

FINAL REPORT  
JUNE 2020



**PEAVINE to THERMAL BELT  
RAIL-TRAIL CONNECTOR FEASIBILITY STUDY**

Prepared for the Isothermal Rural Planning Organization,  
in partnership with McDowell County, Rutherford County,  
and NCDOT; Prepared by Alta Planning + Design



PREPARED for the **ISOTHERMAL RURAL PLANNING ORGANIZATION**,  
IN PARTNERSHIP with **MCDOWELL COUNTY, RUTHERFORD COUNTY, and NCDOT**  
PREPARED by **ALTA PLANNING + DESIGN** | 2020

## ACKNOWLEDGMENTS

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

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### STUDY FUNDING

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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 North Carolina.



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# TRAIL STUDY CONTEXT

## PURPOSE

This study explores opportunities for creating a public walking and biking trail that would connect the Peavine Trail in Marion to the Thermal Belt Rail Trail in Rutherford County. The study includes direction from local governments, NCDOT, and local outdoor recreation and conservation groups. It takes into account factors such as land ownership, topography, water crossings, roadways, and rail corridors. The study will be used to inform future decision making in the region related to recreation, transportation, tourism, and economic development.

## VISION

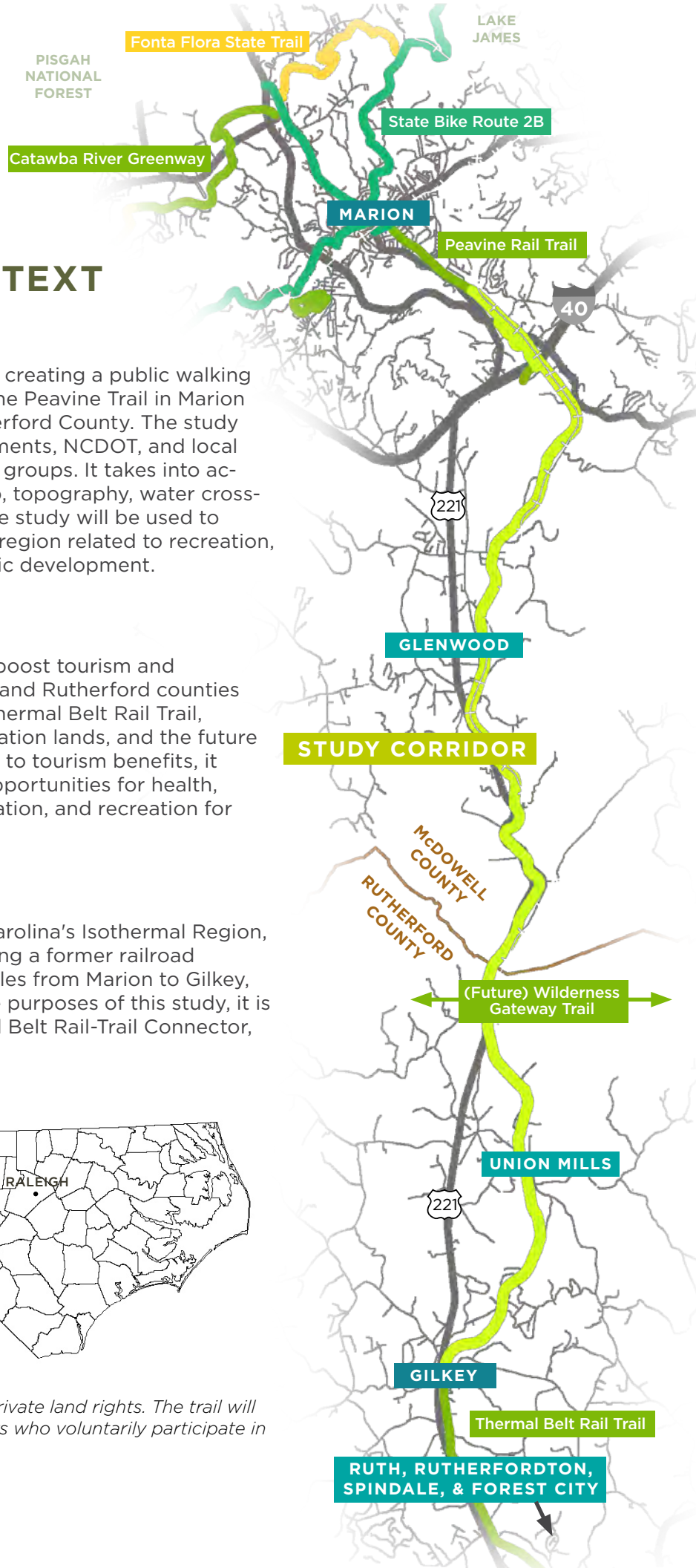
This hiking and bicycling trail would boost tourism and economic development in McDowell and Rutherford counties by connecting to the Peavine Trail, Thermal Belt Rail Trail, South Mountains State Park, conservation lands, and the future Wilderness Gateway Trail. In addition to tourism benefits, it would also provide close-to-home opportunities for health, wellness, access to nature, transportation, and recreation for local residents.

## CONTEXT MAPS

The study area is in western North Carolina's Isothermal Region, between Asheville and Charlotte, along a former railroad corridor running approximately 19 miles from Marion to Gilkey, as shown below and at right. For the purposes of this study, it is referred to as the Peavine to Thermal Belt Rail-Trail Connector, or the "PTC".



*Note: The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*



## KEY FINDINGS FROM STAKEHOLDERS

### THE PLANNING PROCESS

Methods of engagement included steering committee meetings, stakeholder interviews, and sample landowner interviews. The overall public input phase for this study was delayed and limited by COVID-19 meeting restrictions. Understanding more about the ideas and concerns of nearby landowners and the general public will be critical for project implementation. The next phases following this study should feature more outreach to landowners and the general public through additional interviews and public open houses.



*Steering Committee members identify potential opportunities and constraints at the Kick-Off Meeting.*



## KEY CONSIDERATIONS IDENTIFIED by the PROJECT STEERING COMMITTEE

The Steering Committee helped guide the process, and included members from local governments, NCDOT, State parks, and local outdoor recreation and conservation groups. Committee members shared their perspectives, concerns, and ideas on the overall feasibility of this project, organized into the following key considerations.

- **Corridor Ownership:** Corridor ownership had yet to be determined at the outset of the study, and the lack of information was a major constraint for assessing feasibility (see following section on study findings related to ownership).
- **Voluntary Landowner Participation:** Regardless of corridor ownership, the committee expressed that understanding the needs and concerns of landowners along the corridor is paramount, as it relates to future trail planning and development. The committee agreed that trail routing should focus on areas with willing landowner participation.
- **Opportunity for Connectivity:** A key theme for this project is the idea of creating more connections between McDowell and Rutherford counties, between existing and future trails, and connections to the outdoors generally.



PEAVINE  
TRAIL



STUDY  
CORRIDOR



THERMAL BELT  
RAIL TRAIL

*The project would fill a gap between two existing trail resources on each end of the corridor. Photo sources, left to right: Rails-to-Trails Conservancy, Alta, and the Rutherford Outdoor Coalition.*

- Opportunities for Small Town Economic Development:** Smaller communities along the corridor, such as Glenwood, Union Mills, and Gilkey, could become “trail towns.” Gilkey, for example, is one of the busiest trailheads on the existing trail, and committee members report that it seems to be more heavily used since it was paved.
- Opportunity as a National Tourism Destination:** There is opportunity for the region to become a national model for long-distance hiking and biking, using the rural paved trail network as a regional hub for outdoor recreation. Overnight trip experiences could provide access to world class hiking along the main route. The trail will have to be unique and well-marketed in order to be competitive on a national, and even statewide or regional scale. This could be achieved with high quality amenities that enhance user experience, and by celebrating unique local history and character, such as the region’s **gold mining heritage**. The system can further leverage nearby resources, such as new state park lands, conservation lands, and connections to National Forest Trails. “Connecting Conservation Lands” is another potential theme.
- Future Maintenance Needs:** The corridor crosses two counties and several small communities. A maintenance plan and agreement will be needed to ensure the investment is protected in the long run.
- Competition for Trail Funding and Trail Benefits:** Other nearby trails will be competitors for trail funding sources, as well as for benefits related to tourism. For example, the Ecusta Rail-Trail to the west and Shelby Rail-Trail to the southeast, are both in-development.
- Design Opportunities:**

  - Rail-trails typically provide a steady grade and even surface, creating better opportunities for accessibility than the many existing hiking-only trails in the region.
  - There may be opportunities to design side paths along roadway corridors for alternative routing. As a counterpoint, paved trails near roads are perceived by some committee members to be less enjoyable than trails in nature.
  - There may be opportunities to use different surface types, such as permeable surfaces and compacted crushed gravel.
- Conservation Opportunities:** Nearby conservation lands may provide opportunities to connect the trail where the rail corridor is not feasible. Relatedly, there may be opportunities for new trail segments to be implemented in coordination with future conservation efforts.

**Did You Know?** This region has a “rich” history related to gold. In 1832, Christopher Bechtler of Rutherfordton, NC, minted the country’s first \$1 gold coin, 17 years before the U.S. mint. During the mid-1800s, the Bechtlers minted more than \$2.24 million in gold coins. The region is now home to the NC Gold Festival, and there are two gold-related tourism sites along the project corridor.



There is potential to brand the future trail system as the “Golden Greenway”, or similar, to make a connection to this unique local history and culture.



## KEY FINDINGS from STAKEHOLDER INTERVIEWS

Stakeholder interviews occurred with the Conservation Fund of North Carolina, Norfolk Southern, Rails-to-Trails Conservancy, NC State Parks, county representatives, the Foothills Conservancy of North Carolina, sample local landowners. Key findings are summarized below.

Interview	Key Findings
<b>The Conservation Fund of North Carolina (David Proper and Bill Holman; 11.12.2019)</b>	<ul style="list-style-type: none"> <li>• Large tracts of conservation land in study area</li> <li>• Foothills Conservancy is also a key partner</li> <li>• Kristy Blair of Norfolk Southern can confirm abandonment status</li> </ul>
<b>Norfolk Southern (Kristy Blair; 11.22.2019)</b>	Stated that the Marion to Gilkey line was abandoned in the mid-1980's.
<b>Rails to Trails Conservancy (Kelly Pack; 12.13.2019)</b>	<ul style="list-style-type: none"> <li>• Recommended confirming abandonment via STB archives if possible</li> <li>• Deed research and acquisition research needed to determine property ownership if railroad line is abandoned</li> </ul>
<b>South Mountains State Park (Jonathan Griffith; 1.22.2020)</b>	<ul style="list-style-type: none"> <li>• Wilderness Gateway State Trail will be constructed somewhere along the McDowell/Rutherford County border in the near term (planning process and land acquisition for trail underway)</li> <li>• Longer term trail connectivity desired via conservation land (future state park land) north to Marion</li> </ul>
<b>Rutherford County (Danny Searcy and Richard P. Williams Law Firm; 1.30.2020)</b>	<ul style="list-style-type: none"> <li>• Cannot make assumptions and trust information in the ICC 1916 Valuation Maps, as they are most likely a mixture of fee simple and easement acquisitions, similar to the Thermal Belt (Gilkey to Forest City)</li> <li>• Can find original acquisition information in Rutherford County (and McDowell County) Register of Deeds archives</li> </ul>
<b>McDowell County (Ashley Wooten; 2.26.2020)</b>	McDowell County is currently working diligently on the Fonta Flora State Trail project in the northern part of the county. Would be supportive of trail connectivity through the southern part of the county, especially connecting to the Thermal Belt Rail Trail and the Wilderness Gateway State Trail.
<b>McDowell County Trails Committee Meeting (3.13.2020)</b>	<ul style="list-style-type: none"> <li>• Discussed potential easement holders such as Foothills Conservancy (especially in areas adjacent to existing conservation land and future nexus with Wilderness Gateway State Trail)</li> <li>• Discussed funding sources such as a 'Round Up for the Greenway' with local businesses</li> <li>• McDowell County Trails Committee currently focused on Fonta Flora State Trail implementation</li> </ul>
<b>Foothills Conservancy (Brittany Watkins, Tom Kenney; 4.4.2020)</b>	Foothills Conservancy is interested in potentially holding trail easements for participating properties, especially starting in the area of the Rutherford/McDowell County border, adjacent to existing conservation land (and future nexus with the Wilderness Gateway State Trail). They have worked in this area of Rutherford/McDowell Counties for many years.
<b>Sample Landowner Interview (facilitated by Foothills Conservancy &amp; Alta Planning + Design; 5.13.2020)</b>	Feedback was generally positive, but with many reasonable questions for this stage in the process, such as: Who would fund, manage, and maintain such a trail? Where could people park or camp? Why try to use the abandoned railroad corridor and why not just route any trail users onto trails in the conservation land through the mountains? Other key questions likely to be raised by landowners are featured in the last chapter of this study, in the section entitled "Trail Easements Explained", provided by the Foothills Conservancy.





## **RAILROAD CORRIDOR STATUS (FROM MARION TO GILKEY: FORMER SOUTHERN RAILWAY; PRESENTLY NORFOLK SOUTHERN CORPORATION)**

### **ABANDONMENT OF THE RAILROAD**

'Abandonment' of a railroad line is a process which takes place through the Surface Transportation Board (STB), and a line is generally officially abandoned only after the following:

- The railroad has applied to the STB for abandonment authorization.
- The STB has issued an order authorizing abandonment of the line.
- The railroad has notified the STB that it has consummated the abandonment authorization.

To check on the status of the Marion to Gilkey line, Norfolk Southern was contacted during this planning process. Norfolk Southern verbally confirmed that abandonment of the line was consummated in the mid-1980's. However, they declined to furnish any documentation and participate in this study any further.

The project team also contacted the STB's Rail Customer and Public Assistance Program. According to research by an STB staff attorney, Southern Railway (Norfolk Southern's predecessor) filed an abandonment application in 1985 and were able to uncover 74 pages of the abandonment application process and communications with STB. While much of this documentation points to the official abandonment of the former railroad corridor (followed by the removal of the tracks in subsequent years), the consummation notice was not included in these files, and has not been found at the time of this report.

### **ORIGINAL RAILROAD CORRIDOR ACQUISITION**

In the event of abandonment, identifying the instrument from which the railroad originally obtained rights to use property for the railroad corridor is fundamental to understanding current ownership of the former railroad right of way. In the simplest of terms, if purchased fee simple, Norfolk Southern may still own the right of way. If acquired by easement, upon abandonment, the ownership of the railroad corridor would revert to the adjacent landowners.

The acquisition of this railroad corridor took place in the late 1800's and all of the historical ownership information should be now contained in the Norfolk Southern Railway files, even though they were not the original owners. Norfolk Southern was approached about this subject, but declined to participate beyond verbally affirming the abandonment status of the former railroad line.

Copies of the Interstate Commerce Commission (ICC) 1916 Valuation Maps for this corridor are publicly available for viewing in the National Archives in College Park, Maryland and were examined during this planning process. The maps are a reproduction of the complete set of drawings prepared by the ICC in 1916, and they show an outline and owner for each property adjacent to the railroad corridor. The maps also show the rail corridor width adjacent to each property and include a list of ownership types for that segment of the corridor.



Each map contains a summary table that lists information (e.g. grantor, grantee, instrument) for the properties shown on that sheet. The column listing ‘instrument’ contains the information about how the property was obtained. For almost all properties, the summary table lists either ‘deed’ or ‘agreement’. While this gives an idea of the nature of the original transaction, it is not a sufficiently detailed description to supply definitive information about ownership for each property.

### FURTHER ASSESSMENT NEEDED

Property law is a very complex topic, and even after an exhaustive search of the available public information, there may still be uncertainty regarding ownership that can only be addressed through a legal investigation or by the courts. For complete property ownership information, a title company or attorney would have to be engaged to conduct a title search. They could trace current deeds along the railroad corridor back to ensure that the public information is accurate, including the examination of land acquisition records from the late 1800’s for the corridor in both Rutherford and McDowell County’s Register of Deeds. These searches are labor and time intensive and can be expensive.

### RELATED PLANS AND INITIATIVES

There are many existing local, regional, and statewide trails, bike routes, plans, initiatives, and organizations that relate to this study. These were taken into consideration when weighing opportunities and constraints for trail development along the PTC study corridor, with potential impacts noted below.



Resource	Impact on this Study
<b>Marion, NC Bike Plan (2015)</b>	Marion’s Bike Plan recommends extending the Peavine Trail south from Downtown Marion to McDowell Technical Community College. Progress has been made on this section, but it remains unfunded as of mid-2020.
<b>Isothermal Regional Bicycle Plan (2018)</b>	This regional bicycle plan includes several long-distance shared use path recommendations as part of its Strategic Network, including the corridor in this study, from Marion to Gilkey.
<b>Rutherford County Parks &amp; Recreation Master Plan (2020)</b>	Plan references the Thermal Belt northern extension and implementation, including the PTC corridor. Also features high-level implementation guidance that generally aligns with this PTC study.
<b>Marion North Main St. Corridor Study (2019)</b>	The North Main Street Corridor Study defines a vision for connecting Downtown Marion north to the Catawba River Greenway, as part of the Fonta Flora State Trail.



Resource	Impact on this Study
<b>Wilderness Gateway Trail Feasibility Study (2019)</b>	This study by NC State Parks identifies a planned corridor for the Wilderness Gateway Trail, connecting South Mountains State Park to Chimney Rock State Park. It transects the PTC study's corridor near the intersection of NC 221 and the McDowell-Rutherford county line. This could make an ideal general location to consider a future shared trailhead for the two trails, not to mention the benefits of cross-promotion and cross-usage of the two trails.
<b>Peavine Trail Trestles Feasibility Study (2019)</b>	This study examined the condition of historic trestle structures along the Peavine Trail corridor. The study found that the cost of rehabilitating and preserving the historic structures for future trail use was roughly comparable to demolishing the structures and rebuilding them. These structures are key to connecting the PTC corridor to Marion and to trails and destinations to the north.
<b>Overmountain Victory National Historic Trail Master Plan (2020)</b>	The Overmountain Victory National Historic Trail Master Plan represents a similar ongoing trail study in the region (north of the PTC study area). It positively impacts the PTC study as another potential future connection, and also serves as a complementary interest for local trail advocates.
<b>The Great Trails State Plan (2020)</b>	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. The PTC corridor could be a key component of the Great Trails State Plan for the Isothermal Region, as the only proposed shared use path connecting Rutherford and McDowell counties.
<b>NCDOT STIP: NC 221 (R-2597A, R-0204E, and U-5835)</b>	The long-term plan to widen NC 221 is funded north of Glenwood to I-40, but unfunded south of Glenwood to Union Mills. These future improvements should be monitored for potential trail development coordination, if and when it would be beneficial to build the trail on or near the NC 221 right-of-way.
<b>Fonta Flora Trail, State Bike Route 2B, and the Thermal Belt Rail-Trail (existing)</b>	These existing trails and bike routes serve as important future connections for the PTC corridor. Together, they would connect Marion, Glenwood, Union Mills, Gilkey, Ruth, Rutherfordton, Spindale, and Forest City. With the addition of the Overmountain Victory Trail (above) and the Wilderness Gateway Trail (above), the region would be connected by trail to extensive parts of western North Carolina, as well the Piedmont and Coastal regions via the Mountains-to-Sea Trail.
<b>McDowell Trails Association</b>	The McDowell Trails Association is a non-profit 501 (c) (3) corporation created to plan, develop, build and provide education and support for non-motorized trails in McDowell County. This group is important to the future success of the PTC trail, particularly in building public support and providing local insight to trail development in McDowell County.
<b>Rutherford Outdoor Coalition</b>	The Rutherford Outdoor Coalition is a local, grassroots advocacy organization promoting and improving outdoor recreation in Rutherford County. This group is important to the future success of the PTC trail, particularly in building public support and providing local insight to trail development in Rutherford County.
<b>Foothills Conservancy of North Carolina</b>	Foothills Conservancy is a nationally accredited regional land trust. They preserve the natural and cultural heritage by conserving scenic and recreational landscapes, productive farms and forests, healthy watersheds, biodiversity, and wildlife habitat. As a 501(c)(3) nonprofit, they serve eight counties (including McDowell and Rutherford) and are active in the PTC study area.

## HEALTH AND ECONOMIC IMPACT

When viewed as a single spine trail, the Thermal Belt Rail Trail, Peavine-Thermal Belt Trail Connector (PTC), and the Peavine Trail add up to 31 miles in length, connecting Marion to Rutherfordton/Spindale/Forest City. The trail will connect multiple communities in two counties and link to other trail systems throughout the region. The trail will provide residents and visitors a fun and healthy way to explore parks, nature, historic sites, shopping, and other regional destinations. It will also serve as an active transportation corridor providing a safe connection for travel between home, work, and play. When the trail is completed, residents in the Isothermal region will experience improvements in their quality of life, including transportation, health, and economic benefits.

This report contains a high-level economic and health impact analysis of a completed 31-mile trail (including existing Peavine and Thermal Belt Trails) in McDowell and Rutherford counties of North Carolina. The analysis and estimates were based on actual data pulled from local and regional trails (the Virginia Creeper Trail, Swamp Rabbit Trail, and four shared-use paths across North Carolina). The analysis estimated the number of bicycle and pedestrian trips that might take place near the proposed trail alignment, approximated the corresponding reduction in vehicle trips and vehicle-miles traveled (VMT), and assessed the potential transportation, health, and economic benefits that might accrue if the proposed trail was constructed. Because the Virginia Creeper Trail is the most similar in both length, location, and communities along the trail, economic data from those studies was extrapolated to determine potential economic impacts here.

To understand the potential demand for the proposed trail, count data at the Swamp Rabbit Trail, Virginia Creeper Trail, and Brevard Greenway were analyzed. If the proposed trail experienced the same number of bicyclists per mile as the average of the comparable trails, there would be an estimated 1,000 bicyclists per day (rounded to the nearest thousand). If the proposed trail experienced the same number of pedestrians per mile as the average of the comparable trails, there would be an estimated 500 pedestrians per day (rounded to the nearest thousand).





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

### **2020 THERMAL BELT RAIL TRAIL COUNTS**

Trail counts from April 20, 2020 though May 17, 2020, for *one location in Spindale only* are showing average weekday totals of approximately 250 bicyclists and pedestrians, and average weekend-day totals of approximately 350 bicyclists and pedestrians.

Once completed, the PTC, combined with the Thermal Belt Rail Trail and Peavine Trail, would add to the numbers of locals using the trail system. It would also begin to attract more tourism, boosting total daily counts to levels seen in the example community trail systems for the Virginia Creeper Trail and the Brevard Greenway.

*For more on the Thermal Belt Rail Trail count program, contact the Isothermal Rural Planning Organization.*





## INTRODUCTION

Trail projects are shown to deliver an array of positive economic benefits in the form of tourism, development and maintenance of facilities, increased property values, commercial activity, infrastructure savings, and health savings.

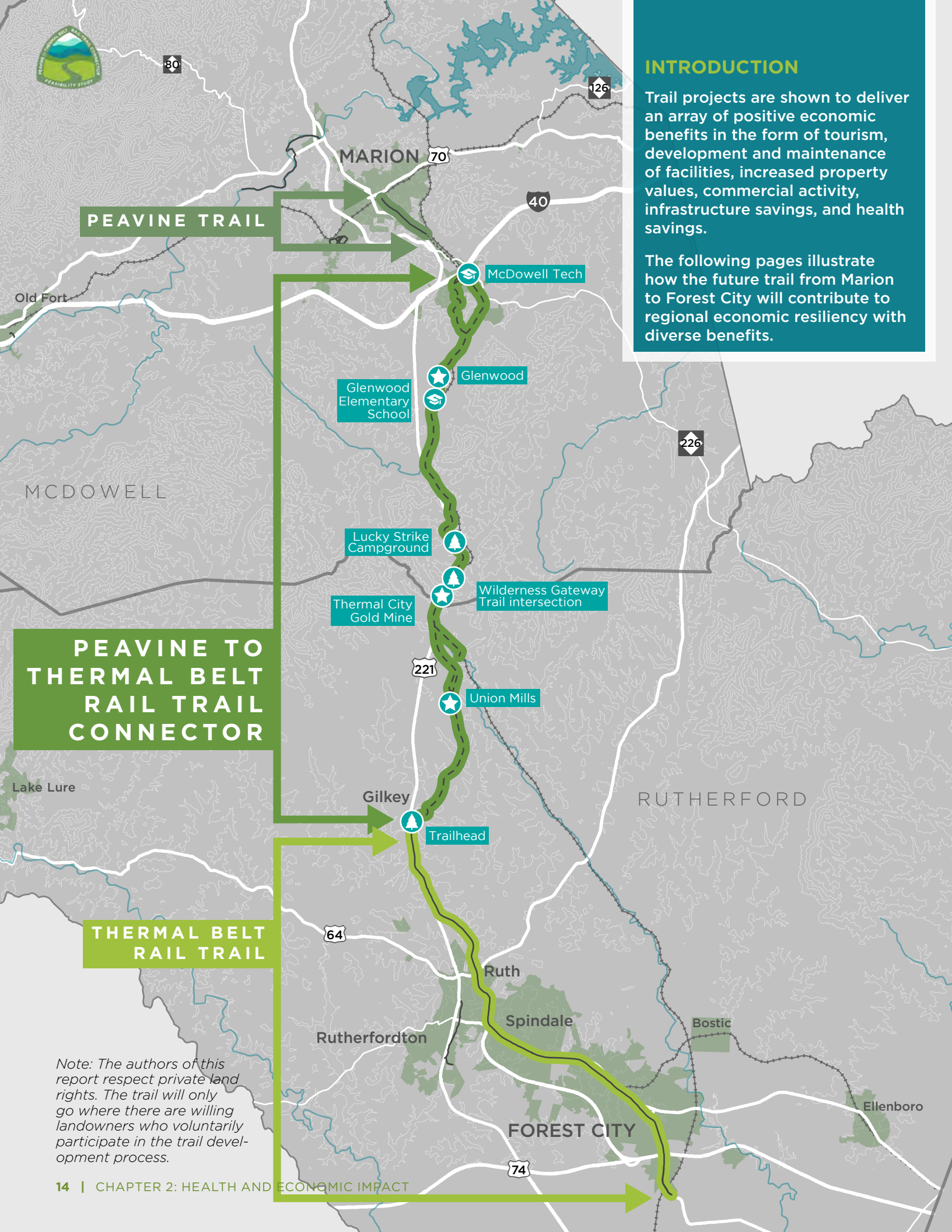
The following pages illustrate how the future trail from Marion to Forest City will contribute to regional economic resiliency with diverse benefits.

PEAVINE TRAIL

PEAVINE TO  
THERMAL BELT  
RAIL TRAIL  
CONNECTOR

THERMAL BELT  
RAIL TRAIL

*Note: The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*



# BY THE NUMBERS



## ESTIMATED USE AND ECONOMIC IMPACT



**\$3.4 million and \$6.8 million annually** in direct spending<sup>1</sup>

*(economic benefits do not include increase in property values which typically ranges from 3-5%, indirect spending, and employee earnings which all added together, are millions of dollars)*



bicyclists



pedestrians

users per day<sup>2</sup>

1,000

500

users per year<sup>3</sup>

200,000

100,000

## ANNUAL ESTIMATED TRANSPORTATION BENEFITS AND OFFSETS<sup>4</sup>

Annual Vehicle-Miles Traveled Reduced	218,000
Reduced Road Maintenance costs	\$31,000
Household Vehicle Cost Savings	\$168,000
Reduced Vehicle Collision Costs	\$44,000
Reduced Traffic Congestion Costs	\$17,000
<b>Total Transportation Cost Savings</b>	<b>\$260,000</b>



218,000 Motor vehicle miles offset



42,000 motor vehicle trips per year offset

## HEALTH SAVINGS<sup>5</sup>



**15,000,000** minutes bicycle exercise per year

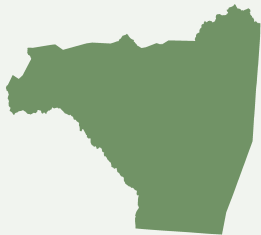


**5,600,000** minutes pedestrian exercise per year



Estimated use could **save nearly \$1 million** in healthcare and productivity costs per year<sup>6</sup>

Rutherford County



**19%**

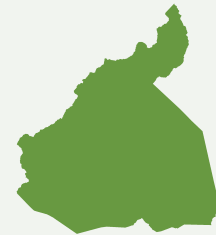


Residents in **fair or poor health** (both counties in the lower half of county rankings in NC)<sup>7</sup>



Residents that are **physically inactive** (compared to 24% for the state of North Carolina)<sup>7</sup>

McDowell County



**20%**

**28%**

**29%**

<sup>1</sup> This is based on Virginia Creeper Trail study (Bowker, Bergstrom, & Gill, 2004) that tracked day trip use vs overnight use and average spending. Numbers are adjusted for inflation and assume 130,000 annual users (same as VCT in 2004) for the \$3.4 million and 260,000 for the \$6.8 million.

<sup>2</sup> estimation based on count data from Swamp Rabbit Trail, Virginia Creeper Trail, and Brevard Greenway

<sup>3</sup> assuming 200 days of sunshine per year

<sup>4</sup> Based on average of 3% commute; 11% utilitarian trip purposes at four shared-use paths across North Carolina - NCDOT Shared-use Path Study

<sup>5</sup> based on NCDOT SUP Study of average bike trip of 75 minutes and average walking/running time of 56 minutes

<sup>6</sup> CDC model

<sup>7</sup> County Health Rankings. Robert Wood Johnson Foundation. <https://www.countyhealthrankings.org/app/north-carolina/2018/rankings/mcdowell/county/outcomes/overall/snapshot>



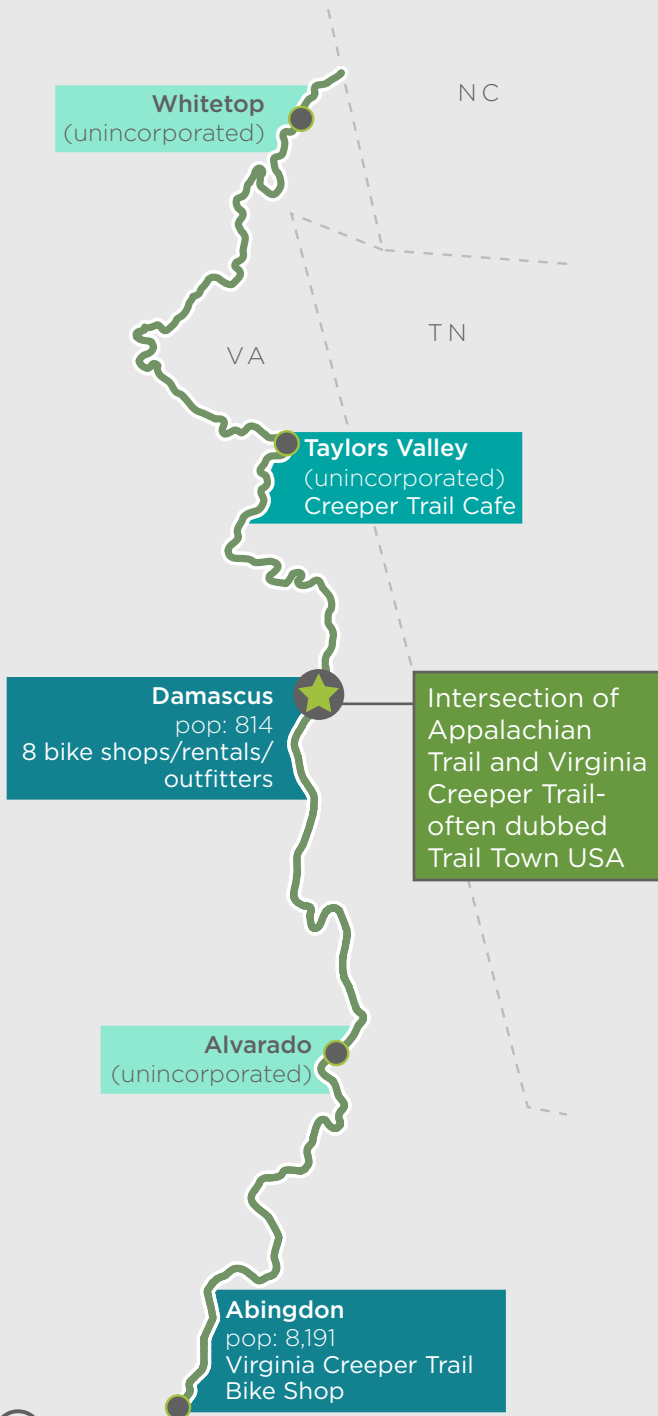
# A REGIONAL COMPARISON

The Virginia Creeper Trail has striking similarities to the Thermal Belt-Peavine corridor in terms of length, rural nature, and communities. The Thermal Belt-Peavine corridor is actually closer to larger population centers which favors high use potential.

*“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.”*

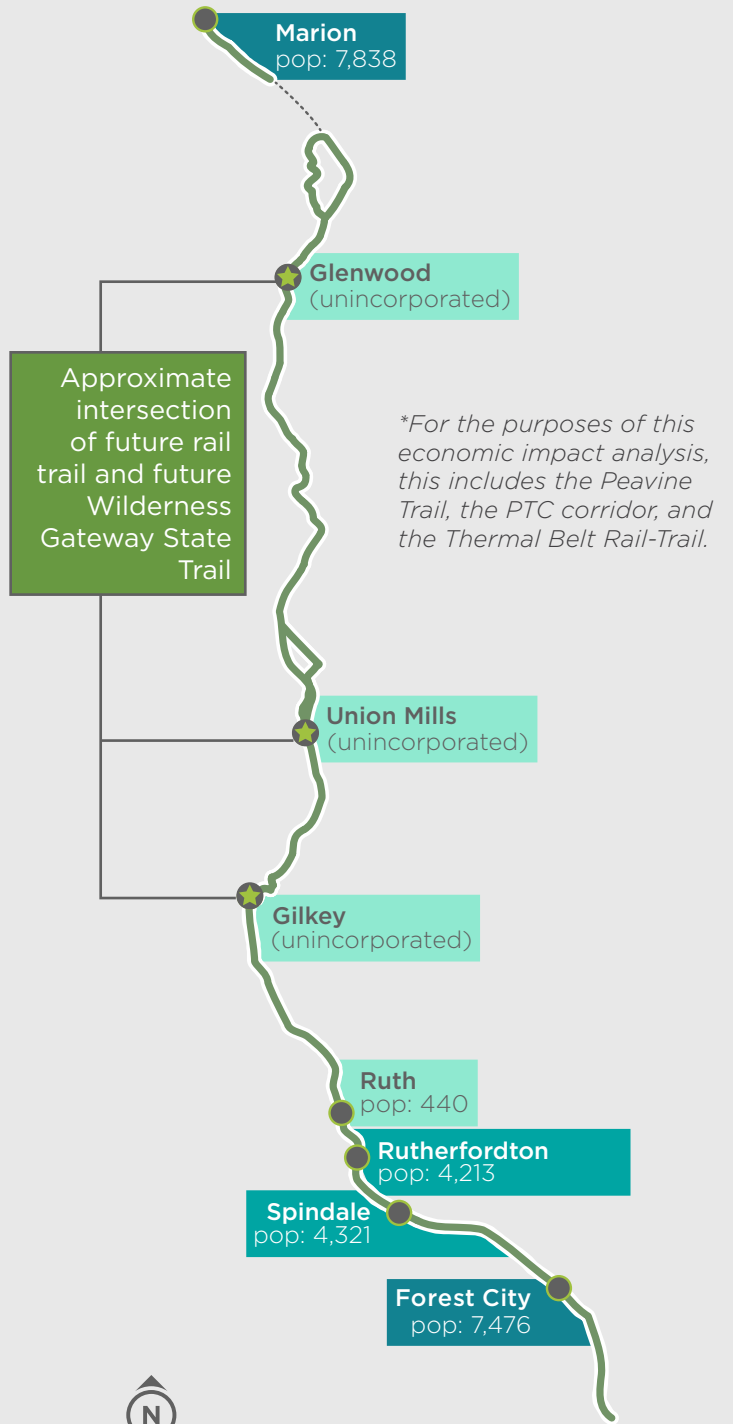
## VIRGINIA CREEPER TRAIL WHITETOP MT TO ABINGDON

34 miles



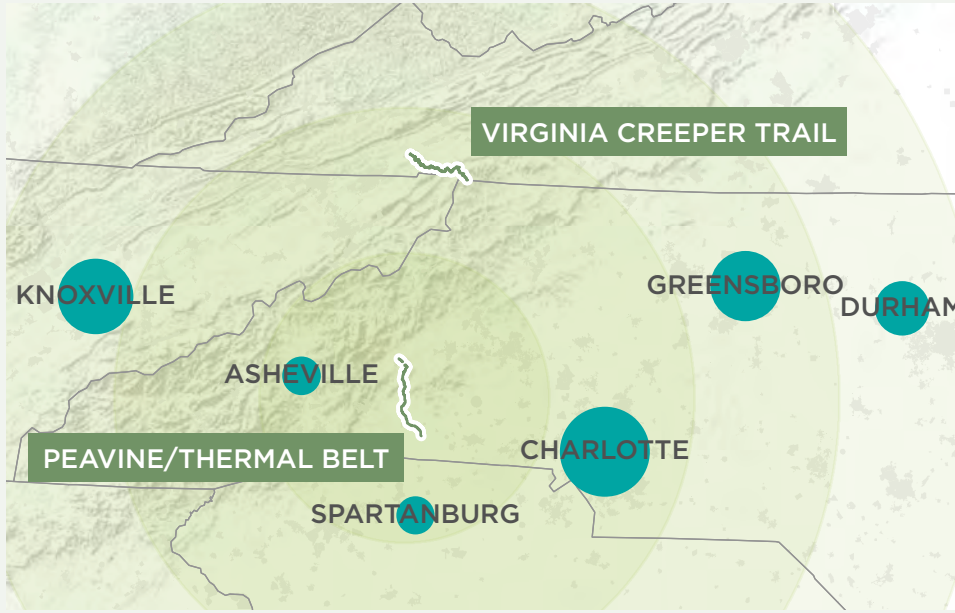
## THERMAL BELT RAIL TRAIL\* MARION TO FOREST CITY

31 miles





# THE THERMAL BELT TRAIL HAS BETTER ACCESS TO REGIONAL POPULATION CENTERS

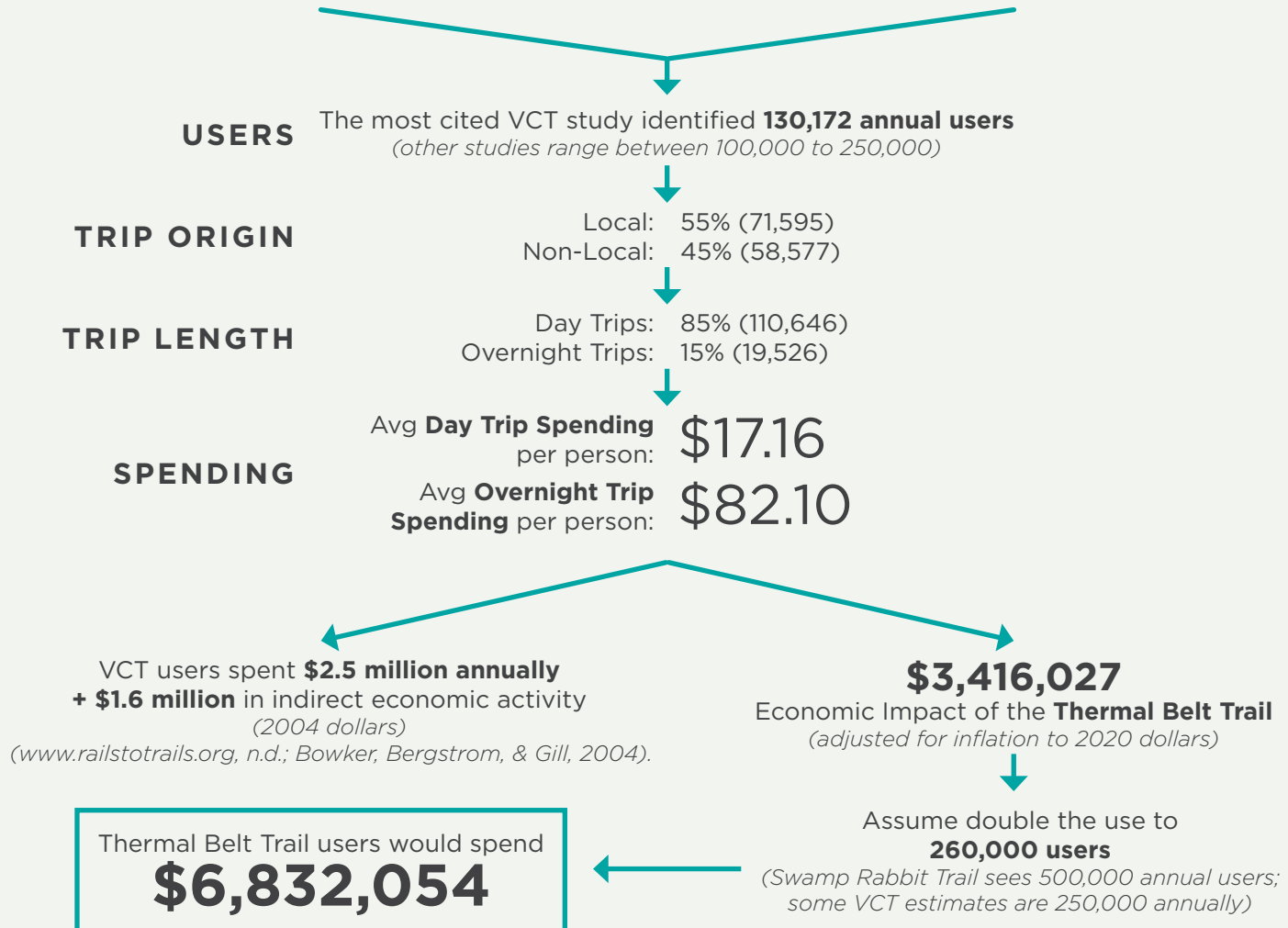


City/Metro	Distance from Trail (mi) Virginia Creeper Trail	Distance from Trail (mi) Peavine/Thermal Belt Trail
Charlotte	155	<b>80</b>
Greensboro	152	<b>152</b>
Knoxville	140	162
Durham	203	<b>200</b>
Asheville	124	<b>50</b>
Spartanburg	191	<b>40</b>

## TRAILS BRING MONEY INTO RURAL COMMUNITIES

### VIRGINIA CREEPER TRAIL (VCT)

### THERMAL BELT TRAIL





## CASE STUDY:

# PH SWAMP RABBIT TRAIL

### **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 masterplan 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. 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)
- [www.greenvilleonline.com/story/news/local/2016/09/16/swamp-rabbit-trail-helps-travelers-rest-businesses-boom/89968190/](http://www.greenvilleonline.com/story/news/local/2016/09/16/swamp-rabbit-trail-helps-travelers-rest-businesses-boom/89968190/)
- [eatSMARTmovemoresc.org/pdf/Economic\\_Impact\\_Report\\_2016.pdf](http://eatSMARTmovemoresc.org/pdf/Economic_Impact_Report_2016.pdf)

#### PHOTO SOURCES:

- [www.bikabout.com/best-bike-rides/taste-of-greenville](http://www.bikabout.com/best-bike-rides/taste-of-greenville)
- [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

### **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:**

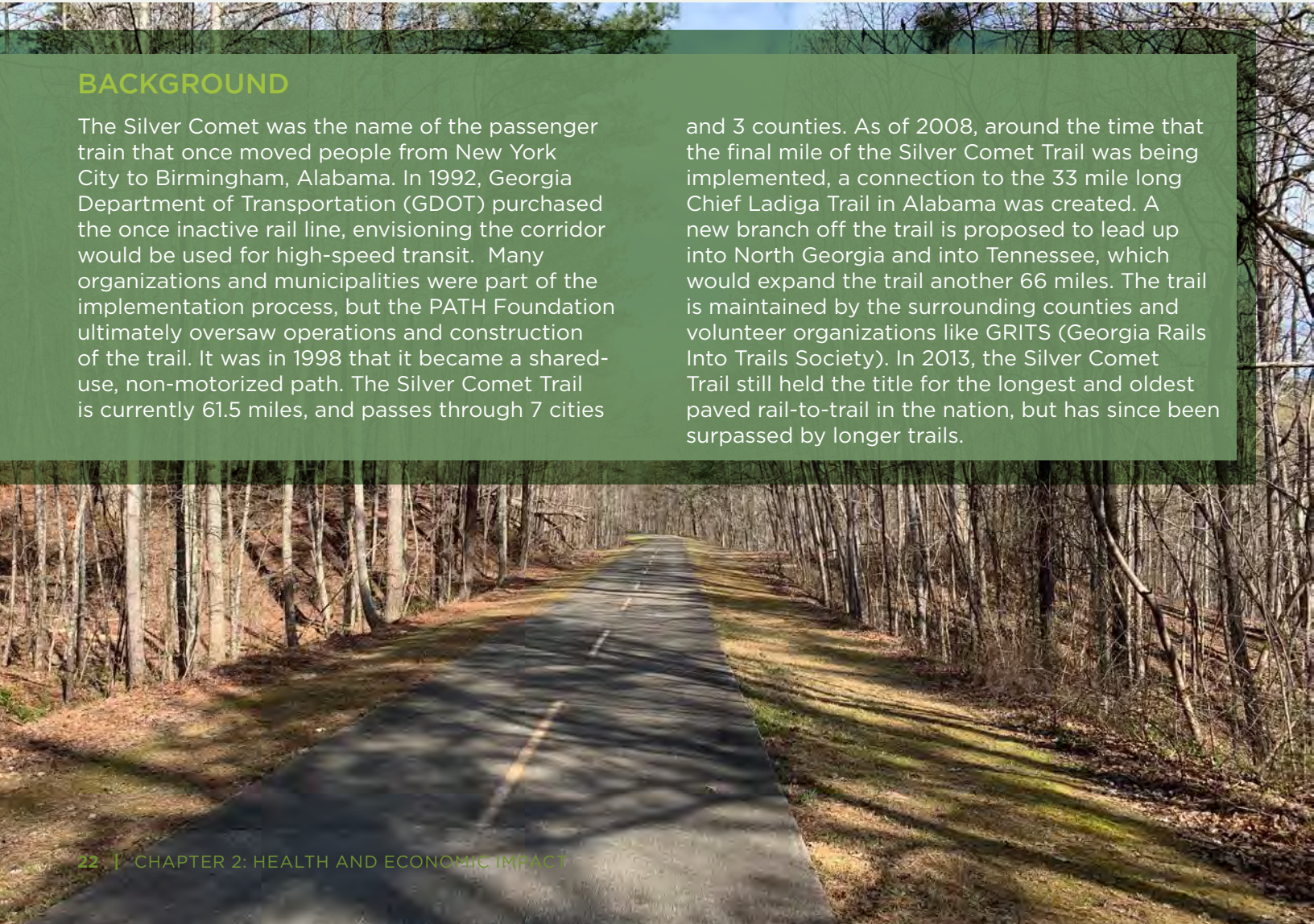
Georgia State Parks, PATH Foundation, Cobb County DOT, Paulding County, and Polk County



## 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/)



# STUDY CORRIDOR ANALYSIS

## OVERVIEW

The focus of this chapter is on the feasibility of various potential alignments for a trail within the study corridor. The maps in this chapter do not reflect input from landowners along the corridor—information that will undoubtedly impact feasibility and a future preferred alignment.

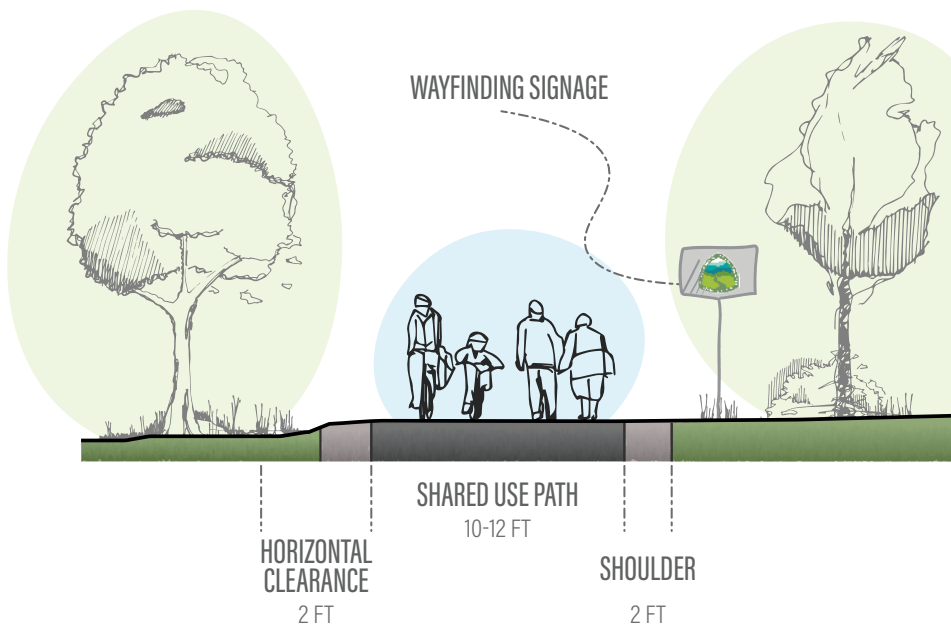
There are three main parts of this chapter:

- **Typical Trail Cross Sections:** There are several different types of trail that could be used to complete the corridor, depending on the context of specific trail segments. Some sections of trail could be along the former rail corridor as a shared use path (or “rail-to-trail”), others could be a similar pathway, but along a roadway corridor (as a sidepath), and other segments may be needed along low traffic volume gravel roads or paved shoulders.
- **Conceptual Alignment and Alternatives Maps:** This series of maps shows the main project corridor with several alternate sections that were considered, along with other factors of feasibility identified by the Steering Committee and project consultants. It serves as an inventory of the alignment factors at play in weighing alternatives.
- **Potential Rail-Corridor Alignment:** This series of maps shows key considerations if the rail-corridor alternative is pursued in the future. It is based on known factors to-date, such as trail grade and elevation changes, connectivity to destinations, locations of other existing/planned trails, and location of the former rail corridor. Suggested trail cross-sections are also identified for each segment, based on the context of each segment.



## TYPICAL TRAIL CROSS-SECTIONS

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

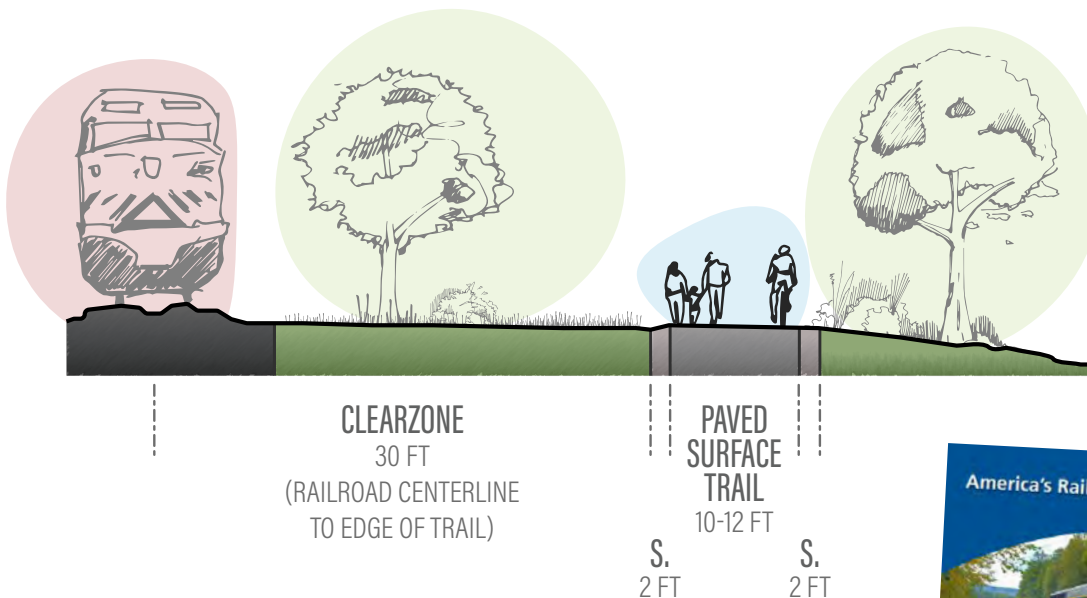


**USER GROUP:**  
Multi-Use

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

**WIDTH:**  
10-12 ft

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



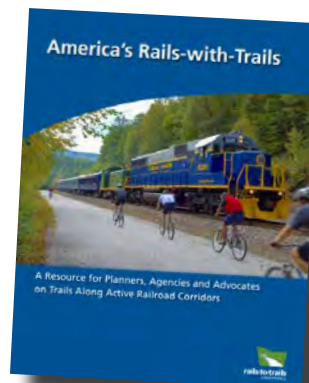
**USER GROUP:**  
Multi-Use

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

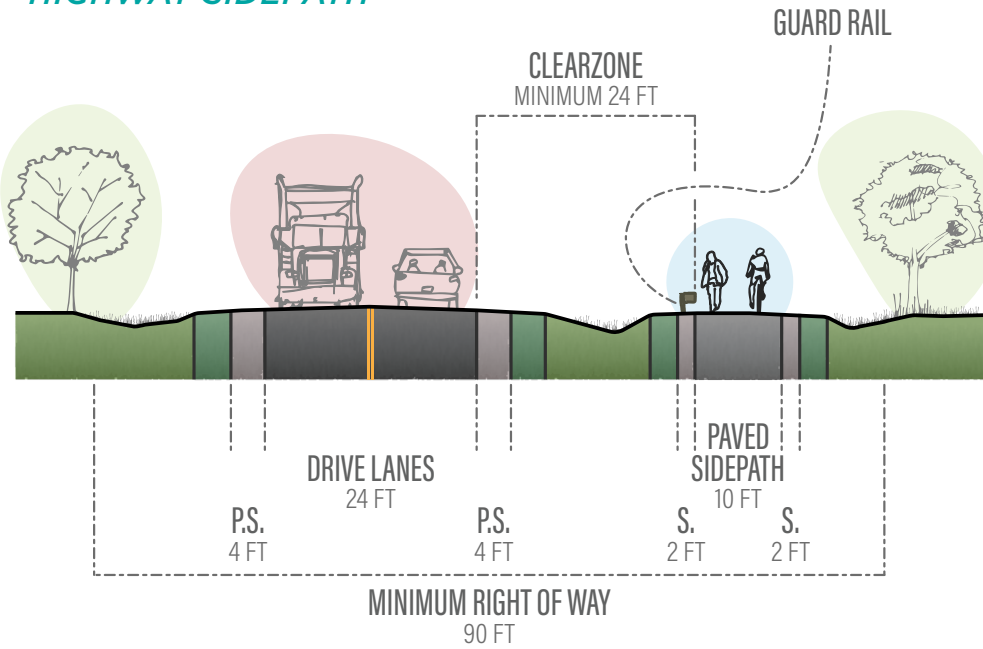
**WIDTH:**  
10-12 ft

S. = Shoulder

**Did You Know?** There are more than 1,800 rail-trails spread across all 50 states, totaling more than 21,000 miles. To download the full report on America's Rails-with-Trails, visit: [www.railstotrails.org/resource-library/resources/americas-rails-with-trails-rail-with-trail-list](http://www.railstotrails.org/resource-library/resources/americas-rails-with-trails-rail-with-trail-list)



## HIGHWAY SIDEPATH



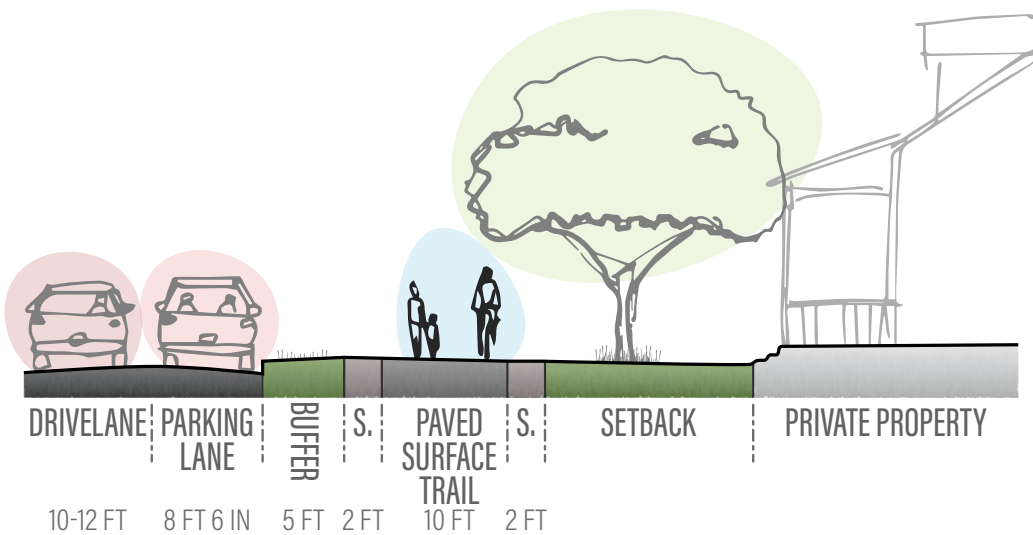
USER GROUP:  
Multi-Use

MATERIAL:  
Paved Asphalt

WIDTH:  
10 ft

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

## RESIDENTIAL SIDEPATH

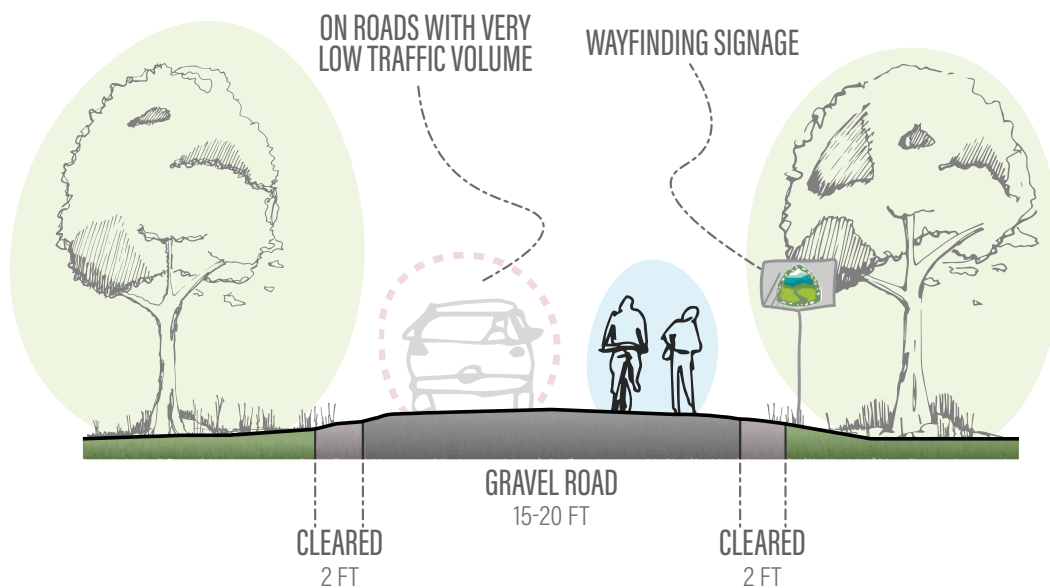


USER GROUP:  
Multi-Use

MATERIAL:  
Concrete

WIDTH:  
10 ft

## GRAVEL ROAD

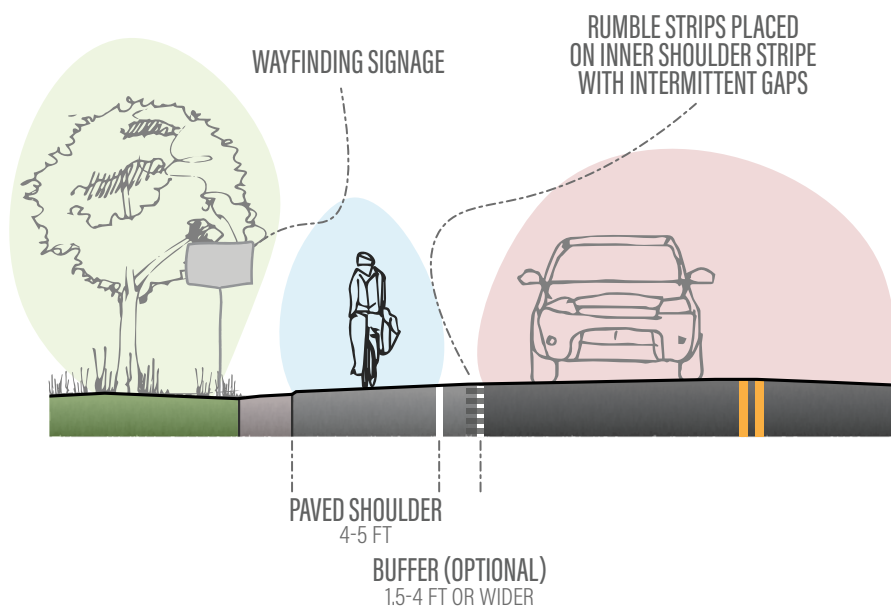


**USER GROUP:**  
Hikers and Cyclists

**MATERIAL:**  
Paved or crushed gravel fines

**WIDTH:**  
Varies

## PAVED SHOULDER



**USER GROUP:**  
Cyclists

**MATERIAL:**  
Paved Asphalt

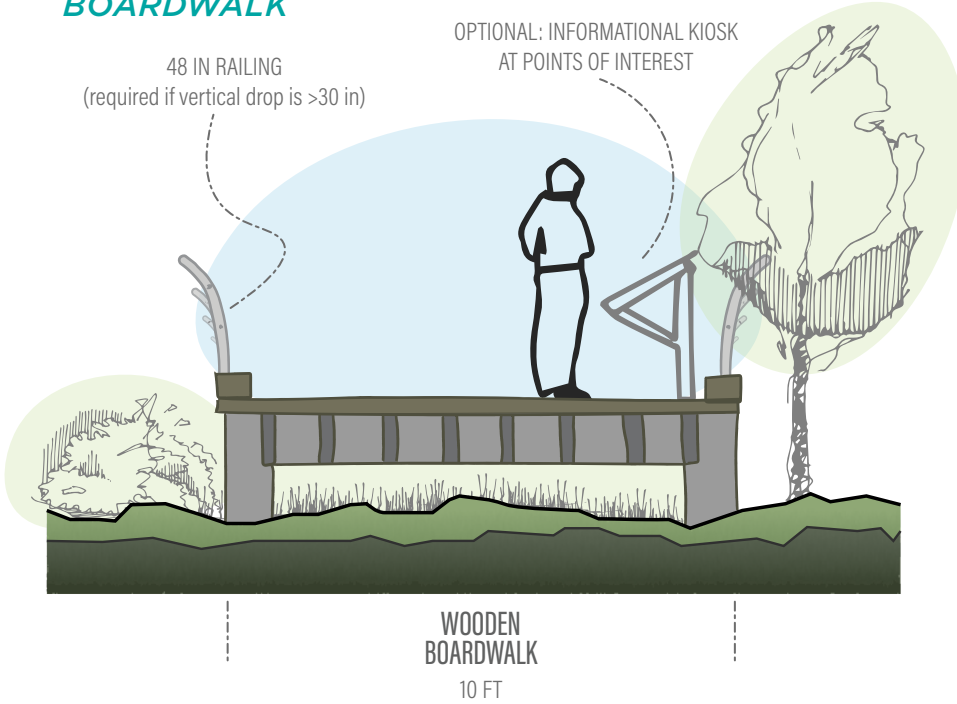
**WIDTH:**  
4-6 ft



## BOARDWALK

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

OPTIONAL: INFORMATIONAL KIOSK  
AT POINTS OF INTEREST



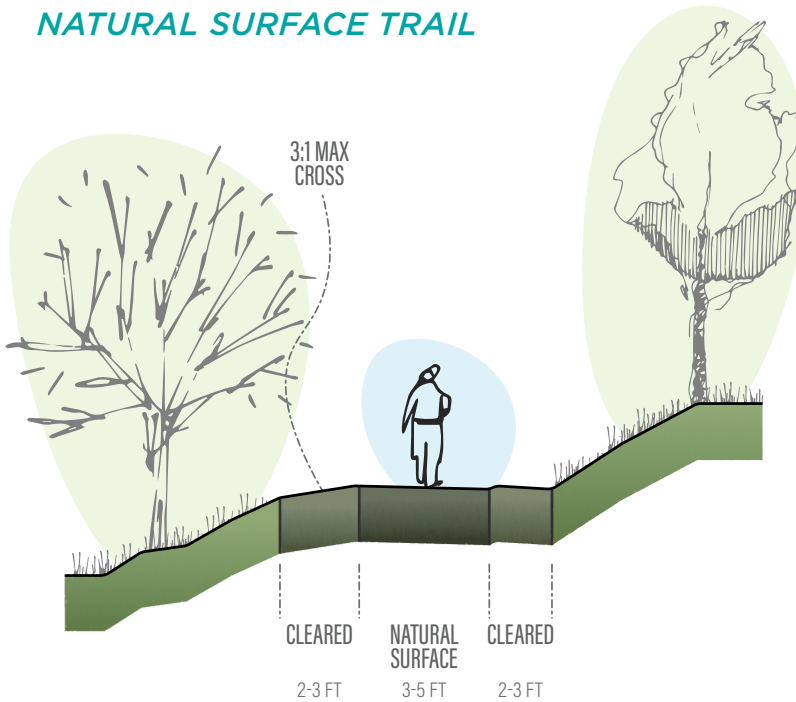
USER GROUP:  
Multi-Use

MATERIAL:  
Wood Decking

WIDTH:  
10 ft

## NATURAL SURFACE TRAIL

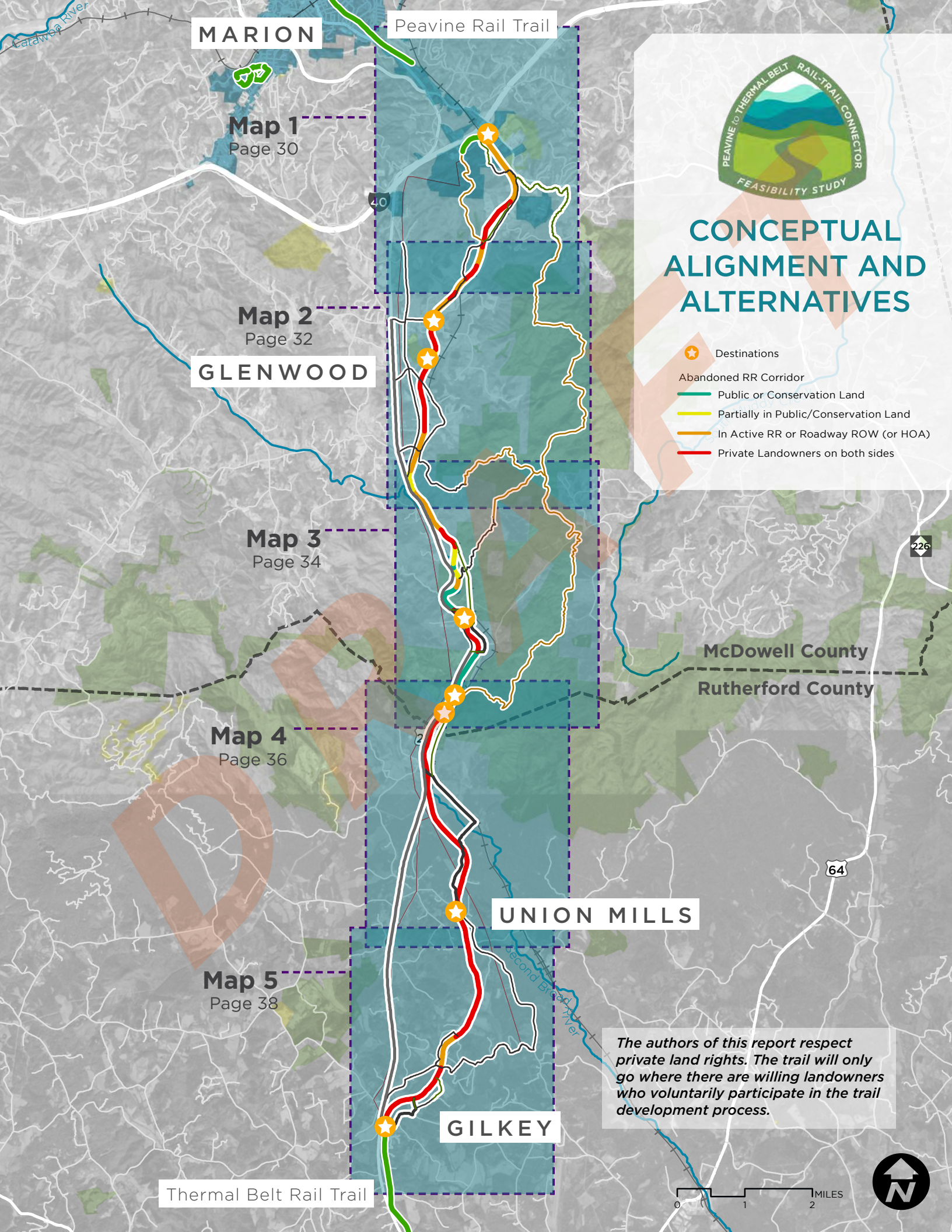
3:1 MAX  
CROSS



USER GROUP:  
Hikers and Mountain  
Bikers

MATERIAL:  
Native Soil

WIDTH:  
3-5 ft



MARION

Peavine Rail Trail

Map 1  
Page 30

Map 2  
Page 32

GLENWOOD

Map 3  
Page 34

Map 4  
Page 36

Map 5  
Page 38

UNION MILLS

GILKEY

Thermal Belt Rail Trail

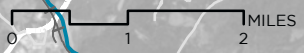


# CONCEPTUAL ALIGNMENT AND ALTERNATIVES

- ★ Destinations
- Abandoned RR Corridor
- Public or Conservation Land
- Partially in Public/Conservation Land
- In Active RR or Roadway ROW (or HOA)
- Private Landowners on both sides

McDowell County  
Rutherford County

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*





CONCEPTUAL ALIGNMENT AND ALTERNATIVES

# MAP 1 OF 5

Map ID	Notes
1	This section of the railroad corridor (from the existing Peavine Rail Trail to McDowell Technical Community College) is already recommended for trail development within the City of Marion's Bike Plan, which was adopted in 2015. Progress has been made on this section, but it remains unfunded as of mid-2020.
2	Youngs Fork tributary crossing; site needs to be examined
3	City of Marion, McDowell Tech, and McDowell County own much of the property along this section
4	Abandoned railroad corridor is within the active railroad right of way
5	Steep, hiking/mountain biking alternative that would have to utilize conservation land, McDowell County property, and cross one private landowner property
6	Old Glenwood Rd could be a sidepath alternative
7	Youngs Fork, North Muddy Creek, and Bobs Creek could be greenway opportunities connecting south into conservation land property
8	Since the railroad was abandoned, a quarry has been constructed on the old railroad bed here
9	Appears to be space along the active railroad line that could be an alternative
10	Abandoned railroad corridor is within the active railroad right of way
11	North Muddy Creek crossing, site needs to be examined

### Features

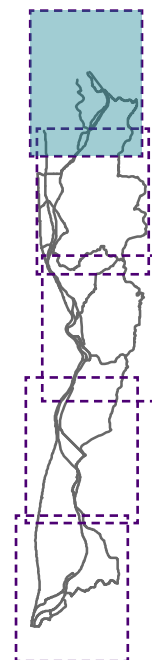
- Opportunities/Challenges
- ★ Destinations
- Active Railroad
- Existing Greenway
- Floodplain
- City of Marion
- Publicly Owned Land
- Public/Private Conservation Lands

### Alternatives

- Hiking/MTB Alternative
- Greenway Link
- US 221
- Additional Roadway Options
- Roadway/Sidepath Option
- Power Line
- Abandoned RR Corridor
  - Public or Conservation Land
  - Partially in Public/Conservation Land
  - In Active RR or Roadway ROW (or HOA)
  - Private Landowners on both sides



McDowell Technical Community College.



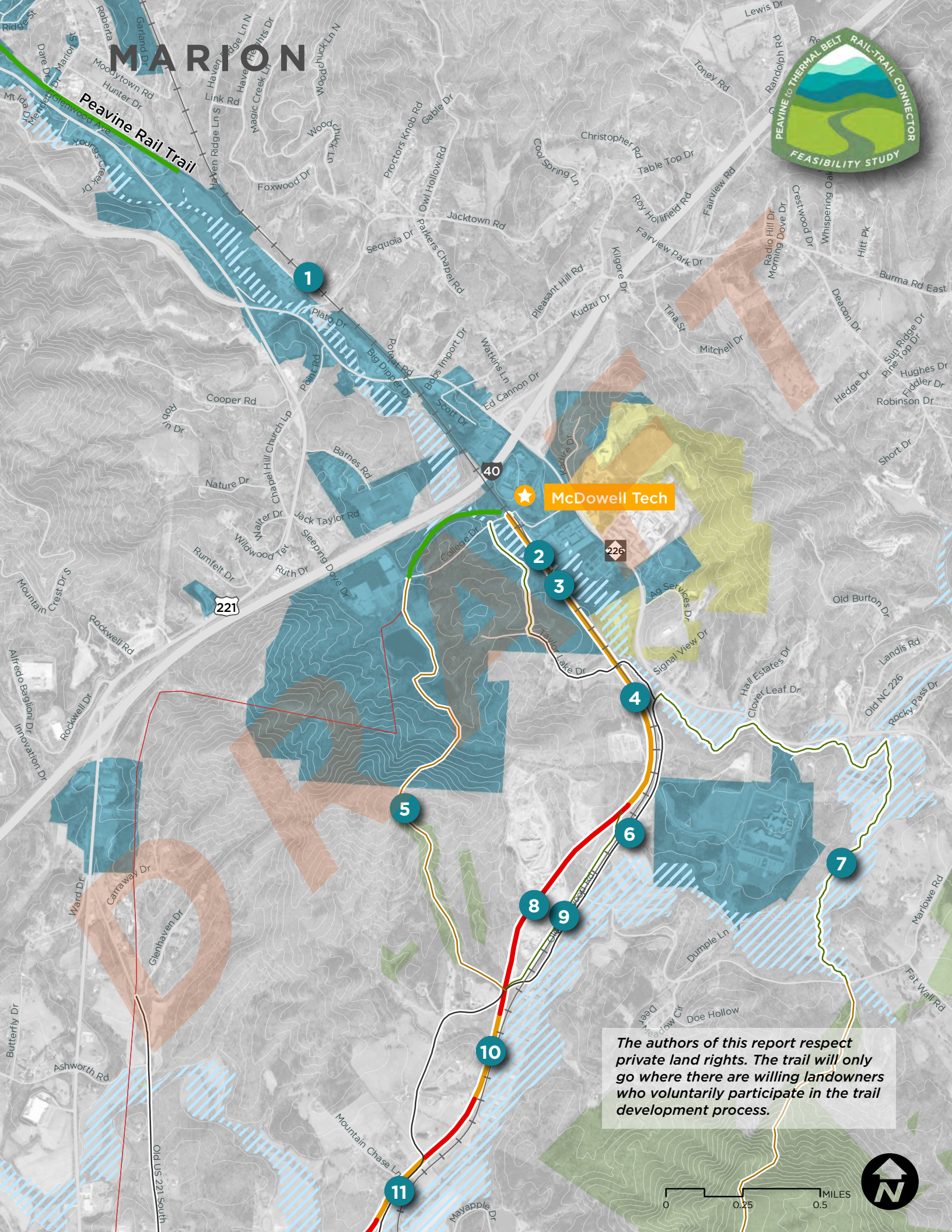
# MARION



Peavine Rail Trail

★ McDowell Tech

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*





CONCEPTUAL ALIGNMENT AND ALTERNATIVES

# MAP 2 OF 5

Map ID	Notes
1	Abandoned railroad corridor is within the active railroad right of way
2	North Muddy Creek crossing; site needs to be examined
3	Abandoned railroad corridor was in the Old Glenwood Rd right of way here
4	Abandoned railroad corridor was in the Old Glenwood Rd right of way here
5	Abandoned railroad corridor was within two roadway right of ways here
6	Six different property owners own land along the abandoned railroad corridor here
7	Goose Creek crossing; site needs to be examined
8	Steep, hiking/mountain biking alternatives through this conservation land could serve as an alternative to the abandoned rail corridor - line follows existing dirt roads and contours.
9	17 different property owners own land along the abandoned railroad corridor here
10	Abandoned railroad is in the active railroad and roadway right of way

## Features

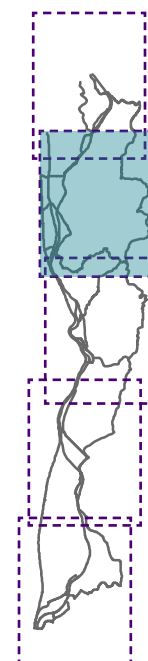
- Opportunities/Challenges
- ★ Destinations
- +— Active Railroad
- Existing Greenway
- ▨ Floodplain
- City of Marion
- Publicly Owned Land
- Public/Private Conservation Lands

## Alternatives

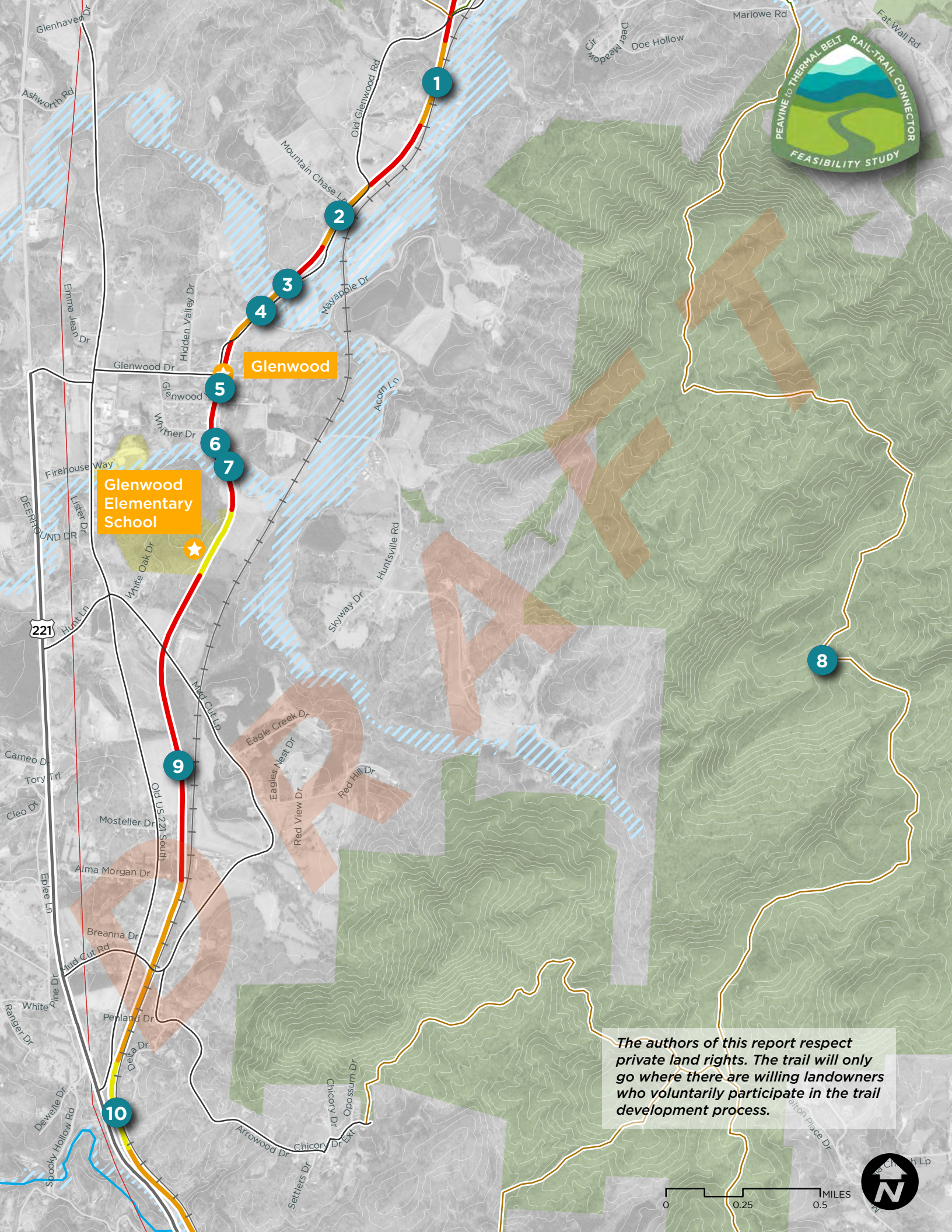
- Hiking/MTB Alternative
- Greenway Link
- US 221
- Additional Roadway Options
- Roadway/Sidepath Option
- Power Line
- Abandoned RR Corridor
  - Public or Conservation Land
  - Partially in Public/Conservation Land
  - In Active RR or Roadway ROW (or HOA)
  - Private Landowners on both sides



This trail could serve as a local health and recreation resource for Glenwood Elementary School. Above: McDowell County elementary school students and parents walking a trail during a "Ride. Scoot. Walk." event. Source: McDowell County Schools Facebook Page.







Glenwood

Glenwood Elementary School

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0 0.25 0.5 MILES





CONCEPTUAL ALIGNMENT AND ALTERNATIVES

# MAP 3 OF 5

Map ID	Notes
1	Abandoned railroad is in the active railroad and roadway right of way
2	Camp Branch crossing; site needs to be examined
3	Three different property owners own land along the abandoned railroad corridor here
4	Second Broad River and Polly Sprout Rd crossing; site needs to be examined
5	One property between conservation lands and sections of the abandoned railroad corridor that are within the existing active railroad right of way
6	Polly Sprout Rd appears to have enough right-of-way for a sidepath if the abandoned railroad corridor is unavailable



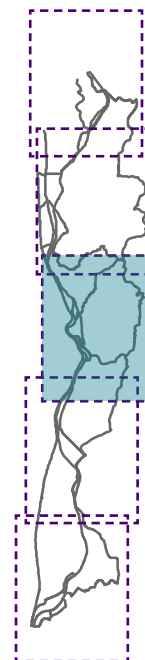
The Lucky Strike Campground. Photo source: Campnative.com.

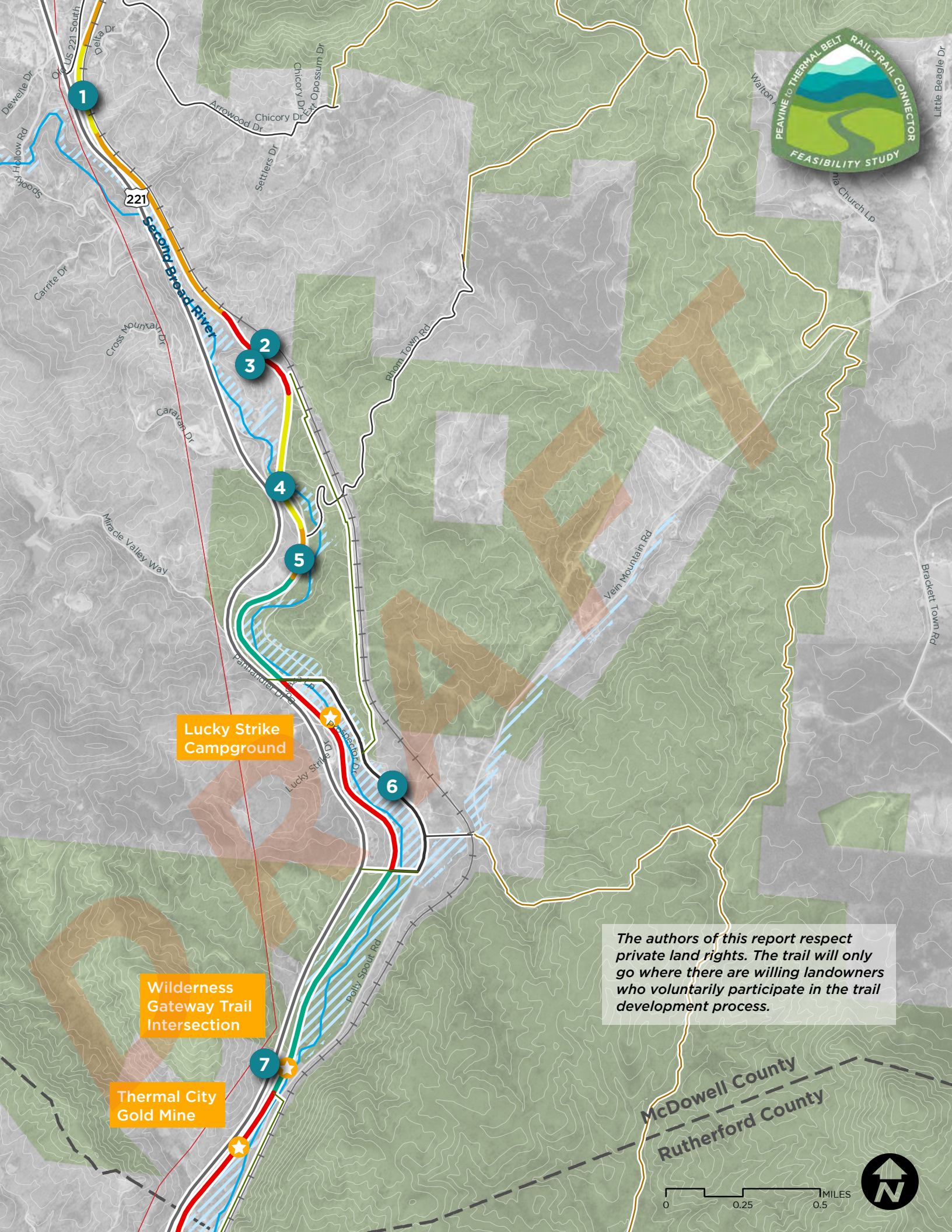
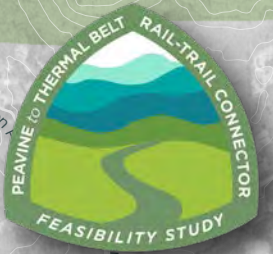
## Features

- Opportunities/Challenges
- ★ Destinations
- +— Active Railroad
- Existing Greenway
- Floodplain
- City of Marion
- Publicly Owned Land
- Public/Private Conservation Lands

## Alternatives

- Hiking/MTB Alternative
- Greenway Link
- US 221
- Additional Roadway Options
- Roadway/Sidepath Option
- Power Line
- Abandoned RR Corridor
- Public or Conservation Land
- Partially in Public/Conservation Land
- In Active RR or Roadway ROW (or HOA)
- Private Landowners on both sides





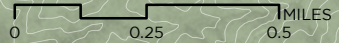
Lucky Strike Campground

Wilderness Gateway Trail Intersection

Thermal City Gold Mine

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McDowell County  
Rutherford County





CONCEPTUAL ALIGNMENT AND ALTERNATIVES

# MAP 4 OF 5

Map ID	Notes
1	Steep topography on both sides of the abandoned railroad corridor limits trail alternatives to US 221, the abandoned railroad corridor, and the active railroad line right of way
2	The Thermal City Gold Mine Campground is the only property between Box Creek Rd and conservation land to the north
3	Stoney Creek crossing; site needs to be examined
4	Box Creek Rd is a scenic, rural, low traffic volume roadway corridor that could serve as a viable alternative (2.6 miles) to the abandoned railroad corridor between Union Mills and the Thermal City Gold Mine Campground
5	The Union Mills Post Office is located along the study corridor. There is an opportunity to revitalize the site as a Union Mills Trailhead, as shown in the photo rendering below. Potential services and jobs could be centered around food, refreshments, bicycle rental, and bicycle repair (in addition to the Post Office itself).

## Features

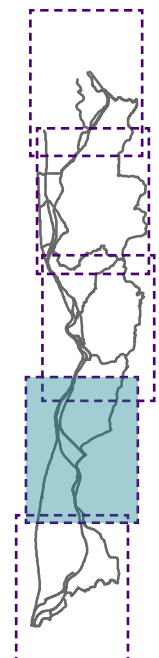
- Opportunities/Challenges
- ★ Destinations
- Active Railroad
- Existing Greenway
- Floodplain
- City of Marion
- Publicly Owned Land
- Public/Private Conservation Lands

## Alternatives

- Hiking/MTB Alternative
- Greenway Link
- US 221
- Additional Roadway Options
- Roadway/Sidepath Option
- Power Line
- Abandoned RR Corridor
  - Public or Conservation Land
  - Partially in Public/Conservation Land
  - In Active RR or Roadway ROW (or HOA)
  - Private Landowners on both sides



The Union Mills Post Office site could be revitalized as shown in this photo rendering (the rail-trail corridor runs directly behind this building).





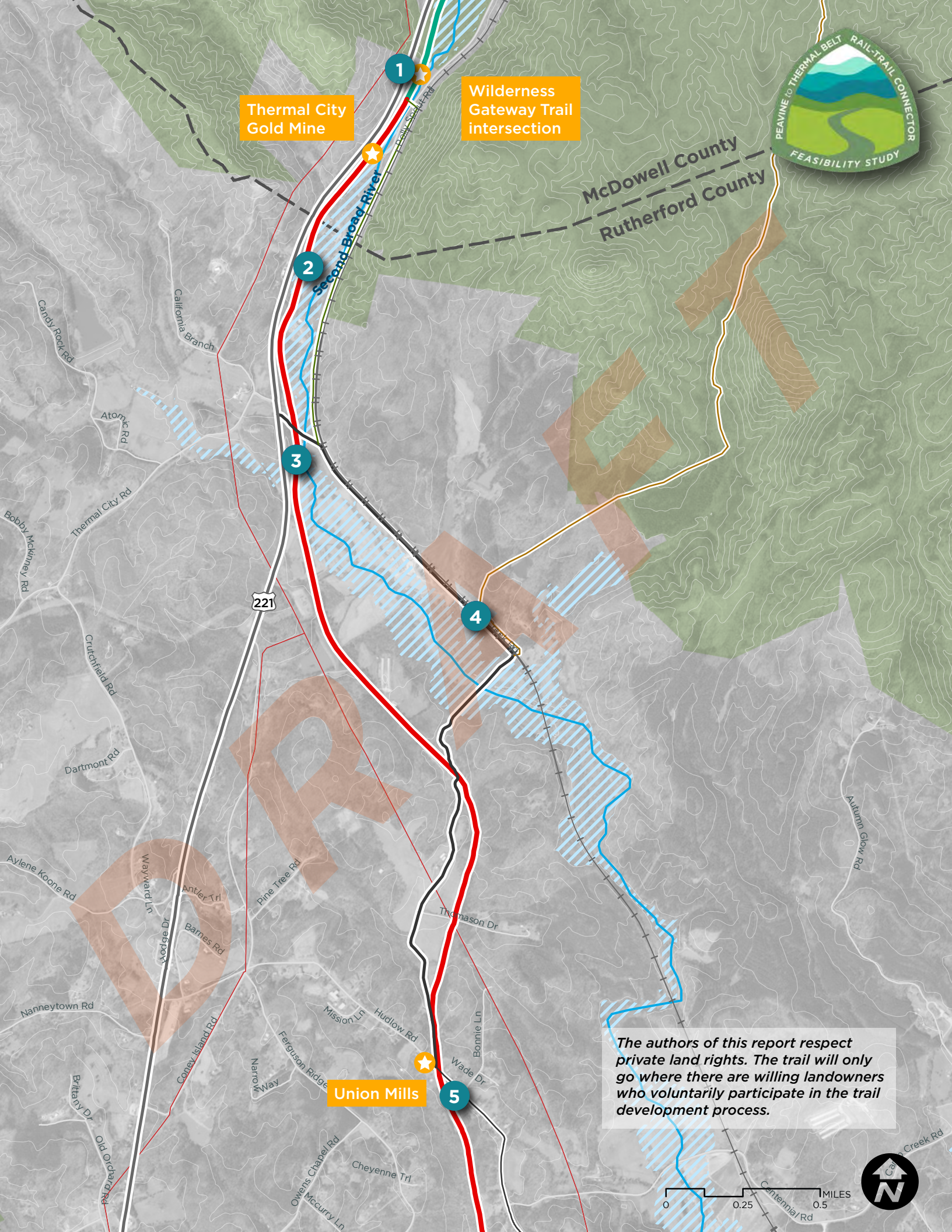
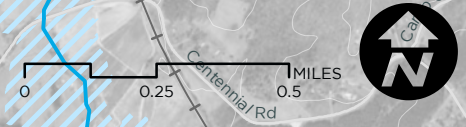
Thermal City Gold Mine

Wilderness Gateway Trail intersection

McDowell County  
Rutherford County

Union Mills

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*





CONCEPTUAL ALIGNMENT AND ALTERNATIVES

# MAP 5 OF 5

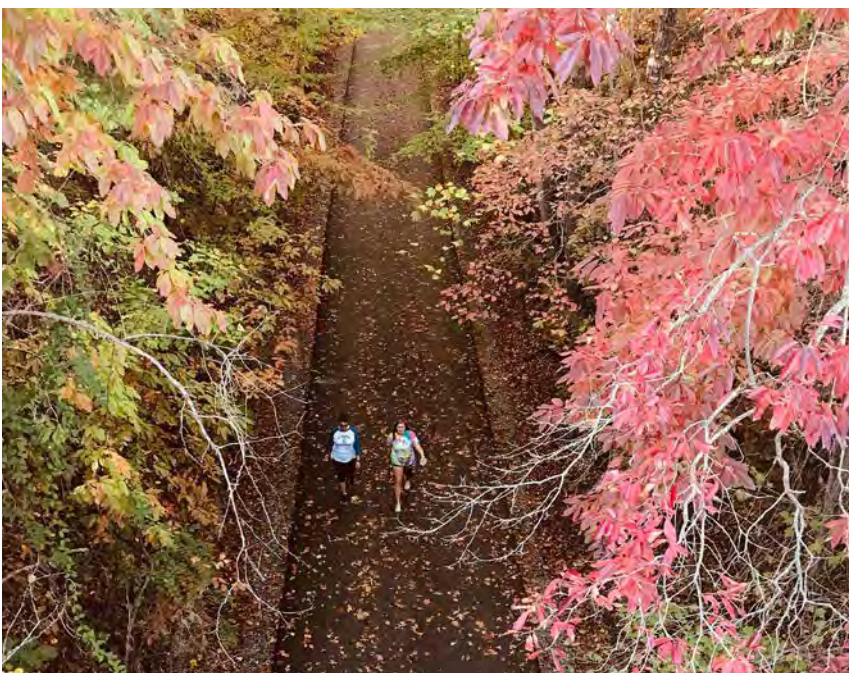
Map ID	Notes
1	Several large landowners along this section are between the Hearthstone subdivision and Union Mills
2	Old railroad trestle over Cherry Creek (800' structure)
3	Hearthstone HOA holds a 0.5 mile sliver of the abandoned railroad corridor through the Hearthstone subdivision
4	Old railroad trestle over Catheys Creek (800' structure)
5	Alternative link to the abandoned railroad corridor
6	On road connector or sidepath connection would be utilized around the Gilkey Lumber Company property
7	Gilkey Lumber Company operates on the abandoned railroad corridor. An alternative from the northern terminus of the Thermal Belt Rail Trail to the end of the Gilkey Lumber Company property will need to be identified.

### Features

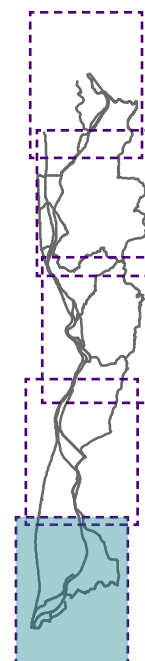
- Opportunities/Challenges
- ★ Destinations
- +— Active Railroad
- Existing Greenway
- ▨ Floodplain
- City of Marion
- Publicly Owned Land
- Public/Private Conservation Lands

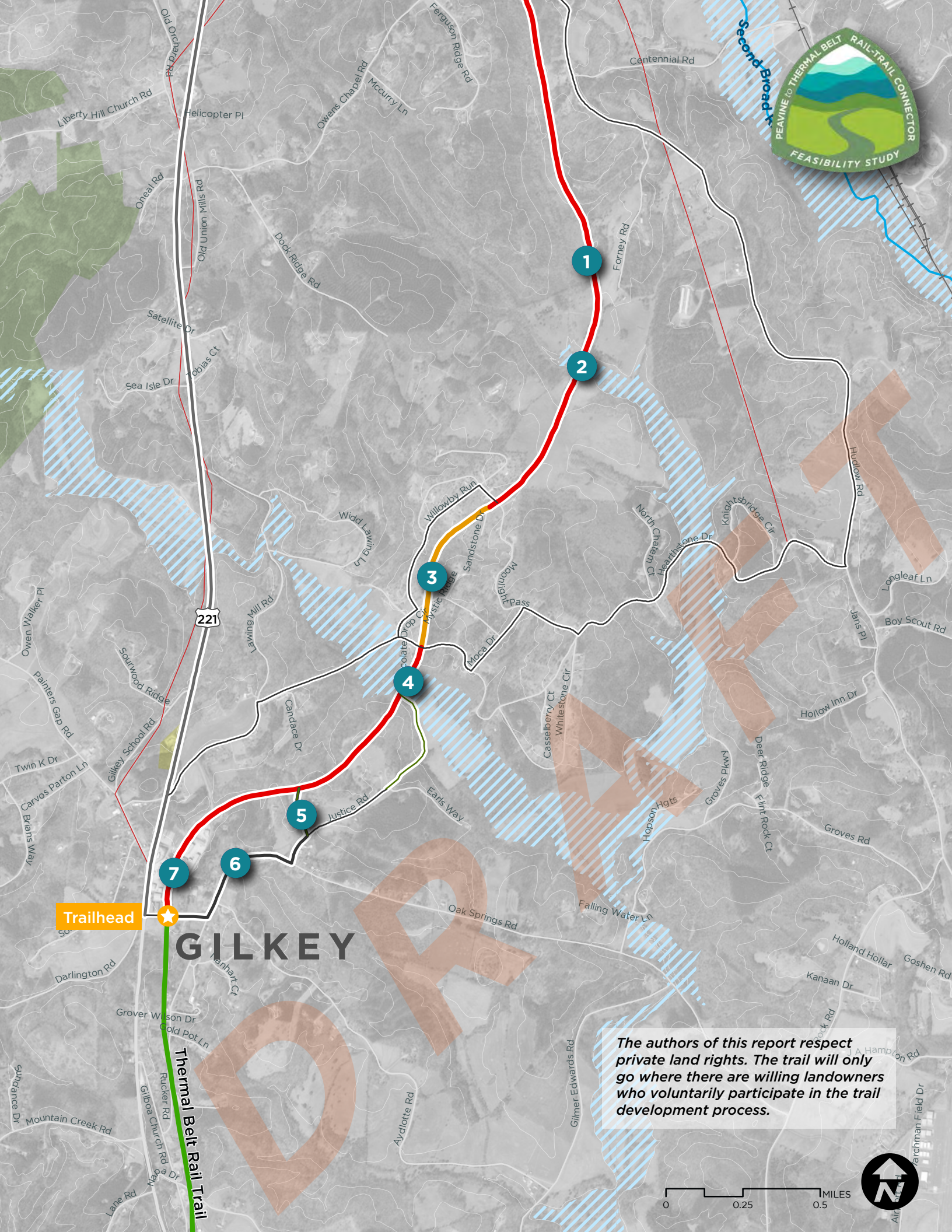
### Alternatives

- Hiking/MTB Alternative
- Greenway Link
- US 221
- Additional Roadway Options
- Roadway/Sidepath Option
- Power Line
- Abandoned RR Corridor
- Public or Conservation Land
- Partially in Public/Conservation Land
- In Active RR or Roadway ROW (or HOA)
- Private Landowners on both sides



Thermal Belt Rail Trail. Photo source: Rutherford Outdoor Coalition.



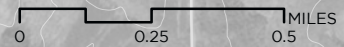


Trailhead

# GILKEY

Thermal Belt Rail Trail

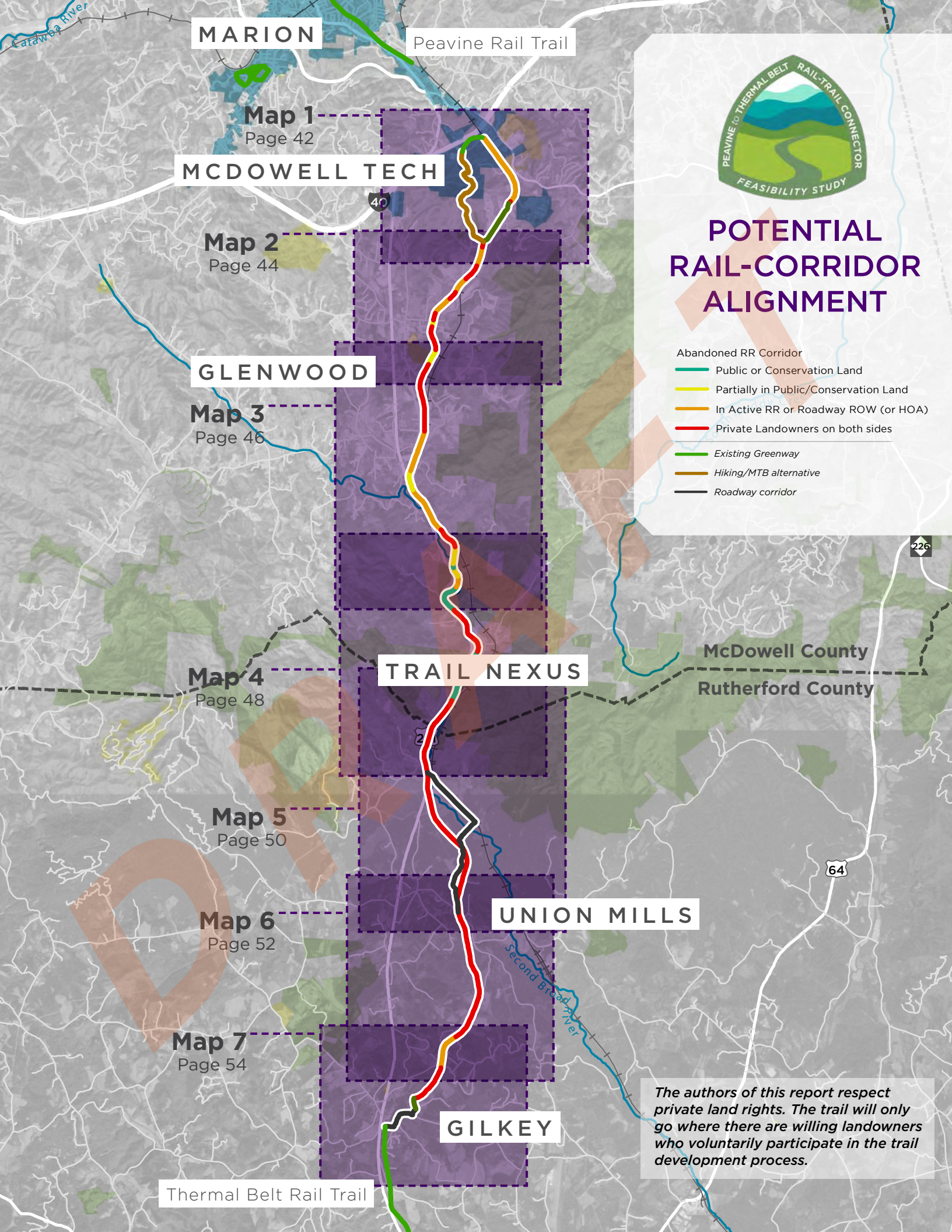
*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*





*Rail Trail Study Corridor near Mud Cut Road.*





MARION

Peavine Rail Trail

Map 1

Page 42

MCDOWELL TECH

Map 2

Page 44

GLENWOOD

Map 3

Page 46

Map 4

Page 48

TRAIL NEXUS

McDowell County

Rutherford County

Map 5

Page 50

Map 6

Page 52

UNION MILLS

Map 7

Page 54

GILKEY

Thermal Belt Rail Trail



## POTENTIAL RAIL-CORRIDOR ALIGNMENT

Abandoned RR Corridor

Public or Conservation Land

Partially in Public/Conservation Land

In Active RR or Roadway ROW (or HOA)

Private Landowners on both sides

Existing Greenway

Hiking/MTB alternative

Roadway corridor

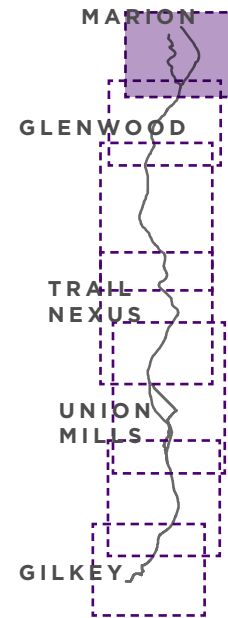
*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*



POTENTIAL RAIL-CORRIDOR ALIGNMENT

# MCDOWELL COUNTY PHASE 1: MCDOWELL TECH LOOP

Map ID	Notes
1	The Peavine Trail southern extension, when implemented, will cross under I-40 to McDowell Tech here, connecting to the existing McDowell Tech greenway trail.
2	Along this section, the abandoned railroad corridor sits within the existing active railroad right of way owned by CSX. Rail with trail opportunities could be pursued with CSX and coordinated through the North Carolina Rail Division.
3	Steep, hiking/mountain biking alternative that would have to utilize conservation land, McDowell County property, and cross one private landowner's property. If the abandoned rail corridor trail is successfully constructed along with this alternative, this could form a 3.8 mile recreational loop as well.
4	The abandoned railroad corridor crosses through property owned by Duke Energy here.
5	Since the railroad was abandoned, a quarry has been constructed on the old railroad bed through the center of the quarry site. This section could utilize a former railroad spur partially through this property, parallel to the existing railroad tracks, and could be considered. This railroad spur may be partially in the CSX active railroad line right of way, and further research will be needed regarding the right of way boundary. Implementation of this section would likely require agreements with Hedrick Industries and CSX.
6	Potential connection point back to the abandoned railroad corridor as well as the potential hiking/mtb trail section.









**Distance:** 3.8 miles total for loop (1.8 miles for abandoned railroad corridor section and 2 miles for combination of existing greenway segment and hiking/mtb trail).





**Implementation Partners:** City of Marion, McDowell County, McDowell Trails Association, Foothills Conservancy, McDowell Tech, private landowners, North Carolina Rail Division, CSX, Hedrick Industries, Duke Energy

# MARION

## Features

-  Active Railroad
-  Existing Greenway
-  Floodplain
-  Public/Private Conservation Lands
-  Publicly Owned Land
-  Marion City Limits

## Potential Rail-Trail Alignment

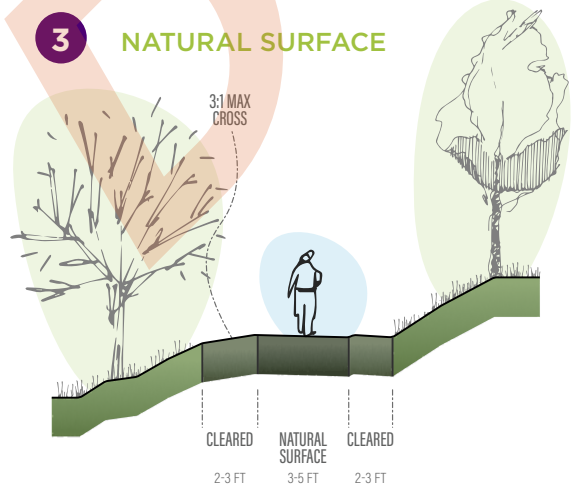
- Abandoned RR Corridor**
-  In Active RR ROW
-  Private Landowners on both sides
-  Greenway Alternative (Abandoned railroad spur)
-  Hiking/MTB alternative

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*

*Need input from landowners regarding preferred routing.*

*Short bridge crossing of Youngs Fork tributary would need to be examined along the active railroad line here.*

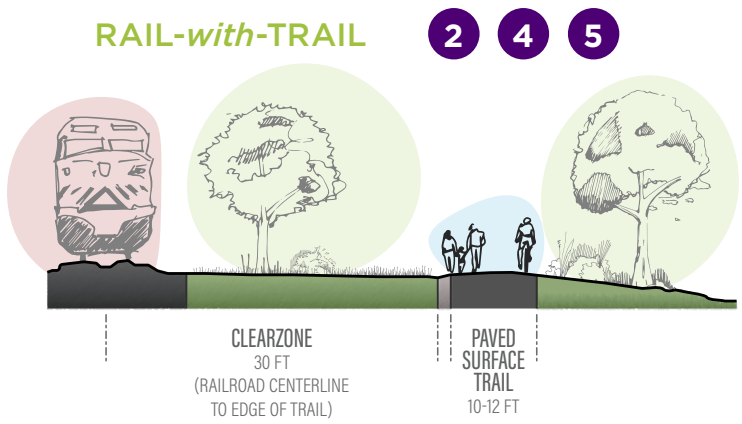
## Potential Trail Cross-Sections



**USER GROUP:**  
Hikers and Mountain Bikers

**MATERIAL:**  
Native Soil

**PREFERRED WIDTH:**  
3-5 ft



**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

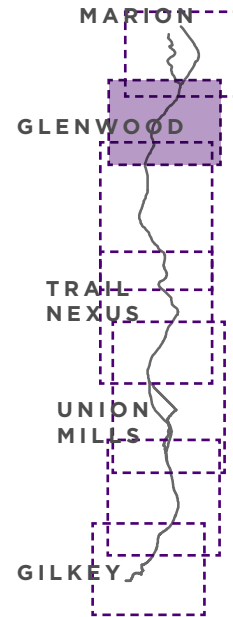
**PREFERRED WIDTH:**  
10-12 ft



POTENTIAL RAIL-CORRIDOR ALIGNMENT

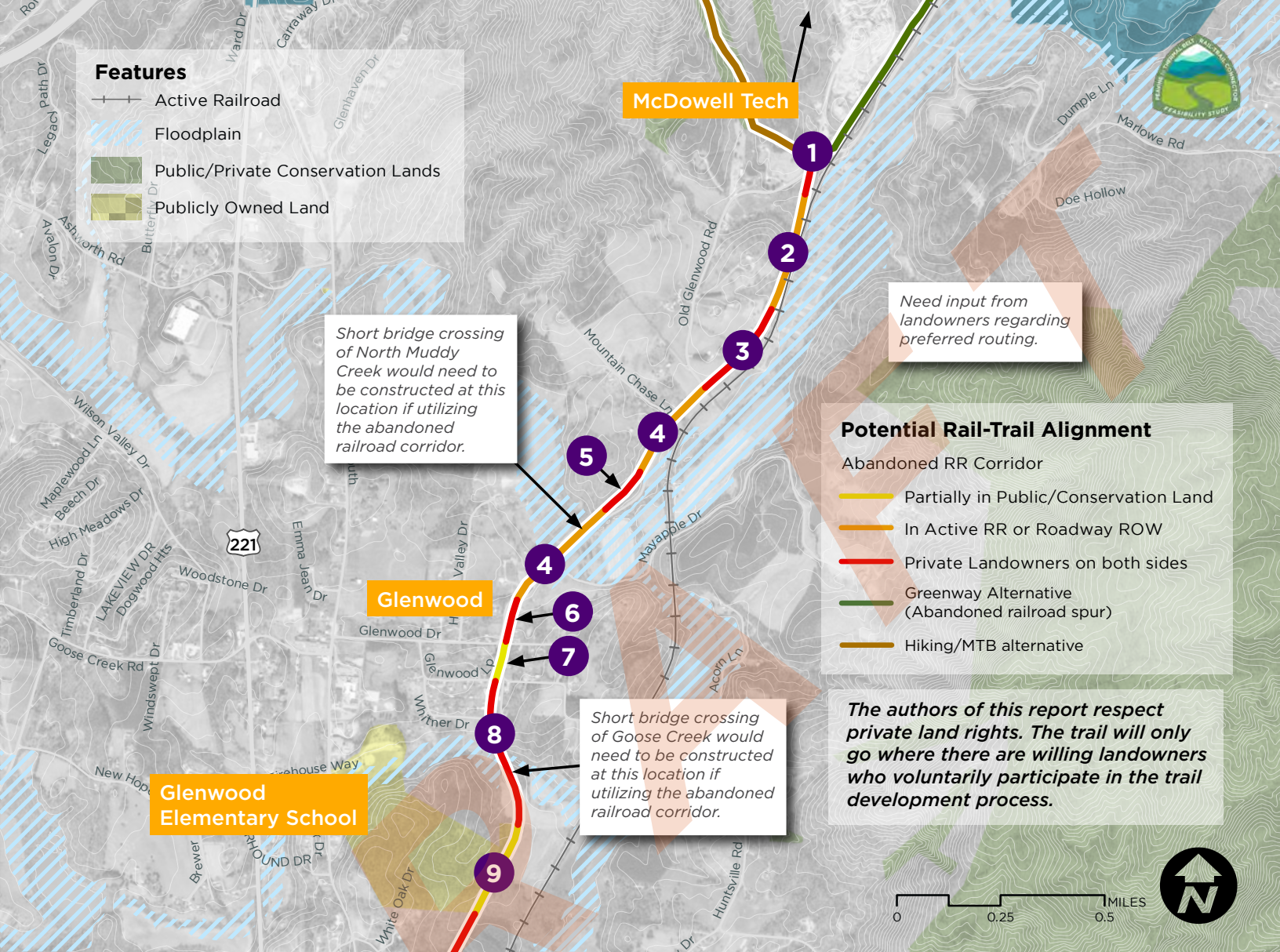
# MCDOWELL COUNTY PHASE 2A: MCDOWELL TECH TO GLENWOOD

Map ID	Notes
1	See previous page regarding section around the quarry heading north to McDowell Tech.
2	Along this section, the abandoned railroad corridor sits within the existing active railroad right of way owned by CSX. Rail with trail opportunities could be pursued with CSX and coordinated through the North Carolina Rail Division.
3	Three different property owners own land along the abandoned railroad corridor here.
4	Abandoned railroad corridor was within the Old Glenwood Rd right of way in these locations. Because the roadway right of way in these locations is much larger than normal (140') to accommodate the former railroad corridor, further property ownership research would be needed to establish the current roadway right of way/property boundaries in these locations.
5	Two different property owners own land along the abandoned railroad corridor here.
6	One property owner owns land along the abandoned railroad corridor here, from the center of Glenwood to the Old Glenwood Rd crossing.
7	Abandoned railroad corridor was within two roadway right of ways here. Implementation would need to be coordinated with NCDOT.
8	Six different property owners own land along the abandoned railroad corridor here.
9	Glenwood Elementary School borders the west side of the abandoned railroad corridor and could be a potential near term trail connection opportunity that could be tied into the school site and recreation amenities.



**Distance:** 1.9 miles (Quarry to Glenwood Elementary property)

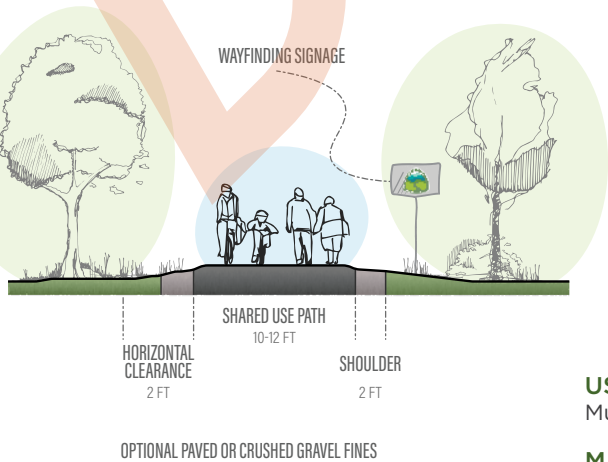
**Implementation Partners:**  
McDowell County, McDowell Trails Association, Foothills Conservancy, private landowners, NCDOT, North Carolina Rail Division, CSX



### Potential Trail Cross-Sections

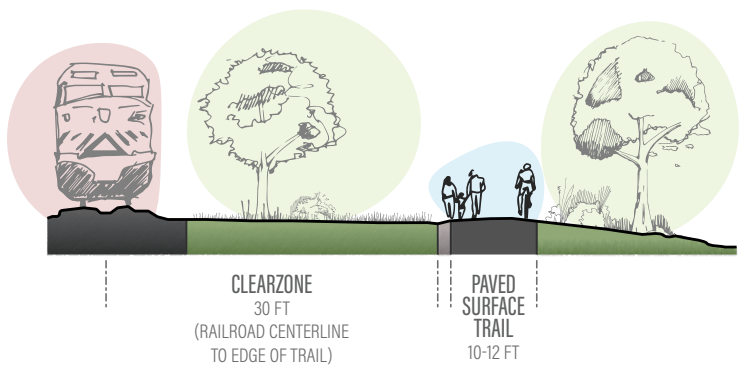
- 3
- 4
- 5
- 6
- 7
- 8
- 9

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



#### RAIL-with-TRAIL

- 2



**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

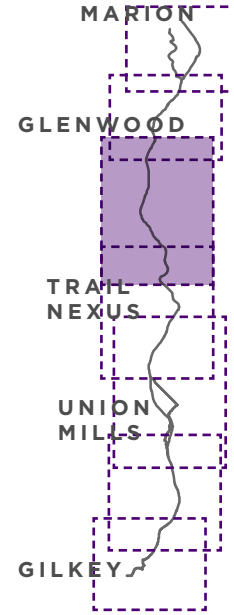
**PREFERRED WIDTH:**  
10-12 ft



POTENTIAL RAIL-CORRIDOR ALIGNMENT

# MCDOWELL COUNTY PHASE 2B: GLENWOOD TO TRAIL NEXUS

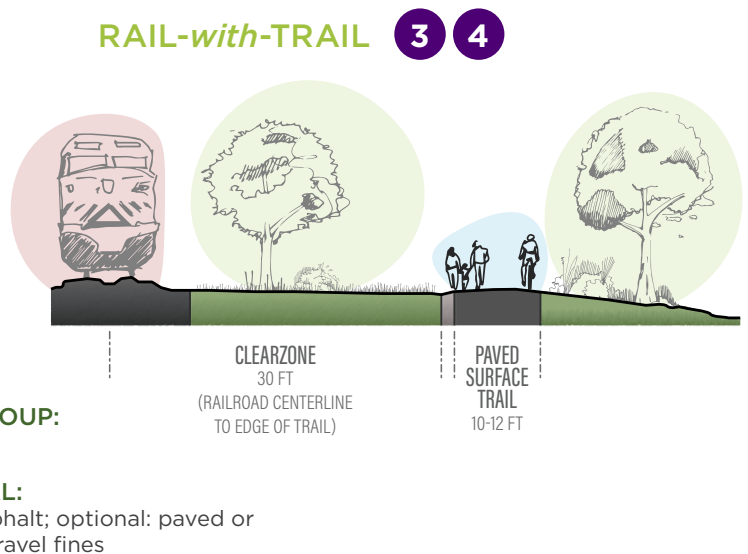
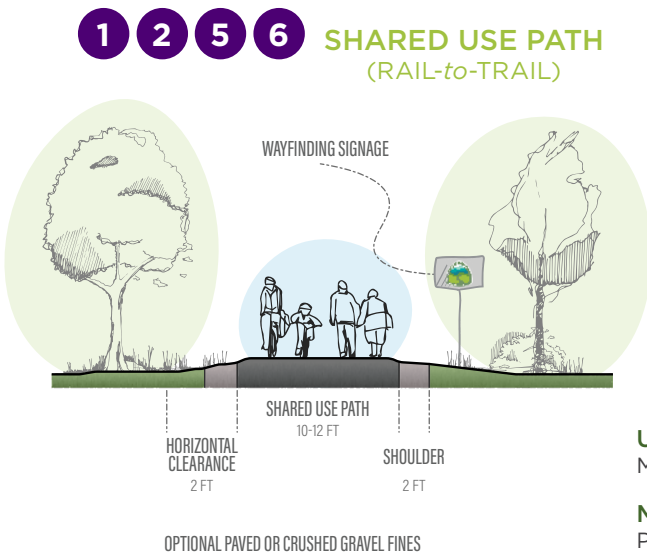
Map ID	Notes
1	See note # 9 on previous page regarding Glenwood Elementary School property.
2	17 different property owners own land along the abandoned railroad corridor here.
3	Along these sections, the abandoned railroad corridor sits within the existing active railroad right of way owned by CSX. Rail with trail opportunities could be pursued with CSX and coordinated through the North Carolina Rail Division.
4	This section of the abandoned railroad corridor sits in the combined US 221, Old US 221, and active railroad rights of way. Trail implementation would likely need to be coordinated with both NCDOT and CSX.
5	Three different property owners own land along the abandoned railroad corridor here.
6	Conservation land borders the abandoned railroad corridor along the east side, with a short section that is also within the Polly Spout Rd right of way.
7	The abandoned railroad corridor crossing of Polly Spout Rd and the Second Broad River included a bridge over both the road and river that no longer exists, although some of the foundation is still visible. A new bridge structure would need to span approximately 200' here.



**Distance:** 3.2 miles  
(Glenwood Elementary property to Polly Spout Rd)

**Implementation Partners:**  
McDowell County, McDowell Trails Association, Foothills Conservancy, private landowners, NC State Parks, NCDOT, North Carolina Rail Division, CSX

## Potential Trail Cross-Sections



**PREFERRED WIDTH:** 10-12 ft



**Glenwood Elementary School**

Need input from landowners regarding preferred routing.

Need input from landowners regarding preferred routing.

**Trail Nexus: Area of future Wilderness Gateway Trail intersection**

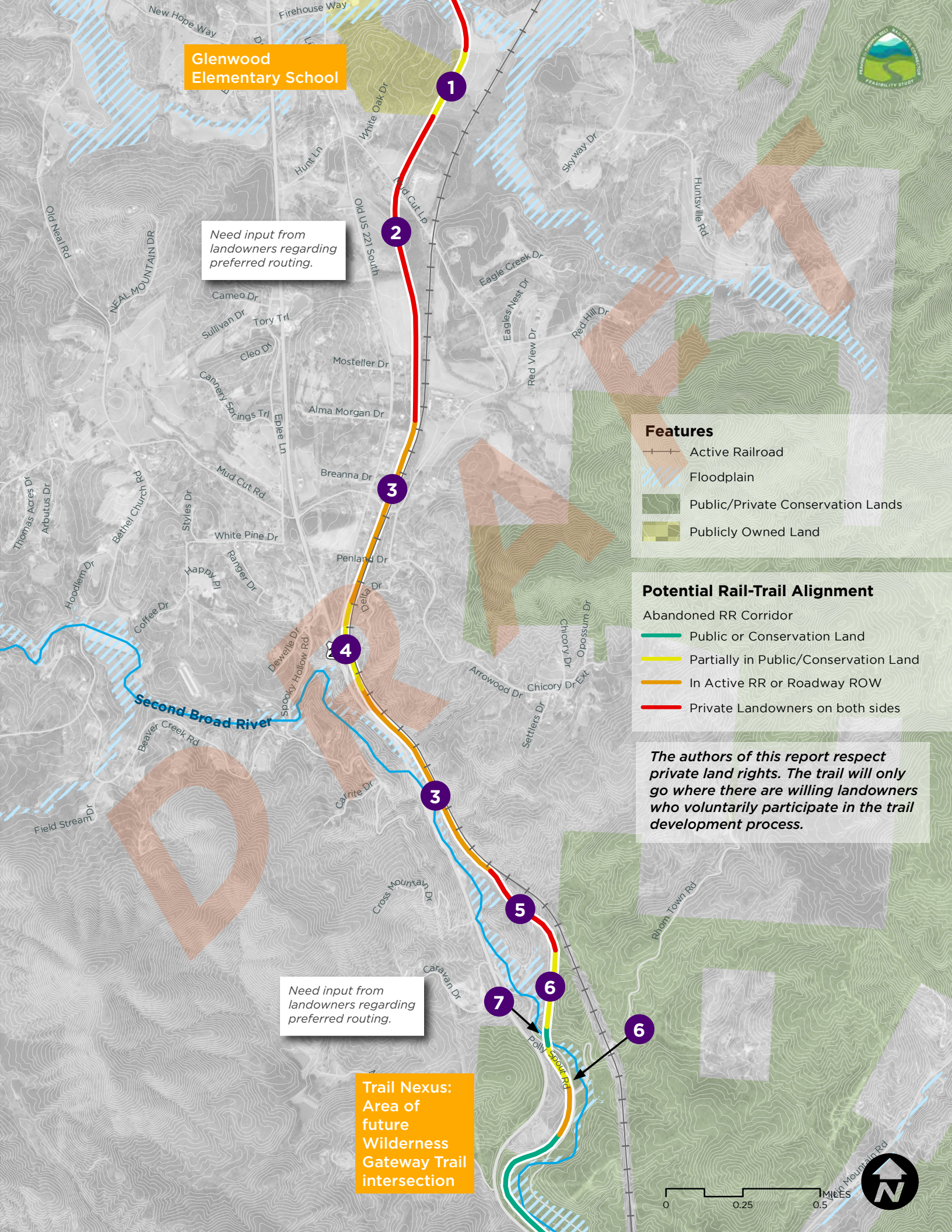
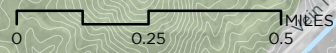
**Features**

- Active Railroad
- Floodplain
- Public/Private Conservation Lands
- Publicly Owned Land

**Potential Rail-Trail Alignment**

- Abandoned RR Corridor
- Public or Conservation Land
- Partially in Public/Conservation Land
- In Active RR or Roadway ROW
- Private Landowners on both sides

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*

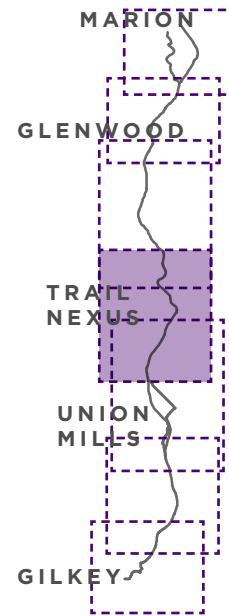




POTENTIAL RAIL-CORRIDOR ALIGNMENT

# CONSERVATION PHASE 1: TRAIL NEXUS

Map ID	Notes
1	With construction of the Wilderness Gateway State Trail to take place in the near term, this section along the abandoned railroad line that is currently in conservation land should be constructed first. The exact alignment of the Wilderness Gateway State Trail is unknown at this time, but will likely occur along or near this section. This first segment also closely parallels the Second Broad River and could be a major trailhead opportunity.
2	Lucky Strike Campground is in a fortuitous location of the likely Wilderness Gateway State Trail and Marion to Gilkey Rail Trail nexus. Agreements would need to be reached with one or two landowners between Lucky Strike Campground and existing conservation land to the south. To the north of this property is existing conservation land where the trail could be continued, creating the potential for a 2.1 mile section in the near term.
3	If an agreement can be reached with the owners of Lucky Strike Campground and landowners between this section of conservation land and the section of conservation land to the south, then this section of the rail trail could be constructed in the near term for a total of 2.1 miles. Furthermore, if the Thermal City Gold Mine owner were to participate in rail trail implementation, this would allow for a connection to Box Creek Rd for a direct link to Union Mills. This would total about 5 miles of contiguous trail (counting 2.6 miles of unpaved, low traffic volume Box Creek Rd) as near term implementation possibilities intersecting the likely location of the Wilderness Gateway State Trail.
4	The Thermal City Gold Mine Campground is privately run and is in the fortuitous nexus location of the likely Wilderness Gateway State Trail and Marion to Gilkey Rail Trail nexus. The former railroad corridor runs along this property and could become a signature trail connecting directly through the campground to the Wilderness Gateway State Trail and additional conservation land. This property also connects to Box Creek Road, which is a scenic, low traffic volume, unpaved road that connects to the Union Mills community to the south.

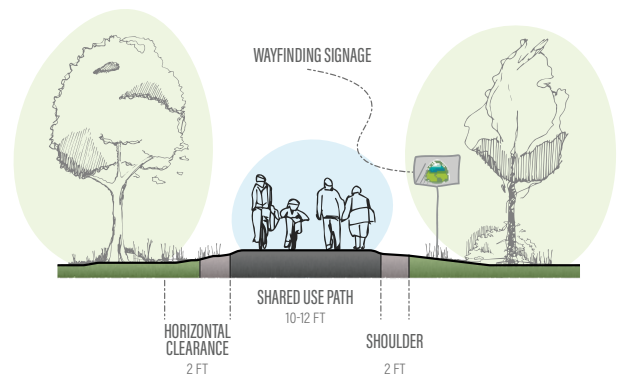


**Distance:** 3.9 miles (Polly Spout Rd to Box Creek Rd)

**Implementation Partners:** Foothills Conservancy, McDowell County, McDowell Trails Association, private landowners, private campgrounds, NCDOT, NC State Parks, Rutherford County, Rutherford Outdoor Coalition, Rutherford County Tourism Development Authority

## Potential Trail Cross-Section

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



**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

**PREFERRED WIDTH:**  
10-12 ft





Continuing north, conservation land borders the east side of the abandoned railroad corridor for another 2/3 mile. Trail/conservation land connectivity could be extended through here, especially with participation from two landowners along the west side of the corridor.

Rhom Town Rd and Vein Mountain Rd connect across the active railroad corridor and into the higher elevations of conservation land, where future trail connectivity could be also be achieved.

**Features**

- Active Railroad
- Floodplain
- Public/Private Conservation Lands

**Potential Rail-Trail Alignment**

- Abandoned RR Corridor
- Public or Conservation Land
- Partially in Public/Conservation Land
- In Active RR or Roadway ROW
- Private Landowners on both sides
- Box Creek Rd Option

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*

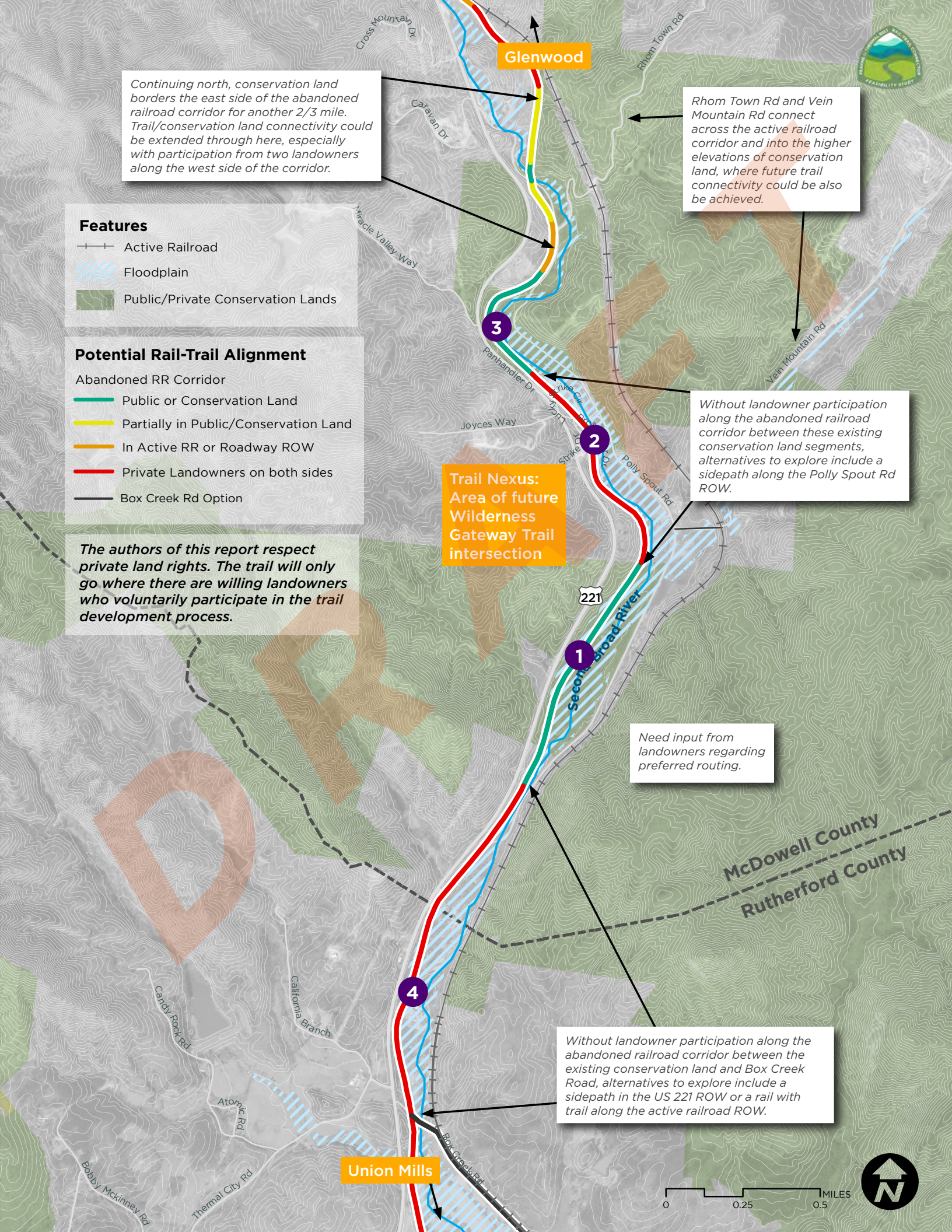
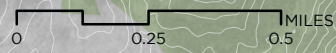
**Trail Nexus:  
Area of future  
Wilderness  
Gateway Trail  
intersection**

Without landowner participation along the abandoned railroad corridor between these existing conservation land segments, alternatives to explore include a sidepath along the Polly Spout Rd ROW.

Need input from landowners regarding preferred routing.

Without landowner participation along the abandoned railroad corridor between the existing conservation land and Box Creek Road, alternatives to explore include a sidepath in the US 221 ROW or a rail with trail along the active railroad ROW.

**Union Mills**

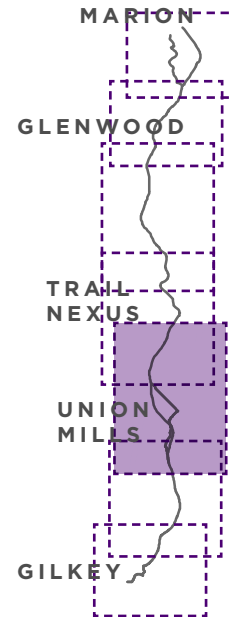




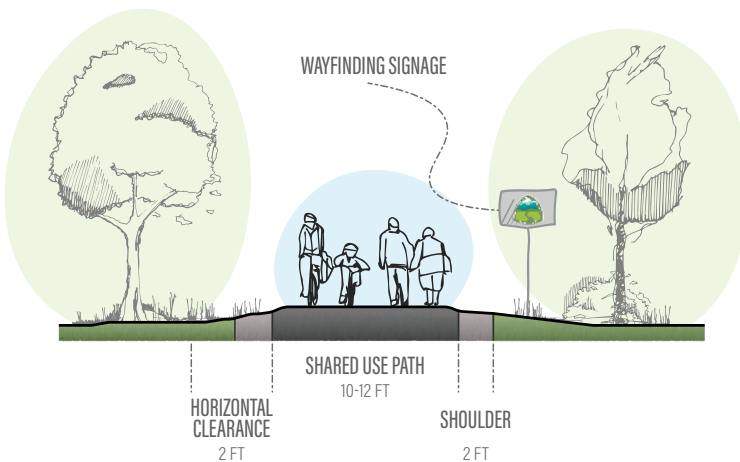
POTENTIAL RAIL-CORRIDOR ALIGNMENT

# RURTERFORD COUNTY PHASE 2A: TRAIL NEXUS TO UNION MILLS

Map ID	Notes
1	See note #2 on the previous page regarding the Thermal City Gold Mine Campground connection to the trail nexus and Box Creek Rd.
2	Ideally, the abandoned railroad corridor would be utilized from Box Creek Rd to Hudlow Rd and the Union Mills community. However, Box Creek Rd is an excellent alternative because it is an unpaved, low-traffic volume, scenic road. Utilizing the abandoned railroad corridor would need agreements with the landowners (approximately 10) adjacent to the abandoned railroad corridor, and the construction of two bridges.



## Potential Trail Cross-Sections

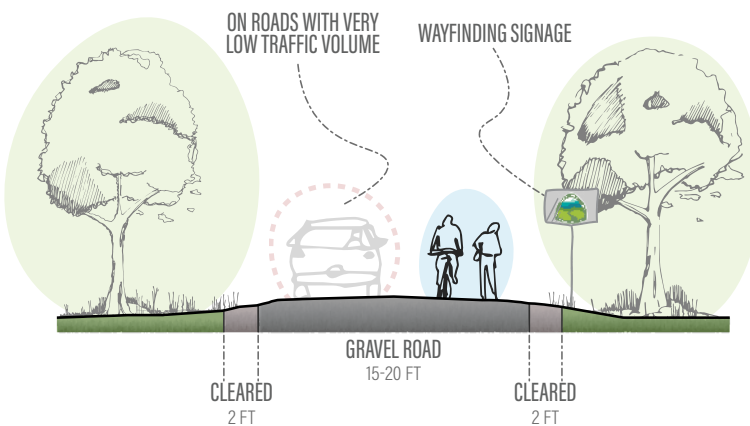


### 1 SHARED USE PATH (RAIL-to-TRAIL)

**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

**PREFERRED WIDTH:**  
10-12 ft



### 2 GRAVEL ROAD

**USER GROUP:**  
Hikers and Cyclists

**MATERIAL:**  
paved or crushed gravel fines

**PREFERRED WIDTH:**  
Varies



**Trail Nexus:**  
Area of future  
Wilderness  
Gateway Trail  
intersection

McDowell County  
Rutherford County

**Features**

- Active Railroad
- Floodplain
- Public/Private Conservation Lands

**Potential Rail-Trail Alignment**

- Abandoned RR Corridor
- Public or Conservation Land
- Private Landowners on both sides
- Box Creek Rd Option

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*

*Short bridge crossing of Stoney Creek would likely need to be constructed at this location if utilizing the abandoned railroad corridor.*

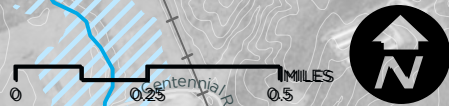
*Need input from landowners regarding preferred routing.*

**Distance:** 2.3 miles (abandoned railroad corridor) or 2.6 miles (Box Creek Rd)

**Implementation Partners:** Foothills Conservancy, private landowners, private campgrounds, NCDOT, NC State Parks, Rutherford County, Rutherford Outdoor Coalition, Rutherford County Tourism Development Authority

*Old railroad trestle (350' in length) still stands today. Further analysis needed to examine opportunities/challenges for a new bridge crossing at this location.*

**Union Mills**

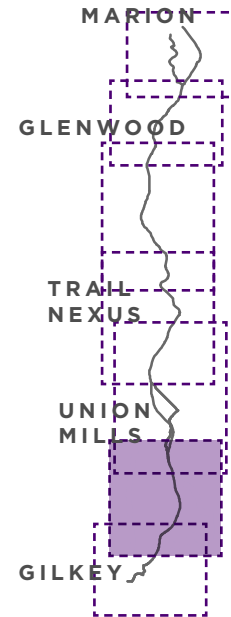




POTENTIAL RAIL-CORRIDOR ALIGNMENT

# RUTHERFORD COUNTY PHASE 2B: UNION MILLS TO HEARTHSTONE

Map ID	Notes
1	Several large landowners along this section are between the Hearthstone subdivision and Union Mills. Depending on precise alignment, 7-20 landowners would need to participate in order to complete the connection between Union Mills and the Hearthstone neighborhood.
2	An old railroad trestle (800' in length) over Cherry Creek still stands today. Further analysis would be needed to examine opportunities/challenges for a new bridge crossing of Cherry Creek at this location.
3	Hearthstone HOA holds a 0.5 mile sliver (25' wide) of the abandoned railroad corridor through the Hearthstone subdivision. Hearthstone is a gated private subdivision and any utilization of the abandoned corridor for trail connectivity would require a partnership with the Hearthstone HOA.

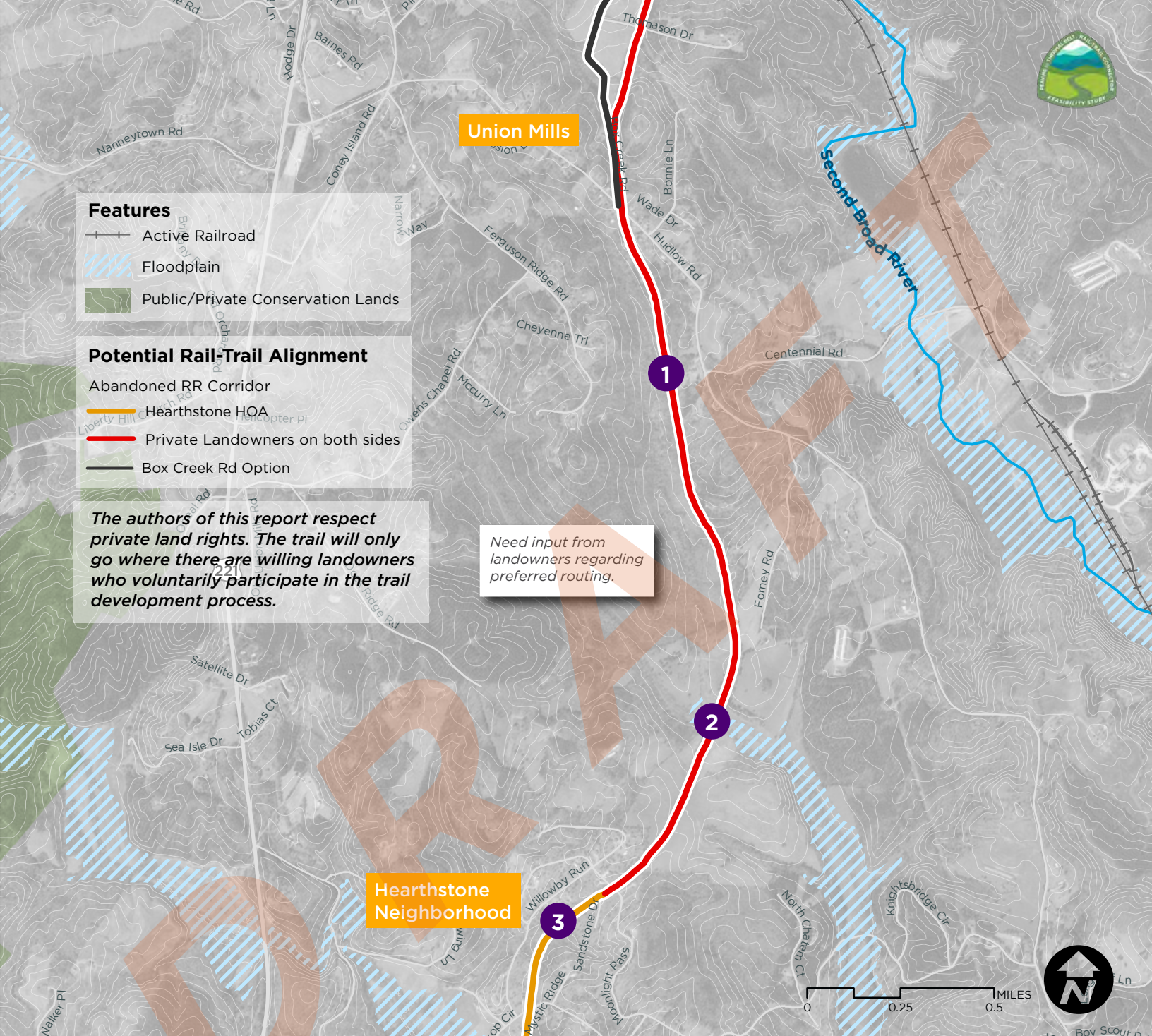


**Distance:** 2.5 miles (Box Creek Rd to Hearthstone Neighborhood)

**Implementation Partners:**  
Rutherford County, Rutherford Outdoor Coalition, Foothills Conservancy, private landowners, Hearthstone HOA, Rutherford County Tourism Development Authority



*Community pocket park in abandoned railroad corridor space at the Hudlow Rd/ Box Creek Rd intersection in Union Mills. Old railroad ties used in landscaping.*



**Features**

- Active Railroad
- Floodplain
- Public/Private Conservation Lands

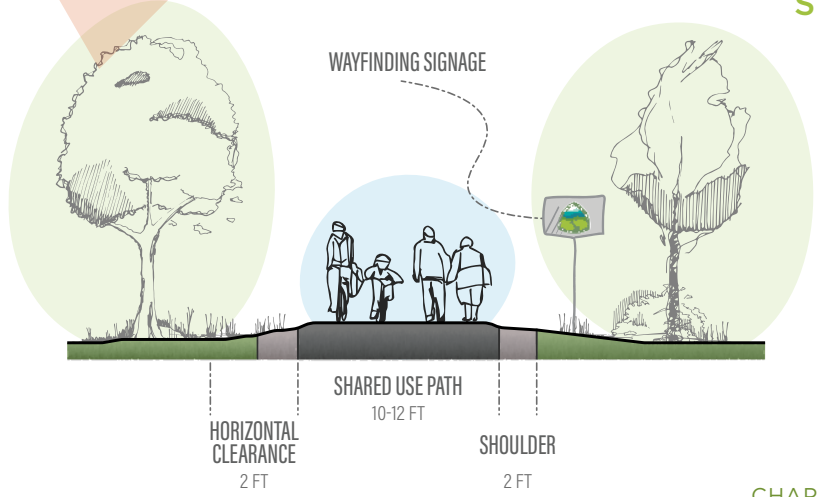
**Potential Rail-Trail Alignment**

- Abandoned RR Corridor
- Hearthstone HOA
- Private Landowners on both sides
- Box Creek Rd Option

*The authors of this report respect private land rights. The trail will only go where there are willing landowners who voluntarily participate in the trail development process.*

*Need input from landowners regarding preferred routing.*

**Potential Trail Cross-Section**



**SHARED USE PATH**  
(RAIL-to-TRAIL)

**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

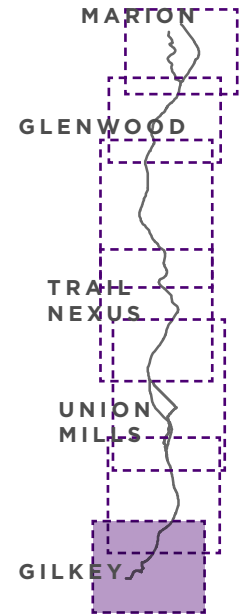
**PREFERRED WIDTH:**  
10-12 ft



POTENTIAL RAIL-CORRIDOR ALIGNMENT

# RUTHERFORD COUNTY PHASE 1: THERMAL BELT RAIL TRAIL EXTENSION TO HEARTHSTONE

Map ID	Notes
1	See note #3 on the previous page regarding the Hearthstone HOA section.
2	An old railroad trestle (800' in length) over Catheys Creek still stands today. Further analysis is needed to examine opportunities for a new bridge crossing of Catheys Creek at this location, or alternative routing onto Candace Dr over Catheys Creek. Agreements with up to four landowners would be needed to utilize the abandoned railroad corridor between the Hearthstone HOA and Justice Rd.
3	This section would be a short greenway connector along a power line between the abandoned railroad corridor and Justice Rd. This would require an agreement with one landowner as well as Duke Energy.
4	This section would be a residential sidepath connection along Justice Rd and Oak Springs Rd, connecting to the Thermal Belt Rail Trail. The abandoned railroad corridor is unavailable along this section as it is now used as an internal road in the Gilkey Lumber Company facility.

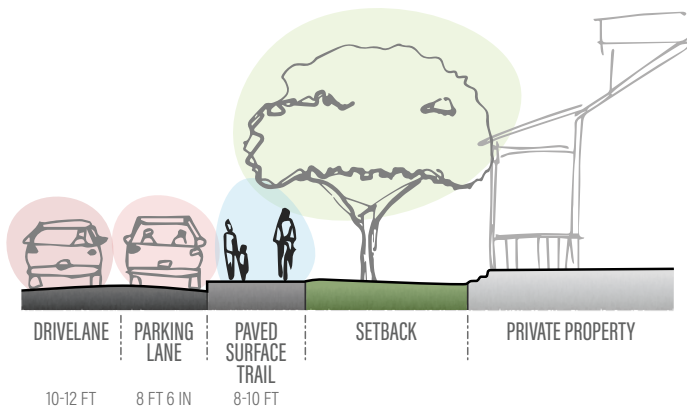


**Distance:** 1.4 miles  
(Hearthstone HOA to Thermal Belt Rail Trail)

**Implementation Partners:**  
Rutherford County, Rutherford Outdoor Coalition, Foothills Conservancy, private landowners, Hearthstone HOA, Duke Energy, Rutherford County Tourism Development Authority

## Potential Trail Cross-Section

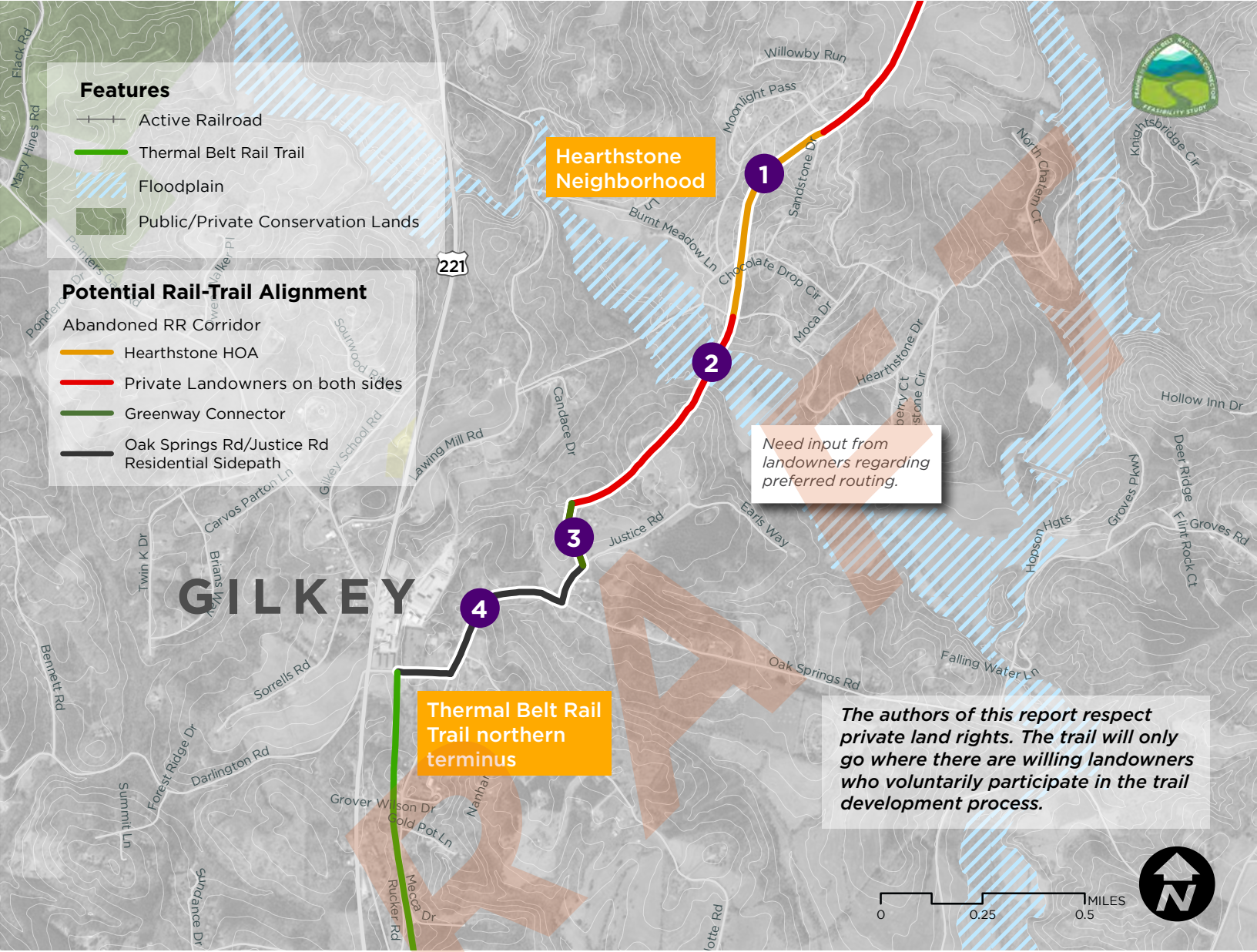
### 4 RESIDENTIAL SIDEPATH



**USER GROUP:**  
Multi-Use

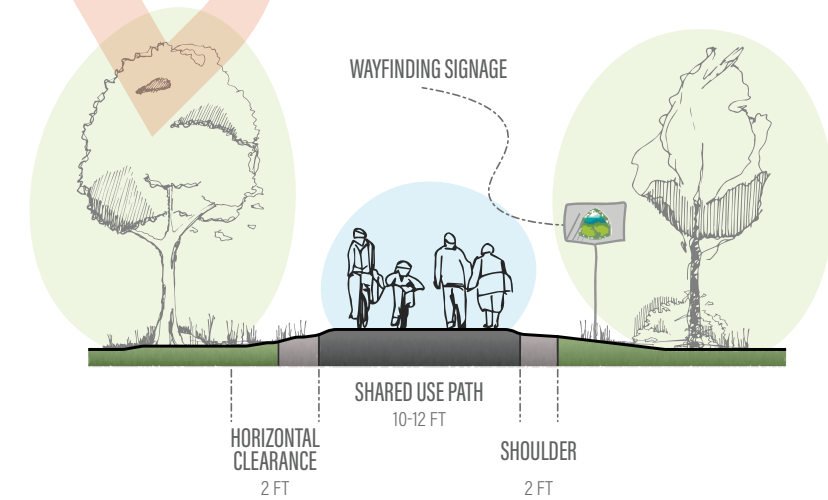
**MATERIAL:**  
Concrete

**PREFERRED WIDTH:**  
8-10 ft



### Potential Trail Cross-Section

#### SHARED USE PATH (RAIL-to-TRAIL) 1 2 3



**USER GROUP:**  
Multi-Use

**MATERIAL:**  
Paved Asphalt; optional: paved or crushed gravel fines

**PREFERRED WIDTH:**  
10-12 ft

## RECOMMENDED NEXT STEPS

### OVERVIEW

The trail corridor analysis in the previous chapter provides the framework for the study, while the following action steps provide a guide for the identified agencies and jurisdictions to further refine. It is important for positive, successful action to take place in order to build momentum and gain support on a regional level. Most importantly, the local governments within the region need not accomplish this project by acting alone; success will be realized through collaboration with state and federal agencies, the private sector, and non-profit organizations.

Given the massive economic challenges faced by local government as part of the COVID-19 pandemic (as well as their state, federal, and private sector partners), it is difficult to know which financial resources will be available. It may be that there are limited resources for this type of project 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 below takes into account short-term next steps, followed by steps to take if the project is to be implemented.

For example, there are still many important actions that could take place in advance of major investments, including landowner meetings, 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.

### SHORT-TERM NEXT STEPS

#### *CONTINUE PUBLIC ENGAGEMENT FOR THE PROJECT OVERALL.*

1. Coordinate with project committee member organizations that have existing relationships with local landowners (such as the Foothills Conservancy of North Carolina).
2. Set up a handful of one-on-one landowner interviews, in-person, if possible. Discuss the broad vision of the trail project. Listen to (and learn from) landowner ideas and concerns. One such sample interview took place during this study, and could be replicated for further input.
3. During the one-on-one meetings, ask landowners to recommend 2-3 other additional people to talk to along the corridor. Invite them to participate in a public open house, and ask them to personally invite neighbors, or others along the corridor, to join.
4. Once COVID-related meeting restrictions are no longer an issue, promote and host an in-person public workshop(s). Discuss overall vision, potential benefits of the project, and pros/cons of different alternatives, and gather input on preferred alternatives. Consider also gathering input on project branding and trail-naming during the workshops.
5. Promote the project website to help spread the word about the study and gather public input.
6. Keep an official record of public engagement overall, including input collected from the project website comment box (comments submitted through the website go to the Isothermal Rural Planning Organization). Meeting notes, comments submitted, news articles, and other public outreach records could eventually be added as a future addendum to this study.





## ***CONTINUE ESTABLISHING LOCAL AND REGIONAL SUPPORT FOR THE PROJECT.***

7. Present this study to the governing bodies of stakeholder organizations and agencies (including those represented on this study's Steering Committee), such as the Isothermal RPO, McDowell County, Rutherford County, Marion, Rutherfordton, Spindale, Forest City, McDowell Trails Association, Rutherford Outdoor Coalition, the Foothills Conservancy of North Carolina, NCDOT, NC State Parks, local tourism and economic development partners, community health partners, and local civic groups. Some of these partners could be gathered for a single presentation. Others may require individual presentations.
8. Seek positive media stories that illustrate the benefits of the trail project to the wider community.
9. Organize a trail event to get the public excited about what the trail will become.
10. Identify a high-profile local champion such as an elected official or community leader.
11. The McDowell Trails Association and Rutherford Outdoor Coalition could play a key role in the steps above, with their established groups of supporters.

## ***SECURE STATEMENTS OF SUPPORT FOR THE PROJECT OVERALL***

12. Select a representative from each of the stakeholder groups, and provide them with an example letter of support for the project overall. The example letter should be written in a way that reflects the desire to work with willing landowners. It should also be framed in support for the trail in concept, rather than a specific alignment. Ask them to secure a letter of support from each of the groups they represent.
13. For public agencies, seek an official resolution of support for the project. 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.



## IMPLEMENTATION ACTION STEPS

### **STEP 1: IDENTIFY OR DEVELOP A GROUP THAT WILL CHAMPION AND MANAGE THE PROJECT**

For successful implementation and operations, the PTC will require regional management. The proposed PTC trail will be a multi-jurisdictional project traversing two counties and connecting multiple municipalities and small communities. One centralized managing group is needed to plan, develop, and maintain facilities, as well as interface with the general public.

#### ***Designate a Project Lead within an Existing Organization***

It is recommended that this effort initially be housed within an existing organization, such as the Isothermal Planning and Development Commission, or within a non-profit that operates regionally, such as a land trust. The idea would be to start small, with one designated lead staff person focused on an initial trail segment. The goal would be to establish and maintain good working relationships between various stakeholders, jurisdictions, and landowners with regard to the pilot sections.

#### ***Organize an Implementation Committee***

The designated project lead 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 policy decisions and establishing a line of two-way communication. 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. The

designated project lead would call quarterly meetings and set the agendas. Although the initial focus would be on a priority segment of trail, the committee could also be tasked with assisting in addition trail easements, funding applications, and overall promotion of the project.

The quarterly meetings would be open to the public, providing local landowners and trail users a forum to address issues and concerns regarding the project.

#### ***Grow Project Staff as the Trail Grows***

As the trail is built over time, and as it eventually connects to the Peavine Trail and Thermal Belt Rail-Trail, it may make sense to combine these trails into a single entity to be managed and maintained by a single group. An independent trail organization could be created with an Executive Director and/or full-time Trail Ranger. These positions would have authority to perform supervisory and managerial functions similar to those of a State Park Superintendent. The staff would need a centrally located office, preferably within a partner organization's office or a location situated along the rail-trail corridor. This office would be a centralized location for the region to address questions, concerns, and complaints about the project, regardless of their jurisdiction.

The Trail Ranger would be in charge of the daily management, operations, and maintenance of the trail. Administratively, they would answer telephone calls, conduct meetings, dispense information, coordinate with the jurisdictions, and manage seasonal and part-time staff.

On-site, full-time staff would be responsible for collecting trash, cutting grass, opening and closing the entrance gates daily, leading group outings, and performing necessary maintenance tasks. These duties would be performed in conjunction with trail security, enforcement of regulations, and routine patrol of the trail.



Part-time/seasonal staff may be needed to assist the Trail Rangers in the summer months. College students seeking work experience to supplement studies in the fields of recreational planning, environmental sciences, and governmental affairs could fill these positions at minimal cost. Americorps Project Conserve staff could also play a key role.

### ***Build Partnerships with Land Trusts***

Expanded, long-term responsibilities of the management group, with respect to this project, should include land acquisition either by purchase or solicitation of donations and easements for conservation purposes. Ideally, the group would partner with a local/regional land trust, organized to receive and administer lands for conservation purposes, and qualified to receive charitable contributions pursuant to G.S. 105-130.9. This structure would allow interested private property owners to dedicate additional lands to the program and receive tax credits and deductions for their donations.

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.

## **STEP 2: CONFIRM CORRIDOR OWNERSHIP AND CONDITION**

### ***Continue Research to Confirm Rail Corridor Ownership***

Build from the initial findings outlined in Chapter 1 of this report. For complete property ownership information, a title company or attorney should be engaged to conduct a title search. They could trace current deeds along the railroad corridor to ensure that public information is accurate, including the examination of land acquisition records from the late 1800's for the corridor in both Rutherford and McDowell County's Register of Deeds. These searches are labor and time intensive.

### ***Conduct a Comprehensive Survey of the Rail Corridor***

To ascertain exactly what infrastructure is along the railroad corridor, a licensed surveyor should perform a ground survey of the railroad right-of-way prior to trail design. Additionally, right-of-way limits shown on the valuation maps should be compared with tax maps and other graphic public records to be shown on the survey. A current survey of the corridor will provide the necessary information to begin trail design.

*Note: Local stakeholders wishing to contact CSX regarding rail with trail opportunities (for those sections of the abandoned rail line in the active CSX line right of way) should reach out to Neil Perry and the NCDOT Rail Division first.*

## **STEP 3: WORK COOPERATIVELY WITH ADJACENT PROPERTY OWNERS.**

### ***Learn from Other Greenway and Rail-Trail Projects***

For similar rail-trail and greenway projects, common concerns have been expressed by existing landowners wanting to protect themselves from unwanted encroachment and loss of privacy. A related issue of concern is the effect that development of a trail will have on the property values in the area. Although it is fairly difficult to attribute the worth of a property based on a single factor, real estate agents typically rate the proximity of a parcel to quality parklands and open space as a factor that increases property value. Some landowners, however, are not convinced of this and fear decreased values.

Through proper planning, design, on-going maintenance, and enforcement of established rules and regulations, rail trail projects across the country have demonstrated increases in surrounding property values. Examples to this effect are included in Chapter 2 of this study.

The following steps should be taken to work cooperatively with adjacent landowners.



### ***Work with Individual Property Owners to Meet Their Needs***

- Members of the trail implementation committee should meet with adjacent property owners who express concerns regarding the proposed project. Ideally, one-on-one meetings will occur on site, at each residence, to assess firsthand the relationship between the home and the corridor.
- Representatives should listen to the individual concerns of each landowner.
- Together, representatives and property owners should develop alternatives for resolving site-specific problems.

### ***Limit Public Access To Private Land***

- Trail users must be educated to respect the rights of private property owners. Trail signage and literature must prominently read: *“Stay on the trail. Do not trespass.”*
- Trail users who do not follow this rule should be fined.
- As part of the project, accommodations such as fencing and vegetative screening should be provided where necessary and feasible to deter trail users from leaving the trail.

### ***Allow For Private Cross-Access***

- Private property owners should be provided access across the trail as needed. All existing drives that cross the corridor should be allowed to remain. For new access, landowners must make a formal encroachment request to the trail management authority before constructing paths or driveways. All reasonable requests should be honored.
- Uniform standards should be developed for all trail route signing. The signage package should include a *“Private Property: Do Not Enter”* sign for use where private drives intersect with the trail.

### ***Provide Trail Amenities***

- Adequate public parking, restrooms, water facilities, and other amenities should be provided along the corridor route for trail users.
- Privacy buffers should be installed as necessary to screen views onto private properties. Combinations of fencing and landscaping should be considered to meet the needs of adjacent property owners.

### ***Protect Property Values***

- Develop and maintain a high-quality facility that will increase property values in the area.
- An Adopt-a-Trail program should be established to keep the corridor free of litter and trash. Under this program, volunteer groups may undertake other efforts to improve the aesthetic quality of the corridor, by planting wildflowers for example.
- Not permitting motorized use, closing the trail at dusk, and enforcement of these regulations will stop any noise disturbances caused by existing illegal uses of the corridor.

### ***Start With The Lowest-Hanging Fruit***

- Phased project implementation should begin where reaction to the proposed project is the most positive and the need for a recreation and transportation trail facility is the strongest – such as at the existing northern terminus of the Thermal Belt Rail Trail.

### ***Monitor Progress And Be Responsive To Complaints***

- Progress of trail development should be monitored. Records should be kept of any and all complaints and criminal activities associated with the project. All problems should be addressed immediately and solutions should be developed to prevent problems from occurring again.

## **STEP 4: SEEK MULTIPLE FUNDING SOURCES.**

Achieving the vision that is defined within this plan will require a stable and recurring source of funding. Communities across the county that have successfully engaged in trail programs have relied on multiple funding sources to achieve their goals. No single source of funding will meet the recommendations identified in this Plan. Instead, stakeholders will need to work cooperatively with all the municipalities and state and federal partners to generate funds sufficient to implement the program.

A stable and recurring source of revenue is needed to generate funding that can then be used to leverage grants dollars from state, federal and private, sources. The ability of the local agencies to generate a source of funding for trails depends on a variety of factors, such as taxing capacity, budgetary resources, voter preferences, and political will. It is very important that these local agencies explore the ability to establish a stable and recurring source of revenue for trails.

Federal and state grants should be pursued - along with local funds - to pay for trail ROW acquisition, design, construction, and maintenance. “Shovel-ready” projects should be prepared in the event that future federal stimulus funding occurs. Recommended funding sources may be found in the appendix of this study.

### ***Engage Private Funding***

The fastest emerging funding source for trail development is the private sector. Philanthropic organizations, corporate and family foundations, non-profit organizations and corporations have stepped up their involvement in greenway facility development.

This trend is occurring for various reasons, including support for improvements to quality of life, health and wellness, alternative transportation, conservation of natural resources and economic development. Consider the following steps when engaging private funding for this project.

### **1. DEVELOP THE “PITCH.”**

**This study can become part of the pitch, particularly the benefits outlined in Chapter 2, the alternatives maps, and the letters of support from local and regional stakeholders.**

### **2. MAKE THE “ASK.”**

**The team making the ask should expect to work extremely hard in advance of the ask, delivering the pitch to all participants, so that when the time comes for the ask, the results will be more or less expected.**

### **3. LEVERAGE A “LEAD GIFT.”**

**A lead gift from a prominent and respected local project sponsor signifies the importance of the project throughout the entire community, and can be used to leverage other private funds, and/or as a match for public sector grants.**

### **4. CREATE AN INVITE LIST**

**Continue to build momentum by asking additional organizations. Create a “short list” of invitees from additional groups, organizations and entities to help leverage the lead gift.**



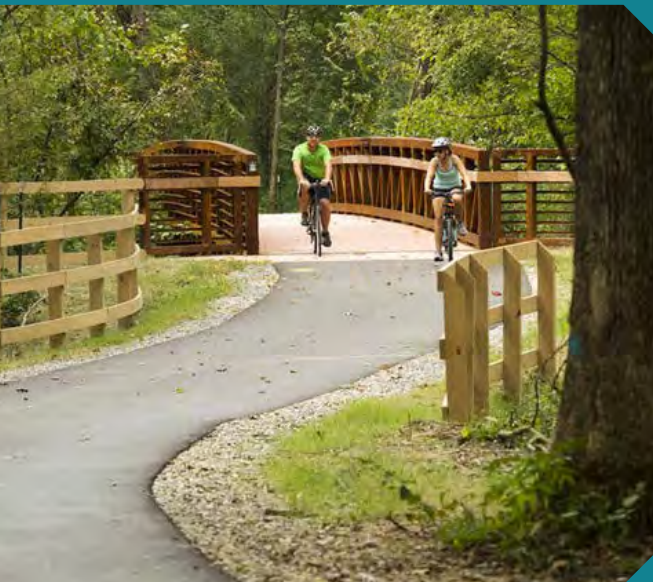
## PRIVATE FUNDING CASE STUDIES



### RAZORBACK GREENWAY

In Northwest Arkansas, the Razorback Regional Greenway was conceived by the Northwest Arkansas Regional Planning Commission as a network of primarily on-road trails spanning the two-county region (Benton and Washington counties). In 2009, the Walton Family Foundation stepped in and spearheaded a public-private partnership that resulted in the development of a 36-mile, primarily off-road, world class regional greenway.

The Razorback Regional Greenway was funded from a combination of public and private funds, including a US-DOT TIGER 2 grant of \$15 million, and a dollar for dollar gift from the Walton Family Foundation of \$15 million. Other grant funds were added later bringing the total funding to more than \$40 million. Without the lead gift from the Family Foundation, the project would never have happened. The Foundation based its gift on two community goals: 1) improve the health of local residents, and 2) support economic development throughout the region to keep Northwest Arkansas competitive for years to come. The 36-mile Razorback Regional Greenway was officially completed and opened for use in May 2015.



### WOLF RIVER GREENWAY

In Memphis, Tennessee, the 36-mile Wolf River Greenway has been the brainchild of the Wolf River Conservancy (a non-profit land trust based in Memphis) for more than 35 years. Using a traditional approach of relying on public sector leadership and funding to build the project, the Conservancy became frustrated with the glacial pace of greenway facility development - in 35 years, approximately 5 miles of trail had been completed. In 2014, the Conservancy decided to fund the development of 22 miles of the trail within the Memphis city limits using private sector funds. As of 2016, the Conservancy raised approximately \$40 million in support of facility development, with more than half of that coming from private sector sources. The Conservancy then leveraged the private sector support to gain public sector support from the City of Memphis and Shelby County. The Conservancy is now in the process of designing, permitting and building the entire 22-mile Memphis portion of the Greenway.

## STEP 5: BEGIN TOP PRIORITY PROJECT DESIGN.

Once a trail segment is selected and land acquired, trail design typically follows. Develop construction contract documents for a Phase 1 of the trail. Work closely with a design consultant to ensure the contract documents are being developed according to this plan's recommendations; state, local, and federal permitting issues; design specifications; and budget costs. It will be essential for the designated management entity to supervise this very important step.

Preliminary site plans should be reviewed by multiple stakeholders - including the Implementation Committee and emergency service personnel - so they can offer suggestions, and guidance. It is important

to have their voices heard from the very beginning. It is also imperative that cost saving measures be a part of design, with a thorough review of the plans to identify such measures while they are still in a preliminary stage.

## STEP 6: BEGIN TOP PRIORITY PROJECT CONSTRUCTION.

With existing available funds, award a construction contract for Phase 1 of the trail. Develop a predetermined timeline for construction completion. The design consultant can provide assistance by helping to facilitate the bidding process. Depending on funding sources, the contractor may need to be selected through a formal bidding process in which the project scope and parameters are publicly defined.



### **Project Development Process**

*These are the steps typically involved in trail development. Certain funding sources may have additional requirements, and some steps may occur simultaneously or in a different order. See appendix for design and funding resources.*



## PROJECT DEVELOPMENT GUIDANCE

A high-level assessment of scoping/design needs and range of costs are provided below, based on the potential rail-trail alignment outlined in the previous chapter.

This high-level scoping/design/cost information is by no means a substitute for true scoping and design of this project. Because the study corridor generally follows a former rail-line, the project would likely be a lower cost and less challenging implementation process from a permitting/environmental standpoint than a trail that follows a stream or floodplain. This is because the grade and subsurface are often adequate for fairly easy

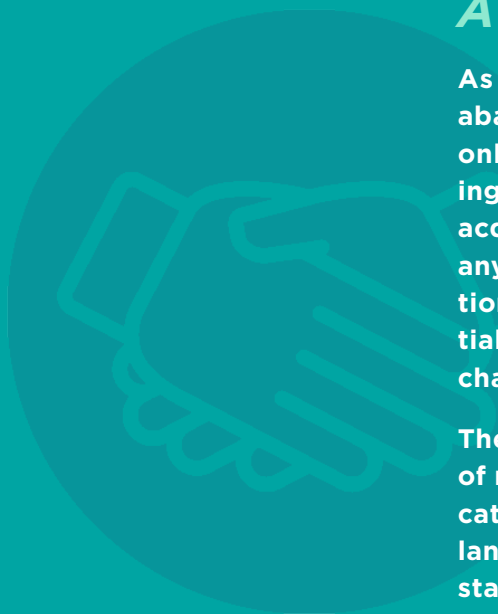
trail development. However, a full-detailed analysis is needed; in addition, acquisition is likely to be a challenging and lengthy process.

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.





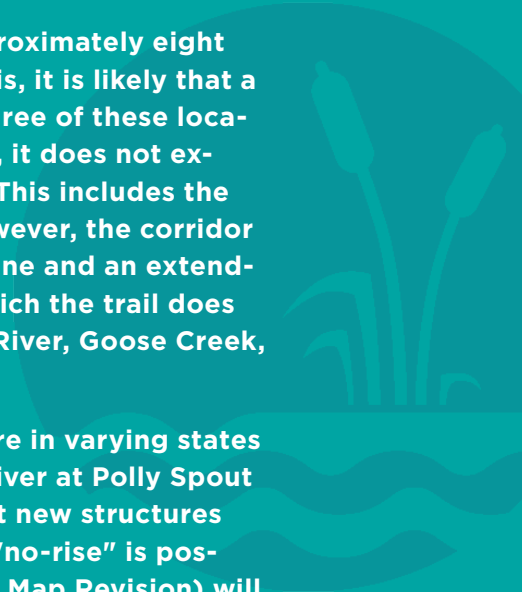
## ACQUISITION



As discussed in this plan, it is highly likely that when this rail corridor was abandoned, property ownership reverted back to landowners. This can only be confirmed through the future work of a legal specialist. Assuming that likely scenario, trail easements or properties would need to be acquired along the corridor. Depending upon the ultimate trail alignment, anywhere between 35-97 properties would be crossed. Property acquisition services would need to be included in the design fee and would potentially include survey, appraisals, acquisition negotiation, recording, purchase price, and ROW certification coordination.

The acquisition process can take a considerable amount of time, upwards of multiple years. As described in this plan, conversations and communications can begin through this planning process and the work of a local land trust or agency. It is recommended that the trail be built in phases, starting with portions of the trail that already fall in public ownership and/or with landowners who are willing to cooperate.

## FEMA COMPLIANCE



The rail-trail corridor crosses through an AE floodplain at approximately eight locations, but does not pass through floodway. Because of this, it is likely that a limited detailed study (LDS) is all that would be needed. In three of these locations, while floodplain is present on both sides of the corridor, it does not extend across the corridor (likely because of railroad grading). This includes the Catheys Creek, Cherry Creek, and Youngs Fork crossings. However, the corridor traverses parallel to the Second Broad River near the county line and an extended portion of floodplain. The other floodplain crossings in which the trail does pass through floodplain include Stoney Creek, Second Broad River, Goose Creek, and North Muddy Creek.

Because the existing/remaining bridges over the waterways are in varying states of condition (and in at least one location, the Second Broad River at Polly Spout Road, the bridge no longer exists), it is possible and likely that new structures will be needed. Modeling would be needed to determine if a "no-rise" is possible; if it is not possible, then a CLOMR (Conditional Letter of Map Revision) will be required. Flood modeling and FEMA/NCFPM coordination will be needed in the design budget along with FEMA fees.

*Rail-trail corridors (like the American Tobacco Trail, opposite page), have grade and subsurface that are often adequate for fairly easy trail development. Photo source: Alta Planning + Design.*



## *THREATENED AND ENDANGERED SPECIES*

Surveys for threatened and endangered species need to be included in design. An environmental expert can determine which, if any, species may be impacted along the corridor. There are four mammals, one reptile, three flowering plants, one conifer, one lichen, and one clam that are currently endangered, threatened, or under review in McDowell and Rutherford counties. Depending on the species, the surveys can be labor and budget intensive. NEPA regulations will apply with federal funding.

## *WETLANDS AND WATERWAYS*

There are eight (8) waterway/creek crossings along the potential rail-trail corridor. As described above, because remaining bridge structures will at least need significant upgrades, there will be potential impacts to the waterways, thus triggering the need for 401 and 404 permits. In addition, three of the creek crossings (Cherry Creek, Camp Branch, and Goose Creek) are designated as freshwater forested/shrub wetland. Because bridges will need to be included, structural, geotechnical, and hydraulic design services may be needed for the design and construction.

## *STRUCTURAL/BRIDGES*

During this study, ten bridges were found along the corridor, stretching a total of 3000' in length. A structural expert will be needed to assess the bridge conditions and determine if they can be rehabbed or any portion of the bridge structure be used. In some cases, rehabbing an existing bridge can be just as costly as a new bridge.

## COST CONSIDERATIONS

Without a more detailed analysis, a rough determination of potential costs is challenging. For that reason, only a wide range is provided with some elements broken out.

### ACQUISITION

There are multiple forms of acquisition ranging from fee simple purchase of the corridor to other transactions. In order to estimate acquisition costs in a fee simple purchase or similar, fifteen parcels along the study corridor were selected and land values/acre averaged (data from Rutherford County and McDowell County). The average value per acre was \$2,130. In addition, current listings for properties within a reasonable distance from the corridor ranged widely between \$2,000/acre and \$25,000/acre. Potential acquisition costs could then ultimately range between \$250,000 and \$1.7 million (calculated for a 50' trail corridor/easement). If the project is federally funded, it will be required to follow those procedures for ROW acquisition.

### BRIDGES

Bridges can be a significant added cost. Using 2019 bids, a per unit foot cost for prefabricated bridges is \$3,000/linear foot. Given that bridges span roughly 3,000 feet, a total bridge cost could be around \$9,000,000. This number could range dramatically depending upon each stream crossing and necessary analysis.

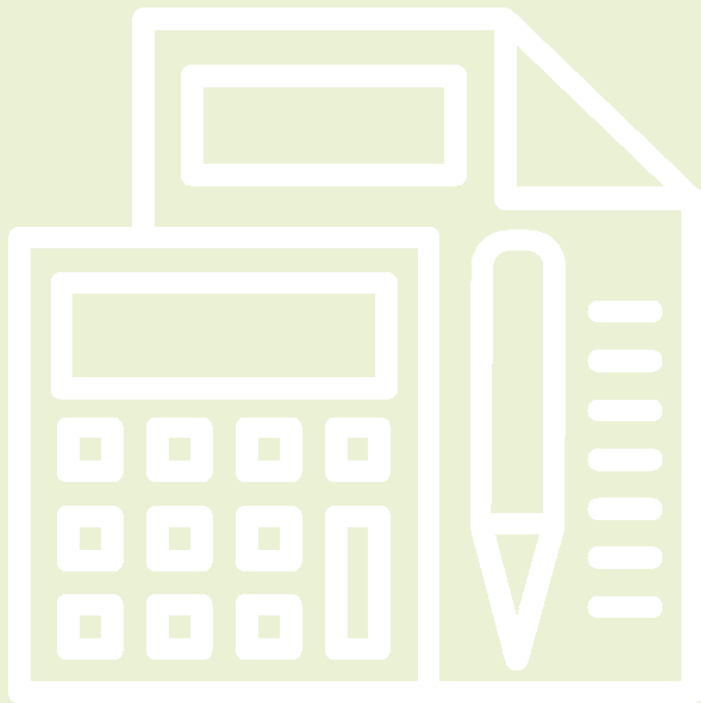
### CONSTRUCTION OF TRAIL CORRIDOR (NON-BRIDGE SECTIONS)

Following recent bids for similar projects and including escalation because of unknown construction date, it is likely that 19 miles of asphalt surface could average around \$1 million per mile. For simplicity's sake at the release of this first draft, roughly \$19 million is assumed for the corridor. This number could range widely based on economic circum-

stances, existing rail bed and sub-base condition, and other impacts that could only be determined in detailed analysis and design. In addition, it may be determined that the trail surface would be crushed gravel fines which would lower the cost dramatically. With that said, the cost could range from \$10 million to \$30 million.

### DESIGN/SURVEY/PERMITTING

Typically, design/survey/permitting can range from 15-20% of a construction budget. Assuming a \$28 million project (asphalt trail plus bridges), the design/survey/permitting fees could exceed \$4 million.





## TRAIL EASEMENTS EXPLAINED

This section was provided by the Foothills Conservancy of North Carolina, a nationally accredited land trust with an eight-county service region including McDowell and Rutherford counties. It is written and intended for use in communicating with landowners about trail easements.

### WHAT IS A TRAIL EASEMENT?

A mutual, legal agreement between a land owner and a public or private agency that allows a public trail and trail users to cross over private property.

### HOW DOES IT WORK?

The landowner retains ownership of his/her land and sets the terms for the design and use of the trail. Trail easements can be tailored, by the landowner, to reserve certain uses while restricting other uses of the land that would interfere with the trail route.

#### *Common Reserved Uses include:*

- Fences, gates, and barriers to control access to the trail.
- Limiting use of the trail, by the general public, to certain hours of the day.
- Selecting desired user types (hikers, bikers, horses, backpackers, etc.)

#### *Common Restricted Activities include:*

- Dumping
- Subdivision development
- Agricultural use of easement area

### HOW LONG DOES IT LAST?

After being signed by both the owner and the holder, the easement document is recorded in the county recorder of deeds office to ensure that future owners are informed of the easement. The easement remains in force even if the land subject to the easement changes hands.

### WHAT DOES A TRAIL EASEMENT COST?

The donation of a trail easement by owners to a holder may qualify as a charitable donation of a partial interest in real estate for federal income tax purposes if certain conditions are met. The landowner should seek appropriate tax counsel to determine eligibility.

### WHAT ARE THE BENEFITS?

By providing trails for public use, owners may reduce trespassing issues. Several factors play into this result:

- Public access brings responsible people to the property—people who want to respect and care for the land they are enjoying.
- Responsible users provide eyes on the property that discourage would-be trespassers from engaging in activities previously invisible to the public eye.
- Some of the people who had been trespassing will prefer to act responsibly and, given rules on time, place and manner of entry, will abide by them to merit the privilege of legally accessing the property.

In addition, by entering into an easement with a responsible public or private nonprofit, the owners can shift some of the burdens of controlling access and managing risks to the holder.

### MORE INFORMATION

Contact Foothills Conservancy of North Carolina: Email: [info@foothillsconservancy.org](mailto:info@foothillsconservancy.org); Phone: 828-437-9930; Address: 204 Avery Ave, Morganton, NC 28655.

*Opposite: Thermal Belt Rail-Trail.  
Photo source: Rutherford  
Outdoor Coalition.*



## 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://www.railstotrails.org/resourcehandler.ashx?id=2982>

#### **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):**

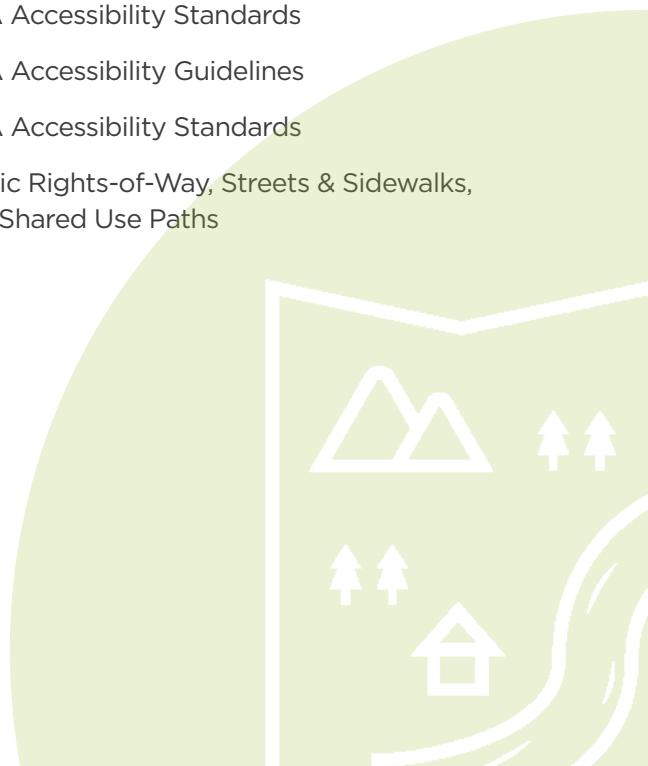
- Urban Bikeway Design Guide
- Urban Street Design Guide

#### **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 Complete Streets, including the Complete Streets Planning and Design Guidelines
- 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:**

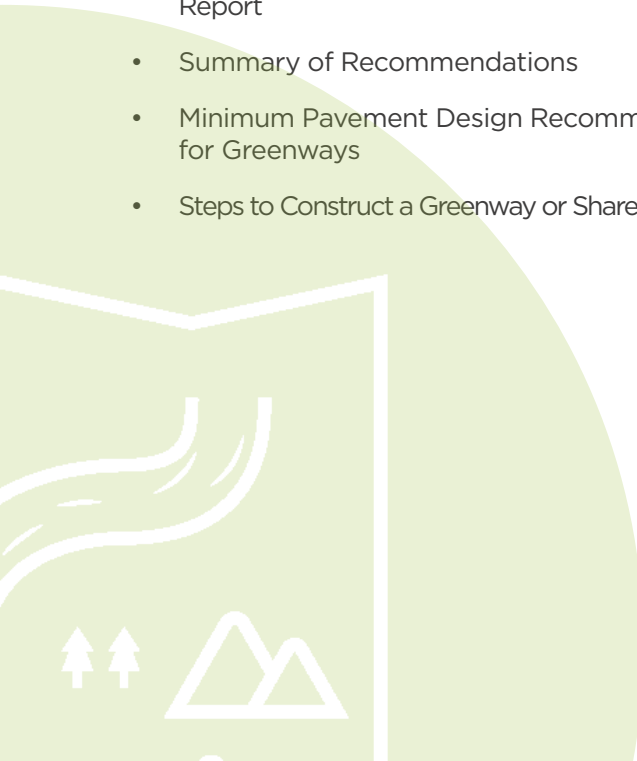
- Achieving Multimodal Networks (2016)  
[https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/multimodal\\_networks/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/)
- Separated Bike Lane Planning and Design Guide (2015)  
[https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/separated\\_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:

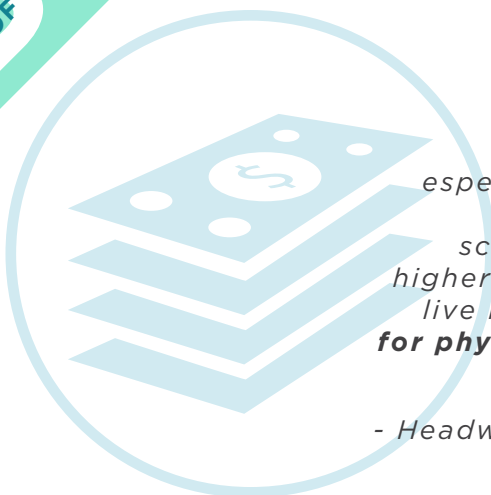
<http://ruraldesignguide.com/>

Section specific to side paths:

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



# 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%</b> <b>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>



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 western North Carolina trail that provides economic, health, and environmental benefits to its region. Photo source: Alta Planning + Design.*

## FUNDING RESOURCES

### *for the PEAVINE to* **THERMAL BELT RAIL-TRAIL**

#### 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>

## ***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>

## **OTHER FEDERAL FUNDING SOURCES**

### **BUILD TRANSPORTATION DISCRETIONARY GRANT PROGRAM**

The Consolidated Appropriations Act of 2019 appropriated \$900 million for National Infrastructure Investments previously known as TIGER grants, and now called BUILD Transportation grants. As with previous rounds of TIGER, funds for the FY2019 BUILD Transportation program were awarded on a competitive basis for projects that will have a significant local or regional impact. The grant application for FY 2020 will close on May 18.

DOT intends to award up to 50% of BUILD Transportation grant funding to projects located in rural areas that align well with the selection criteria. The FY 2020 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. 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.

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



### **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 permanent 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.

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 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.ncforestservice.gov/Urban/urban\\_grant\\_program.htm](https://www.ncforestservice.gov/Urban/urban_grant_program.htm)

## APPALACHIAN REGIONAL COMMISSION

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

- Goal 1: Economic Opportunities - Invest in entrepreneurial and business development strategies that strengthen Appalachia's economy.
- Goal 2: Ready Workforce - Increase the education, knowledge, skills, and health of residents to work and succeed in Appalachia.
- Goal 3: Critical Infrastructure - Invest in critical infrastructure—especially broadband; transportation, including the Appalachian Development Highway System; and water/wastewater systems.

- Goal 4: Natural and Cultural Assets - Strengthen Appalachia's community and economic development potential by leveraging the Region's natural and cultural heritage assets.
- Goal 5: Leadership and Community Capacity - Build the capacity and skills of current and next-generation leaders and organizations to innovate, collaborate, and advance community and economic development.

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

For more information: <https://www.arc.gov/funding/ARCGrantsandContracts.asp>

## 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 are awarded that range from \$15,000-\$50,000. The intention of these grants is to enable an organization to complete a significant trail development or improvement project. For both types of grants, applications for projects on rail-trails and rails-with-trails are given preference, but rail-trail designation is not a requirement. The trail must serve multiple user types, such as bicycling, walking, and hiking, and must be considered a trail, greenway, or shared use path.

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

### *RHI LEGACY FOUNDATION*

RHI Legacy Foundation, Inc. supports non-profit 501(c)(3) organizations whose projects serve residents in Rutherford County, North Carolina. Their purpose of funding includes:

- Establish feasibility for a project
- Provide capital to begin or expand a project
- Insure operational support for the agency
- Build the organization’s capacity
- Provide funds for a project, program or service that meets a community need

2020 Grant Focus Areas include:

- Chronic Disease
- Healthy Eating
- Active Living

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

### *DOGWOOD HEALTH TRUST*

Guiding Principles of the Dogwood Health Trust include:

- Keep People and Communities First. We honor the diversity of lived experiences across Western North Carolina by listening to understand before seeking to be understood.
- Pursue Strategic and Systemic Change. We seek to catalyze transformative, multigenerational impact through data-informed and culturally competent decisions.
- Be Accountable Stewards of Dogwood’s Resources. We assume responsibility for making decisions that marshal the Trust’s resources for maximum positive impact.



COVID-19 Notice - The Dogwood Health Trust is committed to addressing COVID-19 and its effects in Western North Carolina. We are currently doing so through identified strategic partners and are not accepting unsolicited proposals for nonprofit operations support at this time. As new grant opportunities become available, we will share them broadly. In the meantime, if you are a human services organization providing services throughout the region, we suggest you visit the Emergency and Disaster Response Fund at the Community Foundation of Western North Carolina.

For more information: <https://dogwoodhealthtrust.org/>

### **THE COMMUNITY FOUNDATION OF WESTERN NORTH CAROLINA**

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

For more information: <https://cfwnc.org/grantseekers/about-grants>

### **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.

The Conservation Alliance Funding Criteria:

- 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.

The project should have a good chance of final success within four years.

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/grantees/available-grants/>

## **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>

## **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.

### **INNOVATIVE FUNDING OPTIONS**

Crowdsourcing “is the process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers.” An example crowdsourcing tool used locally with some success is “ioby”, which offers the ability to organize different forms of capital—cash, social networks, in-kind donations, volunteers, advocacy: <https://www.ioby.org/about>

### **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)



**PEAVINE *to* THERMAL BELT  
RAIL-TRAIL CONNECTOR FEASIBILITY STUDY**

Prepared for the Isothermal Rural Planning Organization,  
in partnership with McDowell County, Rutherford County,  
and NCDOT; Prepared by Alta Planning + Design