fear River and/or crossing at McKinney Pkwy).

#### **Developer Lead** **E**

Incorporate a shared use path spine or loop into the site plan of future development, coordinating with Campbell University to identify a specific connection point to the east and Harnett County/Town of Lillington to the west.

#### **Campbell University Lead** **F**

Design a shared use path system through the Keith Hills Golf Course, coordinating with developer to the west on potential connectivity, and connecting to the School of Osteopathic Medicine site.

#### **NCDOT/Campbell University lead** **G**

Construct connection from the US 421 bike/ped tunnel to the School of Osteopathic Medicine site to the west and south of US 421.

### CAMPBELL UNIVERSITY TO COATS

#### **Harnett County/Campbell University/Town of Coats Lead** **H**

Work with NCDOT on developing a back roads bike route between Campbell University and Coats, utilizing lower traffic volume roads such as Stewart Town Rd, McLamb Rd (unpaved), and Fleming Rd.

### COATS TO DUNN-ERWIN RAIL TRAIL

#### **Town of Coats Lead** **I**

Work with the business community in downtown Coats to develop a business facing trail (along the old rail bed) through downtown.

#### **Harnett County Lead** **J**

Work with landowners on an alignment for a trail connection between Coats-Erwin Middle School and the Dunn-Erwin Rail Trail.



## BARBECUE TO SPOUT SPRINGS

### **Harnett County Lead** L

Work with landowners on trail alignment options between schools/Barbecue Creek Park and Anderson Creek Park.

## HECTOR CREEK TRAIL

### **Conservation Fund Lead** M

Incorporate a shared use path spine along Hector Creek and potential conservation land into site planning, with the longer-term vision of eventually connecting to Raven Rock State Park to the southwest, and the Serenity development to the north.

### **Greenfield Communities Lead** K

Incorporate a shared use path spine into the Serenity Development site plan and define an alignment to the Harnett County Board of Education property to the northwest (future school site), with the longer-term vision of connecting south to potential conservation land and north to the future southern extension of NC 751 and the American Tobacco Trail.

See the following page for a map depiction of these short-term actions steps for infrastructure.



*Dunn-Erwin Rail Trail*





**Phasing: Short-Term Action Steps**  
 (Infrastructure): These segments of the proposed priority greenway spines are the most feasible for implementation in the short-term.

**Proposed Trail Type**

- Shared Use Path
- River Adjacent Trail
- Sidepath
- Residential Sidepath
- Natural Surface

**Proposed Bike Route**

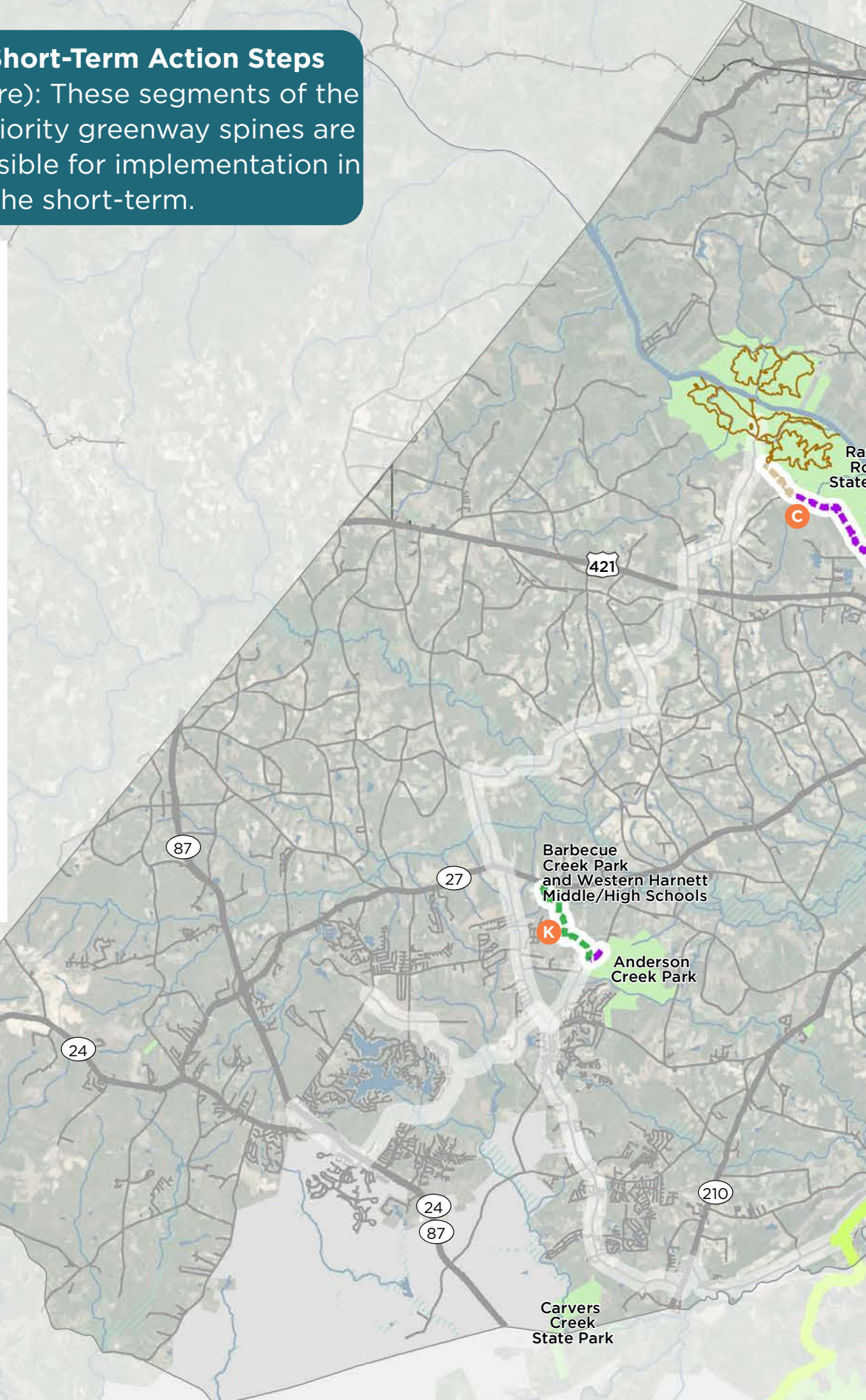
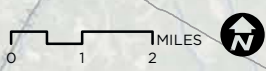
- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
- Lower Traffic Volume (<AADT 650) (wayfinding and/or paved or advisory shoulder)
- Gravel Road (wayfinding)

**Existing Facilities**

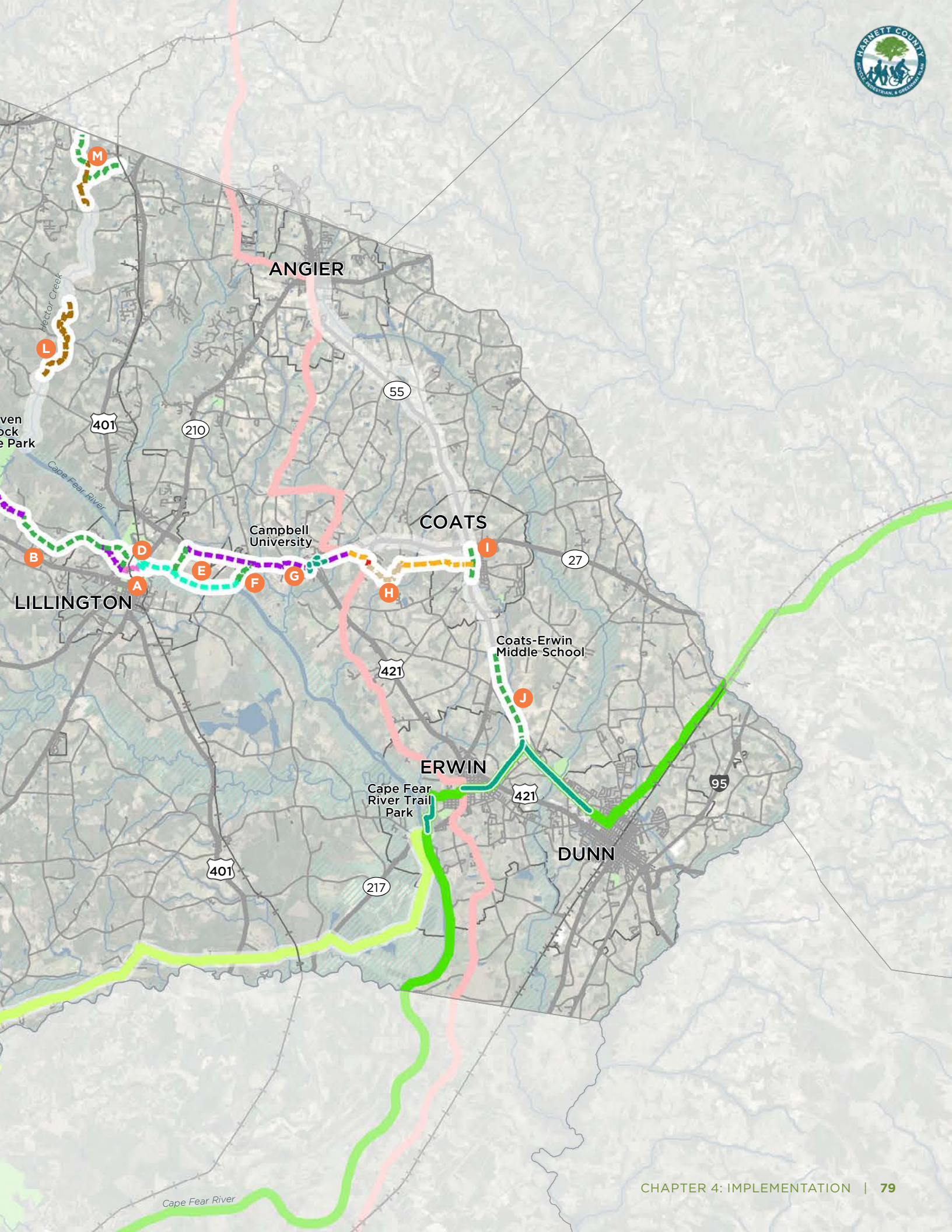
- Existing Shared Use Path
- Raven Rock State Park Trails
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

**Base Elements**

- Rail Road
- Water
- Parks
- Fort Bragg
- ▨ 500 Year Floodplain
- ETJ











## POLICY RECOMMENDATIONS FOR GREENWAY DEDICATION

The continued growth of Harnett County offers the opportunity to establish policy and ordinance language that requires developers to contribute to the development and expansion of the countywide greenway system. Counties and municipalities with greenway set-aside and/or construction requirements have been able to expand their greenway system more effectively and rapidly. In addition, the quality of life benefits that greenways provide yield economic benefits for both the developer and the local government.

Counties and municipalities across North Carolina, and nationally, have development ordinances that vary widely. Some local governments do not require open space dedication or greenway set-asides. Very often, decisions related to not having greenway requirements are made for political reasons or based on a perception that such requirements might discourage development. However, it has become increasingly common for greenway requirements to be in place in counties and municipalities in NC, particularly when a new residential subdivision is constructed where a greenway is recommended in a locally adopted plan. Some governments provide incentives to those developers who set-aside greenways; others provide a fee-in-lieu program.

Harnett County utilizes its Unified Development Ordinance (UDO) to promote the health, safety, and general welfare of Harnett County residents. It does so by setting procedures and standards for the development and subdivision of land, protecting the natural environment, setting design goals, and providing for public infrastructure. The UDO requires open space set-aside at various percentages based on the zoning of the land. While the County has strong sidewalk requirements, there are no greenway set-aside or construction requirements. The County does have a recreation fee for all residential subdivisions or

development, with the exception of minor subdivisions, that helps to fund/acquire public recreation or park land. The major municipalities of Harnett County also do not have greenway requirements for new development.

The list below summarizes open space/greenway requirements for multiple counties and municipalities in the region or similar regions. It should be noted that language varies for each government and nuanced differences are not described here. For example, in some cases, fee-in-lieu is provided as an alternative in certain situations.

### ***Greenway Easement Dedication, or Set-aside Required***

- Iredell County (when part of adopted greenway plan)
- Gaston County (when part of adopted greenway plan)
- Franklin County (only when Planning Board requires)

### ***Greenway Dedication and Construction Required***

- Wake County, NC (when part of transportation plan or open space plan)
  - Short-Range Urban Services Area - required
  - Long-Range Urban Services Area and the Non-Urban Areas - may be required; must be authorized by the Planning Director or Planning Board.
  - Wake County Greenway Plan recommends extending requirement to all areas and when part of Wake County Greenway Plan
- Gwinnett County, GA (when part of adopted greenway plan)
- Lancaster County, SC (when part of Carolina Thread Trail overlay; developers get a density bonus)



***Discretionary Greenway Easement/Right-of-way Dedication or Construction (may be required by administrator)***

- Mecklenburg County
- Chatham County
- Cabarrus County
- New Hanover County

***POLICY & REGULATORY GUIDANCE RECOMMENDATIONS FOR HARNETT COUNTY***

The County should consider ***requirements for reservation of right-of-way for greenway; dedication of easement or greenway for public use; and/or construction of greenway*** in new developments where a greenway or trail is shown on this Harnett County Bicycle, Pedestrian, and Greenway Plan (or other adopted plan); or where a property connects to an existing or proposed greenway. The County should consider this for both new residential and commercial development. Because this would be a new requirement, the County could consider offering ***incentives in the form of reduced fees, cost sharing, density bonuses, or reduction in other open space requirements*** when adopted greenway alignments are constructed through private development. For example, the County could require reservation of right of way for a greenway in a new development, but could reduce open space requirements or grant a density bonus or other incentive if a portion of a planned greenway is constructed and dedicated by the developer. This [document](#) provides additional examples and strategies for incentives.

This UDO addition would likely fall under Article VII – Development Design Guidelines. Greenways should become a new section in this article. Design standards for greenways should also be incorporated into the appropriate section of the UDO and/or other County engineering standards.

As the County evaluates this addition and update to the UDO, it is important to understand the legal implications of encouraging or requiring developer participation in the dedication, construction, operation, and maintenance of public trail and greenway facilities. Before implementing policy changes, the County should work with an attorney who understands current state statutes.

Harnett County and its municipalities should strive for consistency in their respective land use, subdivision, zoning, and/or UDO ordinances related to the requirement to set aside and construct greenway trails. Harnett County should be the leader and work to encourage the county's municipalities to add similar requirements and incentives.

***Utility and Sewer Easements and Provision of Public Access within the Right-of-Way***

With new development often comes expansion of services such as water, sewer, electrical, and gas. Harnett County and its municipalities should work with utility providers make it standard practice to allow public access (trails) within those right-of-way corridors. For example, Mecklenburg County works with its sewer and water utility providers to include agreements for future greenway development in new utility easements. This requires that utility easements include provisions for recreational use when established. Memoranda of understanding (MOUs) can also provide for joint use of easements for maintenance and access by utility providers and the greenway agency. It is much easier to build this into expansion of systems as opposed to retroactively seeking public access to utility easements.



### ***Additional Greenway-Related Policy Considerations for Harnett County and Municipalities:***

The following are additional policy considerations for bicycle and pedestrian-friendly development and design practice. The current Harnett County UDO was not evaluated for each of these items; rather, the list is a thorough list of best practices to implement to enhance the overall active transportation and recreation networks in Harnett County.

- Requirement for shared-use “sidepath” along major roadways (arterials or above) for new development and/or where specified by the adopted greenway or bikeway plan, the CTP, or other adopted plans. Related notes:
  - Sidepaths provide a comfortable and safe experience for pedestrians and cyclists separate from the roadway and can help to better connect to the larger greenway system.
  - CTPs are the basis for NCDOT’s consideration of the improvement in roadway projects and funding, but does not require developers to provide the improvement unless so specified in local ordinance. So, it is helpful to have in both places.
- This Harnett County Bicycle, Pedestrian, and Greenway Plan recommends sidepaths as part of priority projects, and as part of the long-term network. The decision to select a side of a given roadway for a sidepath may vary with future development as the County grows, and there will be instances where sidepaths should be constructed on both sides of the roadway. Where the side of a roadway is not specified, it will depend on judgement of county planners and engineering judgement. Generally speaking, sidepaths should be constructed to connect nearby destinations in a way that reduces the need to cross driveways, roadways, and intersections to the extent possible.
- Complete Street policies and design standards/guidelines that would address on-street and off-street pedestrian and bicycle facilities and trail crossings.
- Requirement of additional bicycle/pedestrian friendly features in development to encourage more walking and bicycling such as:
  - Street connectivity & Block size requirements



***Example trail in Mecklenburg County, NC***





*Example trail in New Hanover County, NC*

- » See Mecklenburg County/City of [Charlotte Subdivision Ordinance](#), Section 20-23 for good example of context-based connectivity requirements and block standards.
- Minimization of cul-de-sac streets, Bike/ped connectivity from the subdivision/development to surrounding destinations and greenways, Pedestrian/bicyclist cut-through path connections
  - » For good model language, see City of Wilson, NC [UDO](#), Section 6.4: Connectivity or City of Wake Forest, NC [UDO](#), Section 6.5, Connectivity. Both codes also provide requirements for when bicycle/pedestrian connections between parcels, public open space, and between cul-de-sacs is required.
- Greenway connections to adjacent existing and proposed greenways
  - » New Hanover County, NC’s EDZD Zoning District provides points for new developments that connect to the existing bikeway network and key destinations and provides a good definition of the bikeway network. (Section 54.1-14 and following.)
- Bicycle parking requirements (commercial and mixed-use development, multi-family housing)
  - » Additionally, good standards for bicycle parking design can be found through the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines. ([www.apbp.org](http://www.apbp.org)) and the [Bicycle Parking Model Ordinance](#), from Change Lab Solutions.
- Street trees
  - » See Town of Wendell [UDO](#) Chapter 8, especially section 8.8, Street Trees.
- Use of native plants in greenway landscaping & wildlife-friendly landscaping and maintenance
  - » The Piedmont Triad Regional Council has developed an [extensive guide](#) regarding requirements and incentives for greening in development, including native plants and wildlife-friendly plantings.



## PROGRAMMATIC STEPS

### *CONTINUE ESTABLISHING COUNTY-WIDE SUPPORT FOR GREENWAY NETWORK DEVELOPMENT.*

- Present this study to the governing bodies of stakeholder organizations and agencies (including those represented on this study's Steering Committee), such as each Harnett County Municipality, the Capital Area MPO (CAMPO), Fayetteville Area MPO (FAMPO), Mid-Carolina RPO, Campbell University, the Conservation Fund, NCDOT, NC State Parks, Fort Bragg, the East Coast Greenway Alliance, the Triangle Trails Initiative, Sustainable Sandhills, local tourism and economic development partners, community health partners, developers, home owner associations, and local civic groups. Some of these partners could be gathered for a single presentation. Others may require individual presentations.
- Seek positive media stories that illustrate the benefits of greenway projects to the wider community.
- Organize trail events to get the public excited about what the greenway network will become.
- Identify a high-profile local champion such as an elected official or community leader.

### *SECURE STATEMENTS OF SUPPORT FOR THE OVERALL GREENWAY NETWORK*

- Select a representative from each of the stakeholder organizations and agencies, and provide them with an example letter of support for the greenway network overall. The example letter should be written in a way that reflects the desire to work with willing partners. Ask them to secure a letter of support from each of the groups they represent.

- For public agencies, seek an official resolution of support for the master plan. This study should be reviewed by the appropriate approving body, either preceding or following a presentation of the study. The resolution procedures will vary from community to community, depending on existing plans and policies. The managing agency can then use this study, in combination with the resolution of support, to apply for funding.

### *ORGANIZE AN IMPLEMENTATION COMMITTEE*

Harnett County should invite the Steering Committee members from this study to continue to meet quarterly as an implementation committee. The membership should also be expanded to include other interested parties as the project progresses, such as funding partners and landowners.

Committee members would be responsible for helping to make decisions and establishing a line of communication throughout the county. They would convey activities of the Committee and the project overall back to their own organizations and agencies. Members would work together on a voluntary, cooperative basis. Harnett County would call the meetings and set the agendas.

The managing group should encourage corporate and inter-governmental cooperation; the active pursuit of local, state, federal, and private grant funding sources; and the use of volunteers.



## PROJECT DEVELOPMENT

While design and construction are the largest costs for a project, initial project scoping is absolutely critical to identify necessary acquisition, permitting, and design needs that will impact both the schedule and the cost of the project. Critical topics in scoping that will impact both design and construction budgets are property acquisition, clear zones (in sidepath situations), floodplains, jurisdictional features, threatened and endangered species, historic sites, waterways/drainages, utilities, survey, bridges/structures, and geotechnical work.

As a starting point for the Lillington to Raven Rock State Park project, a preliminary design (10% design) was completed. This analysis will provide further detail into some of the key elements of initial project scoping.



*Example trail in  
Wake County, NC*





## LONG-TERM VISION (INFRASTRUCTURE)

### STATE PARK CONNECTIVITY **A**

In addition to the proposed Lillington to Raven Rock State Park Trail, examine opportunities to build trail connectivity between the proposed Hector Creek Trail and the northern side of Raven Rock State Park (including the existing equestrian trails). From the southern section of Raven Rock State Park, develop a back roads bike route to Barbecue Park.

Over time, connectivity to Carvers Creek State Park could be developed from several locations - Ray Rd (east), Jumping Run Creek corridor (north), and/or the utility corridor (west).

### EAST COAST GREENWAY **B**

Coordinate with the East Coast Greenway Alliance, Mid Carolina RPO, Fayetteville Area MPO, City of Dunn, Town of Erwin, City of Fayetteville and NCDOT in conducting feasibility studies for ECG alignment north to Benson as well as to the south to Fayetteville.

### NC BIKE ROUTE 5 (CAPE FEAR RUN) **C**

NC Bike Route 5 (Cape Fear Run) should be improved with paved shoulders, (and in some locations, sidepaths) over time. Key sections of the route through Harnett County that carry higher traffic volumes could be priorities for improvement. These sections include Old Buies Creek Rd, NC 55, East Williams St, Atkins Rd, NC 27, US 421, NC 217, and NC 82.

### FORT BRAGG RAIL TRAIL **D**

The old Seaboard Coast Line rail bed from the former railroad corridor that ran approximately parallel to the NC 24/NC 87 corridor through southwest Harnett County could be transformed into a trail over time and in phases. From the proposed spine network in Spout Springs, the next phase would involve working with Fort Bragg to examine feasibility for developing a rail trail into Fort Bragg (with eventual connectivity to Fort Bragg's All American Trail as well as City of Fayetteville trails).

### AMERICAN TOBACCO TRAIL **E**

Coordinate with the Capital Area MPO (CAMPO) and Wake County on the proposed southern extension of NC 751 and the American Tobacco Trail into northwestern Harnett County (connecting into the proposed Hector Creek Trail and ultimately, Raven Rock State Park).

### CAPE FEAR RIVER TRAIL **F**

Work with voluntary landowners on alignment opportunities/challenges for trail development along the Cape Fear River. The long term vision is to connect Lillington to Raven Rock State Park and the Deep River State Trail (upstream in Chatham County) as well as the Cape Fear River Trail Park (East Coast Greenway) in Erwin before continuing to Fayetteville (downstream from Lillington).

### DEEP RIVER STATE TRAIL **G**

Discuss rail trail or rail with trail opportunities and challenges with NCDOT (Rail Division and Integrated Mobility Division), Town of Fuquay-Varina, and Norfolk Southern along the currently inactive railroad corridor from Fuquay-Varina and northwest Harnett County to southeastern Chatham County (near the Deep River State Trail and Cape Fear River).



## CAPE FEAR RIVER BRIDGES H

### **Lillington**

Work with NCDOT and the Town of Lillington to improve the Cape Fear River US 421 bike/ped crossing. Consider constructing a new bike/ped bridge or reconfiguring the southbound bridge as proposed in the Lillington Bike/Ped Plan. With future trail development on both sides of the Cape Fear River in Lillington, this bridge will become increasingly important for trail connectivity.

### **Erwin**

Work with NCDOT and the Town of Erwin on extending paved shoulder or constructing a sidepath on either side of the NC 217 bridge to the Cape Fear River Trail Park to the east and Beaver Dam Rd to the west.

## WATERSHED TRAILS I

As Harnett County continues to grow, work with the municipalities, developers, land trusts, property owners associations, individual landowners, and others on incorporating greenways into site planning and development that occurs along riparian corridors. These corridors tend to be areas with the most intact habitat cores, and should be preserved for not only transportation and recreation, but for the critical foundation of the environmental economy they serve. Many of these are shown as proposed natural surface trails, but these can also be paved depending on the specific project and context.

## COMPLETE STREETS ROADWAY PROJECTS J

As Harnett County continues to grow, several roads such as NC 210, Buffalo Lakes Rd, NC 55, and multiple roadways in the northwestern part of the county are funded or proposed to be widened (or new construction). These are opportunities to incorporate sidepaths early into the roadway development process. This is typically significantly cheaper than retrofitting roads with complete streets infrastructure.

See the following page for a map depiction of these longer-term elements.





**Long-Term Vision:** This map shows a comprehensive network of potential trail opportunities in Harnett County. While many of these are longer-term considerations, they are still an important part of this plan as they show what the potential is for any given future development or roadway construction that may provide an opportunity for incorporating a walking/biking facility.

**Proposed Shared Use Path Types**

- Shared Use Path
- River Adjacent Trail
- Rail with Trail
- Sidepath
- Residential Sidepath
- Natural Surface

**Proposed Bike Route**

- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
- Lower Traffic Volume (<AADT 1500) (paved shoulder, advisory shoulder, and/or wayfinding)
- Gravel Road (wayfinding)

**Existing**

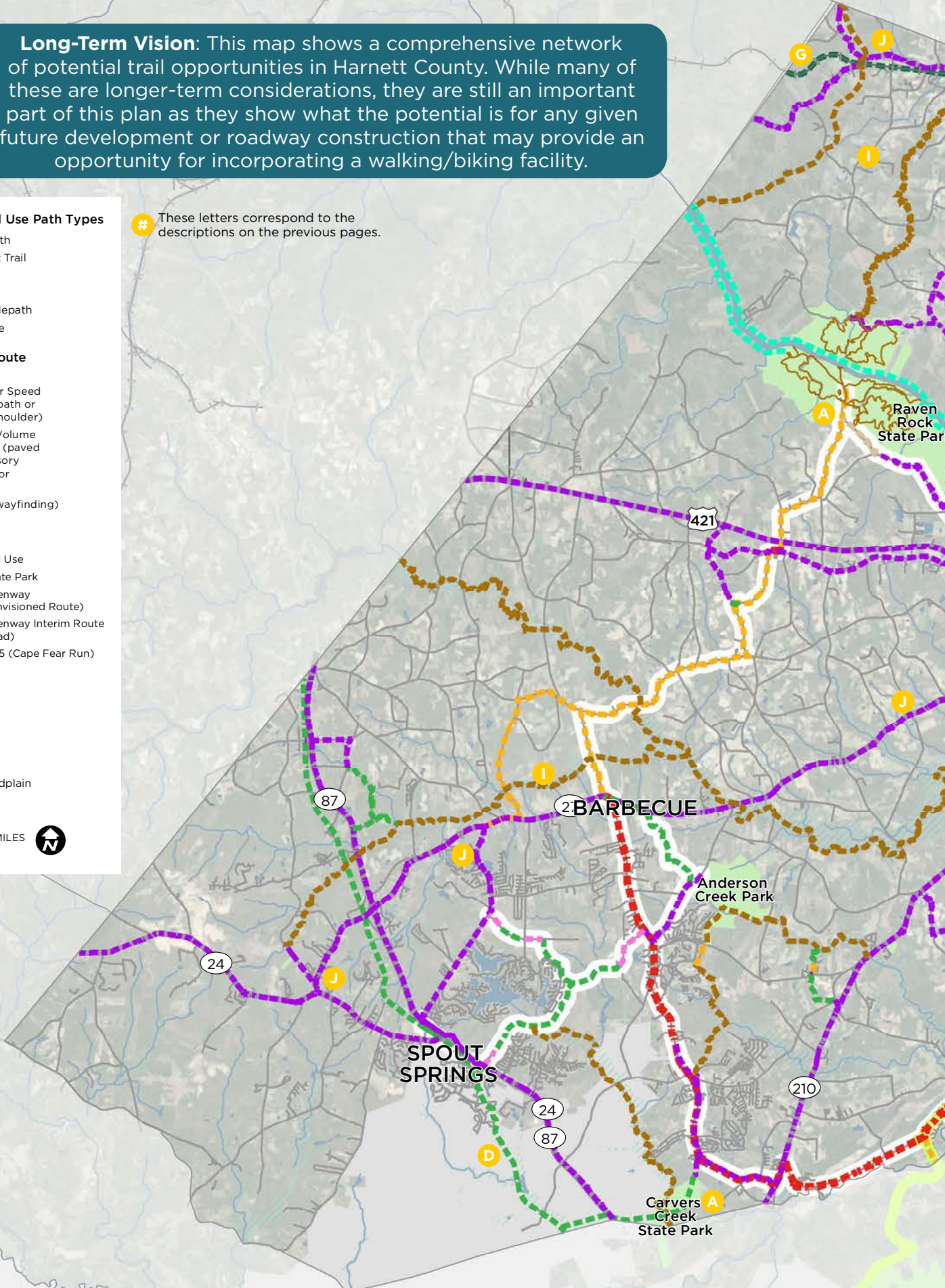
- Existing Shared Use
- Raven Rock State Park
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

**Base Elements**

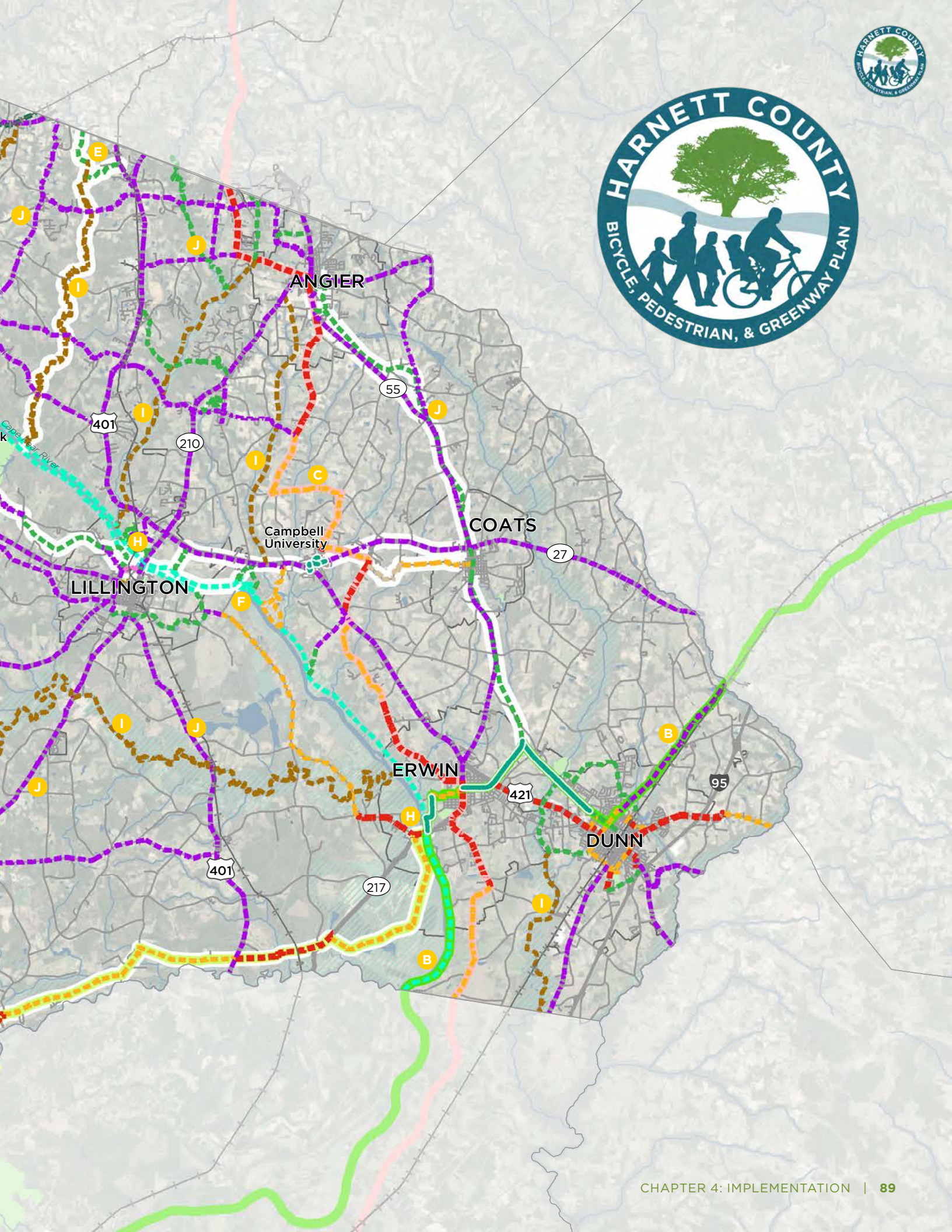
- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ

0 1 2 MILES

# These letters correspond to the descriptions on the previous pages.











## TRAIL MAINTENANCE GUIDANCE

### MAINTENANCE OVERVIEW

Maintenance is essential to the long-term viability and sustainability of the county-wide greenway network. Construction of greenway trails cannot take place without a maintenance plan and priority in place. This Plan recommends a strong, collaborative approach to maintenance.

### MAINTENANCE PRINCIPLES

The future countywide greenway trail system should be viewed and maintained as a public resource, serving generations to come. The following guiding principles for maintenance will help assure the preservation of a high-quality system:

- Good maintenance begins with sound planning and design.
- Foremost, protect life, property and the environment.
- Promote and maintain a quality outdoor recreation and transportation experience.
- Develop a management plan that is reviewed and updated annually with tasks, operational policies, standards, and routine and remedial maintenance goals.
- Maintain quality control and conduct regular inspections.
- Include field crews, police and fire/rescue personnel in both the design review and on-going management process.
- Maintain an effective, responsive public feedback system and promote public participation.
- Be a good neighbor to adjacent properties.
- Operate a cost-effective program with sustainable funding sources.

### MAINTENANCE RESPONSIBILITIES

Recommended greenways in this Plan traverse five municipalities and unincorporated Harnett County. Most of the greenway trail corridors will be off-road though some portions will be on-road accommodating bicyclists and pedestrians on sidepaths or bicycle route/sidewalk combinations. Because the network 1) traverses multiple municipal boundaries and unincorporated Harnett County, 2) includes a combination of street, river, parks, utility easements and other properties, and 3) includes both on-road and off-road treatments, multiple agencies within North Carolina, Harnett County, and the jurisdictions must play a role, be engaged, and be coordinated in ongoing trail operations and maintenance.

While each major jurisdiction has its own operations and maintenance departments, a key to sustainable quality greenways will be a consistency of standards, cooperation and coordination amongst the communities and building enduring partnerships engaging both public and private sector leadership. Growing a successful greenway system in Harnett County will take capacity building and diversification of skills and resources to meet this challenge in those communities.

**In order to meet the challenges, an intergovernmental organization and/or intergovernmental agreement regarding the Harnett County greenway system is recommended.** An organization or an agreement would be in place to address not just maintenance, but also funding, facilitating cooperation, organizing volunteer groups, adopting/implementing standards, etc. Agencies to be involved would include appropriate Harnett County departments, municipalities, CAMPO, Mid-Carolina COG, and NCDOT.

A comprehensive and cooperative maintenance management program will determine the activities, maintenance levels and maintenance frequency of the trail system based on expected trail use. The program



will identify tasks, operational policies and procedures, standards, and routine and remedial maintenance goals. At a minimum, the program must identify cost estimates, funding sources, and the party responsible for performing the work on the trails. This will provide the basis for determining annual funding and assignment of personnel and equipment from trail to trail while providing for necessary adjustments.

### *TYPES OF GREENWAY MAINTENANCE: ROUTINE AND REMEDIAL*

The remainder of this section focuses on general routine and remedial maintenance responsibilities for all greenway and trail facilities.

#### *ROUTINE MAINTENANCE*

Routine maintenance refers to the day-to-day regimen of litter pick-up, trash and debris removal, weed and dust control, trail sweeping, sign replacement, tree and shrub trimming, and other regularly scheduled activities. Routine maintenance also includes minor repairs and replacements such as fixing cracks and potholes or repairing a broken hand railing.

#### ***Routine Maintenance Tasks***

The following tasks should be performed on a regular basis to keep all network facilities in good, usable condition. Maintenance tasks should be conducted more frequently for greenway, bike, and pedestrian facilities where use is the most concentrated. Methods such as pedestrian and bicycle counts, sketch plan analysis methods for estimating pedestrian and bicycle demand, public survey results, and public meeting comments can be used to determine which resources are the most heavily used and may require the most maintenance attention. The frequency of required maintenance tasks should be established as new facilities are implemented and should be reviewed and updated annually to reflect any changes in usage, safety issues, etc.

#### ***Facility Maintenance***

Basic housekeeping of greenway and trail facilities will ensure that the network is clean and functional and will also improve the life of each facility. Volunteer efforts should be utilized in the performance of sweeping and trash removal.

#### ***Vegetation Management***

To maintain a high quality network, regular attention should be given to the surrounding landscape, both natural and man-made. This not only improves the aesthetic quality of the network but also improves the users' sense of safety, as well. Vegetation management tasks include the following:

- Tree and shrub trimming and pruning
- Mowing of vegetation
- Mulching and edging
- Invasive species control

#### *REMEDIAL MAINTENANCE*

Remedial maintenance refers to correcting significant defects in the network, as well as repairing, replacing or restoring major components that have been destroyed, damaged, or significantly deteriorated from normal usage and old age. Some items (“minor repairs”) may occur on a five to ten year cycle such as repainting, seal coating asphalt pavement or replacing signage. Major reconstruction items will occur over a longer period or after an event such as a flood. Examples of major reconstruction remedial maintenance include stabilization of a severely eroded hillside, repaving a trail surface or a street used for biking, or replacing a footbridge. Remedial maintenance should be part of a long-term capital improvement plan.

#### *REMEDIAL MAINTENANCE TASKS*

The following tasks should be performed on an as needed basis to keep network facilities in good, usable condition. The table below depicts the average life of each facility type, as well as general ancillary facilities, with





normal wear and tear. The repair or replacement of existing facilities should be reflected in a projected budget for future maintenance costs.

### ***Longevity of Facilities***

- Mulch 2-3 years
- Granular Stone 7-10 years
- Asphalt 7-15 years
- Concrete 20+ years
- Boardwalk 7-10 years
- Bridge/Underpass 100+ years

### ***Facility Repair or Replacement***

All facilities will require repair or replacement at one time or another. The time between observation and repair/replacement will depend on whether the needed repair is deemed a hazard, to what degree the needed repair will affect the safety of the user, and whether the needed repair can be performed by an in-house maintenance crew or if it is so extensive that the needed repair must be done by outside entities or replaced completely. Some repairs are minor, such as repainting or resurfacing bicycle lanes and can be done in conjunction with other capital projects, such as repaving the adjacent street. The following are facility repair or replacement activities:

- Replenish gravel, mulch, or other materials
- Repaint/restripe/stain
- Repave/seal
- Replace asphalt or concrete
- Remove encroaching debris along paved trail/sidewalk edges
- Regrade to prevent or eliminate low spots and drainage issues
- Add culverts, bridges, boardwalks, retaining walls, etc. to prevent or eliminate drainage/erosion issues

- Reroute trail, if necessary, to avoid environmentally sensitive or overused areas and any safety issues

### ***Seasonal Maintenance***

Seasonal tasks should be performed as needed. When conditions cannot be improved to provide for safe use, the facility should be closed to prevent the risk of injury to facility users. Designated maintenance crews would remove leaf debris, snow, and ice from all network facilities as soon as possible. Leaf debris is potentially hazardous when wet and special attention should be given to facilities with heavier usage. Ice control and removal of ice buildup is a continual factor because of the freeze-thaw cycle. Ice control is most important on grade changes and curves. Ice can be removed or gravel/ice melt applied. After the ice is gone, leftover gravel should be swept as soon as possible.

### ***Habitat Enhancement & Native Species***

The presence/absence of vegetation and the type of vegetation present in a greenway affects habitat quality, the greenway's effectiveness as a wildlife corridor, ecological sustainability, and the aesthetic experience for the trail user. Greenways are more effective at providing wildlife habitat and corridors when they have trees and shrubs present. Planting native vegetation along greenways can enhance the trail user's feeling of "getting back to nature." However, planting woody vegetation may not be an option on greenways whose alignments are on sewer or power line rights-of-way based on planting depth requirements. In locations where trees and shrubs are lacking and can be planted, native species are the most ecologically sustainable choice. As a group, native species require less maintenance than horticultural plantings and often provide wildlife with a food source.

The following activities and tasks should be utilized to enhance and control wildlife habitats:



- Plant vegetation, such as trees and shrubs, using native species whenever possible; consider prohibiting the introduction of non-native plants altogether
- Take preventative measures to protect landscape features from wildlife, such as installing fencing around sensitive or newly planted materials
- Use herbicides sparingly, to eliminate problem plant species only when necessary
- Deter interaction between facility users and facility inhabitants, such as feeding the wildlife, etc.
- Consider launching a “pollinator species initiative”. By supporting pollinators’ need for habitat, we support our own needs for food and support biodiversity in Harnett County. For more information see [www.pollinator.org](http://www.pollinator.org) or contact Campbell University’s project manager for the Pollinator Meadows project.
- Low maintenance edible plantings along greenways could also be considered as an amenity to add to Harnett County residents’ experience of the greenways. Planting edibles, primarily trees and berry bushes, in strategic and visible areas of greenways is a way to both minimize long term maintenance and management, and add value to user experience. This plan recommends a focus on native or locally adapted plants which flourish in our Piedmont region, and grow well and easily, requiring limited maintenance and resources. While there are many opportunities for edibles along greenways, they are not recommended within gas or electric easements, or near utility service boxes or septic lines. Edibles can be included as part of the overall project cost, especially as new greenway segments are built and connections made with existing greenways.

## EXAMPLE MAINTENANCE COSTS

Reported annual maintenance costs from cities and regions for shared-use trails range widely, from just \$500/mile to over \$15,000/mile. The Town of Cary, NC uses \$6,000/mile for annual mowing and trash pick up, and minor repairs like replacing a fence rail; they budget asphalt and drainage repairs separately on case by case basis. Some key factors affecting these wide ranges include:

- Quality of materials used, and frequency of sealing and reconstruction of the path
- Amount of leaf drop affecting the trail that requires concentrated sweeping
- Amount of flooding of the trail that has to be cleaned up
- Amount of snow removal/grooming needed
- Whether or not mowing, irrigation, and other care of adjacent open space is calculated in the cost
- Presence of waste receptacles

The largest factor affecting the annual maintenance figures is whether or not the eventual trail reconstruction is accounted for in annual maintenance budgets, as opposed to being considered as separate capital item.





## POTENTIAL FUNDING SOURCES BY PROJECT: FEDERAL FUNDING SOURCES

Several federal funding sources apply to all projects in this plan. These include Transportation Alternatives, Surface Transportation Block Grants, the Highway Safety Improvement Program, and the Land and Water Conservation Fund (LWCF). Some programs, like Safe Routes to School (SRTS) and Rivers, Trails, and Conservation Assistance Program (RTCA) are not listed below because they are focused on non-infrastructure activities. Other Federal sources depend on the project, and are indicated below.

See Appendix C for more information on each funding source.

		Facility Types	BUILD Transportation Discretionary Grant Program <sup>1</sup>	FTA Enhanced Mobility of Seniors and Individuals with Disabilities <sup>2</sup>	Federal Lands Transportation Program (FLTP) <sup>3</sup>	National Fish and Wildlife Foundation: Five Star & Urban Waters Restoration Grant Program <sup>4</sup>	CAMPO Funding (LAPP Program)	FAMPO Funding
RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK	RAVEN ROCK STATE PARK TO S. RIVER RD TRAILHEAD	Sidepath	X					
	S. RIVER RD TRAILHEAD TO LILLINGTON RIVER PARK	Rail-to-Trail	X			X		
LILLINGTON TO COATS	LILLINGTON TO CAMPBELL UNIVERSITY	SUP & Sidepath	X	X		X		
	CAMPBELL UNIVERSITY TO COATS	SUP & Sidepath	X	X				
COATS TO DUNN-ERWIN RAIL TRAIL		SUP & Sidepath	X	X				
COATS TO ANGIER RAIL TRAIL		SUP & Sidepath		X			X	
SW HARNETT COUNTY ON-ROAD BICYCLE ROUTE		Signed Route/Paved Shoulders						X
BARBECUE TO SPOUT SPRINGS		SUP & Sidepath			X			X
HECTOR CREEK TRAIL		SUP and/or Natural Surface				X	X	

- BUILD program's selection criteria gives special consideration to projects that emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas. Because of the the focus on regional connections and partnerships, the segments from Raven Rock to the East Coast Greenway (Dunn/Erwin) is noted in the table above as most viable.*
- Relevant and eligible activities for this funding source include building an accessible path (sidewalk, shared use path, side path, etc.) to a bus stop, including curb-cuts, accessible pedestrian signals or other accessible features. Since the Harnett Area Rural Transit System (HARTS) services are provided through Subscription routes, Dial-A-Ride and Demand-Response services, the most likely possible use of these funds would in connection to senior centers and destinations that correspond with proposed project routes, including Universal Healthcare/Lillington, Coats Senior Citizens Center, and the Angier Senior Center.*
- Use of FLTP funds in this case would require a partnership and/or connection to an Army Corps of Engineers project or resource at Fort Bragg.*
- Projects along the Cape Fear River and Hector Creek corridors are selected above since this funding source is for projects that relate to water quality, watersheds and the habitats they support.*



## POTENTIAL FUNDING SOURCES BY PROJECT: STATE AND STATE-ADMINISTERED FUNDING SOURCES

**NCDOT Strategic Transportation Investments (STI) funding applies to all projects in this plan,** and is described in Appendix C. Other state sources depend on the project, and are indicated below.

See Appendix C for more information on each funding source.

		Facility Types	Incidental Projects <sup>1</sup>	North Carolina Highway Safety Improvement Program (HSIP) /SPOT Safety Program; Highway Hazard Elimination Program (typically \$400k-\$1M projects); Governor's Highway Safety Program <sup>2</sup>	Urban and Community Forestry Grant <sup>3</sup>	Clean Water Management Trust Fund (CWMTF) <sup>4</sup>	NC Division of Parks and Recreation - Recreational Trails Program (RTP) Grant Trust Fund (PARTF) <sup>5</sup>
RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK	RAVEN ROCK STATE PARK TO S. RIVER RD TRAILHEAD	Sidepath	X				X
	S. RIVER RD TRAILHEAD TO LILLINGTON RIVER PARK	Rail-to-Trail			X	X	X
LILLINGTON TO COATS	LILLINGTON TO CAMPBELL UNIVERSITY	SUP & Sidepath	X	X	X	X	X
	CAMPBELL UNIVERSITY TO COATS	SUP & Sidepath	X	X	X		X
COATS TO DUNN-ERWIN RAIL TRAIL		SUP & Sidepath	X	X	X		X
COATS TO ANGIER RAIL TRAIL		SUP & Sidepath	X	X	X	X	X
SW HARNETT COUNTY ON-ROAD BICYCLE ROUTE		Signed Route/Paved Shoulders	X	X			
BARBECUE TO SPOUT SPRINGS		SUP & Sidepath	X	X	X	X	X
HECTOR CREEK TRAIL		SUP and/or Natural Surface		X		X	X

- Portions of projects that have the potential to be constructed as part of a larger transportation project are noted here, such as sidepaths and paved shoulders. Under the NCDOT Complete Streets Policy, NCDOT pays the full cost for incidental projects if the project is proposed in a locally adopted plan. For more information: <https://connect.ncdot.gov/projects/BikePed/Documents/Complete%20Streets%20Implementation%20Guide%20v1.31.20%20FINAL.pdf>
- Spot Safety, Highway Hazard Elimination, and Governor's Highway Safety programs are used to address safety, potential safety, and operational issues. Projects with past bike/ped crashes along the corridor are noted above.
- This grant is used to help plan and establish street trees as well as trees for urban open space. Projects with greatest potential for the addition of street trees with sidepaths are noted above.
- The purpose of CWMTF funds is the conservation, preservation, and restoration of North Carolina's environmental and natural resources, including projects contributing toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits. Projects with greatest potential for a riparian area focus are noted above.
- RTP and PARTF funds support a wide variety of projects related to trails and greenways.



## POTENTIAL FUNDING SOURCES BY PROJECT: LOCAL FUNDING SOURCES

Examples of local funding sources include bonds, capital reserve funds, general funds, Powell Bill Funds, and specific municipal funding. The main factor for consideration of local funding sources in this plan is for projects (or project segments) within municipalities versus those in unincorporated areas.

See Appendix C for more information on each funding source.

		Facility Types	Bond Program, Capital Reserve/ General Funds	Powell Bill Funds <sup>1,2</sup>	Municipal Service District <sup>2</sup>	Municipal Vehicle Tax <sup>2</sup>
RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK	RAVEN ROCK STATE PARK TO S. RIVER RD TRAILHEAD	Sidepath	X			
	S. RIVER RD TRAILHEAD TO LILLINGTON RIVER PARK	Rail-to-Trail	X	X	X	X
LILLINGTON TO COATS	LILLINGTON TO CAMPBELL UNIVERSITY	SUP & Sidepath	X	X	X	X
	CAMPBELL UNIVERSITY TO COATS	SUP & Sidepath	X	X	X	X
COATS TO DUNN-ERWIN RAIL TRAIL		SUP & Sidepath	X	X	X	X
COATS TO ANGIER RAIL TRAIL		SUP & Sidepath	X	X	X	X
SW HARNETT COUNTY ON-ROAD BICYCLE ROUTE		Signed Route/Paved Shoulders	X			
BARBECUE TO SPOUT SPRINGS		SUP & Sidepath	X			
HECTOR CREEK TRAIL		SUP and/or Natural Surface	X			

- 1. Powell Bill funds shall be expended primarily for the purposes of resurfacing streets within the corporate limits of a municipality but may also be used for maintaining, repairing, constructing, reconstructing or widening of any street or public thoroughfare within the municipal limits or for planning, construction, and maintenance of bikeways, greenways or sidewalks.*
- 2. Projects with sections in municipal boundaries are indicated above.*





## POTENTIAL FUNDING SOURCES BY PROJECT: PRIVATE AND NONPROFIT FUNDING SOURCES

Several private and nonprofit funding sources apply to many projects in this plan. These include the Harnett County Community Foundation, Blue Cross Blue Shield of North Carolina Foundation, the Duke Energy Foundation, the Z. Smith Reynolds Foundation, and the Bank of America Charitable Foundation. Other private and nonprofit sources depend on the project, and are indicated below.

See Appendix C for more information on each funding source.

		Facility Types	Rails-to-Trails Conservancy <sup>1</sup>	National Fish and Wildlife Foundation <sup>2</sup>	The Trust for Public Land <sup>3</sup>	Land for Tomorrow Campaign <sup>4</sup>	The Conservation Alliance <sup>5</sup>
RAVEN ROCK STATE PARK TO LILLINGTON RIVER PARK	RAVEN ROCK STATE PARK TO S. RIVER RD TRAILHEAD	Sidepath		X	X	X	X
	S. RIVER RD TRAILHEAD TO LILLINGTON RIVER PARK	Rail-to-Trail	X	X	X	X	X
LILLINGTON TO COATS	LILLINGTON TO CAMPBELL UNIVERSITY	SUP & Sidepath		X	X	X	X
	CAMPBELL UNIVERSITY TO COATS	SUP & Sidepath			X	X	
COATS TO DUNN-ERWIN RAIL TRAIL		SUP & Sidepath	X		X	X	
COATS TO ANGIER RAIL TRAIL		SUP & Sidepath	X		X	X	
SW HARNETT COUNTY ON-ROAD BICYCLE ROUTE		Signed Route/Paved Shoulders					
BARBECUE TO SPOUT SPRINGS		SUP & Sidepath		X	X	X	
HECTOR CREEK TRAIL		SUP and/or Natural Surface		X	X	X	X

- Applications for projects on rail-trails and rails-with-trails are given preference.
- National Fish and Wildlife Foundation priorities include conservation of bird, fish, plants and wildlife habitats, providing access for people to enjoy outdoors, and connecting existing protected lands. Project with the greatest potential for wildlife protection are noted above.
- 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.
- Land for Tomorrow's goal is to ensure that working farms and forests, sanctuaries for wildlife, land bordering streams, parks, and greenways, land that helps strengthen communities and promotes job growth, and historic downtowns will be there to enhance the quality of life for generations to come.
- Conservation Alliance projects should seek to secure lasting and quantifiable protection of a specific wild land or waterway. We prioritize landscape-scale projects that have a clear benefit for habitat.



**HARNETT COUNTY**  
**BICYCLE, PEDESTRIAN, & GREENWAY PLAN**

Prepared for Harnett County  
Prepared by Alta Planning + Design



# PLAN APPENDIX



**alta**

PREPARED *for* HARNETT COUNTY, NORTH CAROLINA  
PREPARED *by* ALTA PLANNING + DESIGN



# APPENDIX A: DESIGN GUIDE RESOURCES

## OVERVIEW

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; Last retrieved in April 2020.

## NATIONAL GUIDELINES

### *RAILS-TO-TRAILS CONSERVANCY:*

- General Design Guidance: <https://www.railstotrails.org/build-trails/trail-building-toolbox/design/>
- Rails-with-Trails: [https://railroads.dot.gov/sites/fra.dot.gov/files/2020-04/RWT\\_Report\\_Final\\_031620\\_0.pdf](https://railroads.dot.gov/sites/fra.dot.gov/files/2020-04/RWT_Report_Final_031620_0.pdf)

### *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):*

- 2009 NC Supplement to 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

### NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT):

- WalkBikeNC: Statewide Pedestrian & Bicycle Plan
- Glossary of North Carolina Terminology for Active Transportation
- NCDOT Roadway Design Manual (will include additional complete streets design guidance during 2021 update)Evaluating Temporary Accommodations for Pedestrians
- NC Local Programs Handbook
- Traditional Neighborhood Development Guidelines

### 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

### **NCDOT Bicycle and Pedestrian Policies**

<https://connect.ncdot.gov/projects/BikePed/Pages/Policies-Guidelines.aspx>

### **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/](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](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/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/)
- Small Town and Rural Multimodal Networks Design Guide (2017)

Main Guide:

<http://ruraldesignguide.com/>

Section specific to side paths:

<http://ruraldesignguide.com/physically-separated/sidepath>



# APPENDIX B: BENEFITS OF TRAILS

# ECONOMIC IMPACT

*“Trails can be associated with higher property value, especially when a trail is designed to provide neighborhood access and maintain residents’ privacy. Trails, like good schools or low crime, create an amenity that commands a higher price for nearby homes. Trails are valued by those who live nearby as **places to recreate, convenient opportunities for physical activity and improving health, and safe corridors for walking or cycling to work or school.**”*

- Headwaters Economics ([www.headwaterseconomics.org/trail](http://www.headwaterseconomics.org/trail))

A 2018 study looking at the economic impact of four greenways in North Carolina (Brevard Greenway, Little Sugar Creek Greenway, American Tobacco Trail, and Duck Trail) found that **every \$1.00 of initial trail construction supports \$1.72 annually from sales revenue, sales tax revenue, and benefits related to health and transportation.**

**Combined Study Results: A one-time \$26.7M capital investment in the four greenways supports:**



**\$19.4M**

Estimated annual **sales revenue** at local businesses along the four greenways



**\$684K**

Estimated annual **local and state sales tax revenue** from businesses along the greenways



**\$25.7M**

Estimated **annual savings due to more physical activity, less pollution and congestion, and fewer traffic injuries** from use of the greenways



**\$48.7M**

Estimated **business revenue** from greenway construction



**790 JOBS**

Are supported annually through **greenway construction**



Source: Institute of Transportation Research and Education. (2017). Evaluating the Economic Impact of Shared Use Paths in North Carolina. <https://itre.ncsu.edu/focus/bike-ped/sup-economic-impacts/>

The study included extensive trail user surveys for each of the four greenways over a period of three years.





# HEALTH













There are a growing number of studies illustrating how our environment—neighborhoods, towns, transportation systems, parks, and trails—contribute to a person’s ability to meet the recommended daily 30 minutes of moderately intense physical activity (60 minutes for youth).

According to a Federal Highway Administration report (*Evaluating the Economic Benefits of Non-Motorized Transportation*), the physical nature of riding a bike leads to decreases in mortality (rate of death) and morbidity (rate of disease) related to obesity and other health conditions.

These benefits are not only advantageous for individuals who may avoid negative health conditions, they also reduce absenteeism in the workplace and overall health care expenditures on a local, state, and national level. More information available at <https://rosap.ntl.bts.gov/view/dot/12173>

Detailed information on the economic impact of improving public health can be found in *Evaluating the Economic Contribution of Shared Use Paths in NC*: <https://itre.ncsu.edu/focus/bike-ped/sup-economic-impacts/>.

## Health-Related Benefits of Active Transportation

CURRENT U.S. HEALTH STATISTICS	HEALTH BENEFITS
 <p><b>80%</b> of Americans <b>DO NOT ACHIEVE</b> the recommended 150 minutes per week of <b>MODERATE EXERCISE</b> (CDC)</p>	 <p>Residents of <b>WALKABLE COMMUNITIES</b> are <b>2x</b> as <b>LIKELY TO MEET PHYSICAL ACTIVITY GUIDELINES</b> compared to those who do not live in walkable neighborhoods (Frank, 2005)</p>
 <p><b>2/3</b> of Americans <b>ARE OVERWEIGHT OR OBESE</b> (CDC)</p>	 <p>For every <b>0.6 MILE WALKED</b> there is a <b>5% REDUCTION IN THE LIKELIHOOD OF OBESITY</b> (Frank, 2004)</p>
 <p><b>CARDIOVASCULAR DISEASES</b> are the <b>#1 CAUSE OF DEATH</b> in the United States (American Heart Association)</p>	 <p><b>20 MINUTES WALKING OR BIKING</b> each day is associated with <b>21% LOWER RISK OF HEART FAILURE FOR MEN</b> and <b>29% LOWER RISK FOR WOMEN</b> (Rahman, 2014 and 2015)</p>
 <p><b>1,630</b> Americans <b>DIE EVERY DAY FROM CANCER</b>, mainly that of the lung, breast and colon (American Cancer Society)</p>	 <p><b>MODERATE EXERCISE</b> for 30-60 minutes a day <b>REDUCES THE RISK OF LUNG, BREAST AND COLON CANCER</b> by a minimum of <b>20%</b> (National Cancer Institute)</p>
 <p><b>61%</b> of American adults 65 years or older <b>HAVE AT LEAST ONE ACTIVITY-BASED LIMITATION</b> (CDC)</p>	 <p><b>PHYSICAL ACTIVITY HELPS PREVENT OR DELAY ARTHRITIS, OSTEOPOROSIS AND DIABETES</b>, while helping maintain balance, mental cognition, and independence (NIH-National Institute on Aging)</p>
 <p><b>86%</b> of workers in the United States <b>DRIVE OR RIDE IN A PRIVATE VEHICLE TO COMMUTE</b>, sitting on average for 26 minutes each way (American Community Survey, 2013)</p>	 <p><b>PEOPLE WHO BIKE BURN</b> an average of <b>540 CALORIES PER HOUR</b> (De Geus, 2007)</p>



# ENVIRONMENT



Trails and greenways have the potential to link fragmented habitats and restore or create new habitat for plants and animals. Greenways also protect large swaths of natural plant habitat which are beneficial in the production of oxygen and filtering of air pollutants like ozone, sulfur dioxide, carbon monoxide, and heavy metals.

Additionally, greenways act as natural buffer zones that protect streams, rivers, and lakes by filtering agricultural and roadway pollutants and preventing soil erosion.

Bicycling and bicycle infrastructure can also be useful in emergencies like natural disasters. Most importantly, greenways and trails often utilize floodplain land, preventing development in these potentially hazardous areas. Additionally, in the immediate aftermath of an emergency, FEMA recognizes that cargo bikes can be used to deliver people and goods in places where roads are otherwise blocked, damaged, or constricted (<https://community.fema.gov/story/disaster-relief-trials-pedal-toward-community-resilience>).

Providing the community with safe and appealing opportunities to access the outdoors can also spur interest in environmental stewardship and the appreciation of the natural assets of the region. Furthermore, being outdoors in nature is shown to increase well-being and provide health benefits, both physically and mentally ([www.nrpa.org/uploadedFiles/nrpa.org/Publications\\_and\\_Research/Research/Papers/SOPARC-Report.pdf](http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/SOPARC-Report.pdf)).



**ASTHMA IS THE LEADING CHRONIC DISEASE IN CHILDREN and the number one reason for missed school days**

*(CDC)*



**A minimum of 20 MINUTES OF PHYSICAL ACTIVITY, 3X WEEK, STRENGTHENS THE LUNGS, including those of individuals living with asthma**

*(US National Lib of Medicine)*



**Exposure to TRAFFIC EMISSIONS is linked to exacerbation of ASTHMA, REDUCED LUNG FUNCTION, ADVERSE BIRTH OUTCOMES and childhood CANCERS**

*(CDC)*



**IF 8% MORE CHILDREN LIVING WITHIN 2 MILES OF A SCHOOL WERE TO WALK OR BIKE TO SCHOOL, the air pollution reduced from not taking a car would be EQUIVALENT TO REMOVING 60,000 CARS FROM THE ROAD for one year**

*(Pedroso, 2008, SRTS)*



**40% OF ALL TRIPS in the U.S. are TWO MILES OR LESS, and two-thirds of them happen in cars**

*(NHTS, 2009)*



**BIKING 2 MILES, rather than driving, AVOIDS EMITTING 2 lbs OF POLLUTANTS, which would take 1.5 months for one tree to sequester.**

*(EPA, 2000 and NC State, 2001)*





*The Yadkin River Greenway is an excellent example of a rural North Carolina trail that provides economic, health, and environmental benefits to its region. Photo source: Alta Planning + Design.*



# APPENDIX C: FUNDING RESOURCES

## OVERVIEW

When considering possible funding sources for trail projects, it is important to remember that not all construction activities or programs will be accomplished with a single funding source. It will be necessary to consider several sources of funding that together will support full project completion. Funding sources can be used for a variety of activities, including: programs, planning, design, implementation, and maintenance. This appendix outlines the most likely sources of funding from the federal, state, and local government levels as well as from the private and nonprofit sectors. Note that this reflects the funding available at the time of writing. Funding amounts, cycles, and the programs themselves may change over time.

## 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 trail 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 big programs - Transportation Investments Generating Economic Recovery (TIGER - now called BUILD), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Highway Safety Improvement Program (HSIP).

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 oriented toward transportation versus 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.

For more information: <https://www.transportation.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 infra-structure-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>

In January 2020, NCDOT released the Transportation Alternatives Program (TAP) Bike/Ped Scoping Guide. This document provides detail and guidance on the Project Delivery Process and important elements to consider in bike/ped project development.

For more information: <https://connect.ncdot.gov/projects/BikePed/Documents/BikePed%20Project%20Scoping%20Guidance%20for%20Local%20Governments.pdf>

### *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>

### *LOCALLY ADMINISTERED PROJECTS PROGRAM (LAPP)*

The Locally Administered Projects Program (LAPP) was first adopted by the NC Capital Area MPO on October 20, 2010. The program is used by the MPO to prioritize and program local transportation projects in the region that utilize federal funding and are the responsibility of the MPO (such as Surface Transportation Block Grant Program - Direct Allocation (STBGP-DA), Congestion Mitigation for Air Quality (CMAQ), etc.). LAPP is a competitive funding program managed by CAMPO that prioritizes locally administered projects in the Region. These projects are funded using the federal funding sources directly attributed to the region with a minimum 20% local match. Member jurisdictions of the CAMPO region are eligible to apply for these funds.

For more information: <https://www.campo-nc.us/funding/locally-administered-projects-program>

### *HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)*

HSIP provides \$2.4 billion for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. Bicycle and pedestrian safety



improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds.

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

### *SAFE ROUTES TO SCHOOL (SRTS) PROGRAM*

SRTS enables and encourages children 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. Most of the types of eligible SRTS projects include sidewalks or shared use paths. However, intersection improvements (i.e. signalization, marking/upgrading crosswalks, etc.), on-street bicycle facilities (bike lanes, wide paved shoulders, etc.) or off-street shared use paths are also eligible for SRTS funds.

The North Carolina Department of Transportation's Safe Routes to School (SRTS) Program was established in 2005 through SAFETEA-LU as a federally funded program to provide an opportunity for communities to improve conditions for bicycling and walking to school. It is currently supported with Transportation Alternatives federal funding through the Surface Transportation Block Grant program established under the FAST Act. The SRTS Program has set aside \$1,500,000 per year of Transportation Alternative Program (TAP) funds for non-infrastructure programs and activities over a three-year period. Funding requests may range from a yearly amount of \$50,000 to \$100,000 per project. Projects can be one to three years in length. Funding may be requested to support activities for community-wide, regional or statewide programs. The next funding cycle application will be available in January 2021.

For more information: <https://connect.ncdot.gov/projects/BikePed/Pages/Non-Infrastructure-Alternatives-Program.aspx>

CAMPO also serves as a partner in SRTS programming.

For more information: <https://www.campo-nc.us/programs-studies/bicycle-and-pedestrian>

### **OTHER FEDERAL FUNDING SOURCES**

#### *BUILD TRANSPORTATION DISCRETIONARY GRANT PROGRAM*

The Better Utilizing Investments to Leverage Development (BUILD) grant program is expected to be funded at \$1 billion in FY2021. BUILD grants are awarded on a competitive basis for projects that will have a significant local or regional impact.

The FY2020 BUILD program's selection criteria gave special consideration to projects that emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas. This includes projects that improve infrastructure condition, address public health and safety, promote regional connectivity, facilitate economic growth or competitiveness, deploy broadband as part of an eligible transportation project, or promote energy independence. Selection criteria encompass safety, economic competitiveness, quality of life, state of good repair, innovation and partnerships with a broad range of stakeholders.

The current application identifies any area(s) in the application narrative that may be affected by the ongoing COVID-19 situation for the Department's consideration in the project's evaluation. Trails and their benefits for healthy outdoor physical activity could be especially competitive as projects fulfilling community needs during pandemic-related restrictions.

For more information: <https://www.transportation.gov/BUILDgrants>

<https://www.transportation.gov/sites/dot.gov/files/2020-02/BudgetHighlightFeb2021.pdf>





### *FEDERAL TRANSIT ADMINISTRATION ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES*

This program can be used for capital expenses that support 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.

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

### *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 for 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>

### *FEDERAL LAND AND WATER CONSERVATION FUND*

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the U.S. Department of the

Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Environment and Natural Resources.

Since 1965, the LWCF program has built a park legacy for present and future generations. In North Carolina alone, the LWCF program has provided more than \$75 million in matching grants to protect land and support more than 875 state and local park projects. More than 38,500 acres have been acquired with LWCF assistance to establish a park legacy in our state. As of August 2020, the LWCF is now permanently funded by the federal government for \$900 million every year. This is hundreds of millions more per year than the fund typically receives.

For more information: <https://www.ncparks.gov/more-about-us/grants/lwcf-grants>

### *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.

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 AND STATE-ADMINISTERED 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)*

Passed in 2013, the Strategic Transportation Investments law (STI) allows NCDOT to use its funding more efficiently and effectively to enhance the state's infrastructure, while supporting economic growth, job creation and a higher quality of life. This process encourages thinking from a statewide and regional perspective while also providing flexibility to address local needs. STI also establishes a way of allocating available revenues based on data-driven scoring and local input. It is used for the State Transportation Improvement Program (STIP), which identifies the transportation projects that will receive funding during a 10-year period. STIP is a state and federal requirement, which NCDOT updates it every two years.

### ***STI's Quantitative Scoring Process***

All independent bicycle and pedestrian projects are ranked based on a quantitative scoring process, with the following main steps:

1. Initial Project Review (NCDOT Strategic Prioritization Office (SPOT))
2. Review Projects and Data (NCDOT Integrated Mobility Division (IMD))
3. Review Data (MPOs, RPOs, Divisions)
4. Review Updates and Calculate Measures (NCDOT IMD)
5. Score Projects (NCDOT SPOT)



## STI BICYCLE & PEDESTRIAN PROJECT SCORING

Criteria	Measure	Division Needs (50%)
Safety	(Number of crashes x 40%) + (Crash severity x 20%) + (Safety risk x 20%) + (Safety benefit x 20%)	20%
Accessibility/ Connectivity	Points of Interest pts + Connections pts + Route pts	15%
Demand/ Density	# of households and employees per square mile near project	10%
Cost Effectiveness	(Safety + Accessibility/Connectivity + Demand/Density) / Cost to NCDOT	5%

### **Bicycle and Pedestrian Project Eligibility Requirements**

- Minimum total project cost = \$100,000
- Eligible costs include right-of-way, preliminary engineering, and construction
- Bicycle and pedestrian and public transportation facilities that appear in a state, regional or locally adopted transportation plan will be included as part of the proposed roadway project. NCDOT will fully fund the cost of designing, acquiring right of way, and constructing the identified facilities.

### **Specific Improvement Types**

1. Grade-Separated Bicycle Facility (Bicycle)
2. Off-Road/Separated Linear Bicycle Facility (Bicycle)
3. On-Road; Designated Bicycle Facility (Bicycle)
4. On-Road Bicycle Facility (Bicycle)
5. Multi-Site Bicycle Facility (Bicycle)
6. Grade-Separated Pedestrian Facility (Pedestrian)
7. Protected Linear Pedestrian Facility (Pedestrian)
8. Multi-Site Pedestrian Facility (Pedestrian)

### 9. Improved Pedestrian Facility (Pedestrian)

#### **Bundling Projects**

- Allow across geographies and across varying project types
- Bundling will be limited by project management requirements rather than geographic limitations
- Any bundled project must be expected to be under one project manager/administrative unit (must be a TAP-eligible entity)
- Makes projects more attractive for LIPs and easier to manage/let

#### **More Info on Prioritization 6.0:**

NCDOT's Prioritization Data page has training slides that explain the prioritization process:

<https://connect.ncdot.gov/projects/planning/Prioritization%20Data/Forms/AllItems.aspx>

See the "Prioritization Training" folder and the following session information within:

- Session 3: Detailed information on overall scoring components, including local input points.
- Session 4: Features relevant project funding information, and
- Session 7: Detailed slides explaining the bicycle and pedestrian project scoring





### **High Impact/Low Cost Funds**

Established by NCDOT in 2017 to provide funds to complete low cost projects with high impacts to the transportation system including intersection improvement projects, minor widening projects, and operational improvement projects. Funds are allocated equally to each Division.

### **Project Selection Criteria**

Each Division is responsible for selecting their own scoring criteria for determining projects funded in this program. At a minimum, Divisions must consider all of the following in developing scoring formulas:

1. The average daily traffic volume of a roadway and whether the proposed project will generate additional traffic.
  2. Any restrictions on a roadway.
  3. Any safety issues with a roadway.
  4. The condition of the lanes, shoulders, and pavement on a roadway.
  5. The site distance and radius of any intersection on a roadway.
- \$1.5M max per project unless otherwise approved by the Secretary of Transportation
  - Projects are expected to be under contract within 12 months of funding approval by BOT

### **NCDOT Technical Review & Approval**

- Division Engineer completes project scoring and determines eligibility.
- Division Engineer determines projects to be funded and requests approval of funding from the Chief Engineer. Division Engineer shall supply all necessary project information including funding request forms, project designs and cost estimates.

- The Project Review Committee will make a recommendation for further investigation or to include on the Board Agenda for action by the Secretary, NCDOT.

### **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.

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.

“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 projects. It also helps local government identify what their priorities are and how they might be able to pay for these projects. Under the updated NCDOT Complete Streets Policy, NCDOT pays the full cost for incidental projects if the project is proposed in a locally adopted plan (see link to updated NCDOT Complete Streets Policy below).

For more information: <https://connect.ncdot.gov/projects/BikePed/Documents/Complete%20Streets%20Implementation%20Guide%20v1.31.20%20FINAL.pdf>



## *NC HIGHWAY SAFETY IMPROVEMENT PROGRAM*

The purpose of the North Carolina Highway Safety Improvement Program (HSIP) is to provide a continuous and systematic process that identifies reviews and addresses specific traffic safety concerns throughout the state. The program is structured in several distinct phases:

A system of safety warrants is developed to identify locations that are possibly deficient.

- Locations that meet warrant criteria are categorized as potentially hazardous (PH) locations.
- Detailed crash analyses are performed on the PH locations with the more severe and correctable crash patterns.
- The Regional Traffic Engineering staff performs engineering field investigations.
- The Regional Traffic Engineering staff utilizes Benefit: Cost studies and other tools to develop safety recommendations.
- Depending on the cost and nature of the counter-measures, the investigations may result in requesting Division maintenance forces to make adjustments or repairs, developing Spot Safety projects, developing Hazard Elimination projects, making adjustments to current TIP project plans or utilizing other funding sources to initiate countermeasures.
- Selected projects are evaluated to determine the effectiveness of countermeasures.

The ultimate goal of the HSIP is to reduce the number of traffic crashes, injuries and fatalities by reducing the potential for and the severity of these incidents on public roadways.

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: <https://www.ncdot.gov/initiatives-policies/safety/ghsp/Pages/default.aspx>



## THE NORTH CAROLINA DIVISION OF PARKS AND RECREATION - RECREATIONAL TRAILS PROGRAM GRANT

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 \$250,000 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: <https://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/parks-and-recreation-trust-fund>

## 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>





## 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.

For more information: [https://www.ncforests.gov/Urban/urban\\_grant\\_program.htm](https://www.ncforests.gov/Urban/urban_grant_program.htm)

## LOCAL FUNDING SOURCES

Local governments often plan for the funding of bicycle and pedestrian infrastructure or improvements through development of Capital Improvement Projects (CIP) or occasionally, through their annual Operating Budgets. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows decision-makers to balance all capital needs. Typical capital funding mechanisms include the capital reserve fund, taxes, fees, and bonds. However, many will require specific local action as a means of establishing a program if it's not already in place.

## PRIVATE AND NONPROFIT FUNDING SOURCES

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

### RAILS-TO-TRAILS CONSERVANCY

Under the Doppelt Family Trail Development Fund, RTC will award approximately \$85,000 per year, distributed among several qualifying projects, through a competitive process. 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 area 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.

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

### THE HARNETT COUNTY COMMUNITY FOUNDATION

The Harnett County Community Foundation is a growing family of philanthropic funds, source of grants for local causes and partner for donors. HCCF was founded in 1991 and is led by a local volunteer advisory board that helps build community assets through the creation of permanent endowments, makes grants and leverages leadership - all for the benefit of Harnett County.

For more information: <https://www.nccommunityfoundation.org/communities/sandhills/harnett-county>

### 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 non-profit 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. 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. Funding criteria states that:

- The project should seek to secure lasting and quantifiable protection of a specific wild land or waterway. We prioritize landscape-scale projects that have a clear benefit for habitat.
- The campaign should engage grassroots citizen action in support of the conservation effort. We do not fund general education, restoration, stewardship, or scientific research projects.
- All projects must have a clear recreational benefit.

For more information: <http://www.conservationalliance.com/grants/?yearly=2020>

### *BLUE CROSS BLUE SHIELD OF NORTH CAROLINA FOUNDATION (BCBS)*

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/grants-programs/grantmaking-overview/>

### *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 that could potentially fund bicycle and pedestrian projects. The Duke Energy Foundation is committed to making strategic investments to build powerful communities where nature and wildlife thrive, students can excel and a talented workforce drives economic prosperity for all.

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



## *Z. SMITH REYNOLDS FOUNDATION*

This Winston-Salem-based Foundation is committed to improving the quality of life for all North Carolinians. The Z. Smith Reynolds Foundation is a statewide, private, family foundation that has been a catalyst for positive change in North Carolina for more than 80 years. A variety of grant programs are available.

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

## *BANK OF AMERICA CHARITABLE FOUNDATION*

The Bank of America Charitable Foundation supports a wide range of activities, including a focus on community greening efforts that create healthy neighborhoods and environmental sustainability through the preservation, creation or restoration of open space, parks and community gardens.

For more information: <https://about.bankofamerica.com/en-us/global-impact/charitable-foundation-funding.html>

## *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. Local governments typically create funds to facilitate and simplify a transaction from a corporation's donation to the given locality. 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. Local governments typically create funds to facilitate and simplify a transaction from an individual's donation to the given locality. 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.

## *ROUND UP FOR THE GREENWAY CAMPAIGN*

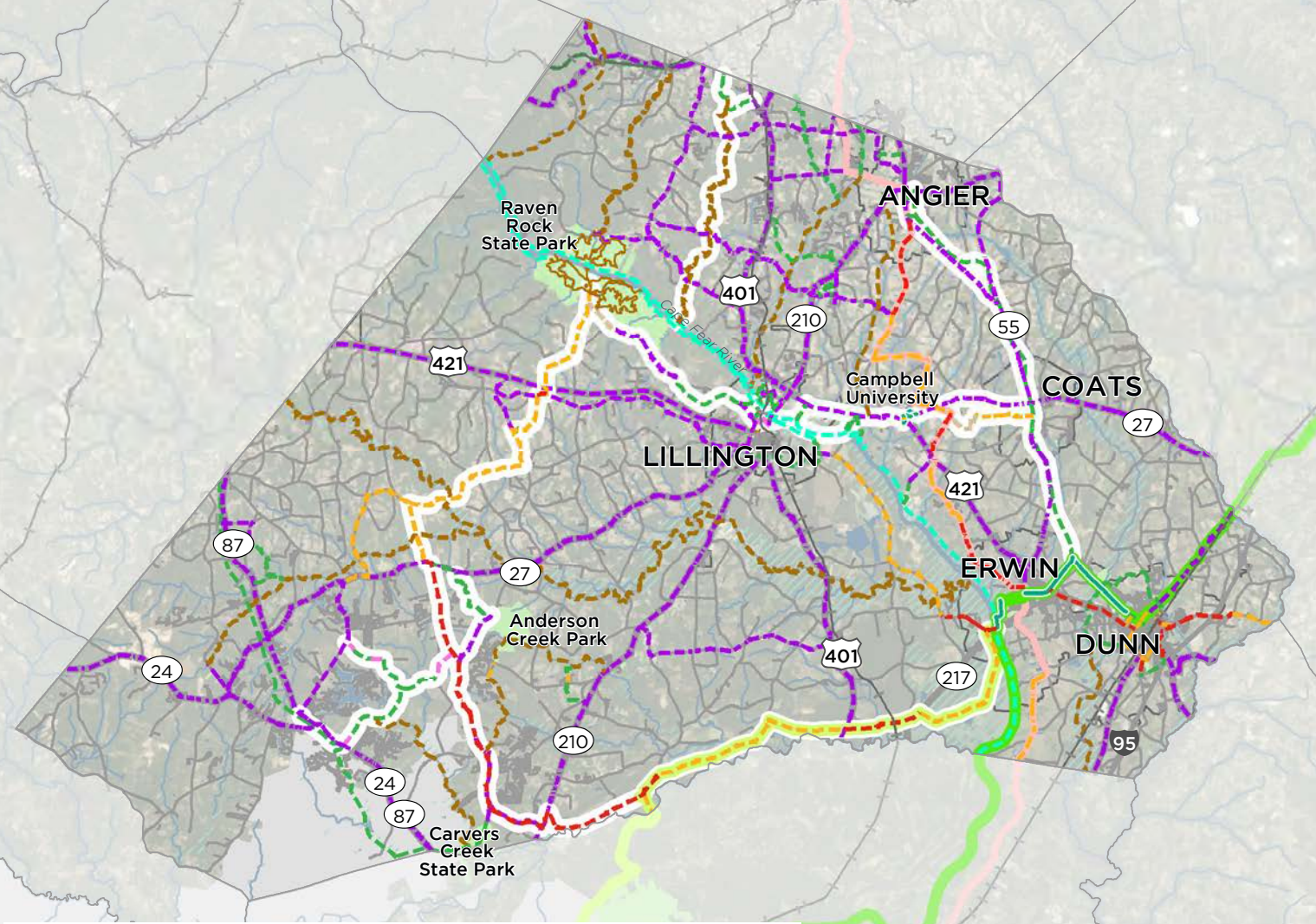
A round up campaign involves local businesses asking customers, upon making a purchase, to 'round up' their purchase and donate the additional change for a project or cause.

The Blue Ridge Conservancy, local partners, and over 100 local businesses used this approach during one month each summer over three consecutive summers to raise approximately \$400,000 towards implementing the Middle Fork Greenway between Boone and Blowing Rock - [https://www.wataugademocrat.com/community/round-up-campaign-raises-money-for-middle-fork-greenway/article\\_afb8d8cd-0a5e-5948-abdd-f05d32545216.html](https://www.wataugademocrat.com/community/round-up-campaign-raises-money-for-middle-fork-greenway/article_afb8d8cd-0a5e-5948-abdd-f05d32545216.html)



# APPENDIX D: GREENWAY NETWORK MAPS

**Long-Term Vision:** These maps show a comprehensive network of potential trail opportunities in Harnett County. While many of these are longer-term considerations, they are still an important part of this plan as they show what the potential is for any given future development or roadway construction that may provide an opportunity for incorporating a walking/biking facility.



<p><b>Proposed Trail Types</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">—</span> Shared Use Path</li> <li><span style="color: cyan;">—</span> River Adjacent Trail</li> <li><span style="color: purple;">—</span> Sidepath</li> <li><span style="color: pink;">—</span> Residential Sidepath</li> <li><span style="color: brown;">—</span> Natural Surface</li> </ul> <p><b>Base Elements</b></p> <ul style="list-style-type: none"> <li><span style="color: grey;">—</span> Rail Road</li> <li><span style="color: blue;">—</span> Water</li> <li><span style="color: lightgreen;">—</span> Parks</li> <li><span style="color: lightgrey;">—</span> Fort Bragg</li> <li><span style="color: lightblue;">—</span> 500 Year Floodplain</li> <li><span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> ETJ</li> </ul>	<p><b>Proposed Bike Route</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">—</span> Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)</li> <li><span style="color: orange;">—</span> Lower Traffic Volume (&lt;AADT 1500) (paved shoulder)</li> <li><span style="color: tan;">—</span> Gravel Road (wayfinding)</li> </ul>	<p><b>Existing Facilities</b></p> <ul style="list-style-type: none"> <li><span style="color: teal;">—</span> Existing Shared Use Path</li> <li><span style="color: brown;">—</span> Raven Rock State Park Trails</li> <li><span style="color: green;">—</span> East Coast Greenway (Designated/Envisioned Route)</li> <li><span style="color: lightgreen;">—</span> East Coast Greenway Interim Route (Signed, On-road)</li> <li><span style="color: pink;">—</span> NC Bike Route 5 (Cape Fear Run)</li> </ul>
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0 5 10 MILES





# NORTHWEST

### Existing Facilities

- Existing Shared Use Path
- Raven Rock State Park Trails
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

### Base Elements

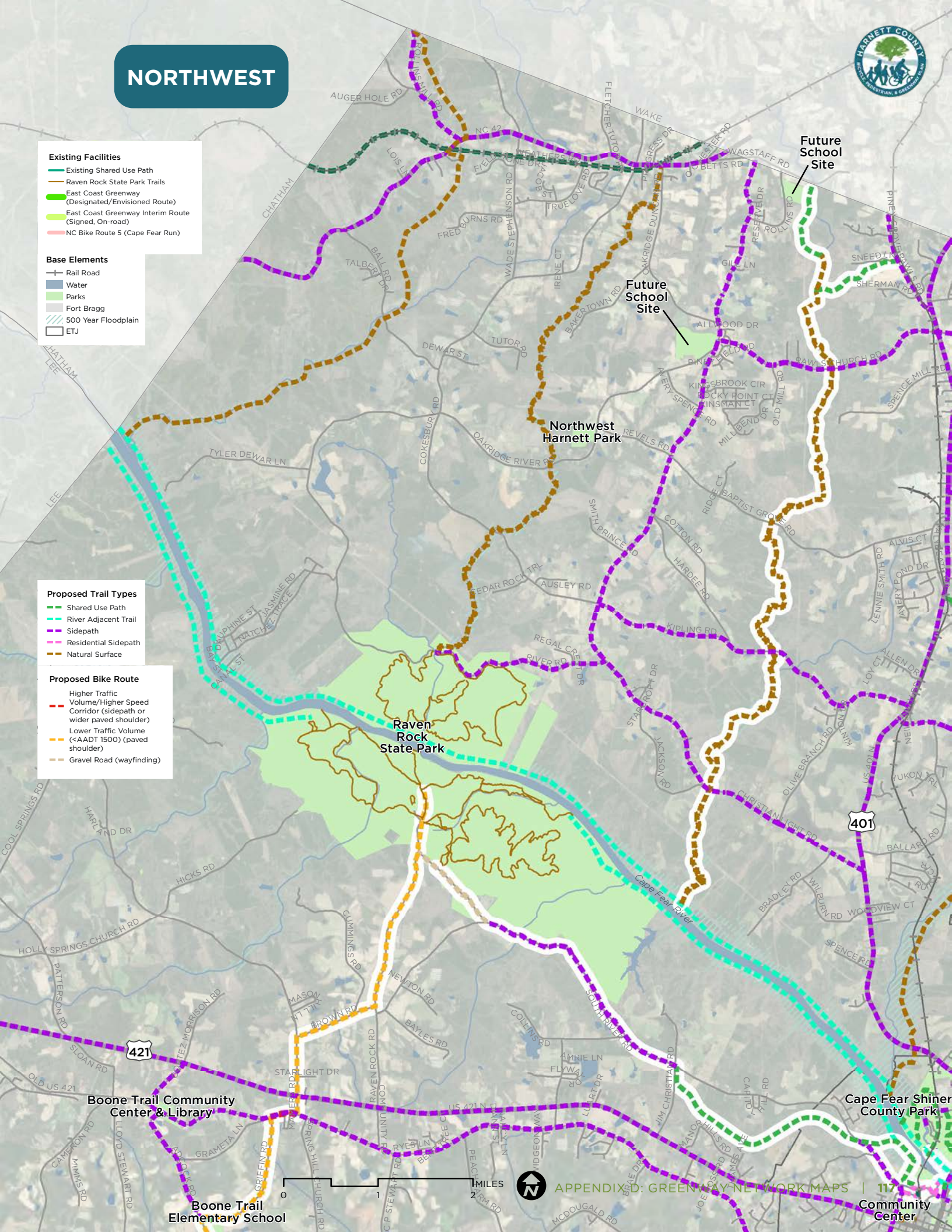
- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ

### Proposed Trail Types

- Shared Use Path
- River Adjacent Trail
- Sidepath
- Residential Sidepath
- Natural Surface

### Proposed Bike Route

- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
- Lower Traffic Volume (<AADT 1500) (paved shoulder)
- Gravel Road (wayfinding)



Future School Site

Future School Site

Northwest Harnett Park

Raven Rock State Park

401

421

Boone Trail Community Center & Library

Cape Fear Shiner County Park

Boone Trail Elementary School

Community Center







Raven Rock State Park

# WEST

### Existing Facilities

- Existing Shared Use Path
- Raven Rock State Park Trails
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

### Base Elements

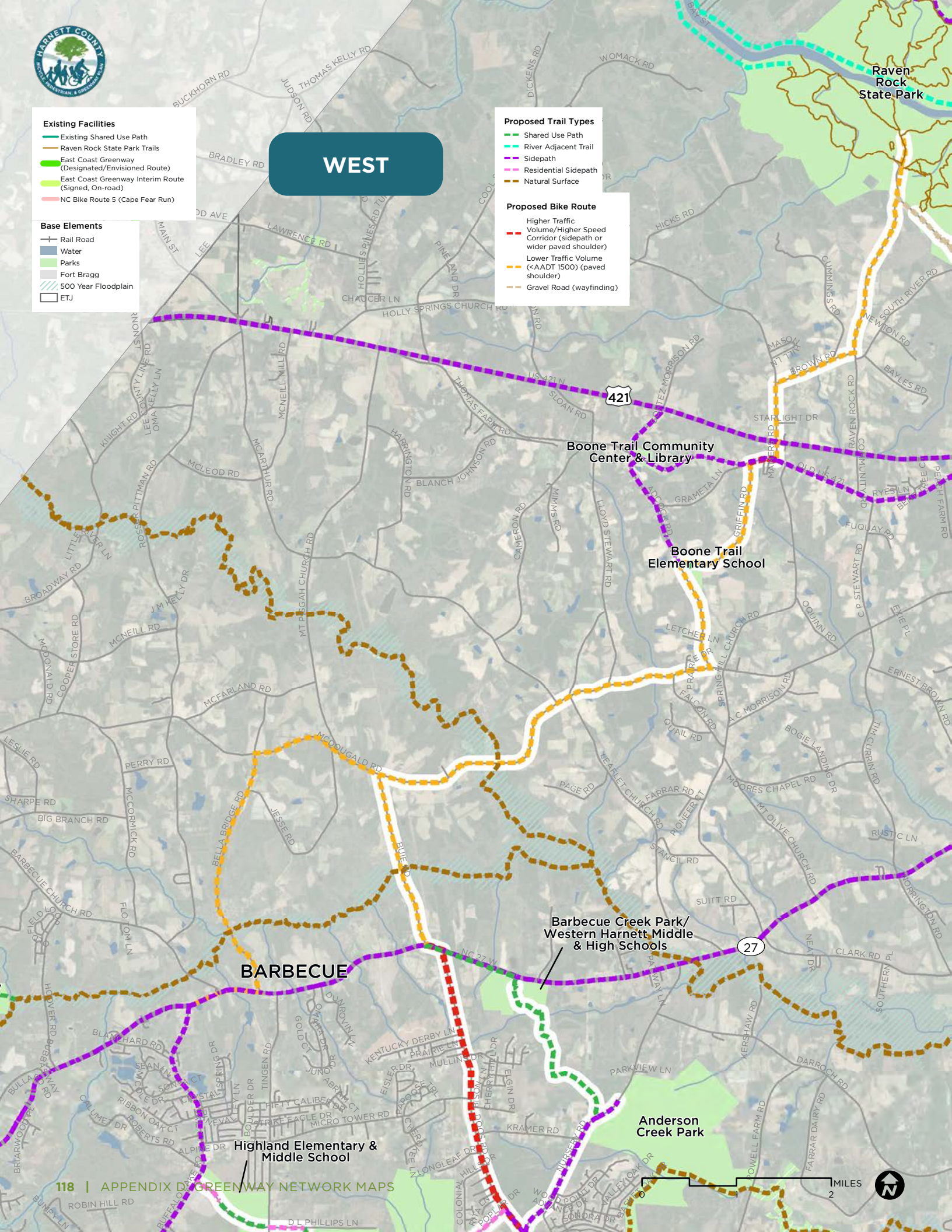
- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ

### Proposed Trail Types

- Shared Use Path
- River Adjacent Trail
- Sidepath
- Residential Sidepath
- Natural Surface

### Proposed Bike Route

- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
- Lower Traffic Volume (<AADT 1500) (paved shoulder)
- Gravel Road (wayfinding)



## BARBECUE

Barbecue Creek Park/  
Western Harnett Middle  
& High Schools

Anderson  
Creek Park







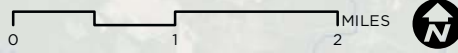
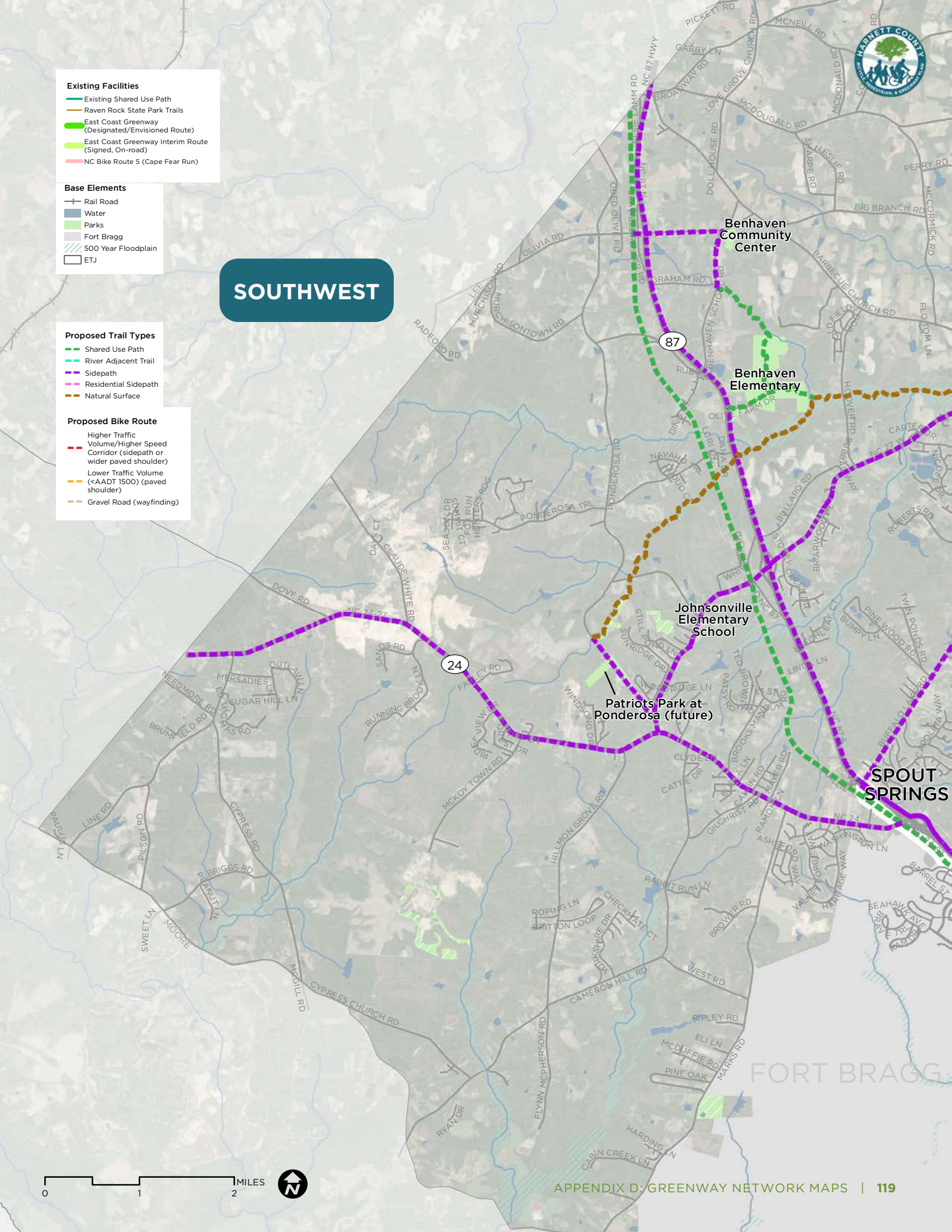
- Existing Facilities**
- Existing Shared Use Path
  - Raven Rock State Park Trails
  - East Coast Greenway (Designated/Envisioned Route)
  - East Coast Greenway Interim Route (Signed, On-road)
  - NC Bike Route 5 (Cape Fear Run)

- Base Elements**
- Rail Road
  - Water
  - Parks
  - Fort Bragg
  - 500 Year Floodplain
  - ETJ

- Proposed Trail Types**
- Shared Use Path
  - River Adjacent Trail
  - Sidepath
  - Residential Sidepath
  - Natural Surface

- Proposed Bike Route**
- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
  - Lower Traffic Volume (<AADT 1500) (paved shoulder)
  - Gravel Road (wayfinding)

# SOUTHWEST







**SOUTH**

Benhaven Community Center

Benhaven Elementary

**BARBECUE**

Barbecue Creek Park/  
Western Harnett Middle  
& High Schools

Highland Elementary &  
Middle School

Anderson  
Creek Park

Johnsonville  
Elementary  
School

Patriots Park at  
Ponderosa (future)

**SPOUT  
SPRINGS**

Overhills Elementary,  
Middle, & High Schools

Carvers  
Creek  
State Park

FORT BRAGG

- Existing Facilities**
- Existing Shared Use Path
  - Raven Rock State Park Trails
  - East Coast Greenway (Designated/Envisioned Route)
  - East Coast Greenway Interim Route (Signed, On-road)
  - NC Bike Route 5 (Cape Fear Run)

- Proposed Bike Route**
- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
  - Lower Traffic Volume (<AADT 1500) (paved shoulder)
  - Gravel Road (wayfinding)

- Proposed Trail Types**
- Shared Use Path
  - River Adjacent Trail
  - Sidepath
  - Residential Sidepath
  - Natural Surface

- Base Elements**
- Rail Road
  - Water
  - Parks
  - Fort Bragg
  - 500 Year Floodplain
  - ETJ





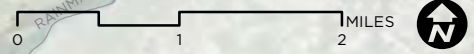
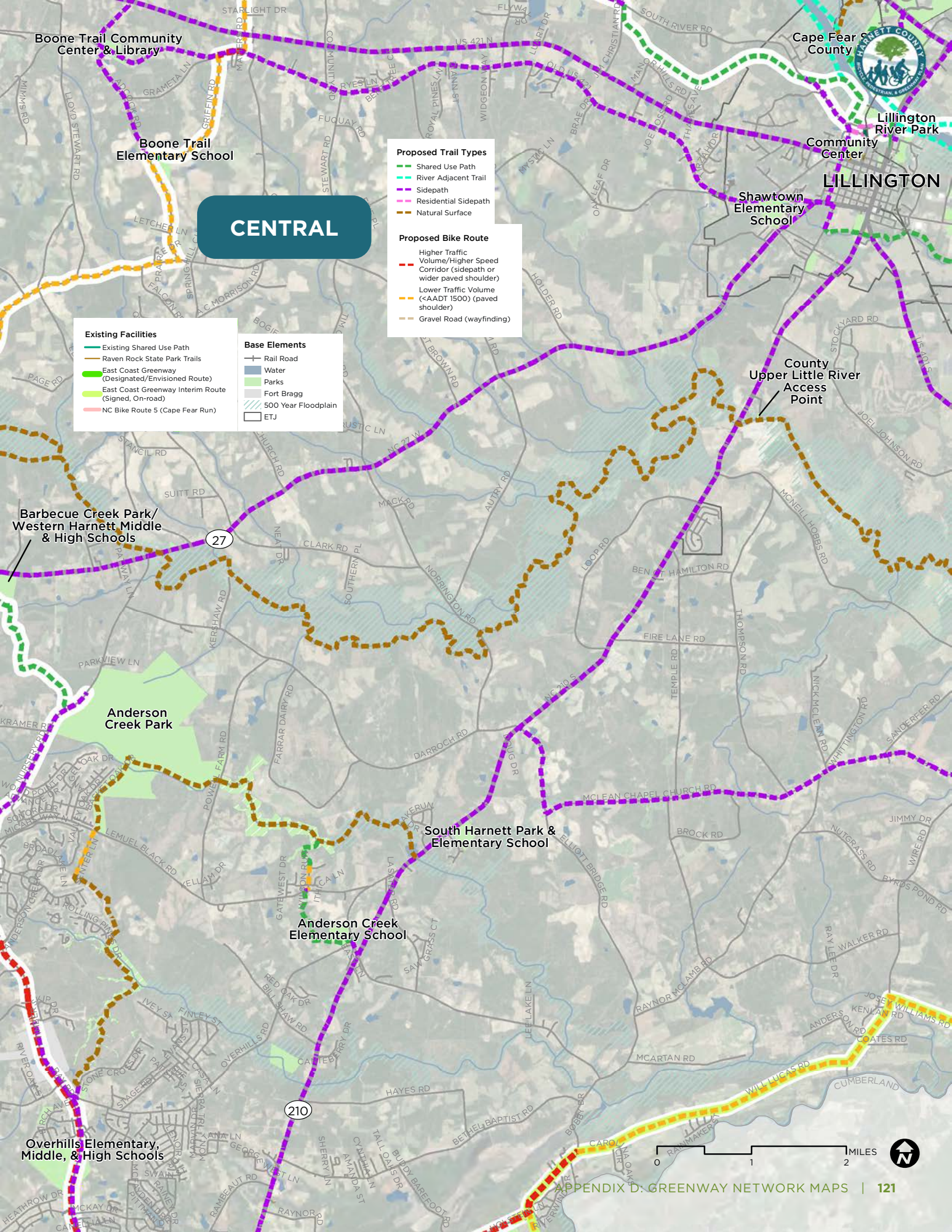


# CENTRAL

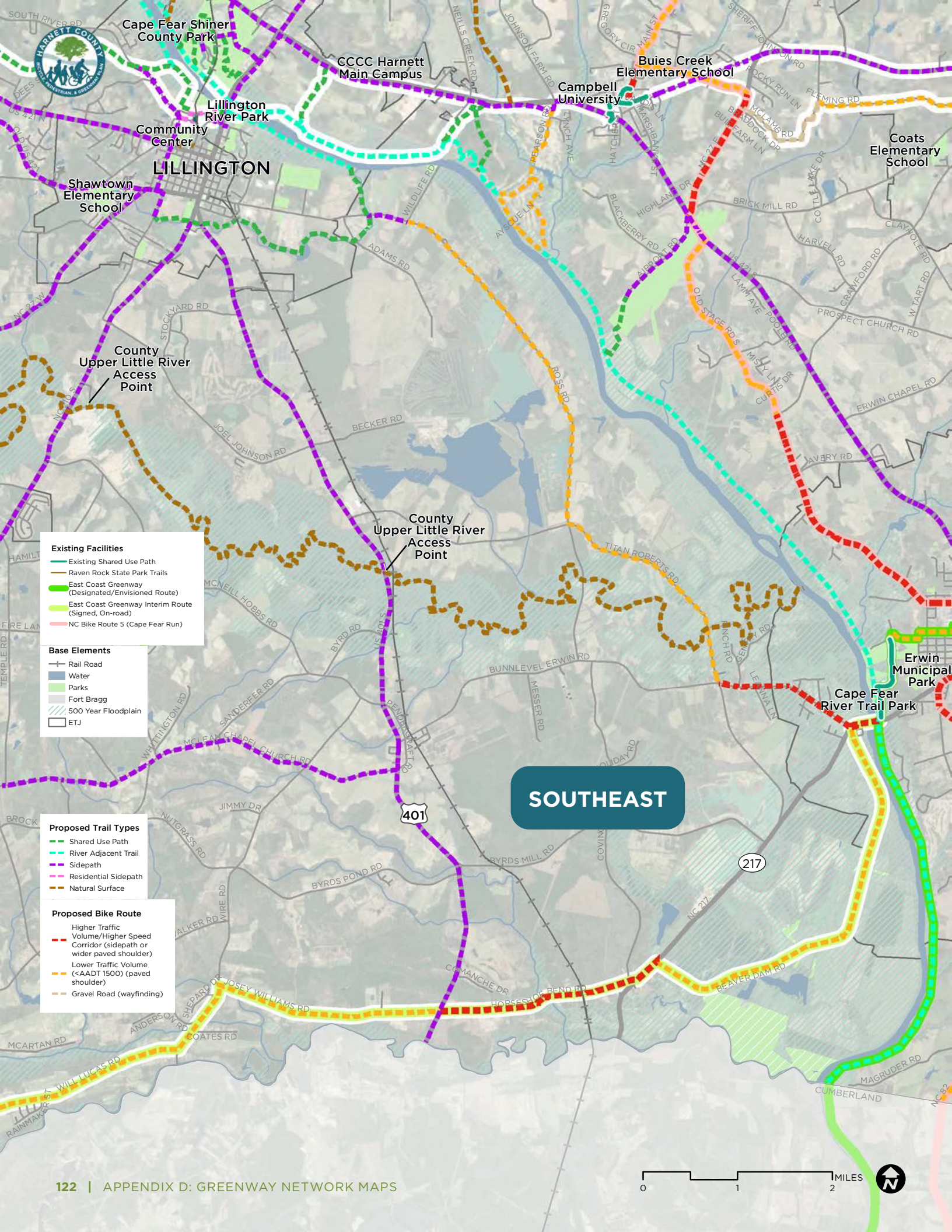
- Proposed Trail Types**
- Shared Use Path
  - River Adjacent Trail
  - Sidepath
  - Residential Sidepath
  - Natural Surface
- Proposed Bike Route**
- Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)
  - Lower Traffic Volume (<AADT 1500) (paved shoulder)
  - Gravel Road (wayfinding)

- Existing Facilities**
- Existing Shared Use Path
  - Raven Rock State Park Trails
  - East Coast Greenway (Designated/Envisioned Route)
  - East Coast Greenway Interim Route (Signed, On-road)
  - NC Bike Route 5 (Cape Fear Run)

- Base Elements**
- Rail Road
  - Water
  - Parks
  - Fort Bragg
  - 500 Year Floodplain
  - ETJ







**SOUTHEAST**





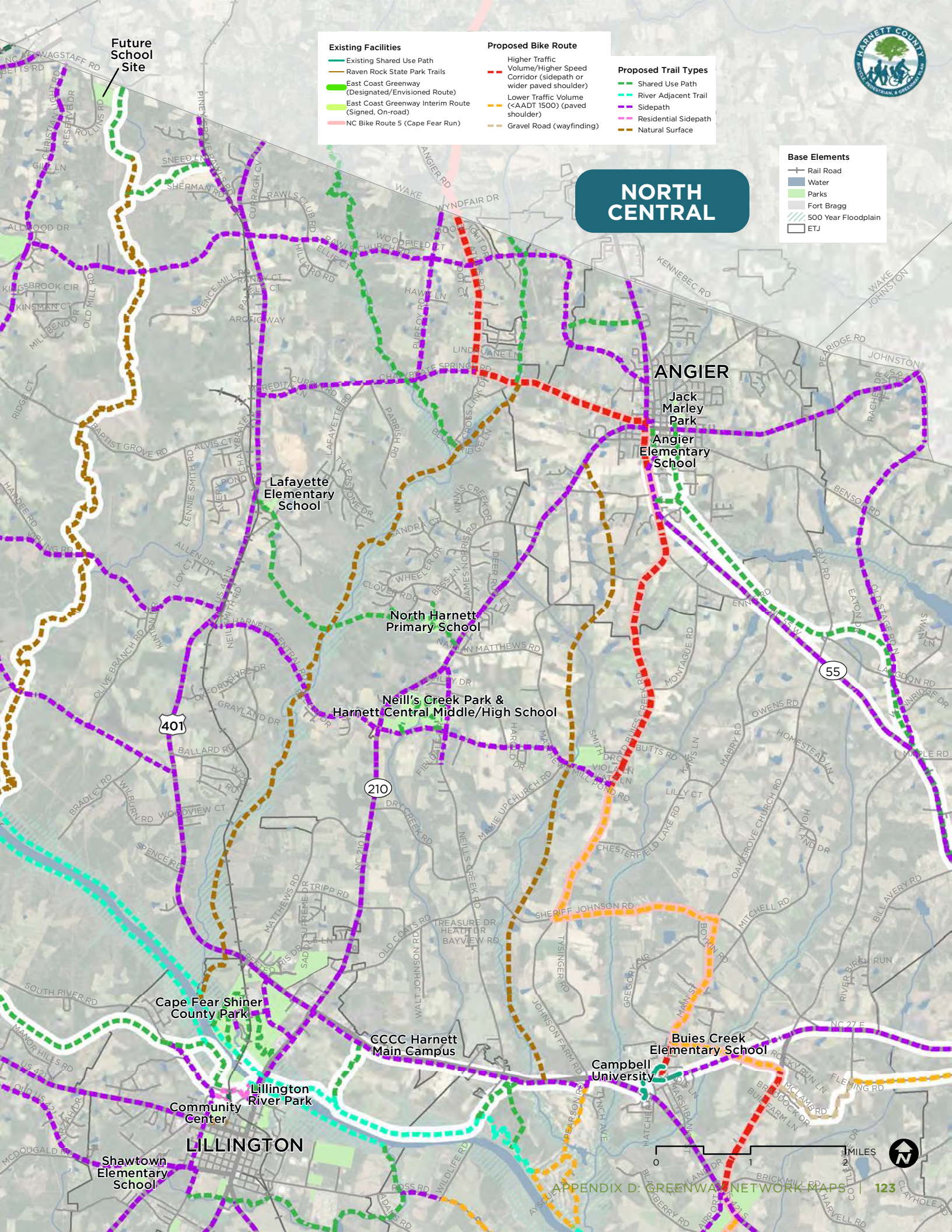
Future School Site

<b>Existing Facilities</b>	<b>Proposed Bike Route</b>	<b>Proposed Trail Types</b>
<ul style="list-style-type: none"> <li><span style="color: green;">—</span> Existing Shared Use Path</li> <li><span style="color: orange;">—</span> Raven Rock State Park Trails</li> <li><span style="color: green;">—</span> East Coast Greenway (Designated/Envisioned Route)</li> <li><span style="color: lightgreen;">—</span> East Coast Greenway Interim Route (Signed, On-road)</li> <li><span style="color: pink;">—</span> NC Bike Route 5 (Cape Fear Run)</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">- - -</span> Higher Traffic Volume/Higher Speed Corridor (sidepath or wider paved shoulder)</li> <li><span style="color: orange;">- - -</span> Lower Traffic Volume (&lt;AADT 1500) (paved shoulder)</li> <li><span style="color: brown;">- - -</span> Gravel Road (wayfinding)</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: green;">- - -</span> Shared Use Path</li> <li><span style="color: cyan;">- - -</span> River Adjacent Trail</li> <li><span style="color: purple;">- - -</span> Sidepath</li> <li><span style="color: pink;">- - -</span> Residential Sidepath</li> <li><span style="color: brown;">- - -</span> Natural Surface</li> </ul>

# NORTH CENTRAL

**Base Elements**

- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ



ANGIER

Jack Marley Park  
Angier Elementary School

Lafayette Elementary School

North Harnett Primary School

Neill's Creek Park & Harnett Central Middle/High School

401

210

55

Cape Fear Shiner County Park

CCCC Harnett Main Campus

Campbell University

Buies Creek Elementary School

Community Center

Lillington River Park

LILLINGTON

Shawtown Elementary School

0 1 2 MILES







# ANGIER

Jack Marley Park  
Angier Elementary School

**Existing Facilities**

- Existing Shared Use Path
- Raven Rock State Park Trails
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

**Base Elements**

- Rail Road
- Water
- Parks
- Fort Bragg
- 500 Year Floodplain
- ETJ

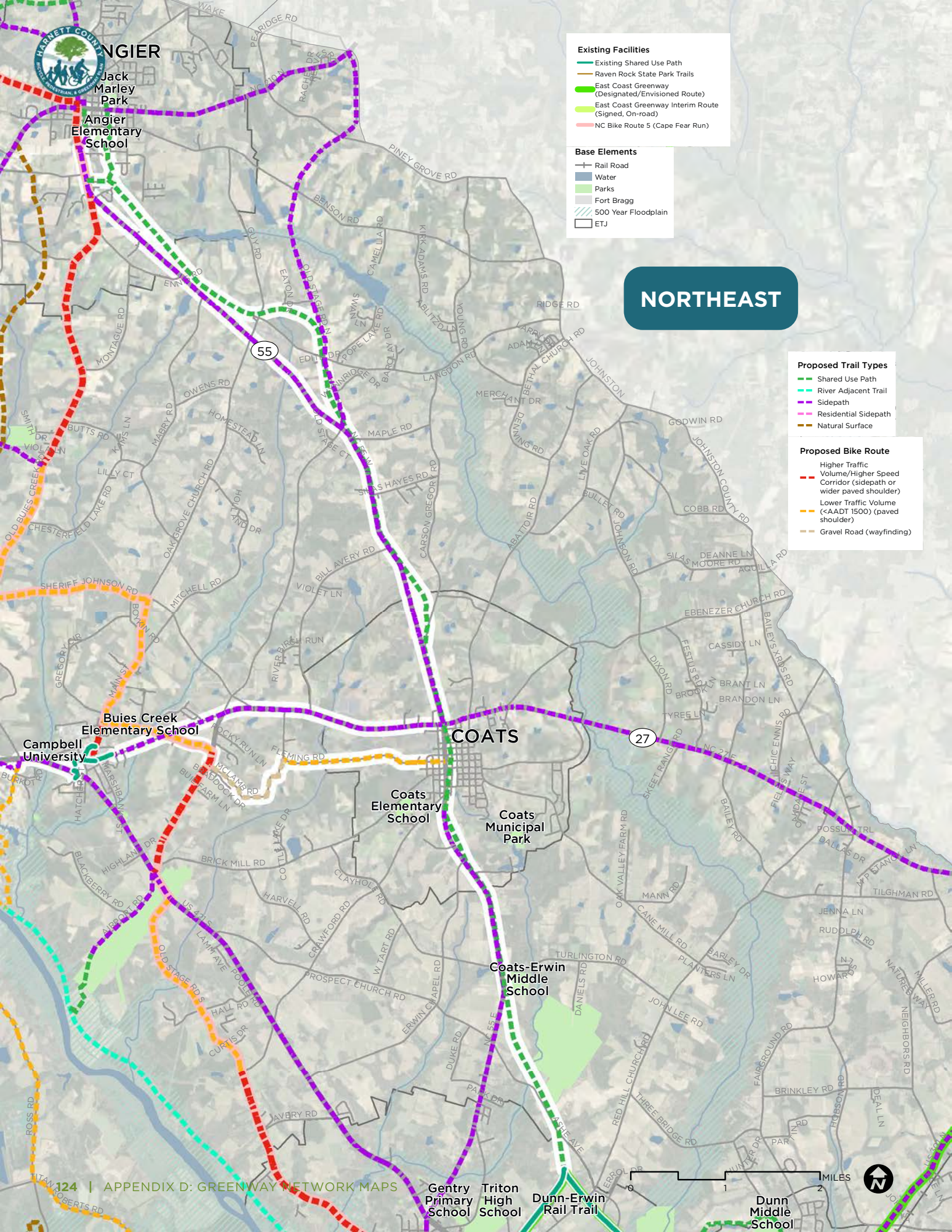
# NORTHEAST

**Proposed Trail Types**

- Shared Use Path
- River Adjacent Trail
- Sidewalk
- Residential Sidewalk
- Natural Surface

**Proposed Bike Route**

- Higher Traffic Volume/Higher Speed Corridor (sidewalk or wider paved shoulder)
- Lower Traffic Volume (<AADT 1500) (paved shoulder)
- Gravel Road (wayfinding)



Buies Creek Elementary School

Campbell University

# COATS

Coats Elementary School

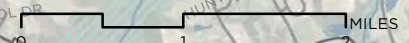
Coats Municipal Park

Coats-Erwin Middle School

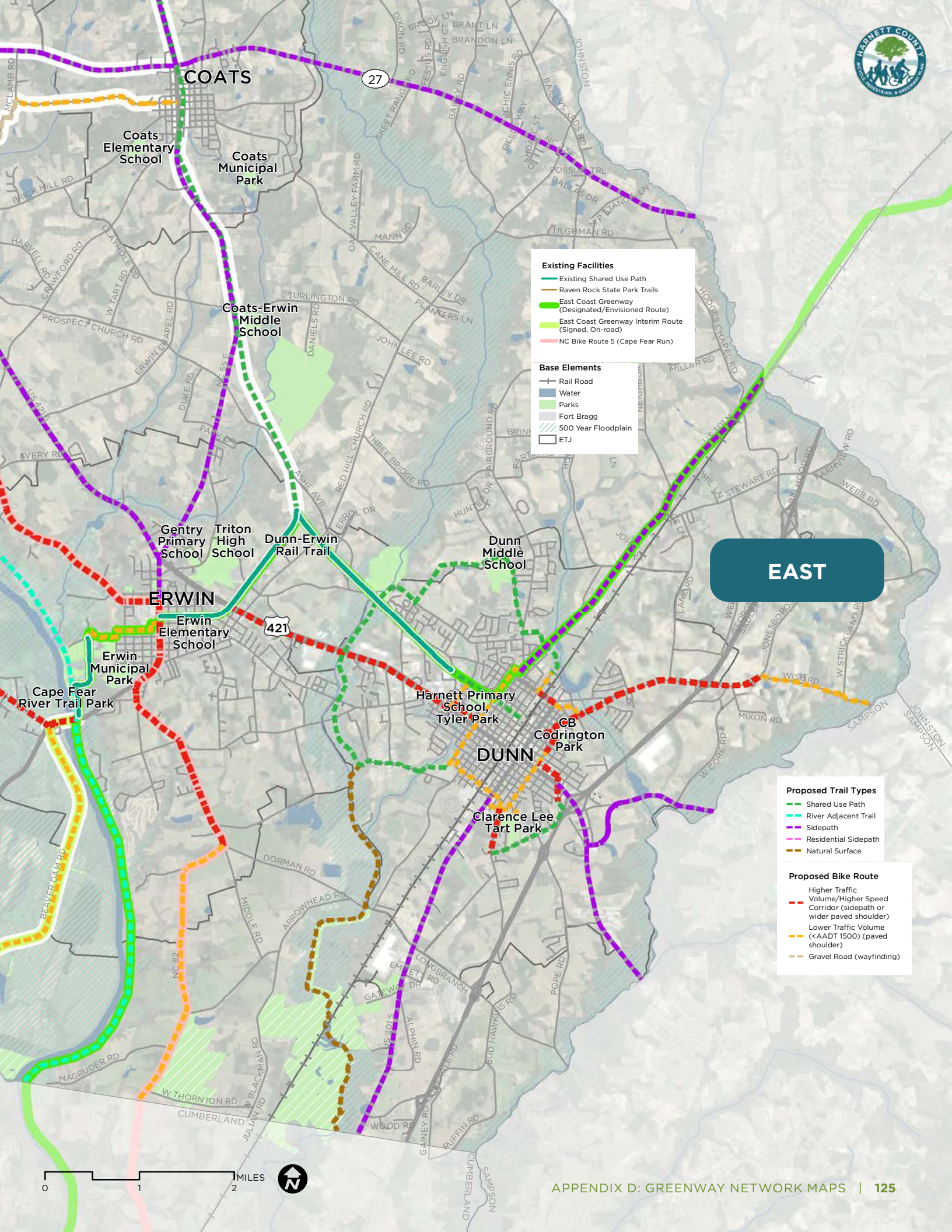
Gentry Primary School  
Triton High School

Dunn-Erwin Rail Trail

Dunn Middle School







COATS

Coats Elementary School

Coats Municipal Park

Coats-Erwin Middle School

Gentry Primary School

Triton High School

Dunn-Erwin Rail Trail

Dunn Middle School

ERWIN

Erwin Elementary School

Erwin Municipal Park

Cape Fear River Trail Park

Harnett Primary School, Tyler Park

CB Codrington Park

DUNN

Clarence Lee Tart Park

EAST

**Existing Facilities**

- Existing Shared Use Path
- Raven Rock State Park Trails
- East Coast Greenway (Designated/Envisioned Route)
- East Coast Greenway Interim Route (Signed, On-road)
- NC Bike Route 5 (Cape Fear Run)

**Base Elements**

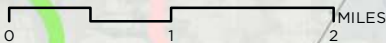
- Rail Road
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- Parks
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**Proposed Trail Types**

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- Residential Sidepath
- Natural Surface

**Proposed Bike Route**

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- Lower Traffic Volume (<AADT 1500) (paved shoulder)
- Gravel Road (wayfinding)







## ROADWAYS WITH FACILITY RECOMMENDATIONS

### SIDEPATHS

Roadway	Mileage
ADCOCK RD	1.29
AIRPORT RD	1.12
ALEXANDER DR	0.48
BENHAVEN SCHOOL RD	0.57
BUFFALO LAKE RD	4.55
CEDAR GROVE SCHOOL RD	0.01
CHALYBEATE SPRINGS RD	2.33
CHRISTIAN LIGHT RD	9.52
CROSSOVER	0.05
D L PHILLIPS LN	1.14
DEAN RD	0.60
DOCS RD	3.18
E CORNELIUS HARNETT BLVD	4.33
E CUMBERLAND ST	0.86
E DEPOT ST	0.54
E STEWART ST	0.77
ELLIOTT BRIDGE RD	1.02
HARNETT CENTRAL RD	4.24
HIGHLAND SCHOOL RD	0.95
KIPLING RD	3.75
LESLIE CAMPBELL AVE	1.35
MATTHEWS MILL POND RD	0.76
MCKINNEY PKWY	0.80
MCLEAN CHAPEL CHURCH RD	5.77
N 13TH ST	1.08
N ELLIS AVE	0.34
N MAIN ST	2.15
N MCKINLEY ST	0.61
N RALEIGH ST	1.56
NC 210 N	8.94
NC 210 S	14.02
NC 24	2.96
NC 24-27	5.64
NC 24-87	10.44
NC 27 E	7.20
NC 27 W	19.13
NC 42	6.06
NC 55 E	6.87
NC 55 W	6.74
NC 87 HWY	0.53
NC 87 N	10.90
NC 87 S	6.15
NC 87 S EXIT RAMP TO NC 24	0.25

### SIDEPATHS

Roadway	Mileage
NEILLS CREEK RD	1.08
NURSERY RD	3.04
OLD STAGE RD N	4.55
OLD US 421	7.87
OLIVIA RD	0.81
OVERHILLS RD	0.11
PINEY GROVE RAWLS RD	1.19
PONDEROSA RD	1.33
POPLAR DR	0.97
PURFOY RD	2.04
RAWLS CHURCH RD	7.60
RAY RD	5.64
RIVER RD	2.04
ROLLINS MILL RD	1.38
ROSS RD	0.42
S 13TH ST	0.92
S CLINTON AVE	0.64
S MAIN ST	1.92
S MCKINLEY ST	0.56
S RALEIGH ST	0.89
SHAWTOWN RD	0.28
SOUTH RIVER RD	3.33
STONE CROSS DR	0.14
US 301 N	3.72
US 301 S	3.24
US 401 N	9.97
US 401 S	9.53
US 421 N	12.92
US 421 S	16.36
W ACADEMY ST	0.29
W CORNELIUS HARNETT BLVD	1.19
W DEPOT ST	0.58
W DUNCAN ST	0.27
W FRONT ST	0.42
W JACKSON BLVD	0.53
W OLD RD	0.66
W STEWART ST	0.50



*BIKE ROUTE (LOWER TRAFFIC VOLUME (<AADT 1500) (PAVED SHOULDER, ADVISORY SHOULDER, AND/OR WAYFINDING)*

Roadway	Mileage
ADCOCK RD	1.19
BEAVER DAM RD	4.50
BELLA BRIDGE RD	2.72
BEST ST	0.25
BROWN RD	0.90
BUIE RD	1.89
COOL SPRINGS RD	0.62
E DUKE ST	0.39
E WASHINGTON ST	0.49
ELLIOTT BRIDGE RD	0.55
FLEMING RD	1.46
GRIFFIN RD	1.57
HODGES AVE	0.10
JOSEY WILLIAMS RD	2.39
KEITH HILLS RD	2.47
KIVETT RD	0.67
MAIN ST	1.44
MAMERS RD	0.19
MCDUGALD RD	5.44
MCLAMB RD	1.24
MELON LN	0.09
MOCCASIN BRANCH RD	1.05
N FAYETTEVILLE AVE	0.28
N MAGNOLIA AVE	0.14
N ORANGE AVE	0.68
N WASHINGTON AVE	0.30
N WATAUGA AVE	0.24
OLD BUIES CREEK RD	1.55
OLD STAGE RD S	2.25
PEARSON RD	0.47
RAVEN ROCK RD	2.21
ROSS RD	3.87
S ORANGE AVE	0.59
S WASHINGTON AVE	0.67
SENER LN	0.48
SHERIFF JOHNSON RD	1.73
STEWART TOWN RD	0.52
TITAN ROBERTS RD	2.52
W DUKE ST	0.34
W GODWIN ST	0.27
W WASHINGTON ST	0.29
WILL LUCAS RD	3.06
WILSON RUN	0.41
WIRE RD	0.84
WISE RD	1.24

*BIKE ROUTE (HIGHER TRAFFIC VOLUMES (SIDEPAATH OR WIDER PAVED SHOULDER)*

Roadway	Mileage
ATKINS RD	1.73
BUNNLEVEL ERWIN RD	1.51
CHALYBEATE SPRINGS RD	1.44
E JACKSON BLVD	3.06
E JACKSON BLVD	1.28
E JOHNSON ST	0.70
ELLIOTT BRIDGE RD	0.86
ENNIS ST	0.08
GREENFIELD DR	0.23
HORSESHOE BEND RD	2.14
IRIS BRYANT RD	0.83
JONESBORO RD	1.37
MAIN ST	0.42
MOULTON SPRINGS RD	0.29
NC 217	0.29
NC 217	0.28
NC 27 E	1.44
NC 82	4.25
OLD BUIES CREEK RD	3.14
OLD STAGE RD S	1.97
S ELM AVE	0.47
SHADY GROVE RD	3.49
W CUMBERLAND ST	2.72
W J ST	1.10
W WILLIAMS ST	0.54





**HARNETT COUNTY  
BICYCLE, PEDESTRIAN, & GREENWAY PLAN**

Prepared for Harnett County  
Prepared by Alta Planning + Design