

# West Roanoke River Greenway Feasibility Study

**DRAFT**



ROANOKE  
COUNTYVA

September 2025 | Adopted: \_\_\_\_\_

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# Acknowledgments

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## **Roanoke County Board of Supervisors**

David Radford, Chairman, Windsor Hills District  
Phil North, Vice Chairman, Hollins District  
Martha Hooker, Catawba District  
Paul Mahoney, Cave Spring District  
Tammy Shepherd, Vinton District

## **Roanoke County Planning Commission**

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Kelly McMurray, Vice Chairman, Cave Spring District  
Troy Henderson, Catawba District  
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Frank Maguire, Former Greenway Coordinator,  
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# 1 Introduction

## 1.1 Study Purpose

The purpose of the West Roanoke River Greenway Feasibility Study is to identify multiple realistic alignments for the Roanoke River Greenway between Green Hill Park and Montgomery County. This potential extension of the Roanoke River Greenway from its current western terminus in Green Hill Park could eventually connect to a future greenway or trail in Montgomery County to form part of the Valley to Valley Trail, a concept long discussed by Roanoke Valley and New River Valley leaders that would connect the Roanoke River Greenway to the Huckleberry Trail in Christiansburg or

Blacksburg, the Riverway Trail in Radford, and the New River Trail in Pulaski. The West Roanoke River Greenway would provide a new amenity to a rural part of Roanoke County and would be equally useful for both long bike rides across the Roanoke Valley and short walks to visit a neighbor. It would improve quality of life by providing recreation opportunities, serving as a transportation corridor, and conserving sensitive ecological areas.

This feasibility study is a preliminary step in the planning process to assess the corridor's constraints and opportunities and identify general routes that are potentially viable. Once complete, the highest-priority segments identified in this study will be selected for further study. Alignments identified through

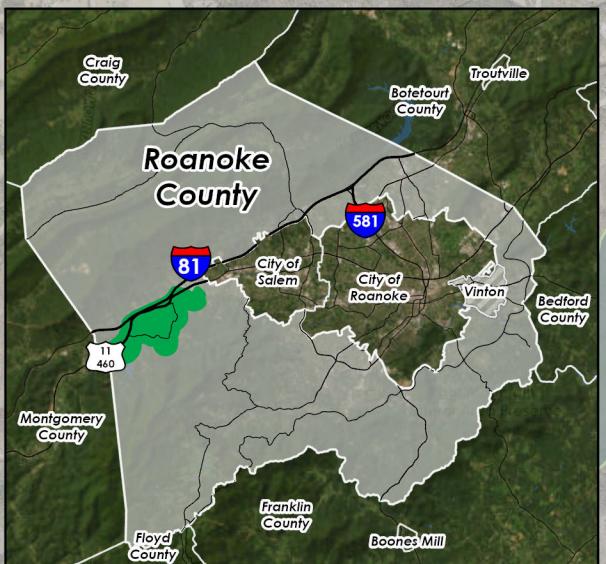
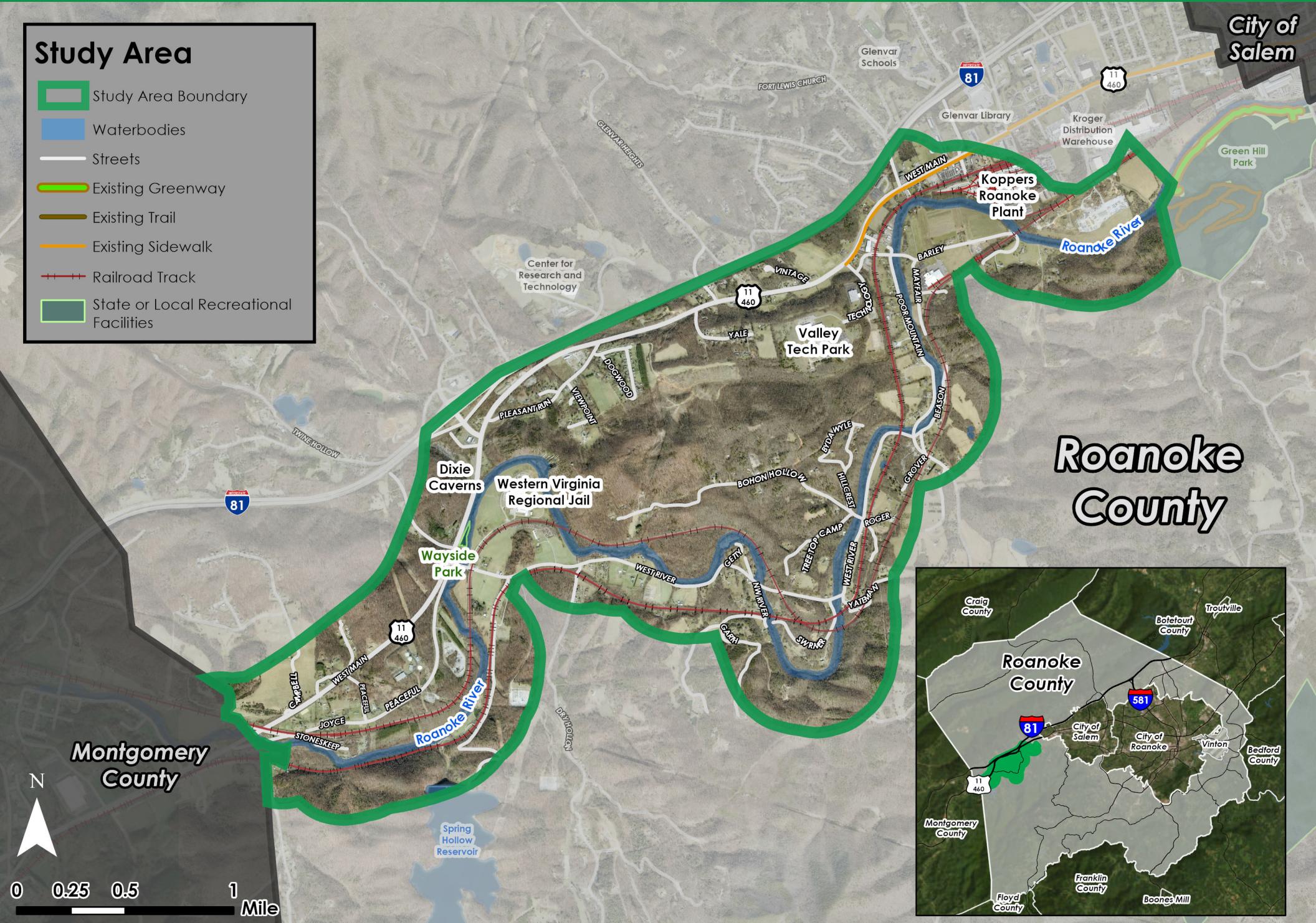
this study could change depending on findings uncovered later in the process.

## 1.2 Study Area Description

Since the goal of this study is to identify potential alignments for a future section of the Roanoke River Greenway, the Roanoke River served as the anchor location of the study area. However, due to challenging conditions in the Roanoke River corridor between Green Hill Park and Montgomery County including steep topography, a winding river path, two active rail lines, and land that is held in small parcels by many different landowners, it was necessary to consider the Route 11/460/West Main Street corridor west of Technology Drive as well. The final study area identified by the steering committee is a contiguous area



## Study Area



consisting of all territory in Roanoke County that meets at least one of the following five criteria:

- Is within ¼ mile of the Roanoke River between Montgomery County and Green Hill Park, excluding territory north of Interstate 81
- Is within the area bounded by the Roanoke River, Barley Drive, Technology Drive, Route 11/460/West Main Street, and Montgomery County
- Is within ¼ mile north of Route 11/460/ West Main Street west of Technology Drive, excluding territory north of Interstate 81
- Is between the Roanoke River and West River Road
- Is between the Roanoke River and Virginian Line railroad tracks (now owned by Norfolk Southern) west of Green Hill Park

A map of the study area can be viewed on page 6.

### 1.3 Study Process

In early 2022, Roanoke County applied for and was awarded Technical Assistance through the National Park Service Rivers, Trails, and Conservation Assistance Program (NPS-RTCA) to study potential routes for the Roanoke River Greenway between Green Hill Park and Montgomery County. NPS-RTCA staff aided Roanoke County staff in undertaking this study from beginning to end.

During the NPS-RTCA application process, the Roanoke Valley Greenway Commission, Roanoke Valley-Alleghany Regional Commission (RVARC), and Virginia

Department of Transportation (VDOT) agreed to serve as partners in the study. After receiving notification that the NPS-RTCA application was successful, Roanoke County staff assembled a steering committee consisting of staff from Roanoke County, NPS-RTCA, and the three partner organizations (see Section 1.4).

Roanoke County, in collaboration with NPS-RTCA and the partner organizations, kicked off the West Roanoke River Greenway Feasibility Study with the first steering committee meeting in June 2022. In the first stage of the study, Roanoke County staff, with input



from the steering committee, inventoried and assessed the existing conditions of the study area (See Chapter 3). At the end of the existing conditions assessment, introductory meetings were held with the following corridor stakeholders:

- Western Virginia Regional Jail
- Western Virginia Water Authority
- Virginia Passenger Rail Authority
- Appalachian Power
- Montgomery County

Norfolk Southern Railway, the owner of both sets of railroad tracks that run through the study area, was also offered the option

### Corridor Stakeholders

WESTERN VIRGINIA  
REGIONAL JAIL

MONTGOMERY  
COUNTY VIRGINIA  
EST. 1776

APPALACHIAN  
POWER  
An AEP Company

WESTERN VIRGINIA  
WATER AUTHORITY

VIRGINIA  
PASSENGER RAIL  
AUTHORITY

TROUT UNLIMITED  
Roanoke Valley Chapter

of a face-to-face meeting but their staff indicated that they preferred to correspond by email until a specific construction project that would potentially impact Norfolk Southern right-of-way is proposed. This study considered potential routes for the Roanoke River Greenway within Virginian Line right-of-way, as the Virginian Line was owned by the Virginia Passenger Rail Authority (VPRA) between August 2022 and September 2024. These routes were removed from consideration when VPRA sold the Virginian Line back to Norfolk Southern in September 2024.

In Fall 2022, Roanoke County conducted the first round of public outreach for the study, consisting of two open-house community meetings in the study area and a survey (See Section 4.1). Following the first round of community meetings, the steering committee

developed conceptual route alternatives for the West Roanoke River Greenway based on feedback received from community members and corridor stakeholders, constraints and opportunities uncovered in the existing conditions assessment, and a decision matrix developed by the steering committee (See Section 4.2). For the purpose of public outreach, these routes were separated into twenty shorter segments with logical endpoints.

In Spring 2023, Roanoke County staff met with corridor stakeholders a second time to share takeaways from the first round of public outreach and present the conceptual route alternatives developed by the steering committee. This round of stakeholder outreach included meetings with all five organizations included in the first round of stakeholder outreach, as well as a meeting

with the Roanoke Valley chapter of Trout Unlimited, a non-profit organization that works to conserve freshwater rivers and streams.

In Summer 2023, Roanoke County conducted a second round of public outreach, again consisting of two open-house community meetings and a survey, to receive feedback on the conceptual route alternatives (See Section 4.3). Following the second round of public outreach, the steering committee selected “potentially viable segments” from the conceptual route alternatives to be included in the final study, based on feedback received from the public and stakeholders (See Section 4.4). In the final stage of the study, Roanoke County staff began initial discussions of segments to study in greater detail after the conclusion of the study (See Section 5.3).



See Section 5.2 for an overview of the public hearing and adoption process.

## 1.4 Study Steering Committee

The steering committee for the West Roanoke River Greenway Feasibility Study was composed of seven individuals - three Roanoke County staff from two different departments, along with one staff member each from NPS-RTCA, the Roanoke Valley Greenway Commission, and RVARC, and two staff members from VDOT. The committee met on a regular basis throughout the study to brainstorm, refine materials, and analyze information. Each organization and Roanoke County department with representation on the steering committee is described in this section.

### Steering Committee



ROANOKE  
COUNTY VA  
PLANNING



ROANOKE  
COUNTY VA  
PARKS, RECREATION  
& TOURISM



VDOT  
Virginia Department  
of Transportation



Roanoke Valley-Alleghany  
REGIONAL  
commission



ROANOKE VALLEY  
GREENWAYS



NPS-RTCA  
Rivers, Trails and Conservation Assistance Program

## Roanoke County Planning

The Roanoke County Planning Department serves the citizens of Roanoke County by facilitating land use decisions and transportation improvements that improve quality of life. The Planning Department administers Roanoke County's Zoning Ordinance and land use codes, and keeps Roanoke County citizens informed about land use and planning initiatives. The Planning Department prepares planning studies for neighborhoods, community planning areas, transportation corridors, and other special study areas. The Planning Department also identifies, secures funding for, and manages multimodal transportation projects in Roanoke County.

## Steering Committee Representatives:

Isaac Henry, Principal Planner (Project Manager)

Megan Cronise, Assistant Director of Planning

## Roanoke County Parks, Recreation and Tourism

The Roanoke County Parks, Recreation and Tourism Department manages and maintains all Roanoke County parks, including greenways and trails. The Parks, Recreation, and Tourism Department provides a wide variety of community programming at Roanoke County's parks and recreation centers. The Parks, Recreation, and Tourism Department identifies, secures funding for, and manages greenway and trail projects in Roanoke County.

## Steering Committee Representative:

Lindsay Webb, Former Parks, Planning & Development Manager

## National Park Service Rivers, Trails, and Conservation Assistance

The National Park Service Rivers, Trails, and Conservation Assistance Program (NPS-RTCA) provides technical planning assistance to communities looking to enhance outdoor recreation, public health, and conservation. The program is separate from the traditional land management role of NPS. Roanoke County was awarded a Technical Assistance grant in April 2022 for assistance with this study.

## Steering Committee Representative:

Nathan Hilbert, Community Planner



## Roanoke Valley Greenway Commission

The Roanoke Valley Greenway Commission was formed in 1997 to promote greenways in the Roanoke Valley. It is made up of representatives from the five member jurisdictions (Botetourt County, Roanoke County, City of Roanoke, City of Salem, Town of Vinton), the Roanoke Valley Transportation Planning Organization (RVTPPO), and Pathfinders for Greenways. In addition, the Roanoke Valley Alleghany Regional Commission (RVARC), Western Virginia Water Authority, Roanoke Regional Partnership, and Virginia Tourism Corporation all provide ex officio (non-voting) representatives. The purpose of the Greenway Commission is to facilitate coordination, direction and guidance in the planning, development, and maintenance of a system of greenways throughout the Roanoke Valley.

### Steering Committee Representative:

Frank Maguire, Former Greenway Coordinator

## Roanoke Valley-Alleghany Regional Commission

The Roanoke Valley-Alleghany Regional Commission (RVARC) is a state-established regional planning organization. RVARC aids local governments in land use planning, transportation planning, mapping, project management, and grant applications. RVARC provides greenway services, including mapping, web assistance, use counts, bicycle route assessment and planning, and open space planning. In addition, RVARC staffs and administers the Roanoke Valley Transportation Planning Organization (RVTPPO), the metropolitan planning organization (MPO) for the urbanized area of the Roanoke Valley.

### Steering Committee Representative:

Amanda McGee, Director of Community Development



## Virginia Department of Transportation

The Virginia Department of Transportation (VDOT) owns and maintains all public roads in Roanoke County. VDOT also owns and maintains the bicycle and pedestrian infrastructure in Roanoke County that is located within public right-of-way. VDOT identifies, secures funding for, and manages transportation projects throughout the state of Virginia. Additionally, VDOT provides support for localities by helping localities understand grant requirements, comply with federal and state regulations, and meet environmental regulations.

### Steering Committee Representative:

Michael Gray, Salem District Planning Manager

Carol Moneymaker, Salem District Strategic Planner



## 2 Background

### 2.1 Previous Studies and Plans

The studies and plans discussed in this section guide the development of greenways, trails, and other bicycle and pedestrian infrastructure in western Roanoke County and beyond. These studies and plans have all played a role in advancing greenways or other bicycle and pedestrian infrastructure in western Roanoke County.

#### 1995 Roanoke Valley Conceptual Greenway Plan

The 1995 Roanoke Valley Conceptual Greenway Plan was the first joint greenway planning effort among the localities of the Roanoke Valley. This plan was prepared

##### Conceptual Greenway Plan

#### Roanoke Valley Virginia



Prepared For:  
the Roanoke Valley Greenways/Open Space Steering Committee,  
the Fifth Planning District Commission,  
the City of Roanoke, the County of Roanoke,  
the City of Salem, and the Town of Vinton

Prepared By:  
Greenways Incorporated  
December, 1995



by Greenways Incorporated, a consultant, under the direction of the Roanoke Valley Greenways/Open Space Steering Committee, a committee of the Fifth Planning District (the precursor to RVARC) that quickly evolved into the Roanoke Valley Greenway Commission. The 1995 Plan laid the foundation for all future greenway planning and development in the Roanoke Valley by establishing regional goals, developing conceptual routes, outlining the greenway development process, offering potential funding sources, and providing guidelines for design, maintenance, and management. In the 1995 Plan, the Roanoke River is described as the future "spine" and "backbone" of the greenway system, and the Roanoke River Greenway is recommended to run through western Roanoke County to the Montgomery County line. The 1995 Plan was adopted by the Roanoke County Board of Supervisors as an element of the Roanoke County Comprehensive Plan, as were the 2007 and 2018 updates to it.

#### 2007 Update to the Roanoke Valley Conceptual Greenway Plan

The 2007 Update to the Roanoke Valley Conceptual Greenway Plan, prepared by the Roanoke Valley Greenway Commission and RVARC, provided an update on the progress of the Roanoke Valley greenway system since the adoption of the Roanoke Valley Conceptual Greenway Plan in 1995, and built upon the 1995 Plan by creating a prioritized list of potential Roanoke Valley greenway projects. The Roanoke River Greenway was identified as the top regional priority, the only greenway in the Priority #1 category, and was again recommended to run through western Roanoke County to the Montgomery

2007  
Update  
to the  
Roanoke Valley  
Conceptual Greenway Plan

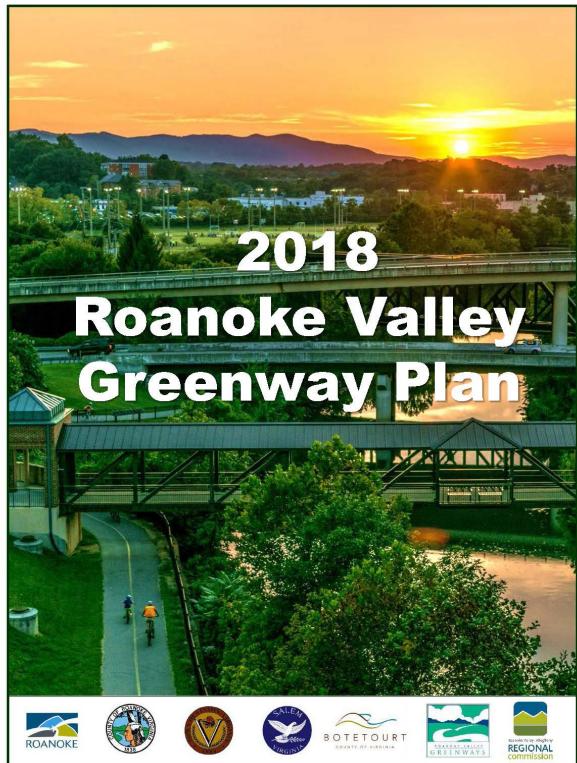


County line. The 2007 Update reaffirmed the goals and implementation strategies of the 1995 Plan and added additional goals and implementation strategies informed by the decade-plus of regional greenway collaboration that had taken place since the adoption of the 1995 Plan.

#### 2018 Roanoke Valley Greenway Plan

The 2018 Roanoke Valley Greenway Plan is the most recent regional greenway plan update to be completed, and as of 2024 is an active component of the Roanoke County Comprehensive Plan. Like the 2007 Update to the Roanoke Valley Conceptual Greenway Plan, the 2018 Plan was prepared by the Roanoke Valley Greenway Commission and RVARC. The 2018 Plan was the first regional greenway plan developed

with Botetourt County as a member of the Roanoke Valley Greenway Commission. The 2018 Plan incorporated Botetourt County into the regional greenway vision, added new potential greenway corridors to the regional greenway vision, documented progress since the 2007 Update, and offered consideration of additional issues that had arisen since the 2007 Update. In the 2018 Plan, the Roanoke River Greenway is again identified as the top regional priority and is again recommended to run through western Roanoke County to the Montgomery County line. In 2025, the Roanoke Valley Greenway Commission adopted a Five-Year Update to the 2018 Plan, which consists mostly of an updated recommendation map that reflects the greenway construction and planning that has taken place since 2018.



#### Valley to Valley Trail Concept Map

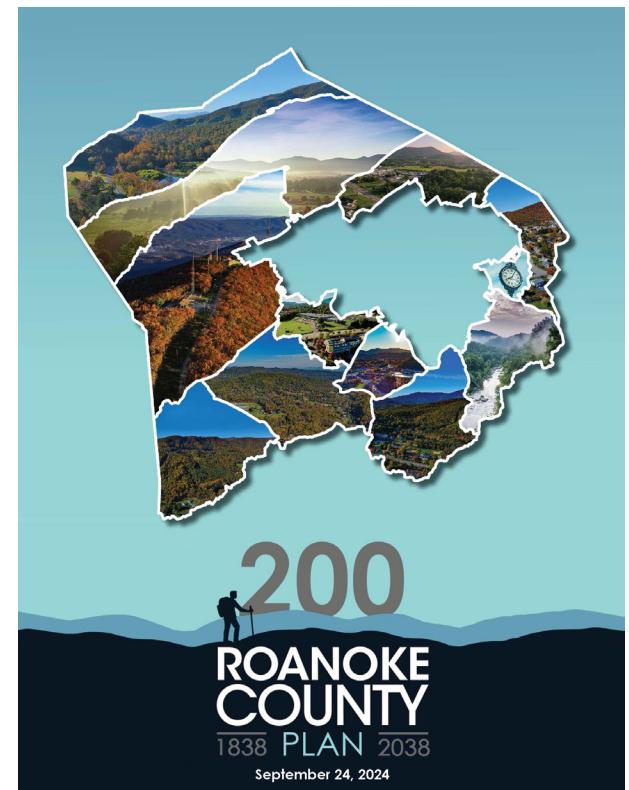
Credit: VDOT

#### VDOT Valley to Valley Trail Study (Ongoing)

The VDOT Valley to Valley Trail Study was initiated in 2020 to study potential routes for the Valley to Valley Trail between the existing western terminus of the Roanoke River Greenway (Green Hill Park in Roanoke County) and the existing eastern terminus of the New River Trail (in the City of Pulaski), with an aim of connecting to the Huckleberry Trail (in Christiansburg or Blacksburg) and Riverway Trail (in Radford) as well. The Valley to Valley Trail Study, which has not yet concluded, aims to provide a high-level overview of potential Valley to Valley Trail corridors. The West Roanoke River Greenway Feasibility Study builds upon this high-level overview to refine conceptual alignments, provide additional route alternatives, and identify challenges to, and opportunities for, greenway construction in western Roanoke County.

#### Roanoke County 200 Plan

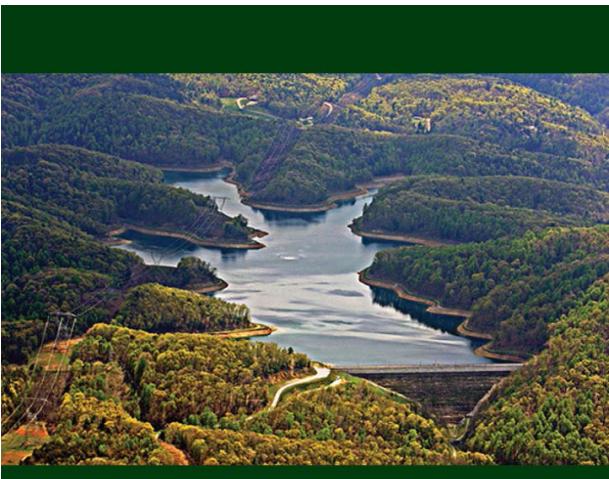
Adopted by the Board of Supervisors in September 2024, the Roanoke County 200 Plan (200 Plan) is the first major update to the Roanoke County Comprehensive Plan since 2005. The 200 Plan expresses an overarching vision for Roanoke County in 2038, the year of the County's bicentennial, and outlines unique goals for each of Roanoke County's eleven Community Planning Areas (CPAs). The 200 Plan provides guidance for public policies about land development, public services and resource protection, and provides recommendations of specific transportation projects for the County to pursue. In the 200 Plan, completion of the Roanoke River



Greenway between Montgomery County and Franklin County is identified as a countywide transportation priority. A more specific, but less ambitious, recommendation is offered for the Glenvar CPA: to determine alignments for the Roanoke River Greenway between Green Hill Park and Montgomery County. The 200 Plan also recommends that Roanoke County support efforts to construct the Valley to Valley Trail.

## 2012 Glenvar Community Plan

Roanoke County's Glenvar Community Plan, adopted by the Board of Supervisors in 2012, was initiated in response to increased development in Glenvar (the unincorporated community centered around Route 11/460/West Main Street immediately west of the



### GLENVAR COMMUNITY PLAN

A COMPONENT OF THE ROANOKE COUNTY COMPREHENSIVE PLAN  
ADOPTED JANUARY 24, 2012



City of Salem) and the upcoming (at the time) widening of Route 11/460/West Main Street that was completed in 2015. The Glenvar Community Plan offers analysis of, and recommendations for, the entirety of the Glenvar Community Planning Area (CPA). The Glenvar CPA is bounded roughly by (clockwise from east) the City of Salem, the ridgeline of Poor Mountain, Montgomery County, the ridgeline of Fort Lewis Mountain, and East Dry Branch Creek. The entirety of the study area for the West Roanoke River Greenway Feasibility Study is within the Glenvar CPA. The Glenvar Community Plan focuses primarily on land use and resulted in the implementation of the Glenvar Village future land use designation, a mixed-use designation covering the Route 11/460/West Main Street corridor between the City of Salem and Technology Drive. The Glenvar Community Plan includes transportation and outdoor recreation recommendations as well, one of which is to construct the Roanoke River Greenway between Green Hill Park and Montgomery County.

## 2007 Roanoke County Parks, Recreation & Tourism Department Comprehensive Master Plan for Parks and Facilities

The Roanoke County Parks, Recreation & Tourism Department Comprehensive Master Plan for Parks and Facilities is a long-range planning document that sets forth a vision for the future of Roanoke County's parks and recreation system. The Comprehensive Master Plan offers an assessment of existing programs and facilities, recommends maintenance standards, and provides goals, strategies, tactics, and performance measures to guide decision-making about parks, recreation,

## Roanoke County Parks, Recreation & Tourism Department

### Comprehensive Master Plan for Parks and Facilities



*"Fulfilling the Community's Vision"*

Prepared by

**pros**  
consulting

March 2007

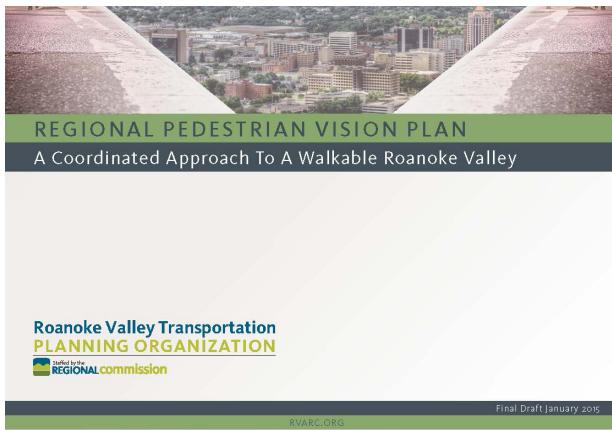
and tourism in Roanoke County. As Roanoke County-owned greenways are maintained by the Parks, Recreation, & Tourism Department, the Comprehensive Master Plan contains an inventory of existing greenways (as of 2007) and outlines maintenance standards for Roanoke County greenways. The Comprehensive Master Plan identifies greenways as one of the three highest-priority facility needs and recommends continued development of greenways throughout the County. It recommends that greenways constructed outside of existing parks "link or connect parks with resources such as schools, neighborhoods, playgrounds and other parks, forests, rivers and other natural areas, historic sites and businesses,"<sup>1</sup> as the West Roanoke River Greenway would. During public outreach for this plan, survey respondents identified greenways as the parks and recreation facilities that are most important to their households and identified renovation or development of greenways as their most desired facility improvement.

## 2015 Regional Pedestrian Vision Plan

The 2015 Regional Pedestrian Vision Plan, prepared and adopted by RVTPO, provides a coordinated and strategic approach for advancing walking as a means of transportation in the Roanoke Valley. This plan identifies where pedestrian infrastructure is most needed in the urbanized area based on the potential for residents, employees, shoppers, diners, and other visitors to access nearby destinations. The Pedestrian Vision Plan recommends construction of the Roanoke River Greenway between Green Hill Park and Poor Mountain Road, with a connection to West Main Street (Route 11/460) near Fort Lewis Church Road.

## 2012 Bikeway Plan for the Roanoke Valley Area Metropolitan Planning Organization

The 2012 Bikeway Plan was prepared and adopted by the Roanoke Valley Area Metropolitan Planning Organization (RVAMPO), the precursor to RVTPO. This plan provides a coordinated and strategic approach to developing a regional bicycle network in the urbanized area, with a focus on infrastructure on or adjacent to roadways. The Bikeway Plan provides recommendations for bicycle infrastructure that would advance bicycling as a means of transportation in the Roanoke Valley by enhancing connectivity between activity centers, cultural resources, and other points of interest. West Main Street (Route 11/460) between Technology Drive and Montgomery County is identified as a Vision List Corridor in the Bikeway Plan.



## Bikeway Plan for the Roanoke Valley Area Metropolitan Planning Organization 2012 Update



## Regional Study on Transportation Project Prioritization for Economic Development and Growth

In 2018, RVTPO prepared and adopted the Regional Study on Transportation Project Prioritization for Economic Development and Growth (TED Study) to identify how the region's economic vitality can be supported through transportation projects. In the 2018 TED Study, completion of the Roanoke River Greenway is identified as a top priority. In 2021, the TED Study was updated, with a greater focus on engaging local businesses and economic development stakeholders, and a new list of transportation project recommendations.



Prepared for:  
Roanoke Valley Transportation Planning Organization  
313 Luck Ave SW, Roanoke, VA 24016

Prepared by:  
Economic Development Research Group, Inc.  
155 Federal Street, Suite 600, Boston, MA 02110

## 2024 Virginia Outdoors Plan

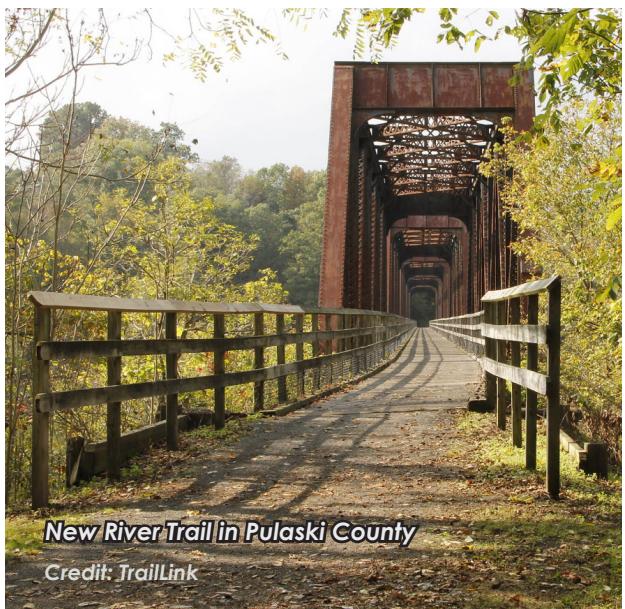
The 2024 Virginia Outdoor Plan (VOP) is the current iteration of the Virginia Department of Conservation and Recreation's plan for outdoor recreation and land conservation across the Commonwealth, superseding the 2018 Virginia Outdoors Plan. It fulfills the National Park Service requirements for Virginia to participate in the Land and Water Conservation Fund (LWCF) program, which provides matching grants to state agencies and localities for the acquisition and development of outdoor recreation resources. The VOP outlines outdoor recreation trends and needs across the Commonwealth and provides general recommendations for the development of outdoor recreation resources. The development of greenways and safe multi-use and shared-use trails is supported by the VOP. The VOP also recommends expanding access to outdoor



recreation opportunities, promoting healthier communities, and providing safer bicycle and pedestrian paths, all of which could be accomplished by constructing the West Roanoke River Greenway.

## 2.2 Benefits of Greenways

Trails and greenways are known to have a positive impact on health, the economy, and quality of life in communities in which they are located. The West Roanoke River Greenway would bring significant health, economic, and quality of life benefits to western Roanoke County. These benefits would ultimately extend throughout the Roanoke Valley, as the greenway would provide Roanoke Valley residents and visitors with an additional recreation destination. If the Valley to Valley Trail is constructed, the West Roanoke River Greenway would serve as one segment of

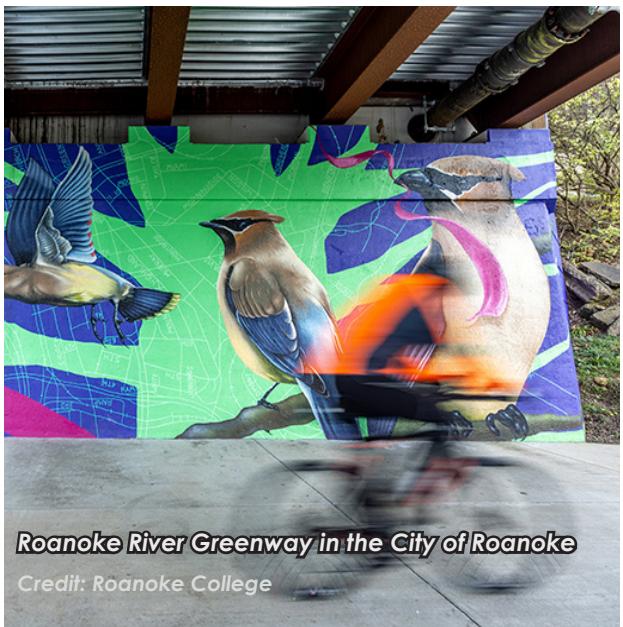


a contiguous greenway and trail network running from eastern Roanoke County to the City of Galax, and would bring health, economic, and quality of life benefits to a large swath of southwest Virginia.

### Health Benefits

Greenways are active transportation infrastructure; people must move their bodies in some way to use them. According to the Centers for Disease Control and Prevention (CDC), the benefits of regular physical activity include improved sleep, reduced anxiety, reduced blood pressure, reduced risk of dementia, reduced risk of depression, reduced risk of weight gain, improved bone health, improved balance and coordination, lower risk of heart disease, and lower risk of eight cancers.<sup>2</sup> However, only about 1 in 4 adults and 1 in 6 high school students get the amount of physical activity that the CDC recommends, and this means that approximately \$117 billion is spent every year in the United States on health care costs associated with insufficient physical activity.<sup>3</sup> The U.S. Department of Health and Human Services (HHS) estimates that approximately 10 percent of premature deaths in the United States are associated with insufficient physical activity.<sup>4</sup>





drive of the West Roanoke River Greenway if its full length is constructed between Green Hill Park and Montgomery County.<sup>27</sup> The construction of the West Roanoke River Greenway would likely increase rates of participation in physical activity among those who live within a ten-minute drive of the greenway, and in doing so would provide physical and mental health benefits for this population.

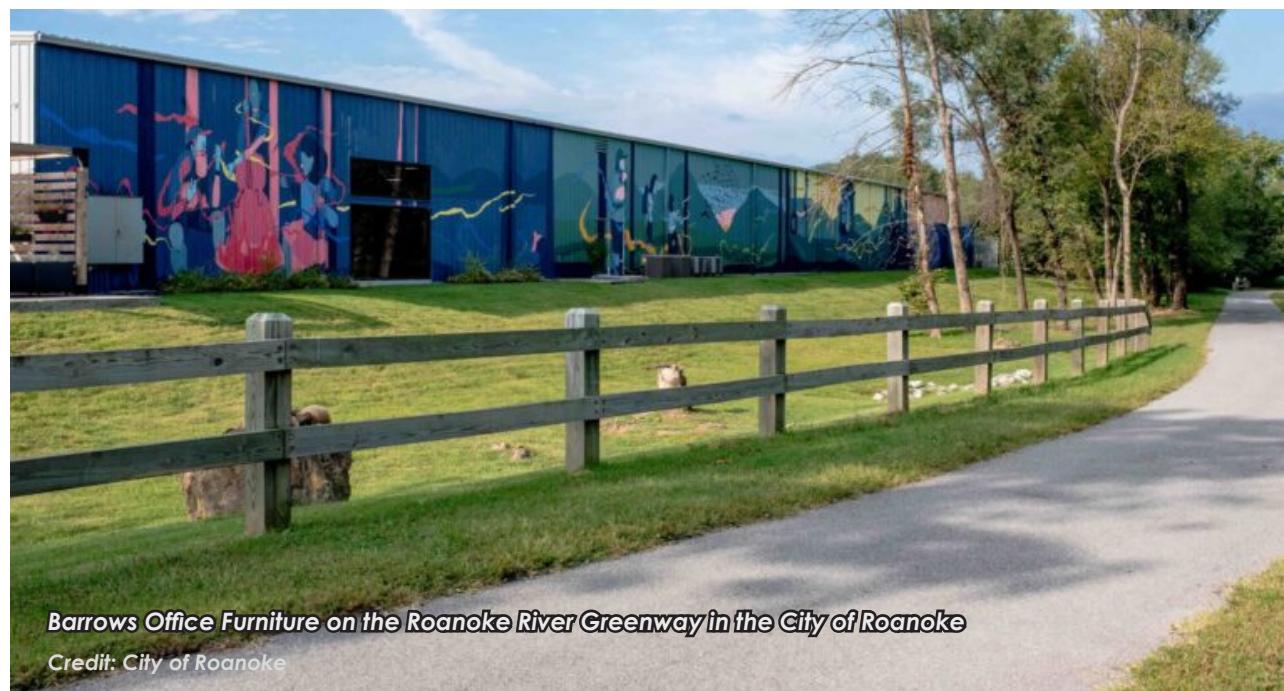
among the top five community amenities desired by homebuyers,<sup>28</sup> while a National Association of Realtors survey indicates that most homebuyers are willing to spend more on houses located in walkable communities.<sup>29</sup> Homebuyers' positive perception of trails and walkable communities means that properties located near greenways or trails generally sell for higher prices, spend less time on the market, and receive higher assessed values.<sup>30</sup>

31 32 33 34 35 36 37

### Economic Benefits

Greenways benefit the economies of communities in which they are located by increasing property values, generating tourism, catalyzing community events, and creating new transportation corridors on which businesses can locate. A survey conducted by the National Association of Home Builders indicates that walking and jogging trails are

Many people are willing to travel to enjoy safe, user-friendly outdoor recreation amenities like paved greenways, especially amenities in scenic areas (like western Roanoke County) and amenities that are part of larger contiguous networks (like the potential Valley to Valley Trail). When an out-of-towner patronizes a local business during a trip to a greenway, they insert new money



**Barrows Office Furniture on the Roanoke River Greenway in the City of Roanoke**

Credit: City of Roanoke



centered around outdoor recreation. This has catalyzed the formation of Roanoke Outside, a nonprofit organization - funded by eight localities in the Roanoke Valley, Blue Ridge mountains, and Alleghany Highlands (including Roanoke County) and an ever-growing roster of Roanoke area businesses - that works to leverage the region's natural assets to grow the regional economy.

In the last 20 years, Roanoke Outside has founded three annual, large-scale, outdoor recreation-focused community events that provide significant benefit to the economy of the Roanoke region: GO Outside Festival, Go Cross Cyclocross Race, and the Blue Ridge Marathon. In 2022, it is estimated that the out-of-town visitors who attended these three events spent a combined \$3.7 million while

visiting the Roanoke Valley.<sup>45</sup> In addition, these events serve to promote the Roanoke region to businesses, families, and individuals who may be looking to relocate, or expand to this region. The Blue Ridge Marathon uses segments of the Roanoke River Greenway on its marathon, half marathon, and double marathon routes, and multiple races and tours utilizing the Roanoke River Greenway are hosted as part of GO Outside Festival.

In addition, Roanoke hosted a Half Ironman triathlon event, the IRONMAN 70.3 Virginia's Blue Ridge, each summer from 2021 to 2023. This event, like the events managed by Roanoke Outside, added multiple millions of dollars annually to the regional economy.<sup>46 47</sup> The bike course of the IRONMAN 70.3 Virginia's Blue Ridge finished on the Roanoke River



Greenway, and the triathlon's concluding half-marathon took place entirely on the Roanoke River Greenway. This race was held over the course of a three-year agreement, which has concluded, but opportunities remain open for future IRONMAN events in Roanoke, and the publicity the race brought to Roanoke during its initial three-year run continues to positively impact the regional economy.

Greenways also create new transportation corridors on which businesses can locate and from which they can attract customers. Localities throughout the United States have reported increases in new business development in areas where greenways are constructed.<sup>48</sup> In the Roanoke Valley, greenways have provided opportunities for commercial businesses in locations where there would not otherwise be foot traffic. In the City of Roanoke, the Wasena neighborhood has seen rapid revitalization in the decade-plus since a section of the Roanoke River Greenway was constructed through Wasena

Park. Numerous new businesses have opened in Wasena, both directly adjacent to the greenway and on Wasena's historic Main Street, to serve the new foot traffic generated by the greenway.

In 2016, Blue Cow Ice Cream Company opened at the corner of Piedmont Street Southeast and Walnut Avenue Southeast in the City of Roanoke, just a few years after the Roanoke River Greenway was completed parallel to and in between Piedmont Street Southeast and the Roanoke River. Despite the previous lack of established retail uses or foot traffic in that location, Blue Cow Ice Cream Company quickly became one of the busiest ice cream shops in the Roanoke Valley due to the new foot traffic generated by the Roanoke River Greenway.

In the City of Salem, the Parkway Brewing Company Taproom, which opened in 2013 at the point where the Hanging Rock Battlefield Trail intersects Kessler Mill Road, has been extremely successful in a residential and industrial area with no other commercial destinations. Foot traffic is not the only benefit that greenways provide to Roanoke Valley restaurants and breweries, though, as several hold weekly pub runs on greenways that draw dozens of participants to their establishments on what would otherwise be slow weeknights.

### Quality of Life Benefits

The health and economic benefits of greenways contribute to overall quality of life in communities in which greenways are located. Greenways also bring additional quality of life benefits to the communities in which they are located, in the form of improved social bonds, additional transportation options, and environmental preservation.



**Parkway Brewing Company in Salem**  
Credit: Visit Virginia's Blue Ridge



**Mudlick Creek Greenway in Garst Mill Park**

The West Roanoke River Greenway would provide a new public gathering place for outdoor recreation and would strengthen social bonds not only in the communities that surround it, but in the Roanoke Valley as a whole. Improved relationships, both within existing social groups and between separate social groups, are believed to improve quality of life for residents of rural communities.<sup>49</sup> However, improved relationships between separate social groups are believed to improve quality of life more dramatically than improved relationships within existing social groups.<sup>50</sup> As greenways are used by both those who live nearby them and those who live farther away, they provide an ideal venue for strengthening social relationships between separate social groups, and thus a means of improving quality of life, in western Roanoke County and the Roanoke Valley as a whole.

The Bureau of Transportation Statistics (BTS) estimates that about one-quarter of all trips taken in the United States are less than one mile long.<sup>51</sup> Additional research indicates that

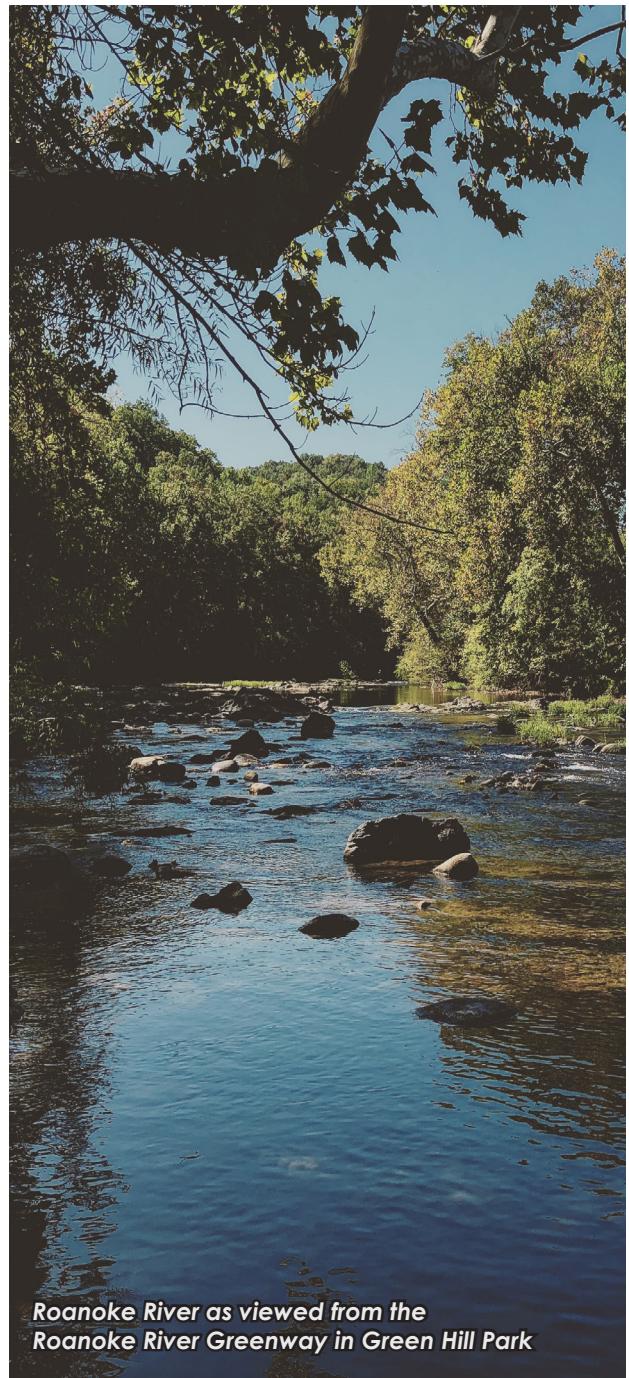
automobiles are used for over half of these short trips.<sup>52</sup> This is largely out of necessity, as many residential neighborhoods in the United States are not equipped with safe pedestrian or bicycle infrastructure. Greenways are safe travel corridors for pedestrians and bicyclists and provide those who live near them with the option of walking or bicycling to nearby destinations. Each car trip requires gasoline, so each time someone walks or rides a bike instead of driving a car, they save money. If one is interested in saving money on gasoline, it is especially beneficial to replace short car trips with walking or biking as fuel economy is generally worse on short trips than longer trips.<sup>53</sup>

Greenways are linear parks that, when designed well, include natural buffer areas on either side of the trail. In Roanoke County, the width of these linear parks is typically around 50 feet: A ten-foot-wide paved trail with around twenty feet of buffer area on either side. These natural buffer areas provide contiguous wildlife habitat, even in densely developed areas, which allows for safer, healthier movement of wild animals for both the animals and humans.<sup>54</sup>

The wildlife preservation benefits of greenways are compounded when greenways are located adjacent to rivers or creeks, as riparian ecosystems are among both the most diverse and critical, and degraded and vulnerable, ecosystem types on earth.<sup>55</sup> When greenways are located on the banks of rivers or creeks, they protect those banks from intensive development in perpetuity. Greenways adjacent to rivers or creeks usually also include a natural buffer area between the trail and waterway to protect

the waterway and its banks from pollution or degradation stemming from human overuse.

The natural buffer areas created by greenways have a positive impact on air quality, as they provide protected space for plants to grow and flourish. Plants convert carbon dioxide to oxygen and filter out air pollutants like ozone, sulfur dioxide, carbon monoxide, and airborne heavy metal particles.<sup>56 57</sup> As greenways provide infrastructure for walking and biking, they also inevitably reduce car



trips by some degree and thus improve air quality by reducing exhaust emissions.<sup>58</sup>

## 2.3 Current Trail System Status

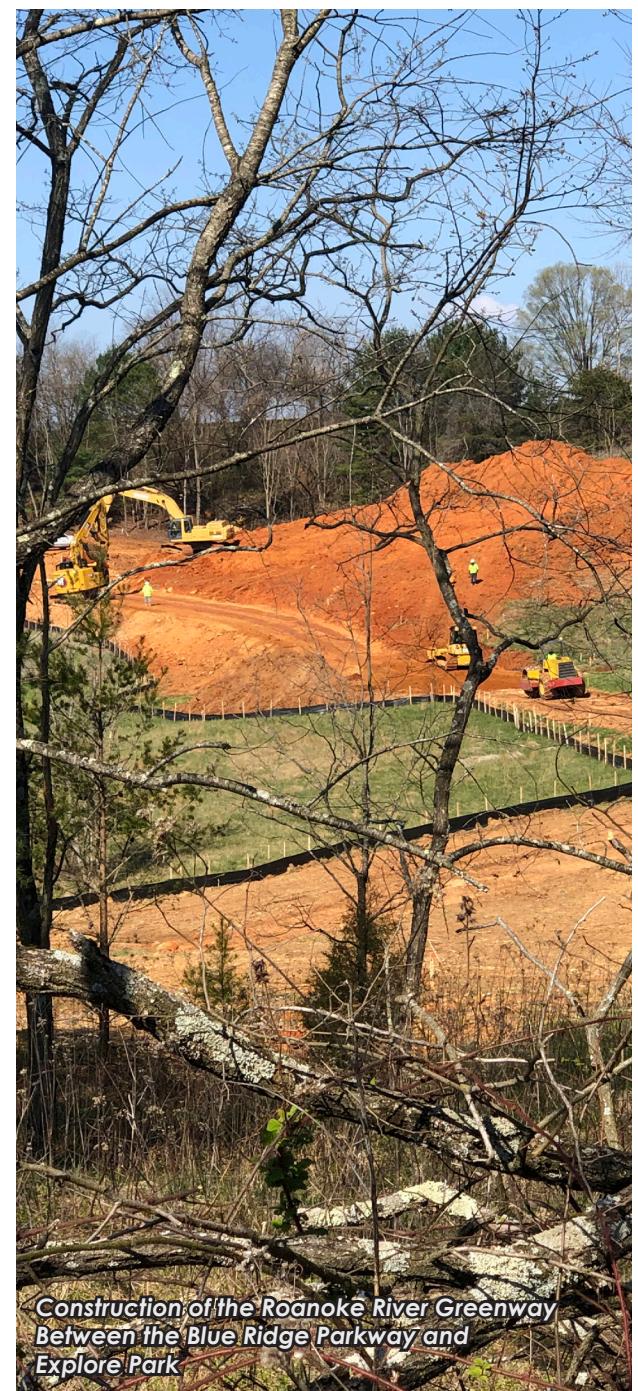
As of August 2025, approximately 16 miles of the Roanoke River Greenway have been constructed, including 1.2 miles in Roanoke County. If the Roanoke River Greenway is completed between Explore Park and Montgomery County, it will likely be over 30 miles in length, including over 16 miles in Roanoke County. The map on page 21 shows the construction statuses of all existing and future sections of the Roanoke River Greenway.

One existing section of the Roanoke River Greenway in Roanoke County is a 0.4-mile segment just west of the Blue Ridge Parkway that was recently completed in 2023. This section represents the easternmost existing section of the Roanoke River Greenway. The other existing section in Roanoke County is the 0.8-mile segment in Green Hill Park that was completed in 2008. This section serves as the westernmost existing section of the Roanoke River Greenway and the launching point for the potential greenway corridors examined in this study.

As of August 2025, an additional 4 miles of the Roanoke River Greenway are currently under construction in Roanoke County. In the eastern part of the County, 3.4 miles of contiguous greenway are currently under construction. In December 2023, construction began on a two-mile section running from the eastern (southern) terminus of the existing 0.4-mile section west of the Blue Ridge Parkway to the northern end of Explore Park. In November 2024, construction began on a 1.4-mile section running through Explore

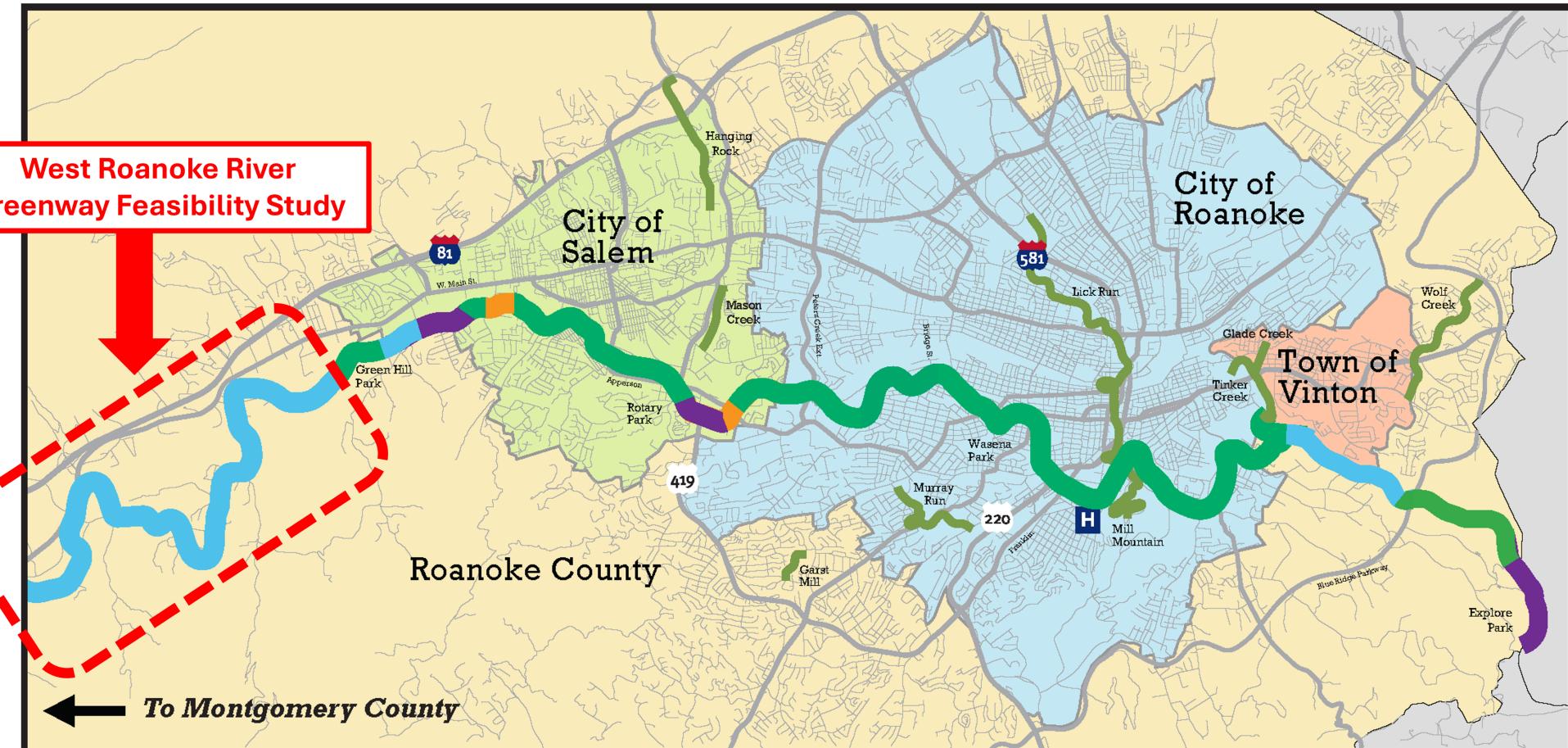
Park from the northern end of the park (eastern terminus of two-mile section under construction) to Rutrough Point. The sections under construction in the eastern part of the County are anticipated to be complete by Spring 2026.

In western Roanoke County, a 0.6-mile section known officially as West Roanoke River Greenway, Phase 1 is under construction between Riverside Nursery and Kingsmill Drive in the City of Salem. This section is anticipated



# Roanoke River Greenway Status Map

August 2025



Completed

Planning Underway

Future Projects

Construction Underway



V.8-2025

to be complete by the end of 2025. The completion of the three sections currently under construction will bring the total length of Roanoke River Greenway in Roanoke County to 5.2 miles. Small gaps in the greenway will remain in the eastern and western parts of the County, as will the section evaluated in this study.

## Existing Conditions

### 3 Inventory and Assessment

#### 3.1 Methodology

Currently, a majority of the existing Roanoke River Greenway in Roanoke County is constructed adjacent to the Roanoke River, which is how the section between Green Hill Park and Montgomery County is depicted in the 2018 Roanoke Valley Greenway Plan. Although constructing the Greenway on flat land adjacent to the Roanoke River would be ideal, the characteristics of the landscape will influence the actual location of the future West Roanoke River Greenway.

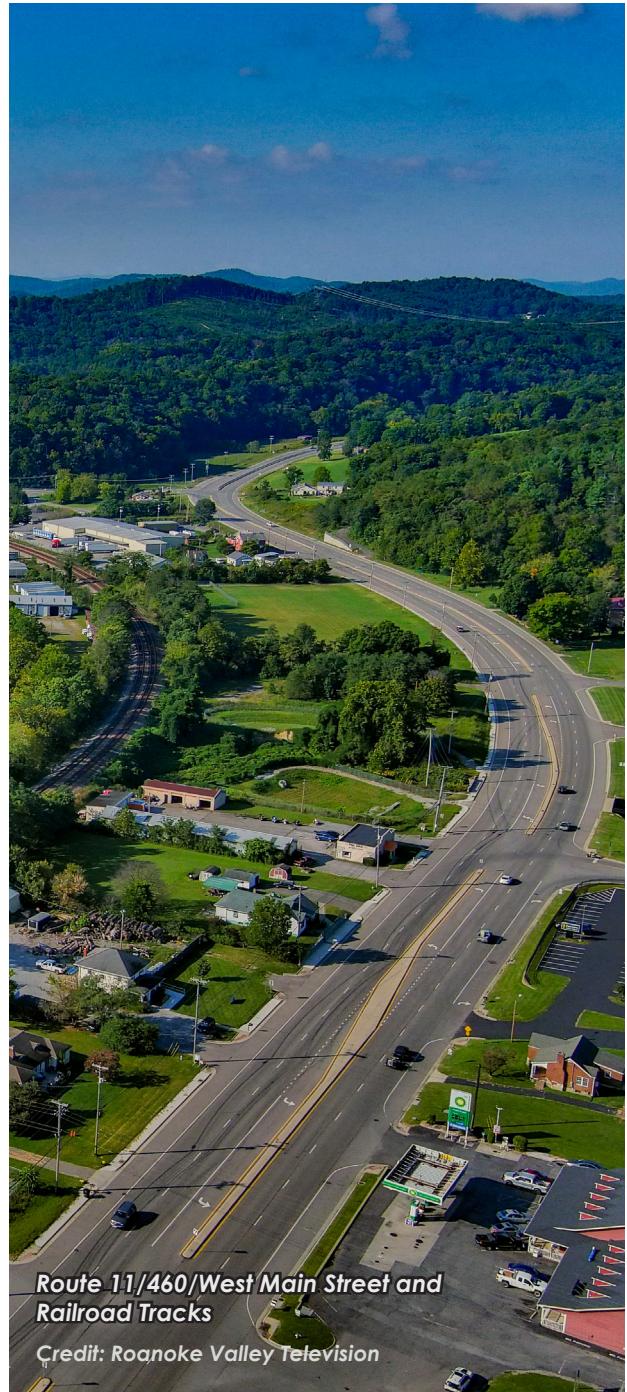
To assess the existing conditions of the landscape, Geographic Information System (GIS) analysis was performed to better understand potential physical constraints. This analysis involved creating an inventory of spatial data to help visualize the characteristics of the study area and included data collection for the following landscape characteristics: land cover; current and future land uses; existing networks of roads, trails and sidewalks; public land; rivers and reservoirs; business locations; community facilities; topography; cultural resources; and zoning

districts. Maps were created from the spatial data to identify opportunities and constraints for greenway construction.

Following the GIS inventory and analysis, the steering committee visited key areas of interest to assess these locations in person. In addition, land managers and property owners associated with key areas of interest were identified as stakeholders and were engaged in conversations regarding the landscape analysis. The information gathered from site visits and stakeholder meetings complemented the GIS-based analysis resulting in a comprehensive list of opportunities, barriers, and challenges specific to the study area that are outlined below.

#### 3.2 Constraints and Opportunities Findings

In this section, challenges and opportunities identified in the existing conditions analysis are discussed. Key challenges to constructing a greenway in the Study Area include challenging topography, land that is divided into small parcels and owned by many different parties, narrow roadways, the presence of Route 11/460/West Main Street, and the presence of two railroad tracks. Key opportunities include potential collaboration with the Western Virginia Regional Jail, Appalachian Power, Western Virginia Water Authority, and Montgomery County. The presence of multiple County parks in or immediately adjacent to the Study Area, and the presence of the Roanoke River Blueway, represent opportunities to connect to these recreational assets. Route 11/460/West Main Street represents a physical barrier for this potential greenway, and the cars that travel



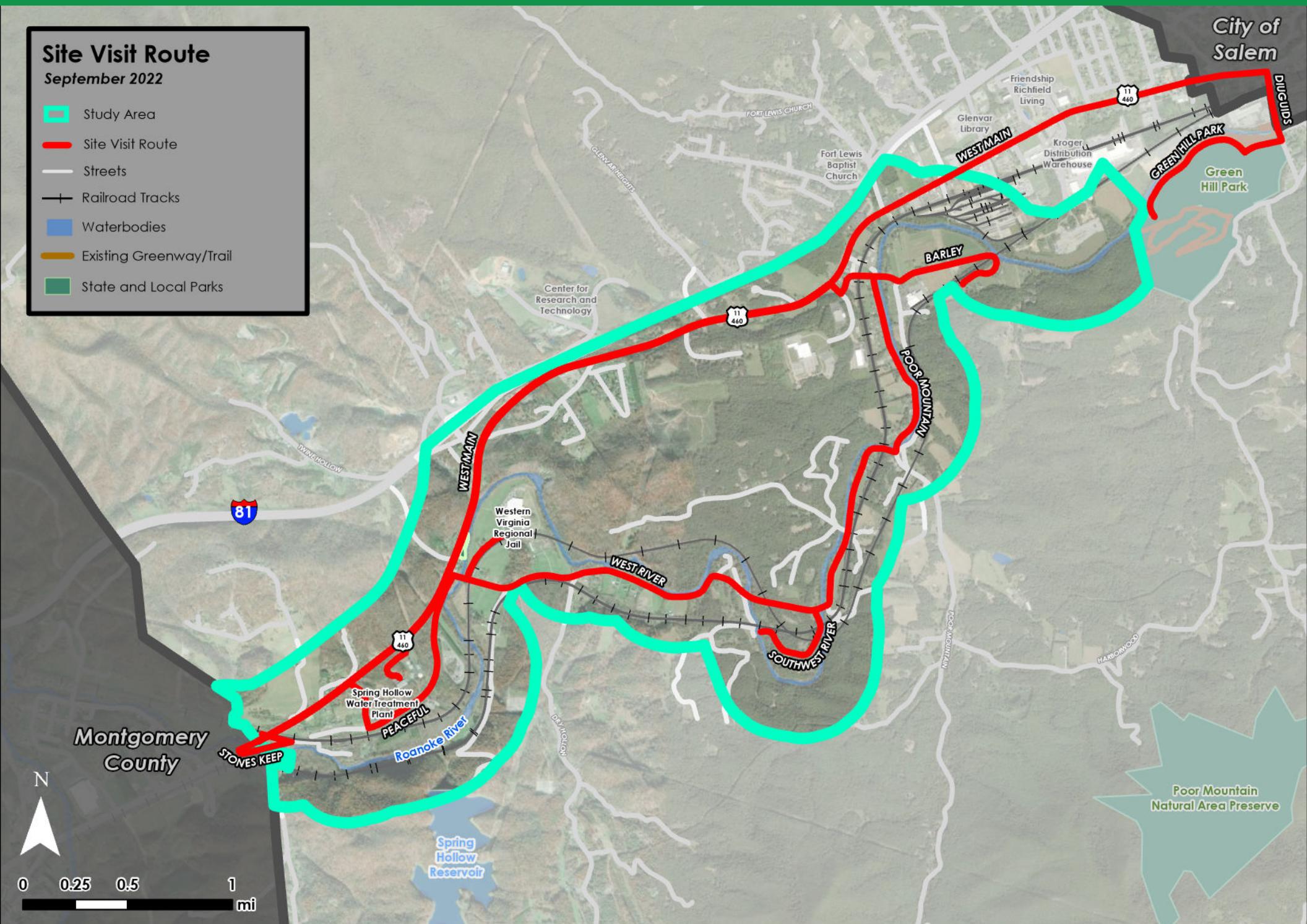
Route 11/460/West Main Street and Railroad Tracks

Credit: Roanoke Valley Television

## Site Visit Route

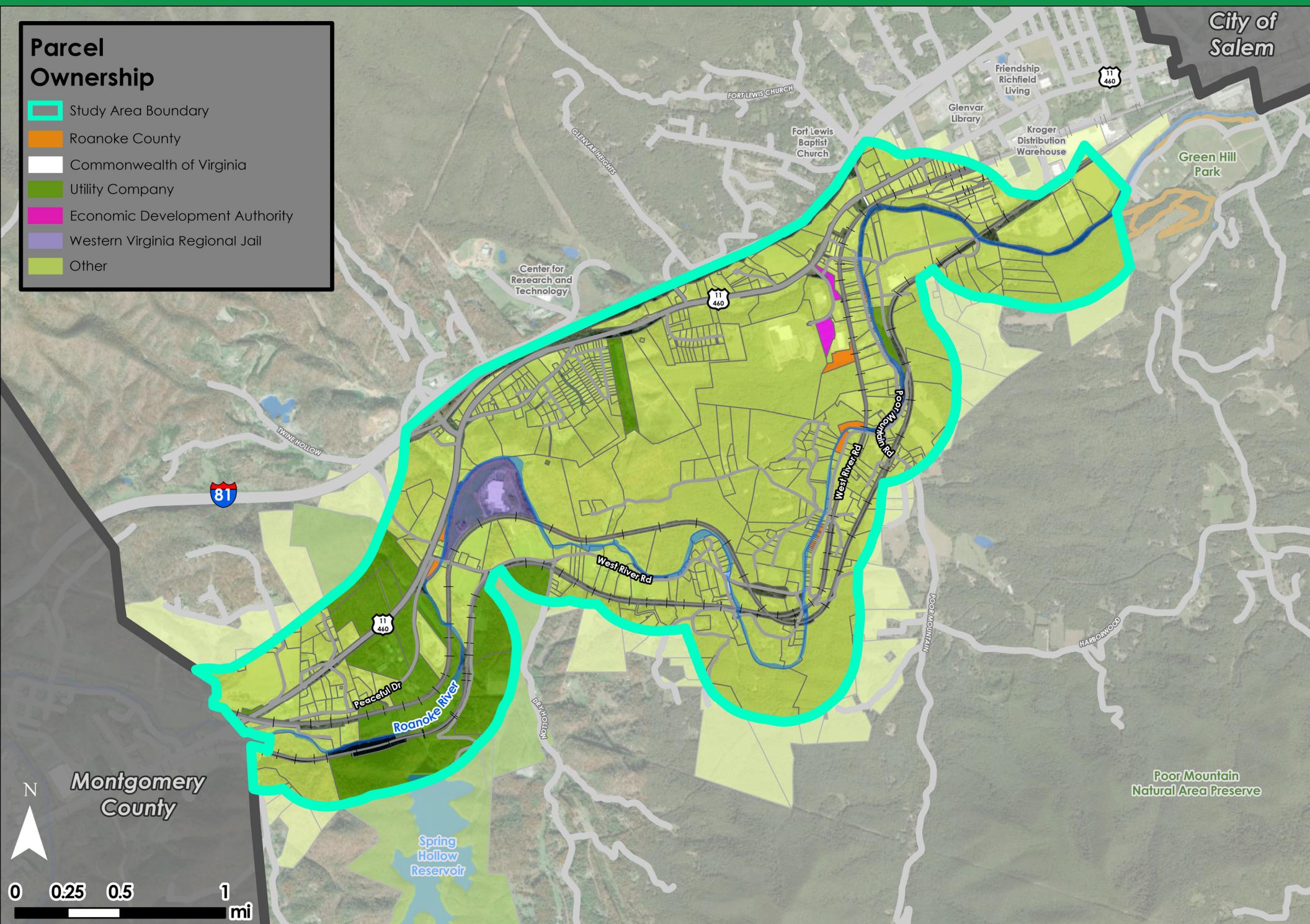
September 2022

-  Study Area
  -  Site Visit Route
  -  Streets
  -  Railroad Tracks
  -  Waterbodies
  -  Existing Greenway/Trail
  -  State and Local Parks



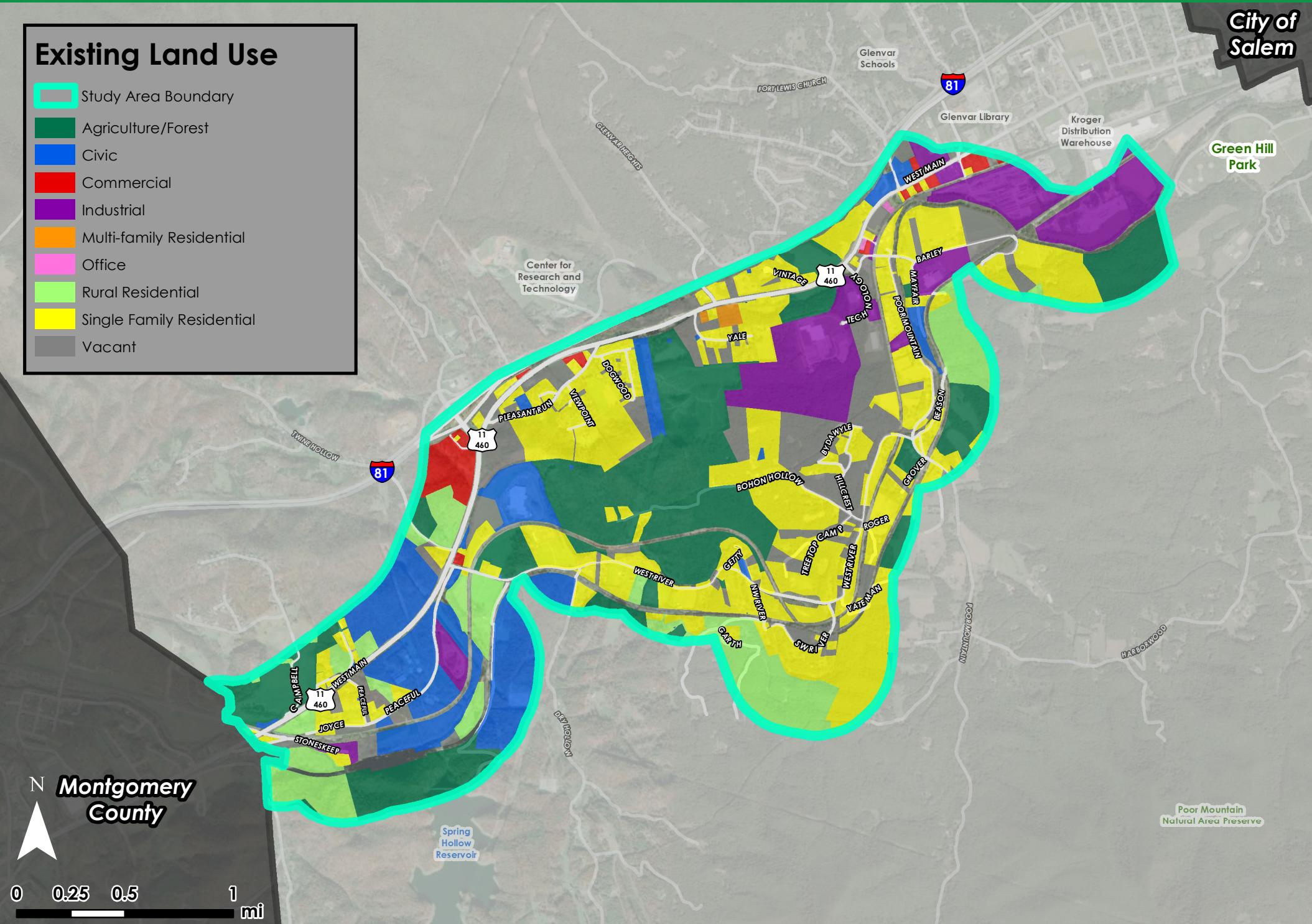
## Parcel Ownership

- Study Area Boundary
- Roanoke County
- Commonwealth of Virginia
- Utility Company
- Economic Development Authority
- Western Virginia Regional Jail
- Other



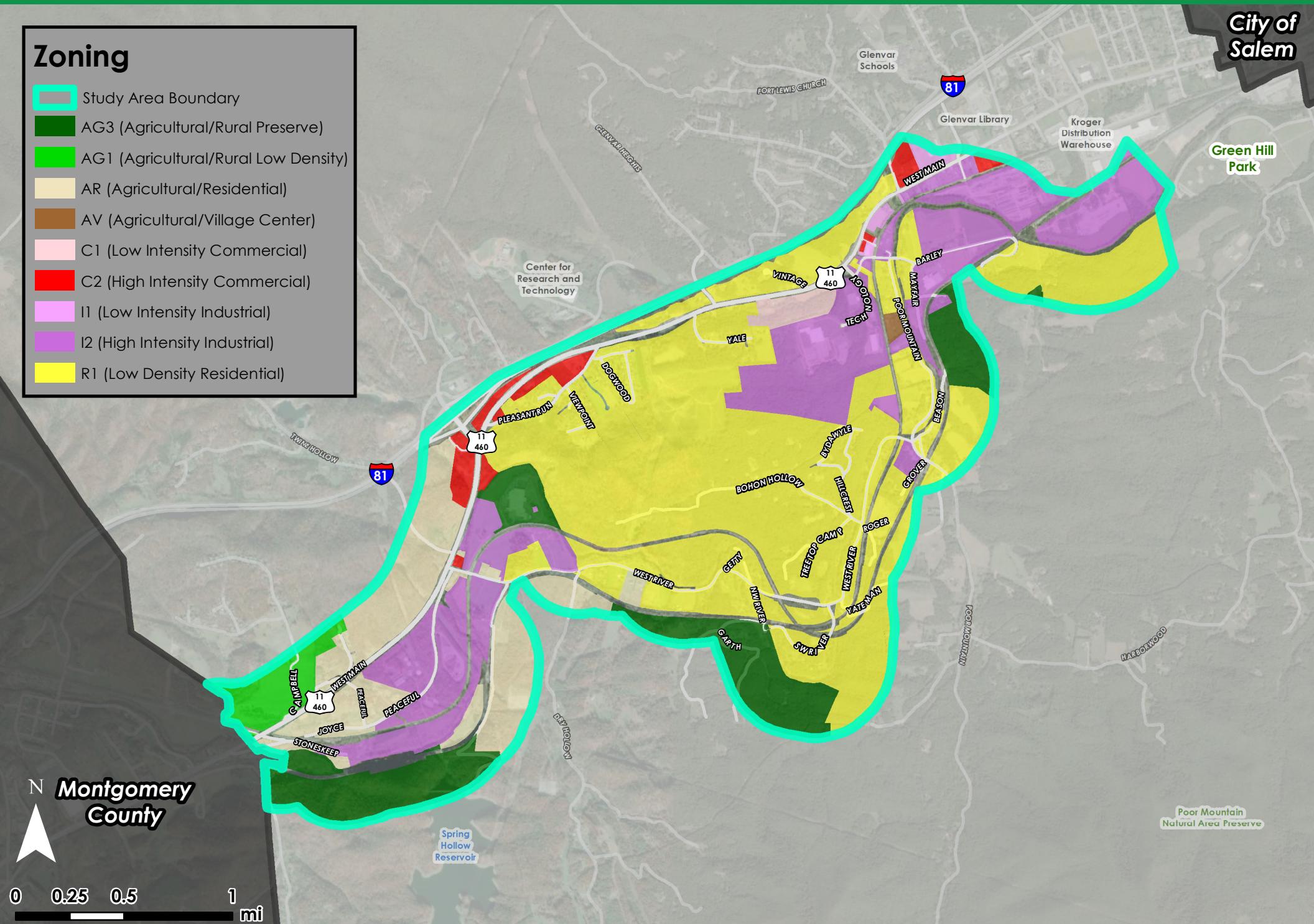
## Existing Land Use

- Study Area Boundary
- Agriculture/Forest
- Civic
- Commercial
- Industrial
- Multi-family Residential
- Office
- Rural Residential
- Single Family Residential
- Vacant



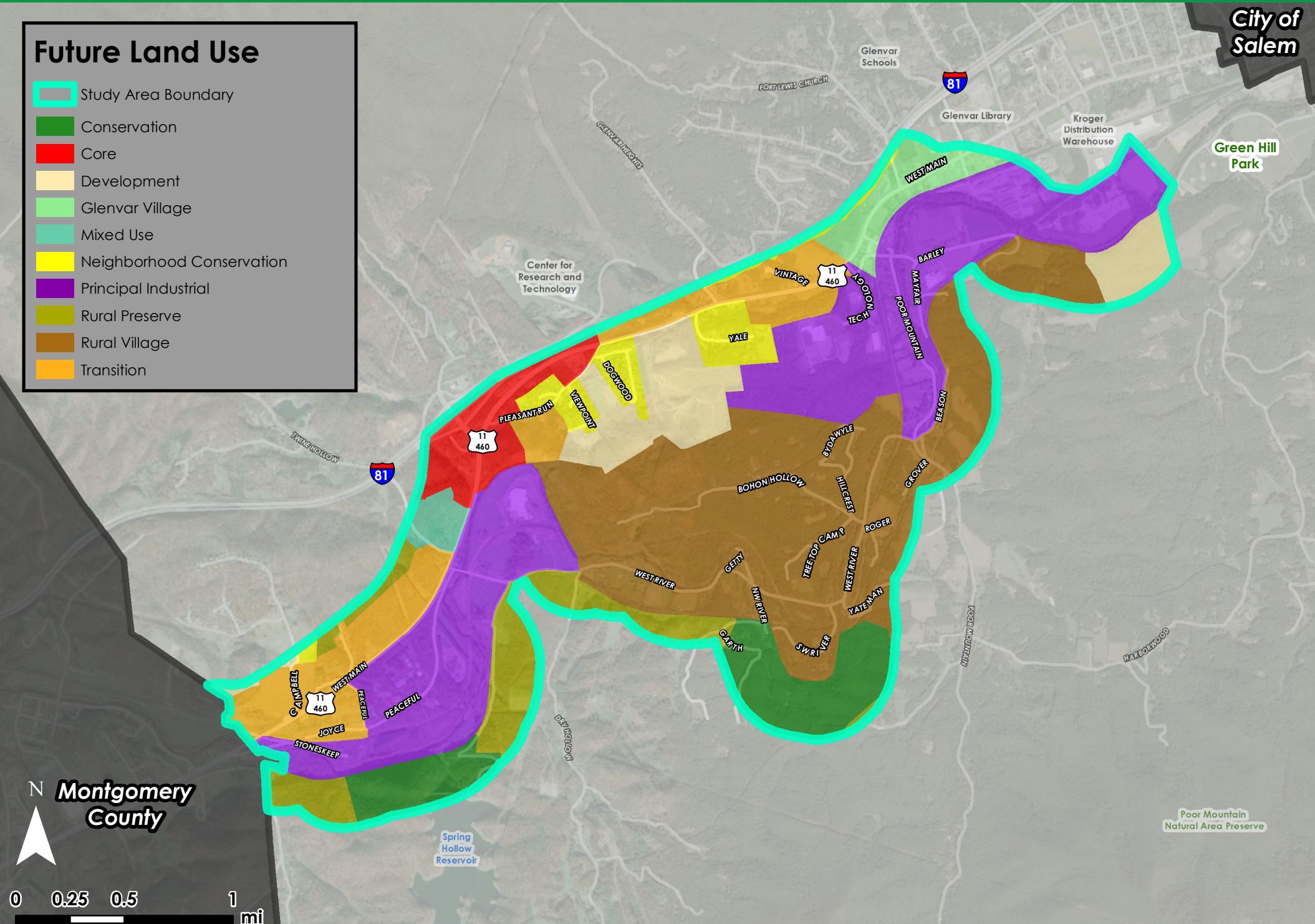
## Zoning

- Study Area Boundary
- AG3 (Agricultural/Rural Preserve)
- AG1 (Agricultural/Rural Low Density)
- AR (Agricultural/Residential)
- AV (Agricultural/Village Center)
- C1 (Low Intensity Commercial)
- C2 (High Intensity Commercial)
- I1 (Low Intensity Industrial)
- I2 (High Intensity Industrial)
- R1 (Low Density Residential)



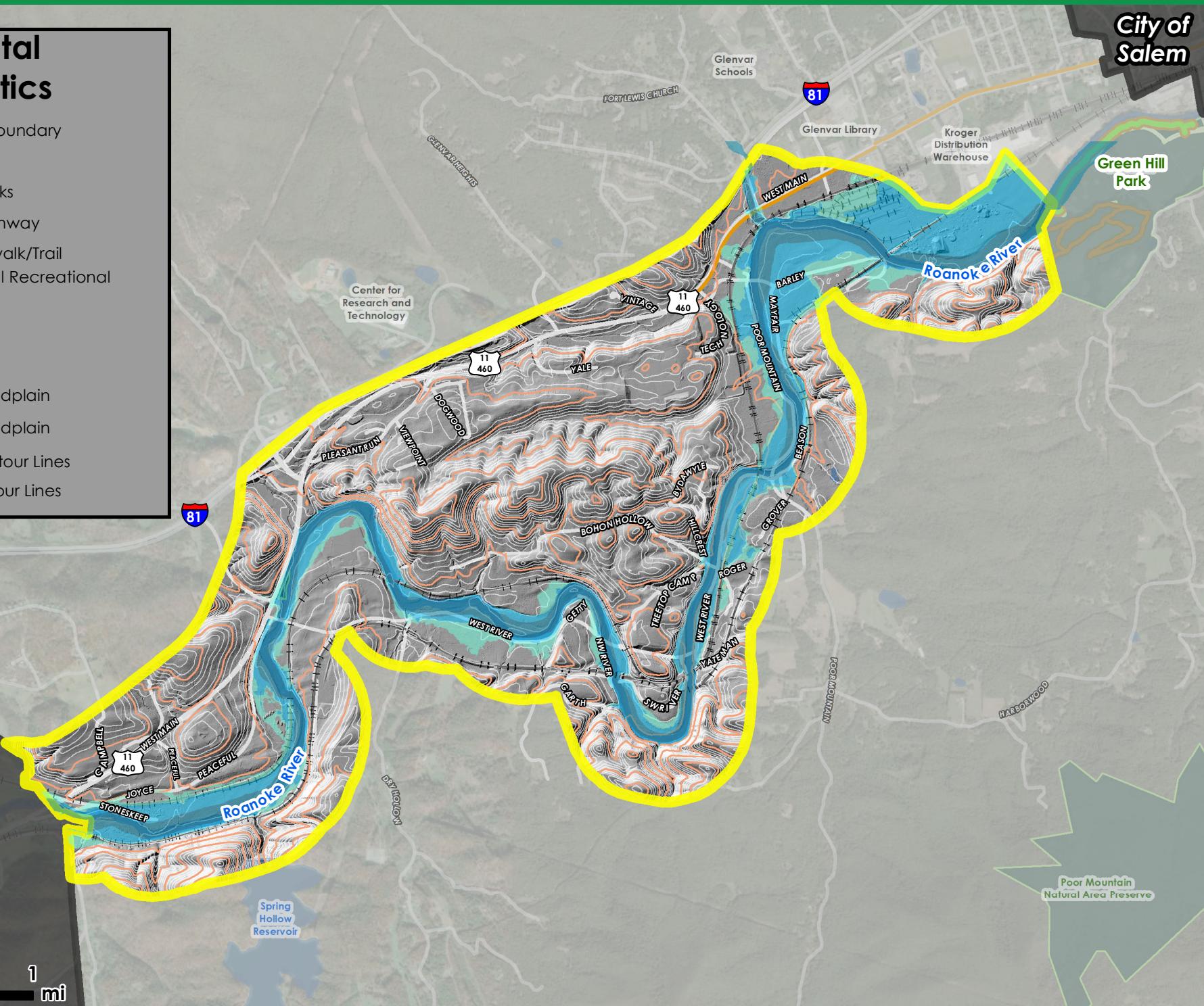
## Future Land Use

- Study Area Boundary
- Conservation
- Core
- Development
- Glenvar Village
- Mixed Use
- Neighborhood Conservation
- Principal Industrial
- Rural Preserve
- Rural Village
- Transition



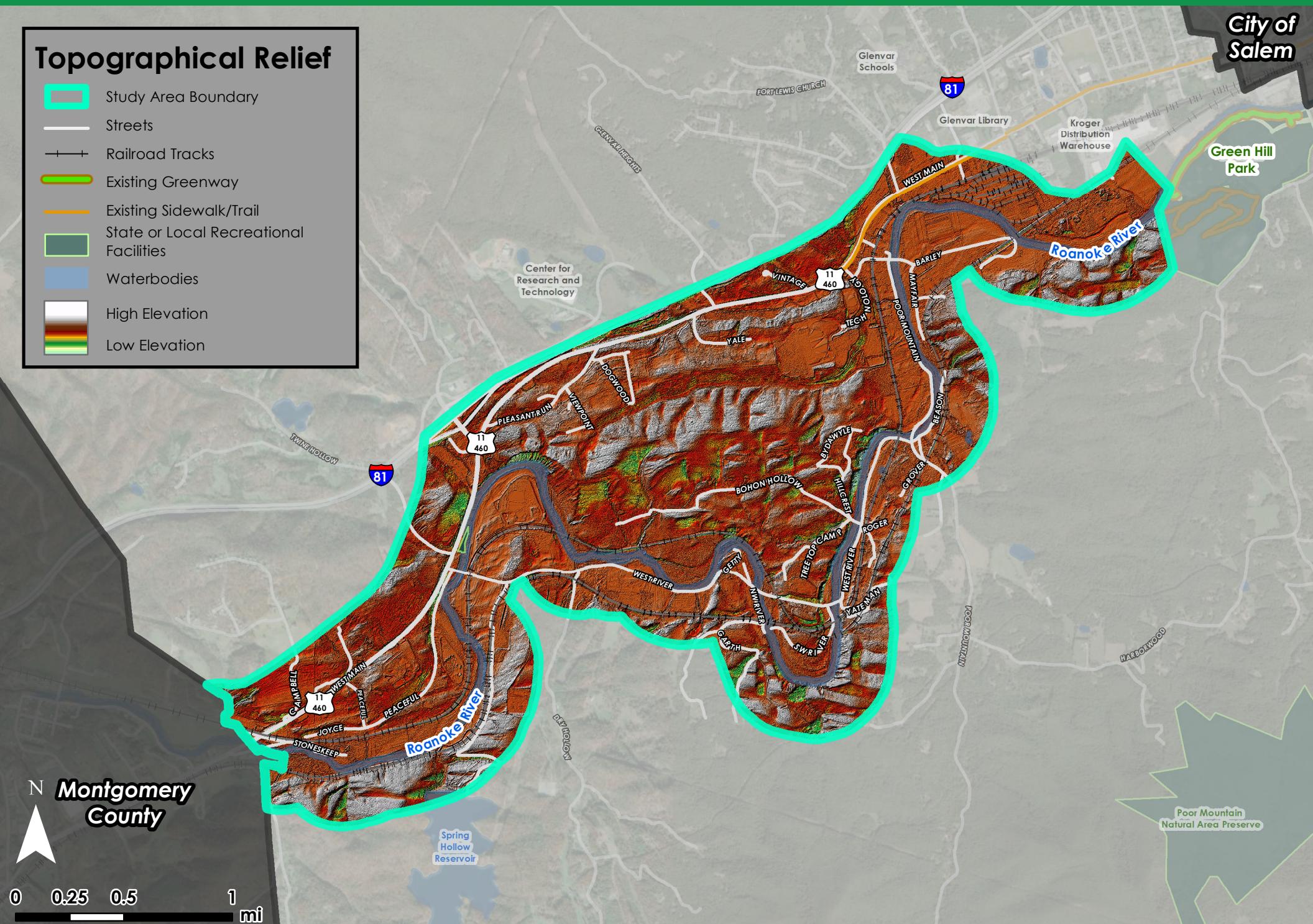
# Environmental Characteristics

- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 100-foot Contour Lines
- 20-foot Contour Lines

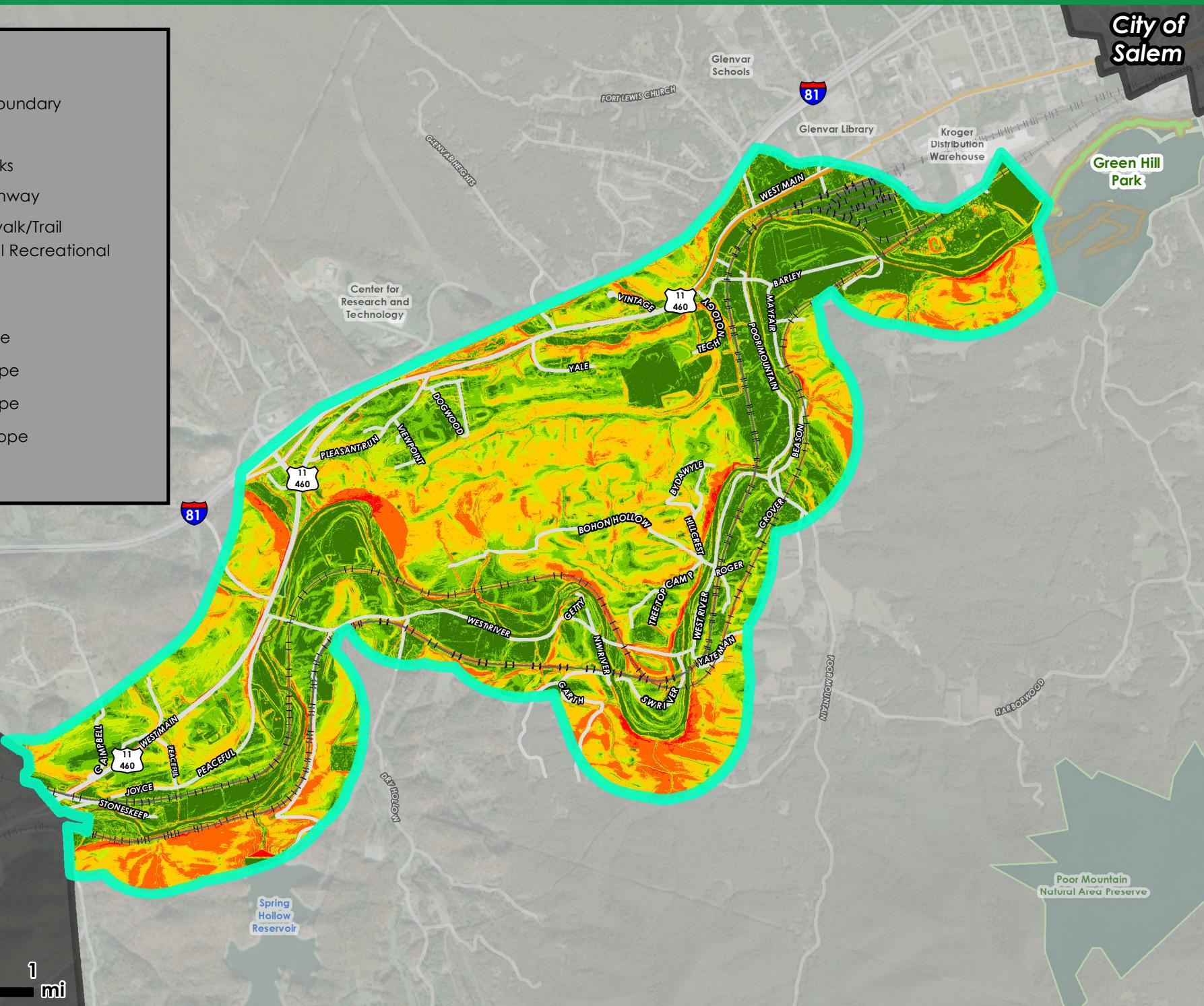


## Topographical Relief

- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- High Elevation
- Low Elevation



## Slope



on it represent a safety hazard for potential greenway users, but Route 11/460/West Main Street also provides the opportunity for this potential greenway to connect to local businesses and community facilities.

## Terrain Challenge

To make the Greenway accessible to all potential users, the U.S. Access Board recommends keeping the majority of the Greenway surface to less than a 5% grade (1 foot rise for every 20 feet of trail length). The areas of the Glenvar area that conform to this standard are mostly found adjacent to the Roanoke River, along existing railroad lines, and partially along Route 11/460 as shown on the map on page 30. In addition to not meeting the standards of the U.S. Access Board, construction of greenways on steep slopes is often prohibitively expensive. The ubiquity of steep slopes in the study area prompted the steering committee to focus on potential routes that follow the river, rail lines, and road.

## Private Land Challenge

Seven hundred and forty-seven (747) parcels are located completely or partially within the Study Area. As of December 2024, these parcels are owned by 482 different owners. The division of land in the Study Area into many small parcels owned by many different owners will make right-of-way negotiations difficult, as acquiring right-of-way will require many parties to agree to the same thing at the same time. If one property owner along a proposed greenway route refuses to sell land or an easement for the greenway, that potential greenway route must be redesigned to avoid that person's property or scrapped altogether. Additionally, if one person is

strongly against the greenway project, neighbors of theirs who may be neutral or slightly in favor of the project will likely refuse to support the project publicly and refuse to grant-right-of-way for it, to avoid making an enemy out of their neighbor. Thus far in the Roanoke Valley, greenways have generally been constructed on land that is owned by only one party, or a small handful of separate owners. The unconstructed segments of high-priority greenways like the Roanoke River Greenway and the Tinker Creek Greenway remain unconstructed due to the difficulty of getting a large number of property owners to agree to the project at the same time.

## Narrow Road Infrastructure Challenge

West River Road travels through a majority of the study area along the Roanoke River. Although a main thoroughfare through the study area, the road is roughly twenty (20) feet wide with bi-directional traffic and no striping (see photos of West River Road on pages 53-55). The right-of-way for West River Road is roughly thirty (30) feet in width, allowing for an average of five (5) extra feet on either side of the pavement. In addition to a narrow right-

of-way width, many sections of the road have steep terrain or buildings close to the road. While it is common practice in greenway development to widen roads and/or create a separate path for pedestrians within public right-of-way, this may not be viable due to the narrow width of the West River Road right-of-way. The average daily traffic count for this road is low at approximately 250 cars a day but any re-configuration of the roadway will require a VDOT-led traffic study.

## Route 11/460 (West Main Street)

One potentially simpler location to construct the West Roanoke River Greenway is alongside Route 11/460 (West Main Street). Route 11/460 has a significantly wider right-of-way than West River Road and contains four travel lanes. Between Boone Tractor (5264 West Main Street) and West River Road, Route 11/460 also has a bi-directional turning lane between the eastbound and westbound lanes. Although this roadway provides more public right-of-way to work within when designing a greenway, it experiences lots of traffic, with 2023 Annual Average Daily Traffic (AADT) counts ranging from 8,825 at



the western end of the study area to 14,964 at the eastern end of the study area (see map on page 38). This volume of traffic poses safety concerns for potential greenway users and any safe greenway crossing of Route 11/460 would require a stoplight at the intersection, which would increase the cost of the project and slow traffic on an already-congested roadway. Additionally, constructing a greenway adjacent to Route 11/460 would potentially require altering or adding to existing stormwater infrastructure, which would further increase construction costs.

Although the challenges of Route 11/460 are substantial, the construction of a greenway adjacent to this thoroughfare would provide an opportunity to connect more businesses and residential areas than a greenway

adjacent to the Roanoke River. Each edition of the Roanoke Valley Greenway Plan adopted since 1995 envisions the Roanoke River Greenway as a continuous, functional non-motorized transportation route. This goal must be balanced with the natural experience sought after by most greenway users, environmental conservation benefits, and overall safety considerations.

### Rail and River Crossing Challenges

Any crossings of the greenway that would be needed across the Roanoke River or existing at-grade rail lines would pose significant cost burdens due to requiring either a bridge or elevated walkway. Any crossing of a rail line would need to have a clearance of at least 23 feet over the center of the rail line. For the Roanoke River, the design of crossings

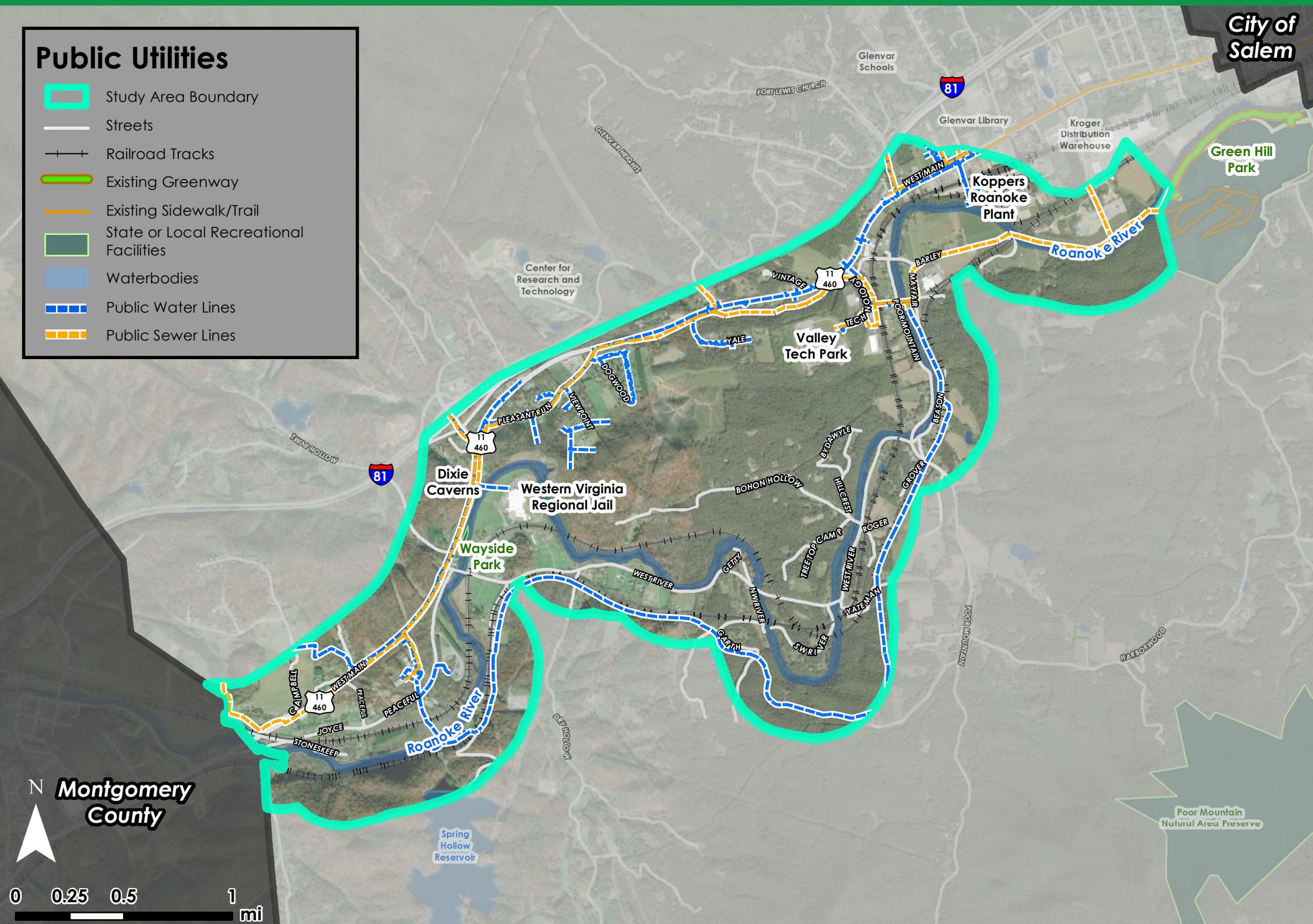
is more site-dependent and contingent on the location of the floodplain, as bridge footings cannot be constructed in floodplain. Although these types of crossings are not impossible, their design and construction is extremely costly both financially and in the length of time required to secure approval and permits. There is potential to incorporate greenway infrastructure into existing bridges, but doing so would in most cases require retrofitting the bridge – another expensive and time-consuming endeavor. The construction of any new crossings over the Roanoke River or rail lines, or retrofitting of existing bridges to incorporate new greenway infrastructure, will need to be closely evaluated to determine if simpler, more cost-effective options exist. A map of potential locations where the West Roanoke River Greenway may need to cross railroad tracks is shown on page 37.



Route 11/460/West Main Street, Railroad Tracks, Roanoke River, and Barley Drive  
Credit: Roanoke Valley Television

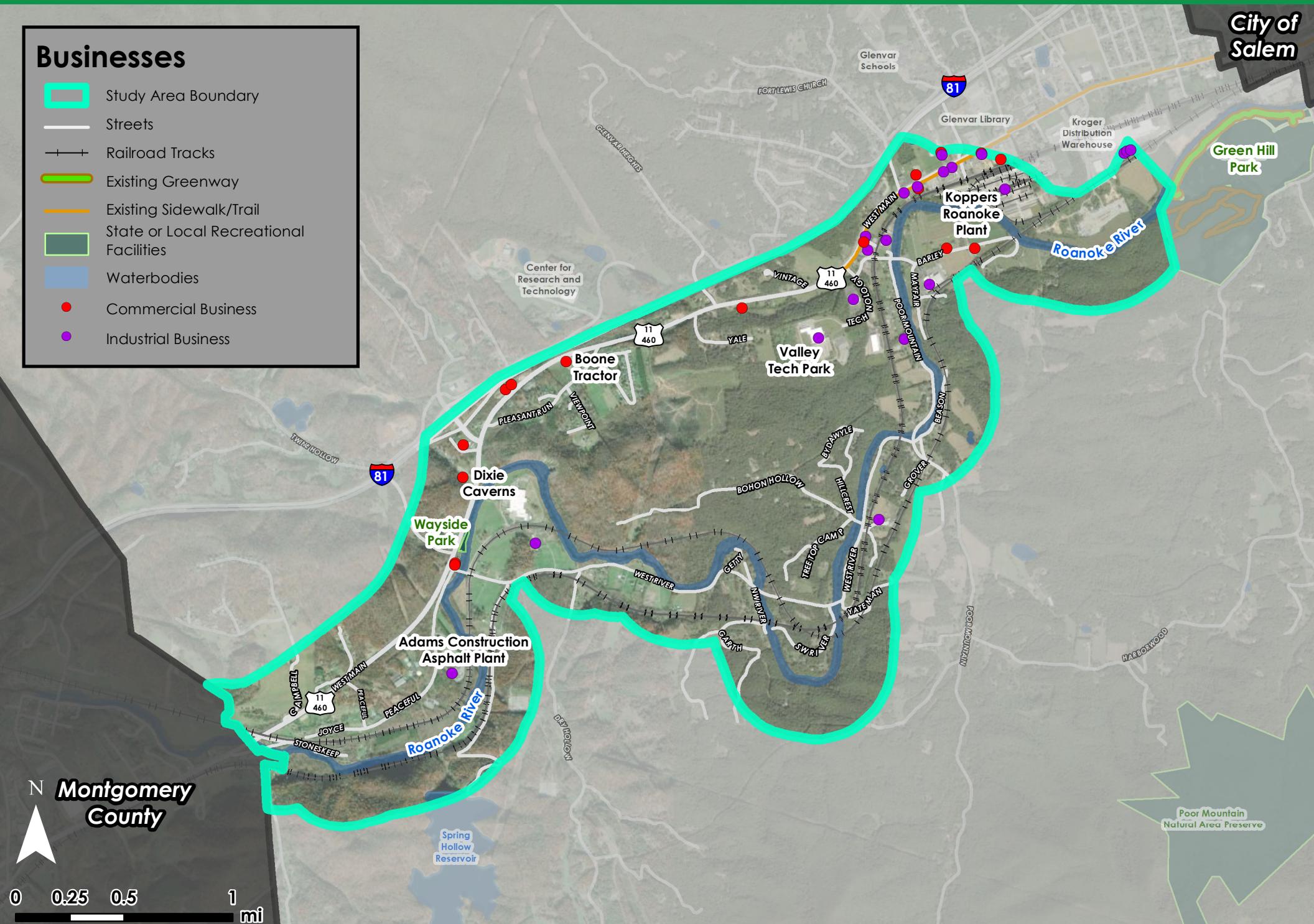
## Public Utilities

- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- Public Water Lines
- Public Sewer Lines



## Businesses

- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- Commercial Business
- Industrial Business



## Cultural Resources

### Study Area Boundary

## — Streets

—+— Railroad Tracks

Existing Greenway

#### Existing Sidewalk/Trail

### Section 1

**State or Local Facilities**

## National Register of Historic Places

A yellow star icon with black outlines, positioned to the left of the word "House".

## Virginia DHR Architectural Sites

## Bridge

● Cemetery

## Church

## ● Commercial

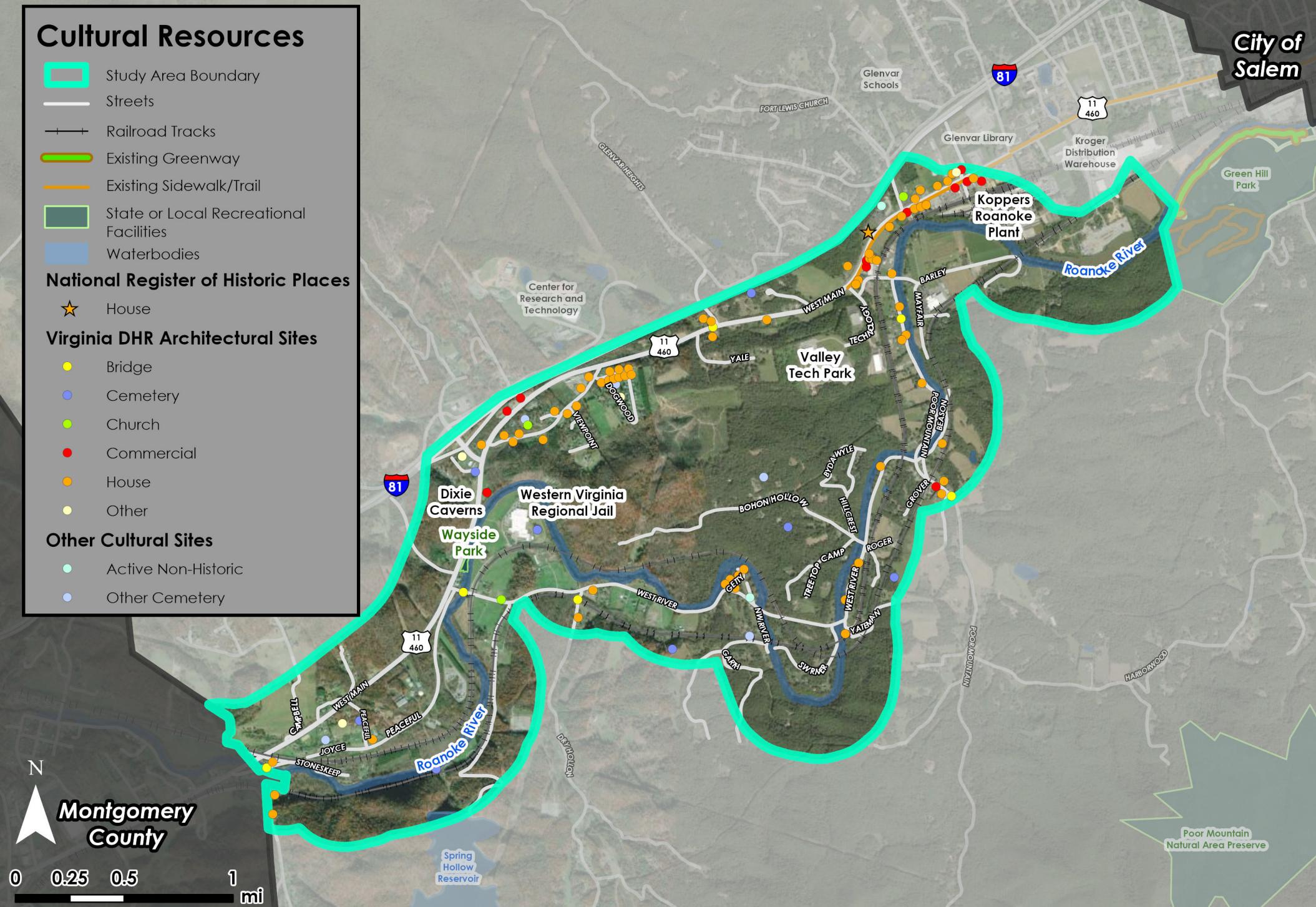
● House

● Other

## Other Cultural Sites

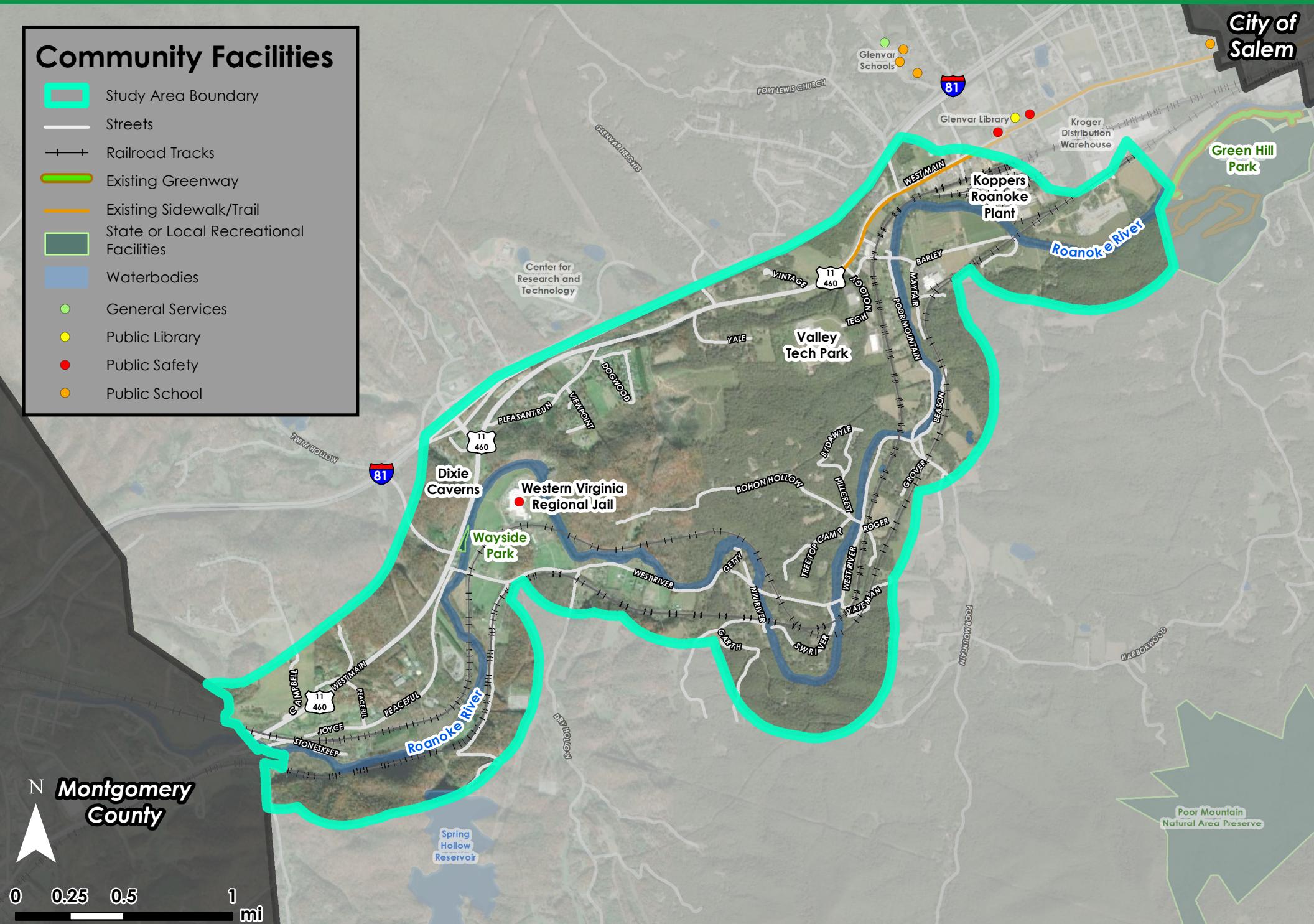
### ● Active Non-Historic

● Other Cemetery



# Community Facilities

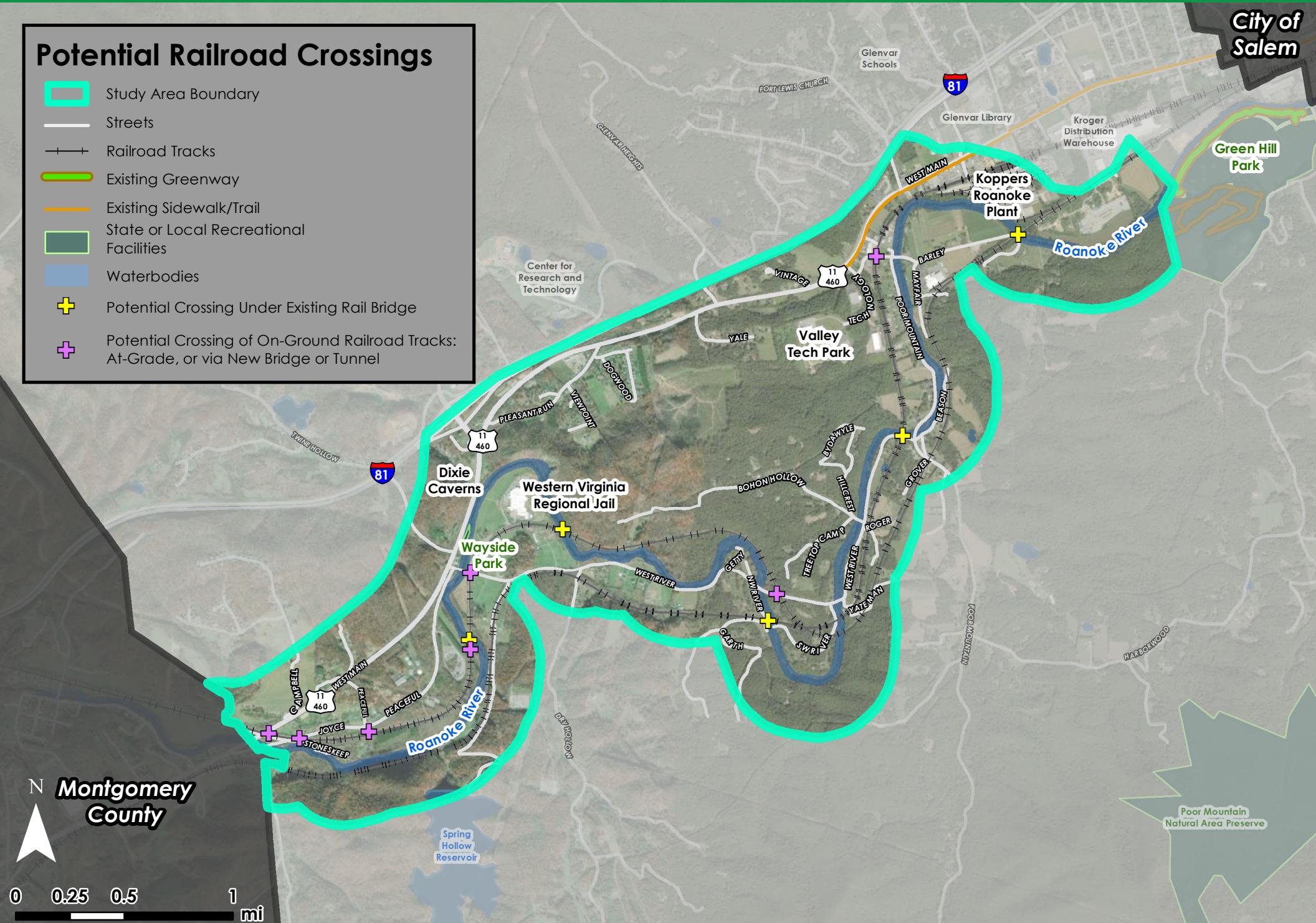
- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- General Services
- Public Library
- Public Safety
- Public School



0 0.25 0.5 1 mi

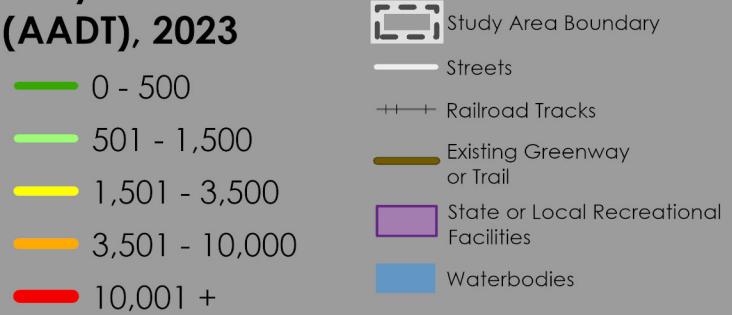
## Potential Railroad Crossings

- Study Area Boundary
- Streets
- Railroad Tracks
- Existing Greenway
- Existing Sidewalk/Trail
- State or Local Recreational Facilities
- Waterbodies
- Potential Crossing Under Existing Rail Bridge
- Potential Crossing of On-Ground Railroad Tracks: At-Grade, or via New Bridge or Tunnel



## Annual Average Daily Traffic (AADT), 2023

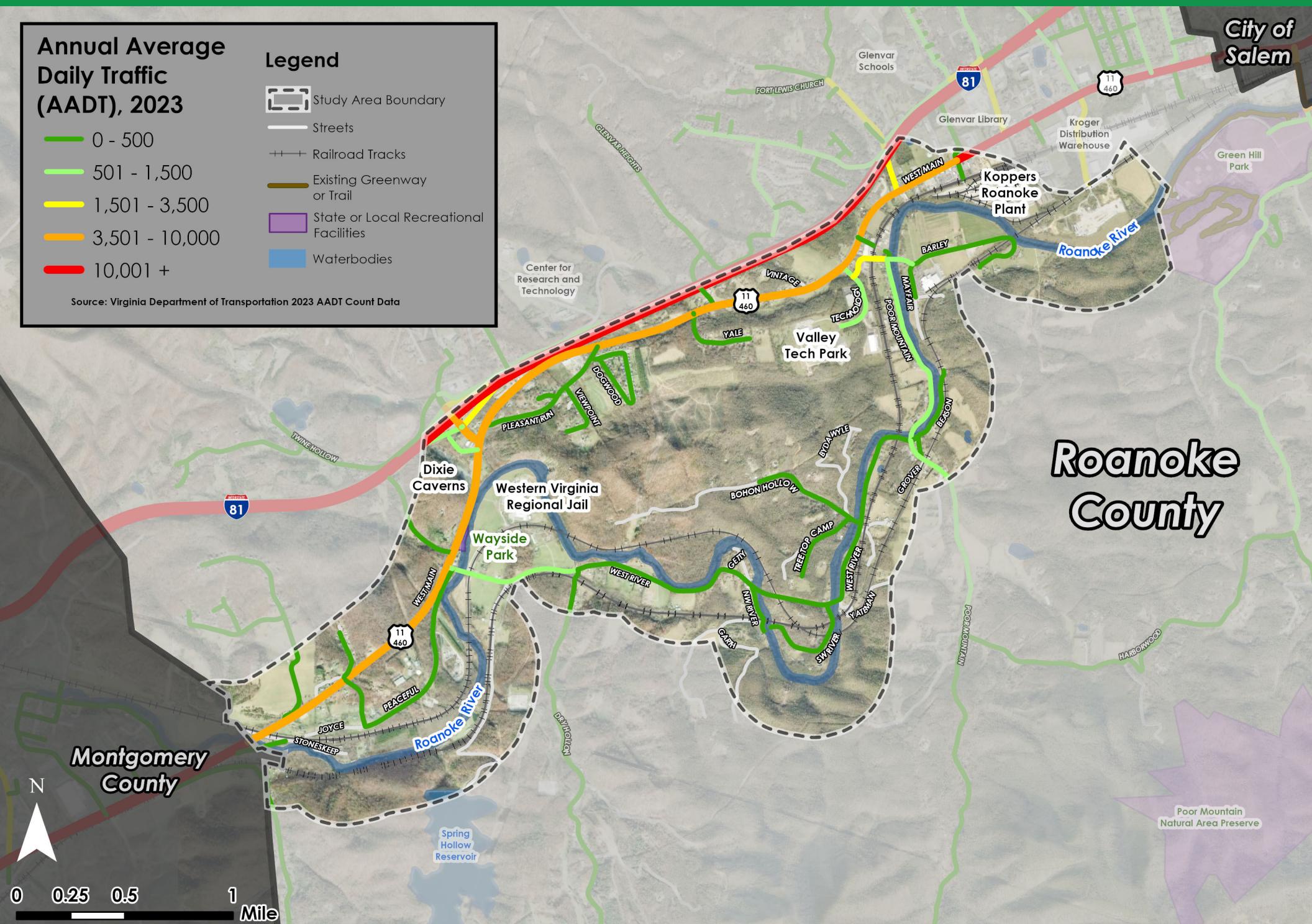
### Legend



Source: Virginia Department of Transportation 2023 AADT Count Data

City of Salem

# Roanoke County



## 4 Potential Route Analysis and Public Participation

### 4.1 First Round of Community Meetings – Fall 2022

In the fall of 2022, two (2) community meetings were held to gain local knowledge about the study corridor and learn about the surrounding community's preferences for this section of the West Roanoke River Greenway. Meetings were held in an open house format and included history exhibits, status updates on the Roanoke River Greenway completion efforts, and exercises to gain citizen feedback. The first community meeting on October 19, 2022, at Fort Lewis Baptist Church had 56 attendees and the second community meeting on October 20, 2022, at the Spring Hollow Water Treatment Plant had 44 attendees.

Exercises featured at these two community meetings included identifying potential destinations on a map (results summarized on page 39), an amenity visual preference survey (results summarized on page 41), an activity where attendees could draw their own preferred greenway route (results summarized on page 40), and documenting what attendees love about the existing Roanoke Valley Greenway network.

In addition to the community meetings, a survey was disseminated and 198 people responded to it. The survey gathered information regarding peoples' general relationship with the Glenvar area and their

### Destination Exercise Results

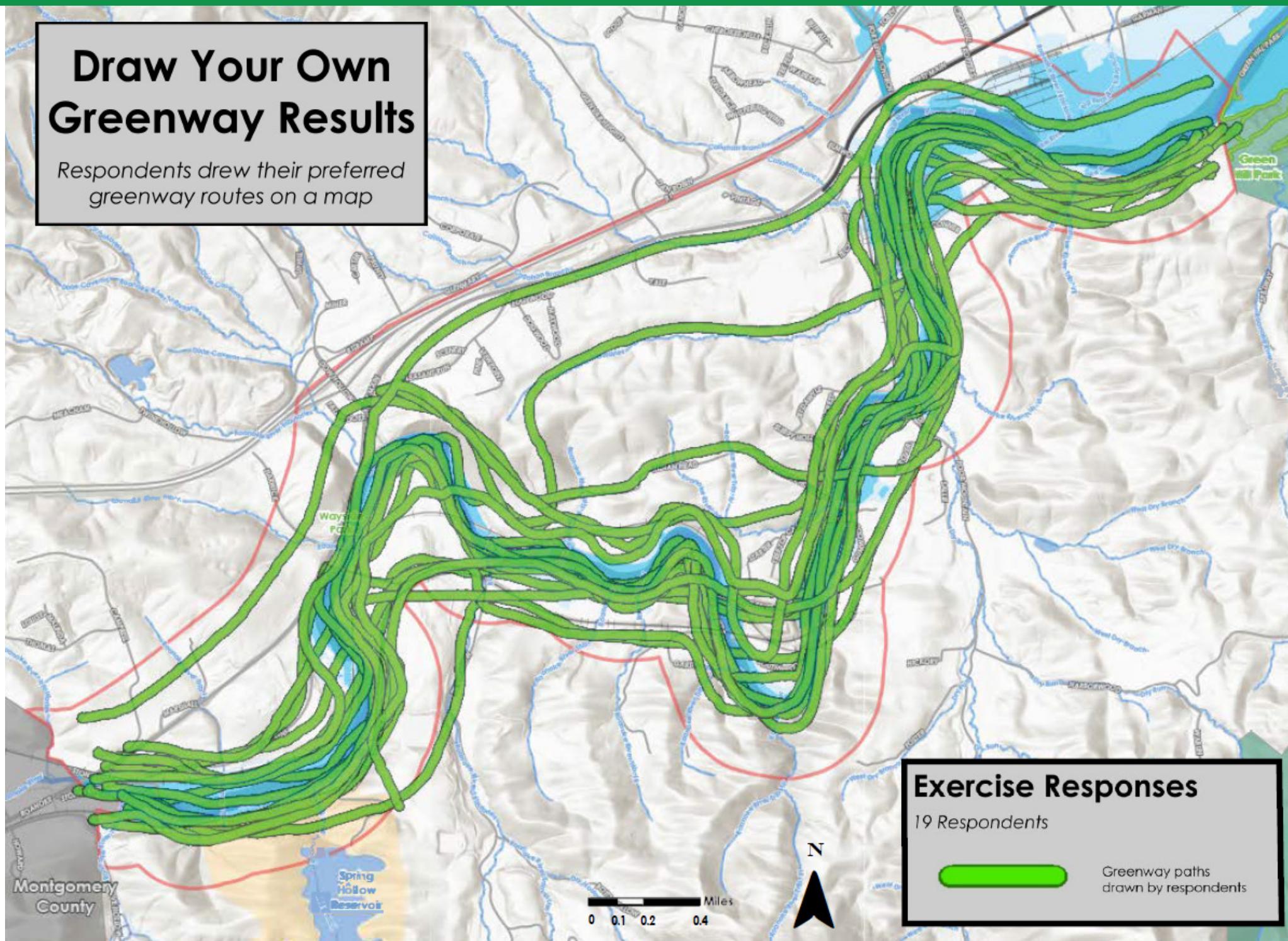
Respondents identified locations on a map they would like to see this greenway connect to.

Destination	Fort Lewis Baptist Church 10-19-22	Spring Hollow Water Treatment Plant 10-20-22	Total
Spring Hollow Reservoir	3	5	8
Wayside Park	1	3	4
Route 11/460 at Montgomery County line	1	1	2
West River Road at Yateman Lane	2	0	2
West River Road at Poor Mountain Road	2	0	2
I-81 immediately north of Vintage Lane	2	0	2
Barley Drive bridge over Roanoke River	2	0	2
Living Well Church of the Nazarene	0	1	1
Green Hill Park	0	1	1
"Goat Rock" (rock face across the river from Western Virginia Regional Jail)	0	1	1
Rt. 11/460 halfway between Pleasant Run Drive and Yale Drive	0	1	1
End of Stones Keep Lane in Montgomery County (across railroad tracks from 6670 Stones Keep Lane)	1	0	1
Western Virginia Regional Jail	1	0	1
Roanoke River Tributary at Roanoke River (just north of Dry Hollow Road)	1	0	1
West River Road bridge immediately east of Northwest River Road	1	0	1
Friendship Richfield Living	1	0	1
Glenvar Library	1	0	1



# Draw Your Own Greenway Results

Respondents drew their preferred greenway routes on a map



preferences regarding use of the Greenway, location of Greenway, and type of Greenway. Fall 2022 survey results are summarized on pages 42-43. Complete results from the Fall 2022 community meetings and survey can be found in Appendix 6.2.

## 4.2 Development of Potential Routes

Following the first round of community meetings, Roanoke County staff compiled and summarized the survey results and feedback and distributed this information to the Steering Committee to review. In January 2023, the Steering Committee met to develop potential routes for the West Roanoke River Greenway to present to stakeholders. Potential routes were selected based on feedback received in the community meetings and survey, a free-form discussion within the Steering Committee about the strengths and weaknesses of each hypothetical route, and a decision matrix developed by NPS-RTCA staff. The decision matrix included five criteria:

- Serving the residents of western Roanoke County
- Potential to become a recreation destination that attracts visitors from other communities
- Promotion of environmental services
- Safety
- Cost

Steering Committee members assigned each hypothetical route a score of Low, Medium, or High for each criterion. Routes that had a relatively high ratio of strengths to

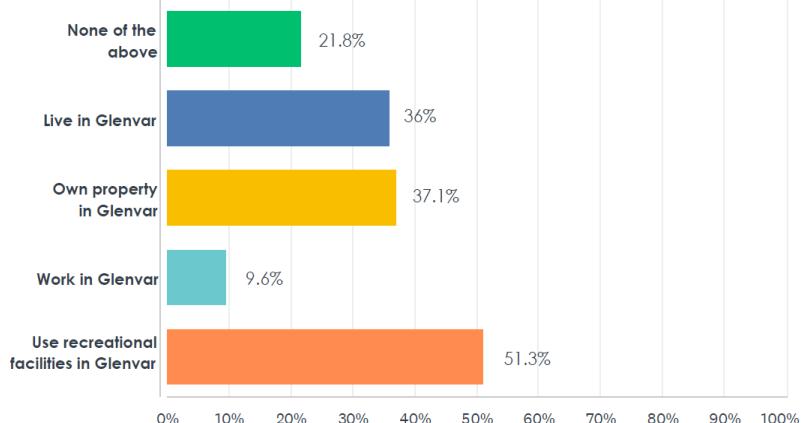
Amenity Visual Preference Survey Results			
Respondents placed stickers next to photos of amenities they would like to see on this greenway. *Italicized and indented amenities were written in.			
Amenity	Fort Lewis Baptist Church 10-19-22	Spring Hollow Water Treatment Plant 10-20-22	Total
Benches	10	9	19
Viewing/Fishing Platforms	7	6	13
Mutt Mitt Stations	6	6	12
Boat Access	8	4	12
Rest Rooms	6	4	10
Picnic Areas	6	3	9
Playgrounds	5	3	8
Swimming Access	4	3	7
Vineyards/Breweries/Tasting Rooms	3	0	3
Bike Repair/Maintenance Stations	0	2	2
Access to schools, libraries, government buildings (i.e. police, jail). For visitors, workers, and idea of connecting community)	1	0	1
No steep grades	1	0	1
Healthy air quality	1	0	1
Water fountains	1	0	1
Parking trailheads	1	0	1
Equestrian trails	1	0	1
Bike trails	1	0	1
Keep it simple and basic	1	0	1



## Fall 2022 Survey Results

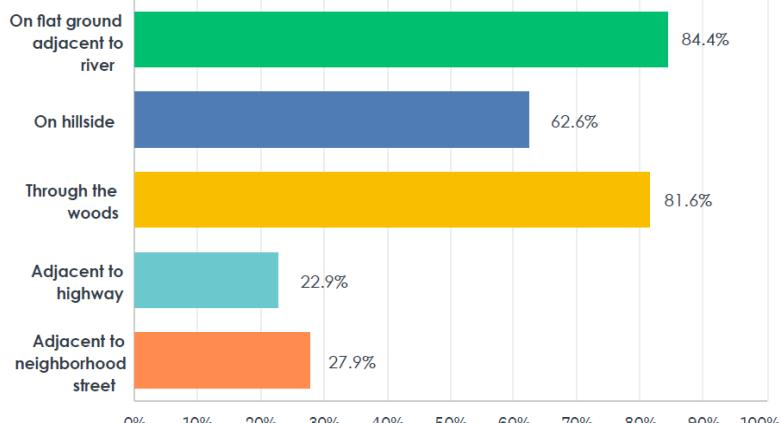
### What is your relationship to the Glenvar community? (check all that apply)

197 Responses



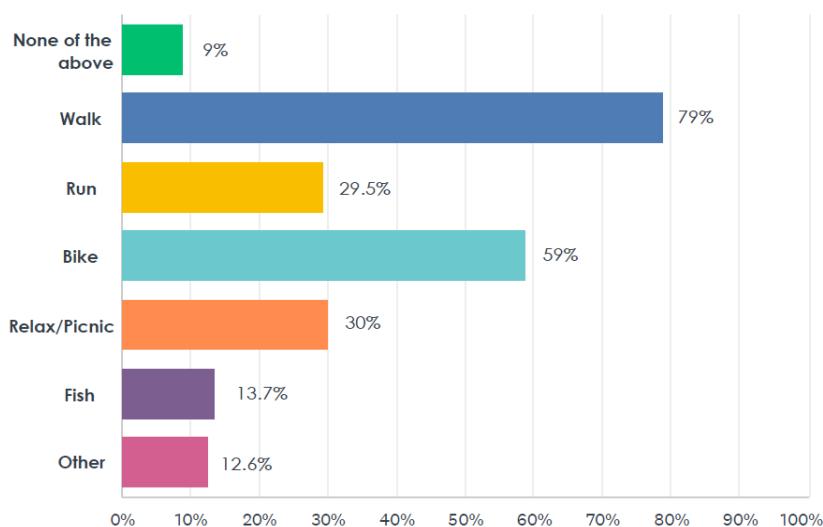
### What kind of greenway would you like to see in your community? (select as many as you like)

179 Responses



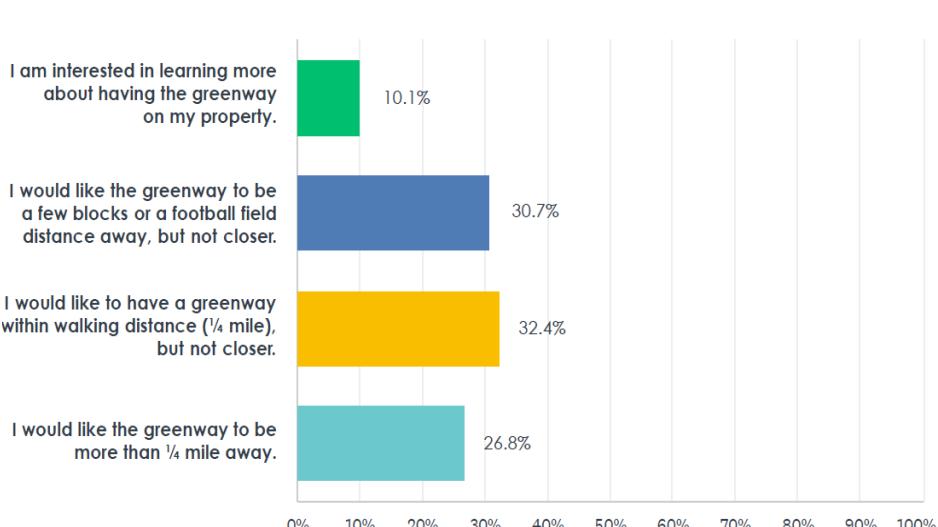
### Do you use Roanoke Valley Greenways for any of the following activities? (check all that apply)

197 Responses



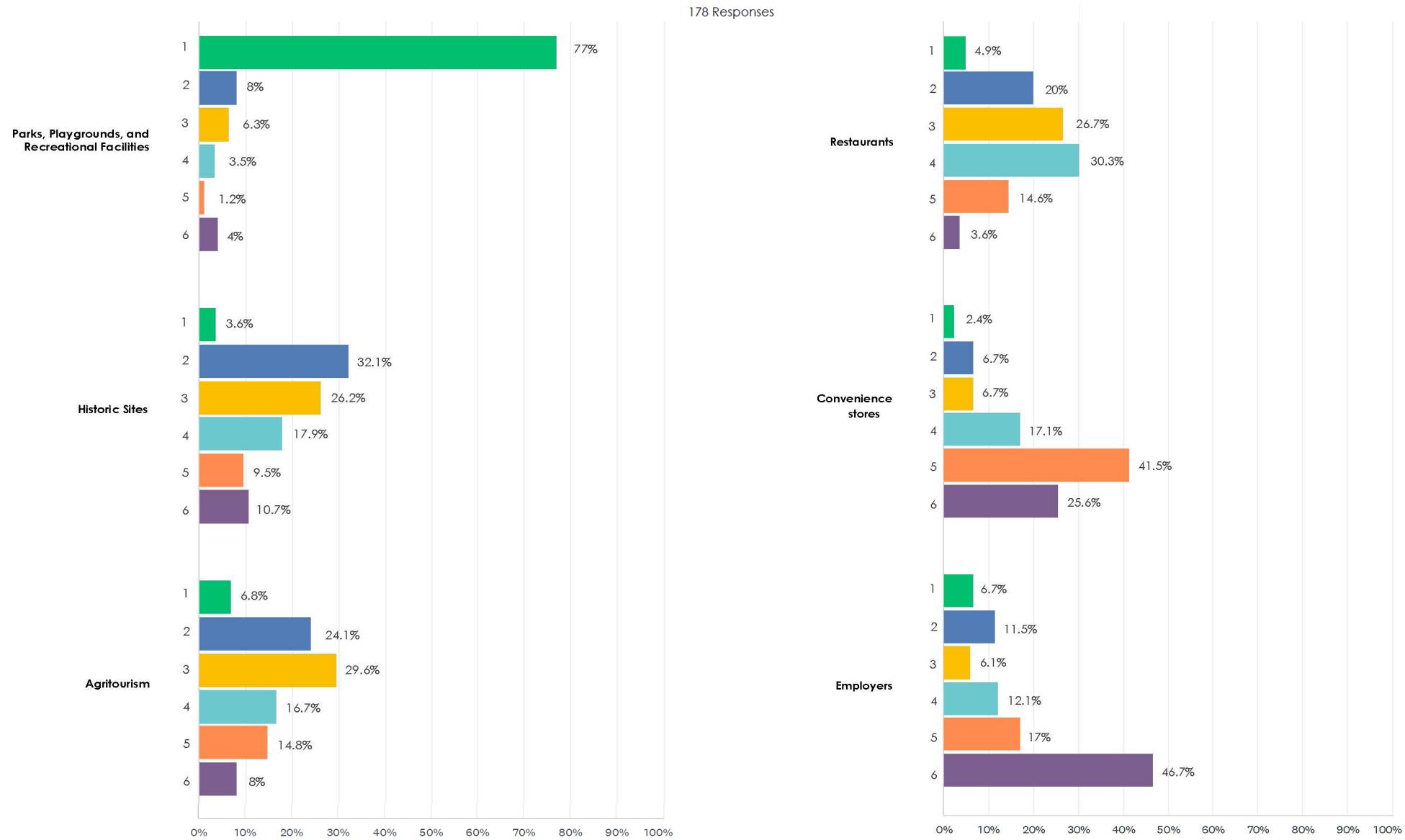
### How comfortable would you be with the location of a new trail where you live?

179 Responses



## Fall 2022 Survey Results

Please rank the following potential destinations of the greenway from most important to least important  
(1 = most important, 6 = least important)



weaknesses, had potential to garner public support, and didn't score too poorly on the decision matrix remained in consideration and were presented to corridor stakeholders in Spring 2023. Routes that were not objected to by corridor stakeholders remained in consideration and were presented to the public as conceptual route alternatives in Summer 2023. Due to terrain and land ownership constraints, almost all conceptual route alternatives presented to the public were directly adjacent to the Roanoke River, a public road, or the set of railroad tracks that at that time was owned by the Virginia Passenger Rail Authority.

### 4.3 Second Round of Community Meetings – Summer 2023

In the summer of 2023, two (2) additional community meetings were held to review conceptual route alternatives that were

developed based on community feedback from the initial community meetings and additional input provided by stakeholders. An informational video was also shown highlighting the work that had been done since the initial round of community meetings. The first meeting was held on July 10, 2023, at the Western Virginia Water Authority's Spring Hollow Water Treatment Plant and had 38 attendees. The second meeting was held on July 13, 2023, at Fort Lewis Elementary School and had 36 attendees.

The focus of the second round of community meetings was to gather feedback on the conceptual route alternatives developed by the Steering Committee. Unlike the first round of community meetings, there were no standalone exercises at the community meetings that were different than the survey. Feedback at the community meetings was collected via the exact same survey that was

mailed to study area residents and property owners, as at this point Steering Committee simply needed to know what the public thought of the conceptual route alternatives. For the purposes of the survey, the study area was divided into three subareas (A, B & C), and the conceptual route alternatives were divided into twenty (20) short segments with logical endpoints. Attendees were asked to select their preferred segments in each subarea. The maps on pages 45-47 are the exhibits that were used for this exercise.

Ninety-three (93) responses to the Summer 2023 survey were received. The map on page 48 shows the number of people who responded in support of each segment. The map on page 49 attempts to paint a comprehensive picture of the survey results via a "weighted net score." The weighting is helpful because for Areas A and C, survey respondents were asked to select their top





N

## **Area A Conceptual Route Alternatives**

## Montgomery County to Route 11/460/West Main Street at West River Road

0

0.12

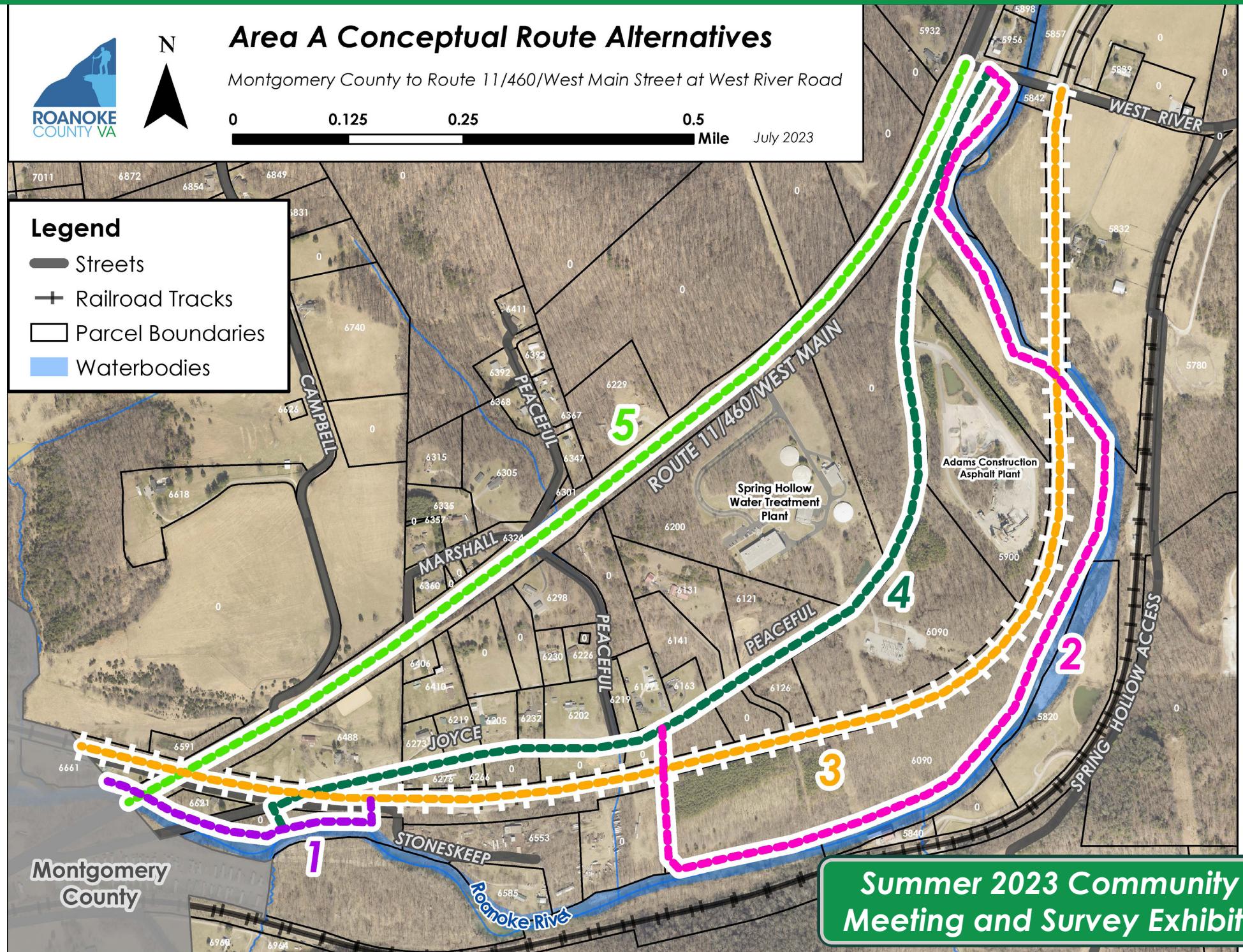
0.25

0.5

July 2023

## Legend

- Streets
  - Railroad Tracks
  - Parcel Boundaries
  - Waterbodies



# **Summer 2023 Community Meeting and Survey Exhibits**



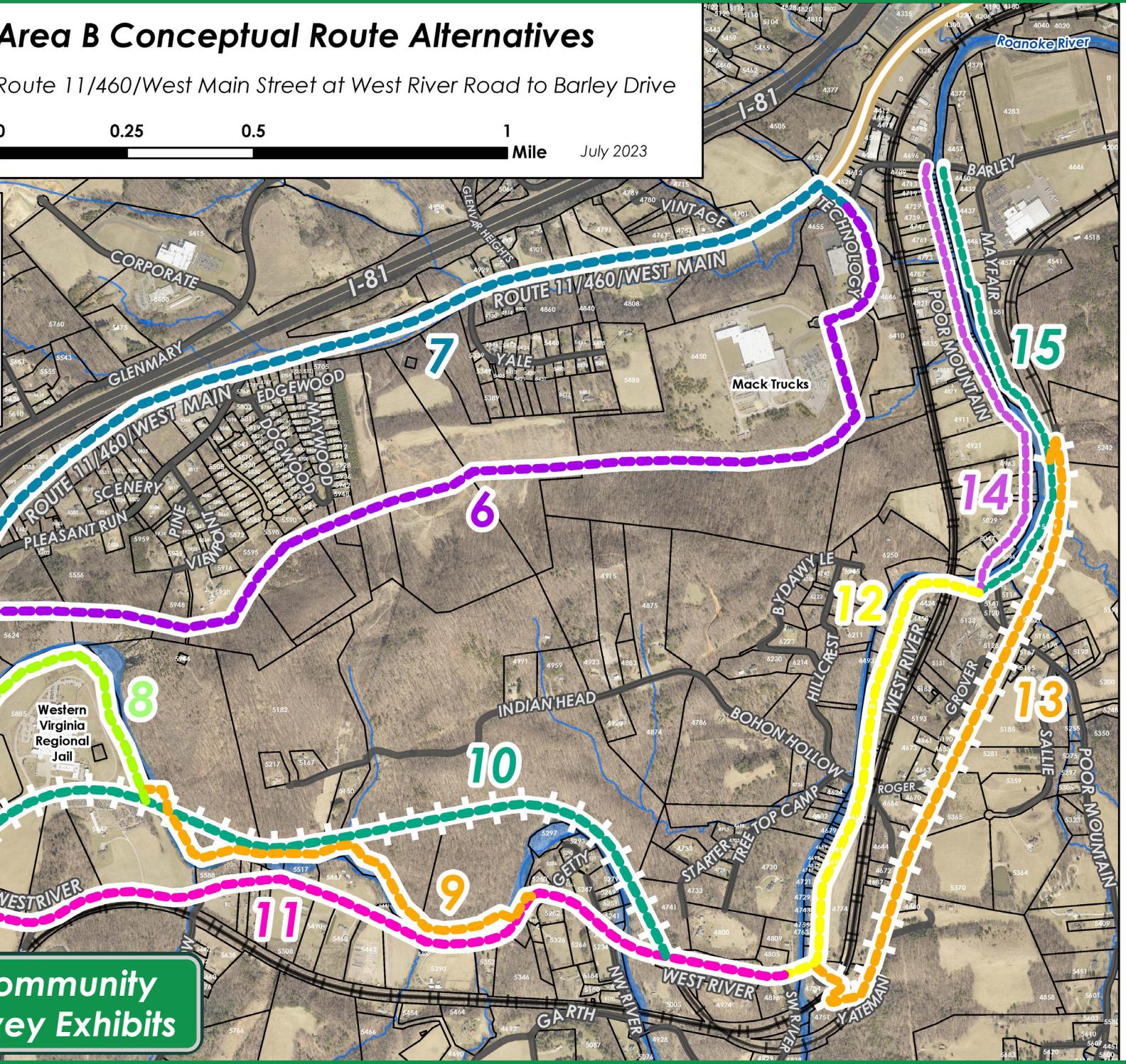
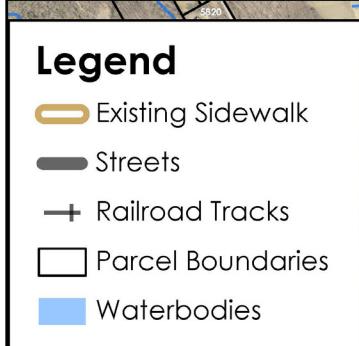
## Area B Conceptual Route Alternatives

Route 11/460/West Main Street at West River Road to Barley Drive

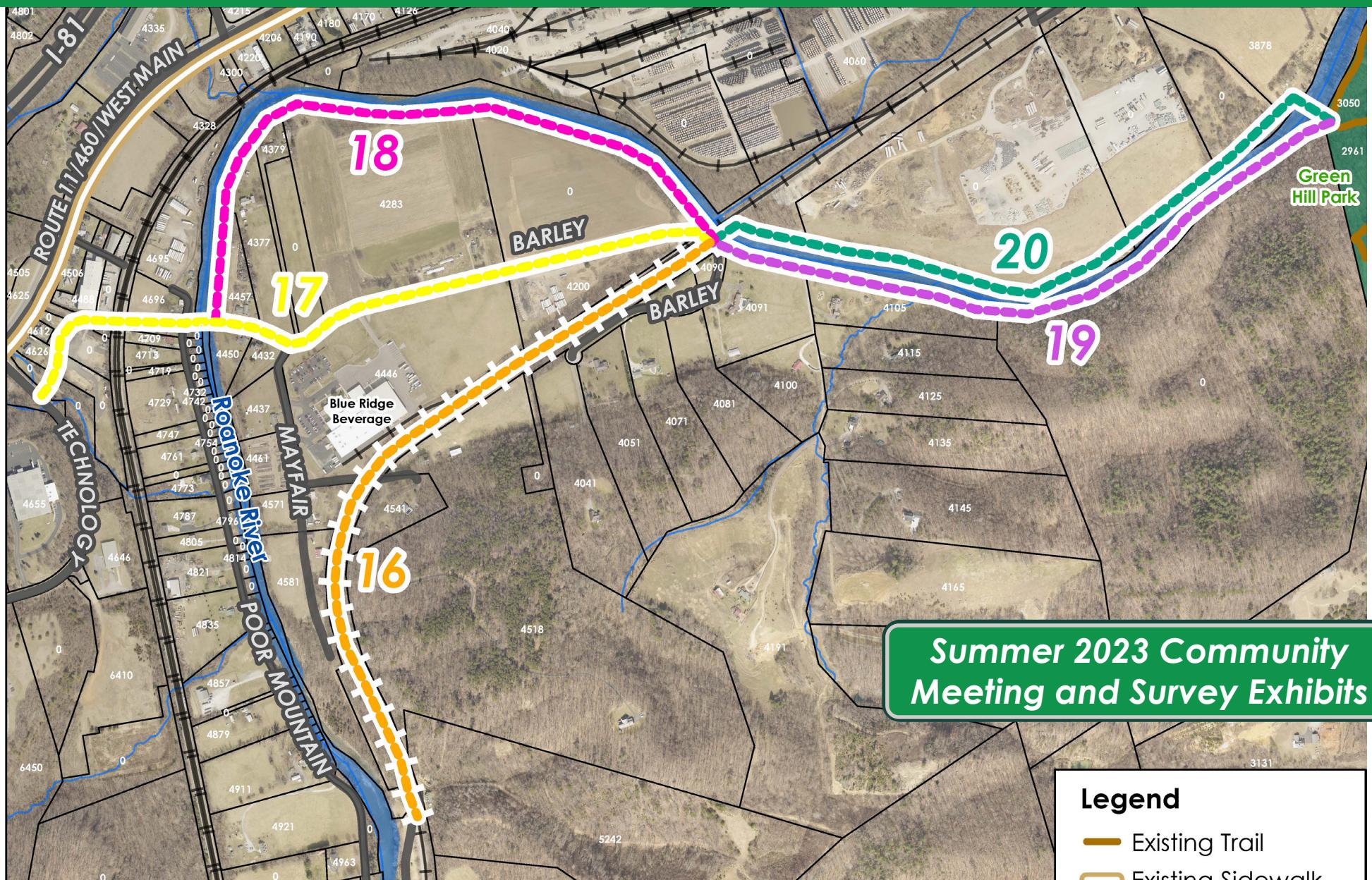
0 0.25 0.5

1  
Mile

July 2023



Summer 2023 Community  
Meeting and Survey Exhibits



## Area C Conceptual Route Alternatives

Barley Drive at Technology Drive to Green Hill Park

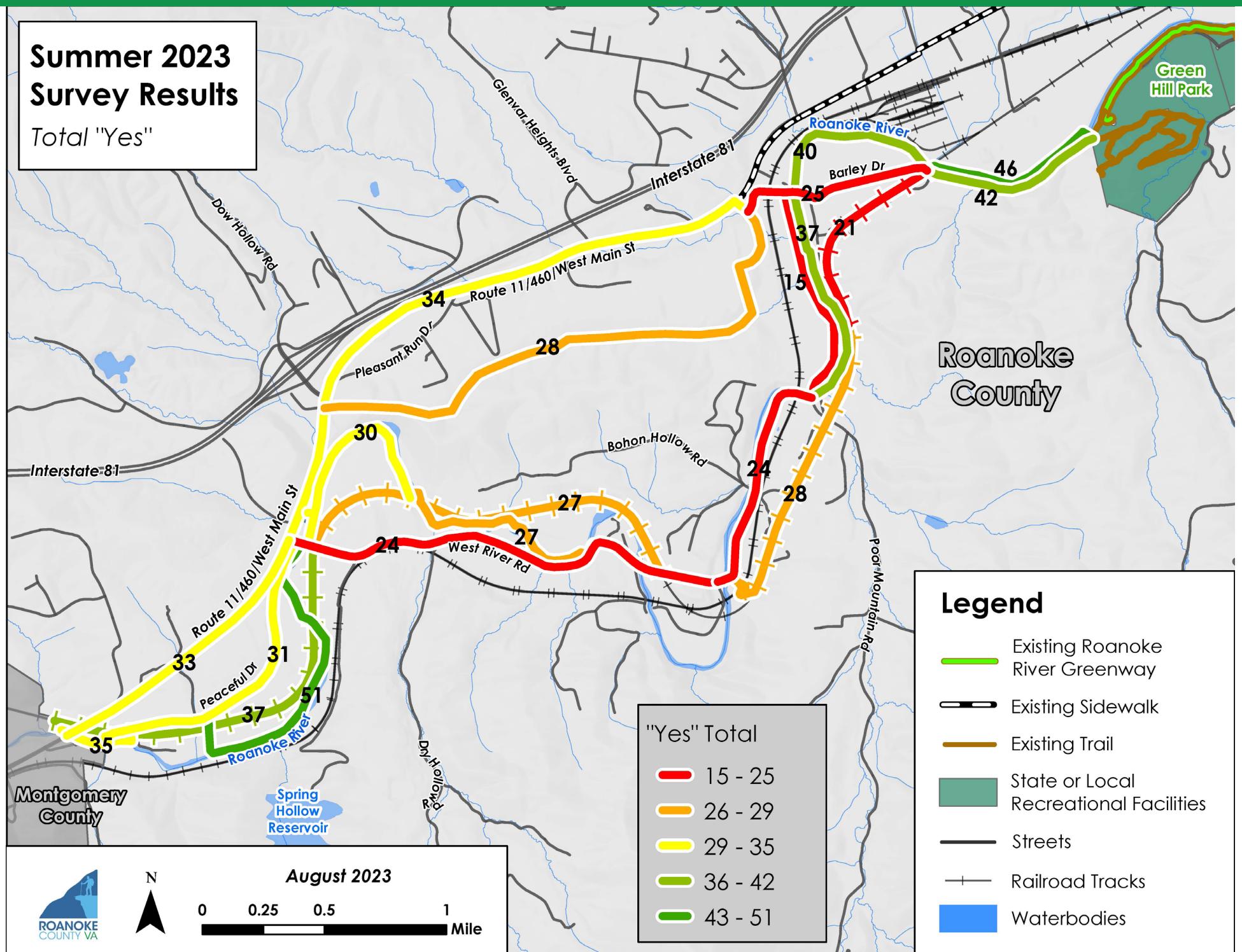
0 0.125 0.25 0.5 Mile

July 2023



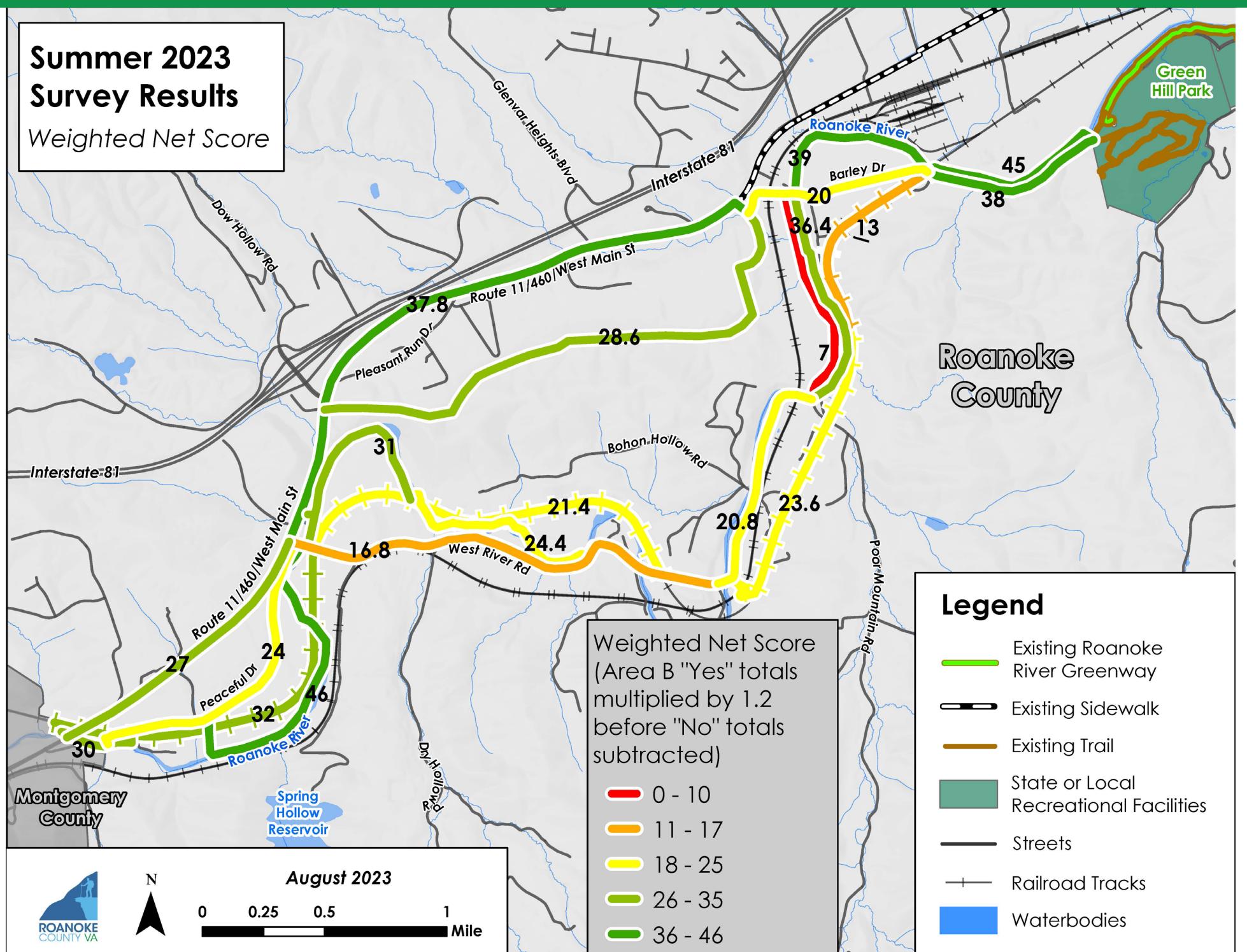
# Summer 2023 Survey Results

Total "Yes"



## Summer 2023 Survey Results

Weighted Net Score



three (3) preferred segments out of five (5) potential segments, which means they could select 60% of the available segments, but for Area B they were asked to select their top five (5) preferred segments out of ten (10) potential segments, so they could only select 50% of the available segments. Thus, a segment in Area A or Area C had 20% more opportunities to be selected than a segment in Area B. So, to get closer to an “apples to apples” comparison, the number of “yes” responses to each Area B segment was multiplied by 1.2 before the net score was calculated. Since no cap was set on the number of “no” responses in each subarea – respondents could oppose every segment in each subarea if they wanted to – the raw number of “no” responses was subtracted from the raw number of “yes” responses to Area A and Area C segments, and from the weighted “yes” responses to Area B segments to create the weighted net score map on page 49.

Complete Summer 2023 survey results can be found in Appendix 6.6.

#### 4.4 Potentially Viable Segments

The segments discussed in this section are fifteen (15) of the twenty (20) conceptual route alternatives presented to the public in Summer 2023. These conceptual routes are general, not exact: they have not been ground-truthed or developed by an engineer. The five (5) conceptual route alternatives that were eliminated from consideration are discussed in the following sub-section, and subsections discussing each of the fourteen potentially viable segments follow. Both the non-viable segments and the potentially viable segments are referred

to with the number they were assigned during the Summer 2023 public outreach process, these numbers do not connote a ranking or priority level.

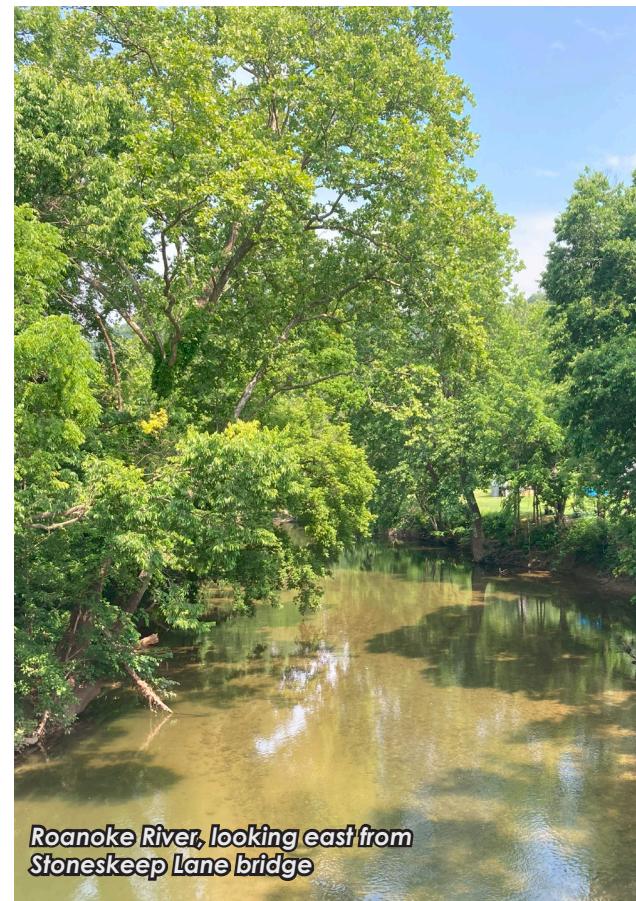
#### Non-Viable Segments Considered in Study Process

- Segment 3: Virginia Passenger Rail Authority right-of-way between Montgomery County and West River Road
  - Eliminated due to the sale of this right-of-way to Norfolk Southern in September 2024
- Segment 6: Through the woods between West Main Street and the Mack Trucks property, alongside Technology Drive between the Mack Trucks property and Barley Drive
  - Eliminated due to terrain challenges and property owner opposition
- Segment 10: Virginia Passenger Rail Authority right-of-way between West River Road (at Western Virginia Regional Jail) and West River Road (east of Northwest River Road)
  - Eliminated due to the sale of this right-of-way to Norfolk Southern in September 2024
- Segment 13: Virginia Passenger Rail Authority right-of-way between Yateman Lane and Beason Lane
  - Eliminated due to the sale of this right-of-way to Norfolk Southern in September 2024

- Segment 16: Virginia Passenger Rail Authority-owned land between Beason Lane and Barley Drive
  - Eliminated due to the sale of this right-of-way to Norfolk Southern in September 2024

#### Segment 1: North Bank of the Roanoke River Between Montgomery County and Stoneskeep Lane

This is a short segment (approximately 0.3 mile) that represents one of only two potentially viable options for connecting the West

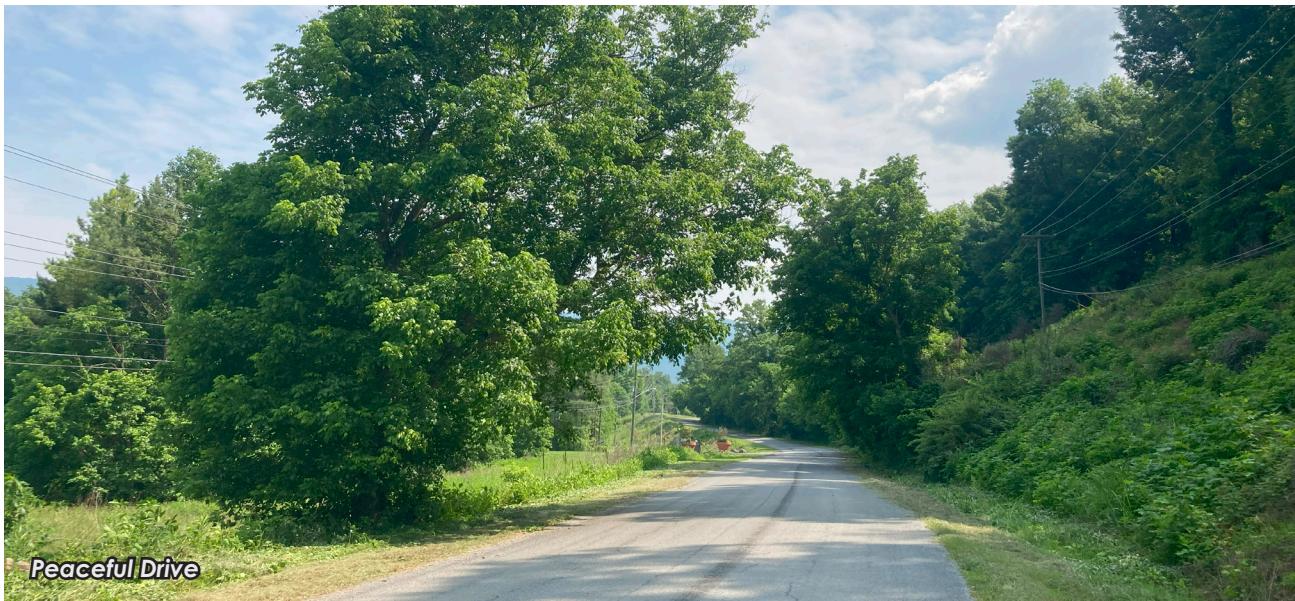


Roanoke River Greenway to the Montgomery County line. This segment would cross three (3) parcels, each of which has a different owner. These are relatively flat parcels with minimal topographic challenges relative to other segments. This segment would cross beneath the Route 11/460/West Main Street bridge over the Roanoke River and would either need to make an at-grade crossing of Stoneskeep Lane or cross beneath the Stoneskeep Lane bridge over the Roanoke River. The eastern end of this segment would likely need to be tweaked significantly if it were to be constructed, as the conceptual route it was imagined connecting to, Segment 3, has been eliminated from consideration. Instead of connecting to Segment 3, Segment 1 could connect to Stoneskeep Lane south of the railroad tracks, or a bridge could be constructed to connect to Joyce Lane north of the railroad tracks. The map on page 59 shows a detailed view of this potentially viable segment.

## Segment 2: North Bank of the Roanoke River between Peaceful Drive at Joyce Lane and West River Road

This is a longer segment (approximately 1.4 miles) that would provide a scenic user experience adjacent to the Roanoke River and away from residential neighborhoods. Despite its length, this segment would cross only two (2) parcels, one of which is owned by Appalachian Power, and the other of which is owned by the Roanoke County Board of Supervisors, so right-of-way acquisition would likely not be difficult compared to other potentially viable segments. This segment is mostly flat, but there is a pinch point in the VDOT right-of-way between the Roanoke County-owned parcel and the Appalachian Power-owned parcel, where there is only approximately 30 feet between the edge of the pavement on Peaceful Drive and the bank of the Roanoke River. Additionally, the elevation of

the Roanoke River is approximately 15 feet lower than the elevation of Peaceful Drive at this location, so the average slope on this piece of land is approximately 50%. This means that construction of Segment 2 would require extensive grading and landscaping at this location, and potentially a retaining wall. Another challenge presented by this segment is the need to cross the railroad tracks twice – once just north of the Adams Construction Asphalt Plant and again at the western end of the segment near the intersection of Peaceful Drive and Joyce Lane. North of the Adams Asphalt Plant, the greenway could cross the railroad tracks underneath the existing bridge over the Roanoke River, or via a new greenway bridge over the railroad tracks south of the Roanoke River bridge. Near Peaceful Drive at Joyce Lane, a new bridge over the railroad tracks or a new tunnel underneath them could provide passage across the railroad tracks. The map on page 60 shows a detailed view of this potentially viable segment.



## Segment 4: Stoneskeep Lane, Peaceful Drive, and Joyce Lane between the Roanoke River and Route 11/460/West Main Street

This segment is approximately 1.3 miles long and would consist of a greenway adjacent to Peaceful Drive (a public road), Joyce Lane (a private road), and Stoneskeep Lane (a public road). The railroad tracks would need to be crossed between Joyce Lane and Stoneskeep Lane, likely with a bridge. The section adjacent to Peaceful Drive and Stoneskeep Lane could likely be constructed within existing VDOT right-of-way, but the section adjacent to Joyce Lane may present a challenge from a right-of-way perspective, as all property owners who contribute to the maintenance of Joyce Lane would likely need to sign off on the greenway. The map on page 61 shows a detailed view of this potentially viable segment.



## Segment 5: Route 11/460/West Main Street, Montgomery County to West River Road

This 1.2-mile segment follows the path of Route 11/460/West Main Street between Montgomery County and West River Road. A greenway could be constructed adjacent to Route 11/460/West Main Street completely within existing VDOT right-of-way, or with minimal right-of-way acquisition needed. Though right-of-way would likely not be a challenge for this segment, it would provide a subpar user experience due to the high speed of traffic on Route 11/460/West Main Street and the continuous uphill grade between Montgomery County and the entrance to the Spring Hollow Water Treatment Plant. Some grading would likely be needed as there are steep rises or falls at the edges of the existing right-of-way throughout much of this section. Additionally, a physical barrier would likely be

needed to separate the greenway from the fast-moving Route 11/460/West Main Street traffic. The map on page 62 shows a detailed view of this potentially viable segment.

## Segment 7: Route 11/460/West Main Street between West River Road and Technology Drive, Technology Drive between Route 11/460/West Main Street and Barley Drive

At approximately 2.6 miles, this is the longest segment considered in this study. Like Segment 5, this greenway would be constructed alongside Route 11/460/West Main Street within existing VDOT right-of-way or with minimal right-of-way acquisitions needed. A brief section of this segment (approximately 350 feet) follows the path of Technology Drive between Route 11/460/West Main Street and Barley Drive, and the eastern terminus of this segment is the intersection of Technology



Drive and Barley Drive. The western terminus of this segment the intersection of Route 11/460/West Main Street and West River Road – the eastern terminus of Segment 5. Like Segment 5, right-of-way acquisition for this segment would be relatively simple, but the user experience would not be ideal. A physical barrier would likely need to be constructed between the greenway and the roadway to provide a safe environment for greenway users, which could prompt a need for additional right-of-way acquisition and grading outside the existing right-of-way. The map on page 63 shows a detailed view of this potentially viable segment.

### **Segment 8: South Bank of the Roanoke River on Western Virginia Regional Jail Property, Including a Bridge to Wayside Park**

This horseshoe-shaped segment is just under one mile in length (approximately 5,235 feet) and is entirely on Western Virginia Regional Jail property, save for a potential bridge across the Roanoke River to Roanoke County's Wayside Park. It follows the south bank of the Roanoke River around a 180-degree bend opposite Goat Rock, which rises approximately 300 feet at near-vertical grade from the north bank of the river. The beauty of Goat Rock and this bend in the Roanoke River mean that a greenway constructed on this path would provide a pleasant, scenic user experience. The fact that the only landowner on this segment aside from Roanoke County is a quasi-public entity (Western Virginia Regional Jail Authority) that is, under its current leadership, open to collaborating with Roanoke County on a greenway, means that right-of-way acquisition would likely not be a challenge. The combination of these two factors – top-

notch user experience and simple right-of-way acquisition – is very rare among the segments considered in this study. Trailhead parking could be constructed at Wayside Park, and a bridge could connect across the Roanoke River to the Jail property. If barriers exist to expanding parking at Wayside, trailhead parking could be constructed in the southern part of Jail property. Security would present a challenge on this segment, though, as fencing of adequate height would be required between the Jail and the greenway along the entire length of the greenway. Ample signage would also be required to communicate to greenway users that leaving the greenway corridor and crossing the fence onto Jail property is prohibited and would bring significant consequences. The map on page 64 shows a detailed view of this potentially viable segment.

### **Segment 9: North Bank of the Roanoke River between Western Virginia Regional Jail and West River Road West of Getty Lane**

Like Segment 8, this segment is just under one mile long (approximately 5,160 feet). The vast majority of this segment is on the north bank of the Roanoke River, but it starts and ends on the south bank of the river and would thus require two bridges. This potentially viable segment does not follow any existing transportation infrastructure, save for the easternmost 250 feet, which follows the path of West River Road just west of Getty Lane. This segment instead follows the path of the Roanoke River – the goal would be to build the greenway as closely as possible to the river on the north bank of the river. A greenway following this path would provide a scenic and pleasant user experience, but this

would be a challenging segment to construct. Challenges include right-of-way acquisition, topography, the need for two bridges – which are very expensive to construct, and the need to cross the railroad tracks – either under the existing bridge over the Roanoke River or via a new greenway bridge over the railroad tracks. This segment crosses ten parcels owned by seven different owners, and a few of these owners have expressed that they are not interested in having a greenway on their property. Roanoke County must prepare for all potential scenarios,



**Western Virginia Regional Jail property and access road**



**West River Road, just west of Getty Lane**

though, including those in which land ownership changes. Topography presents a challenge just west of the segment's midpoint where the railroad tracks are closest to the Roanoke River – steep cross slopes, ranging in grade from just under 15% to just over 60%, exist in this area that could not be avoided due to the proximity of the railroad tracks to the river. Constructing a greenway on this cross slope would require retaining walls and extensive grading, which would add up to a very expensive project when combined with the two bridges required for this segment. The map on page 65 shows a detailed view of this potentially viable segment.

### **Segment 11: West River Road between Route 11/460/West Main Street and Southwest River Road**

This 1.9-mile segment follows the path of West River Road from its intersection with Route 11/460/West Main Street to its intersection with Southwest River Road. West River Road

is a paved road, but this section is narrow and winding with frequent hills. The area it travels through is sparsely populated, and automobile traffic is light, with 2023 annual average daily traffic (AADT) of 677 west of Dry Hollow Road (which serves many homes) and 2023 AADT of 286 east of Dry Hollow Road. A greenway on this segment would likely be constructed directly adjacent to the roadway. Physical separation and/or barriers between the greenway and roadway would be desirable, but may not be feasible across the entire segment, as existing right-of-way is narrow and some houses sit just outside of the existing right-of-way. If this segment is selected for greenway construction, as much of it as possible would be constructed within the existing right-of-way, but it is likely that some additional right-of-way would need to be obtained because, as previously mentioned, the existing right-of-way is not much wider than the existing roadway. Additional right-of-way acquisition for a greenway on this segment may potentially present challenges

because, as previously mentioned, there are houses along the corridor that sit just outside the public right-of-way. A greenway on this segment would provide a superior user experience to a greenway alongside Route 11/460/West Main Street, but an inferior user experience to a greenway that follows the Roanoke River instead of existing transportation infrastructure. This section of West River Road includes two bridges over the Roanoke River – one just east of Route 11/460/West Main Street and Peaceful Drive and another just east of Northwest River Road. The bridge east of Northwest River Road is approximately 33 feet wide and could potentially be altered to accommodate a greenway at its current size through re-striping and the installation of barriers. However, the bridge east of Route 11/460/West Main Street and Peaceful Drive, at approximately 27 feet wide, would certainly need to be rebuilt to accommodate a greenway. Either that, or a new greenway-only bridge would need to be constructed alongside it. There is also



*West River Road, looking west from Southwest River Road intersection*

an at-grade crossing of the railroad tracks just east of Route 11/460/West Main Street, Peaceful Drive, and the Roanoke River and infrastructure and/or signage would need to be installed to ensure that greenway users do not attempt to cross the railroad tracks at the wrong time. The map on page 66 shows a detailed view of this potentially viable segment.

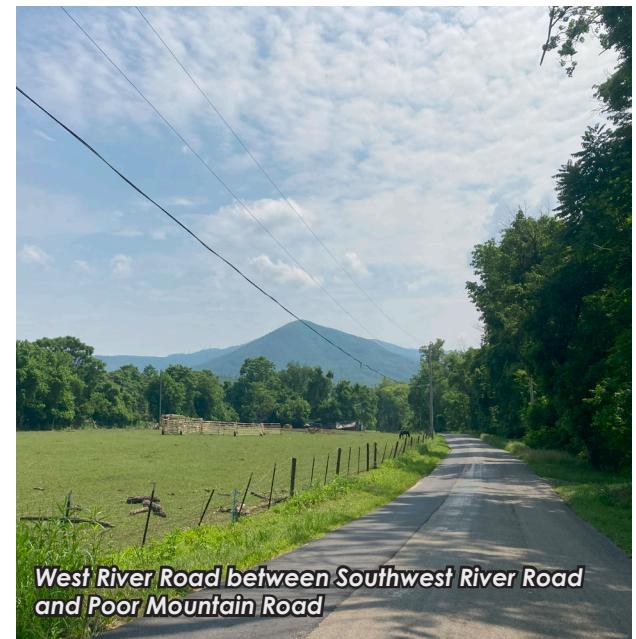
### Segment 12: West River Road between Southwest River Road and Poor Mountain Road

Like Segment 11, this segment follows the path of West River Road. Like Segments 8 and 9, it is just under one mile in length (approximately 5,120 feet). Vehicular traffic is slightly lighter on this stretch of West River Road, with 2023 AADT of 286 south of Bohon Hollow Road and 2023 AADT of 462 north of Bohon Hollow Road, than on Segment 11, and there are fewer bends and hills than Segment 11, so a greenway on this segment would provide a pleasant user experience. Additionally, there are a number of vacant, County-owned parcels that front on this stretch of West River Road. However, this segment also presents many of the same challenges as Segment 11, as the existing roadway and right-of-way are narrow and there are numerous structures standing just outside the existing right-of-way. As with Segment 11, a greenway would likely be constructed directly adjacent to the roadway, ideally with some sort of barrier between it and the roadway, but could have some sections with no barrier between the greenway and roadway. A 32-foot-wide bridge carries West River Road over the Roanoke River just east of Southwest River Road, and it is possible that this bridge could

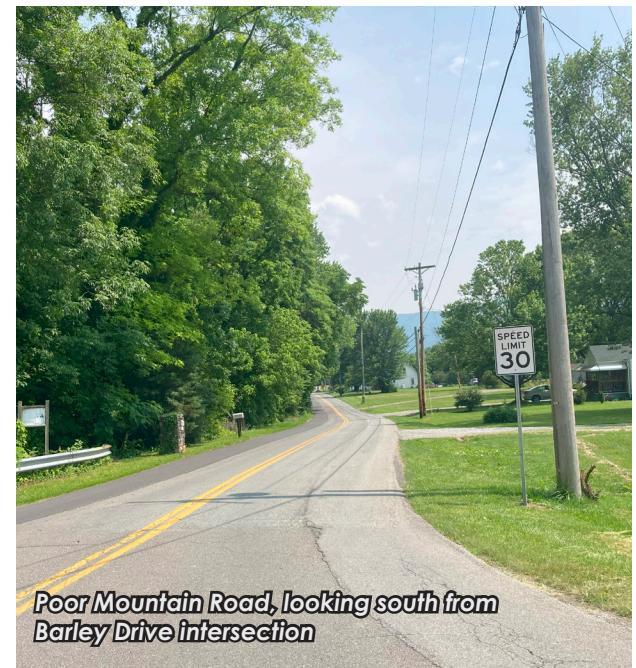
be altered with striping and barriers to carry the greenway, but more likely that it would need to be rebuilt or a new greenway-only bridge would need to be constructed. West River Road passes underneath a railroad bridge just west of its intersection with Poor Mountain Road, and this location represents a pinch point as the existing roadway occupies almost all of the land between the Roanoke River and the retaining wall that supports the bridge. The map on page 67 shows a detailed view of this potentially viable segment.

### Segment 14: Poor Mountain Road between West River Road and Barley Drive

This 0.9-mile segment follows the path of Poor Mountain Road between Barley Drive and West River Road. A greenway constructed on this segment would likely be constructed immediately adjacent to the roadway, and it would be difficult to provide separation between the greenway and roadway because the existing right-of-way is very narrow and many houses sit just outside of the right-of-way. A narrow bridge carries Poor Mountain Road over a stream in the middle of the segment, and this represents a challenge for the greenway as the bridge would either need to be demolished and rebuilt wider, or a standalone greenway bridge would need to be built alongside it. Luckily, this stream is not particularly wide, so the bridge wouldn't need to be very long. This segment was the least popular of all conceptual segments presented to the public in Summer 2023, but Roanoke County owns a number of parcels that front on this section of Poor Mountain Road, though, and this fact increases the likelihood that a greenway could be



West River Road between Southwest River Road and Poor Mountain Road



Poor Mountain Road, looking south from Barley Drive intersection

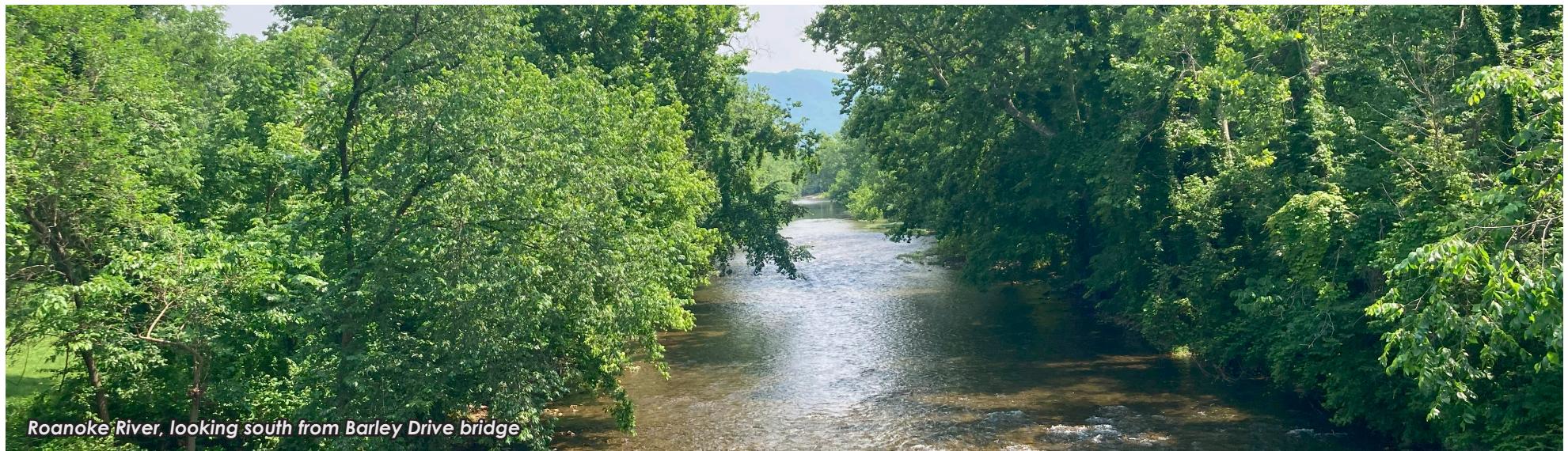
constructed on this segment, so this segment has been determined to be potentially viable. The map on page 68 shows a detailed view of this potentially viable segment.

### **Segment 15: South Bank of the Roanoke River between West River Road and Barley Drive**

Aside from the southernmost 250 feet which follow the path of Beason Lane, a narrow gravel road, this segment follows the path of the Roanoke River instead of existing transportation infrastructure (like Segment 9). Unlike Segment 9, this segment is entirely on one side of the river – the south side (though this segment runs north-south more than east-west due to the orientation of the river in this location). At approximately 5,030 feet in length (0.95 mile) it is one of four potentially viable segments between 5,000 feet and one mile in length, along with Segments 8, 9, and 12. The land this segment traverses is relatively flat, and – if the southern end of

the greenway were constructed completely within the existing public right-of-way for Beason Lane – it only crosses six parcels, the largest of which is owned by the Western Virginia Water Authority (WVWA). WVWA staff have indicated potential willingness to collaborate with Roanoke County on a greenway at this location. Despite these opportunities, this segment does not represent “low hanging fruit,” as numerous challenges are also present. First off, the existing public right-of-way for Beason Lane is very narrow (28-30 feet), so it is unlikely that a greenway could be constructed without edging into one of the four parcels (each owned by a separate owner) that front on the public portion of the road. Additionally, land drops off steeply from Beason Lane to the Roanoke River, so retaining walls and extensive grading would be required if the greenway were to be constructed between Beason Lane and the river. North of the public portion of Beason Lane, this segment continues to follow the private portion of Beason Lane.

The southernmost 150 feet of the private section pass through two parcels (one of which also fronts partly on the public section), but the remainder of the private section is located on right-of-way owned by Norfolk Southern Railway. Regulations governing private railroads like Norfolk Southern do not incentivize the development of public recreation spaces on private railroad property, so convincing Norfolk Southern to allow a greenway to be constructed across this right-of-way could be challenging despite the fact that it would never be closer than 100 feet away from the railroad tracks. At the northern end of the segment, private residences (or accompanying accessory structures) sit close to the potential greenway path, and the current owners of these properties have not indicated that they are willing to provide right-of-way for a greenway. Despite these challenges, this segment is potentially viable due to its aforementioned flat topography and the fact that it crosses a large parcel owned by the Western Virginia



Water Authority. The map on page 69 shows a detailed view of this potentially viable segment.

### Segment 17: Barley Drive between Technology Drive and the Railroad Bridge

This 0.8-mile segment follows the path of Barley Drive from its western terminus to the point where it crosses underneath the railroad bridge over the Roanoke River. A major challenge presented by this segment is the narrow crossing underneath the railroad bridge that represents this segment's eastern terminus. Most of the dry land underneath the railroad bridge is occupied by Barley Drive and a pillar supporting the bridge, so a separated greenway at this location would likely need to be elevated off of the ground and routed around the east side of the pillar. Another solution, like on the bridge over the Roanoke River, would be to reduce automotive traffic underneath the bridge to one lane and install a stop sign on either side.

Right-of-way for Barley Drive ranges from 30 feet to 50 feet in width and is wide enough relative to the roadway width to accommodate a separated greenway within it for most of its length. Current owners of some of the large parcels that front on Barley Drive have indicated that they are not opposed to the project so, if the greenway is well-designed, right-of-way acquisition on this segment could be relatively simple. However, Barley Drive crosses the Roanoke River, and the existing bridge, at 28 feet wide, is not wide enough to accommodate a greenway unless it was reconfigured to hold only one lane of vehicular traffic. In all likelihood, a new standalone greenway bridge would

be required, which would drive up the cost of the project. The map on page 70 shows a detailed view of this potentially viable segment.

### Segment 18: South Bank of the Roanoke River between Barley Drive (at Roanoke River) and Barley Drive (at Railroad Bridge).

This 0.8-mile segment follows a 180-degree bend in the Roanoke River from the south bank, like Segment 8. Like Segment 17, its eastern terminus is the point where Barley Drive crosses underneath the railroad bridge over the Roanoke River. Its western terminus is immediately east of the bridge that carries Barley Drive over the Roanoke River. This segment crosses six parcels owned by five different owners. The two large parcels at the eastern end of the segment are agricultural fields, so there is potential to promote the development of agritourism uses, but three of the four parcels at the western end house single-family homes near the river, which could complicate right-of-way negotiations. This segment would provide a scenic, pleasant user experience, but would likely be complex from a right-of-way standpoint.



**Open fields on Barley Drive with Fort Lewis Mountain in the distance**



**Railroad bridge over the Roanoke River and Barley Drive**



**Roanoke River, looking north from Barley Drive bridge**



*Hiking trails meet the Roanoke River Greenway at the western end of Green Hill Park*

Additionally, industrial uses lie across the Roanoke River from this segment, which would somewhat mute its scenic value. The map on page 71 shows a detailed view of this potentially viable segment.

### **Segment 19: South Bank of the Roanoke River between Barley Drive (at Railroad Bridge) and Green Hill Park**

This 0.8-mile segment represents the shortest path between the existing western terminus of the Roanoke River Greenway and the first major pinch point as the greenway is expanded westward – the railroad bridge over the Roanoke River and Barley Drive. Despite the simplicity of this segment “on paper,” this segment would likely be more difficult to construct than Segment 20, which covers the same distance on the north bank of the Roanoke River. Along the eastern two-thirds of this segment, land rises at near-vertical grade from the riverbank, so extensive grading and retaining walls would be required to construct a greenway along this segment. The western third of this segment runs along flatter land, but two single-family homes sit near to the Roanoke



*Roanoke River, as viewed from the western end of Green Hill Park*

River at this location. This segment only crosses three parcels (each with a different owner), but right-of-way negotiations would likely be complex due to the presence of these single-family homes and the mixed responses the project has received from the current owners of these parcels. Any money saved by staying on the south side of the river would likely be negated by the landscaping required to construct a stable greenway on such steep land. This segment would likely provide a scenic, pleasant user experience despite the industrial uses across the river, due to the sense of immersion in the forest one would feel traveling along such a steep forested hillside. The map on page 72 shows a detailed view of this potentially viable segment.

### **Segment 20: North Bank of the Roanoke River between Barley Drive (at Railroad Bridge) and Green Hill Park**

This segment, also 0.8 mile long, travels along the north bank of the Roanoke River between the same termini as Segment 19. It would require two bridges to be constructed – one

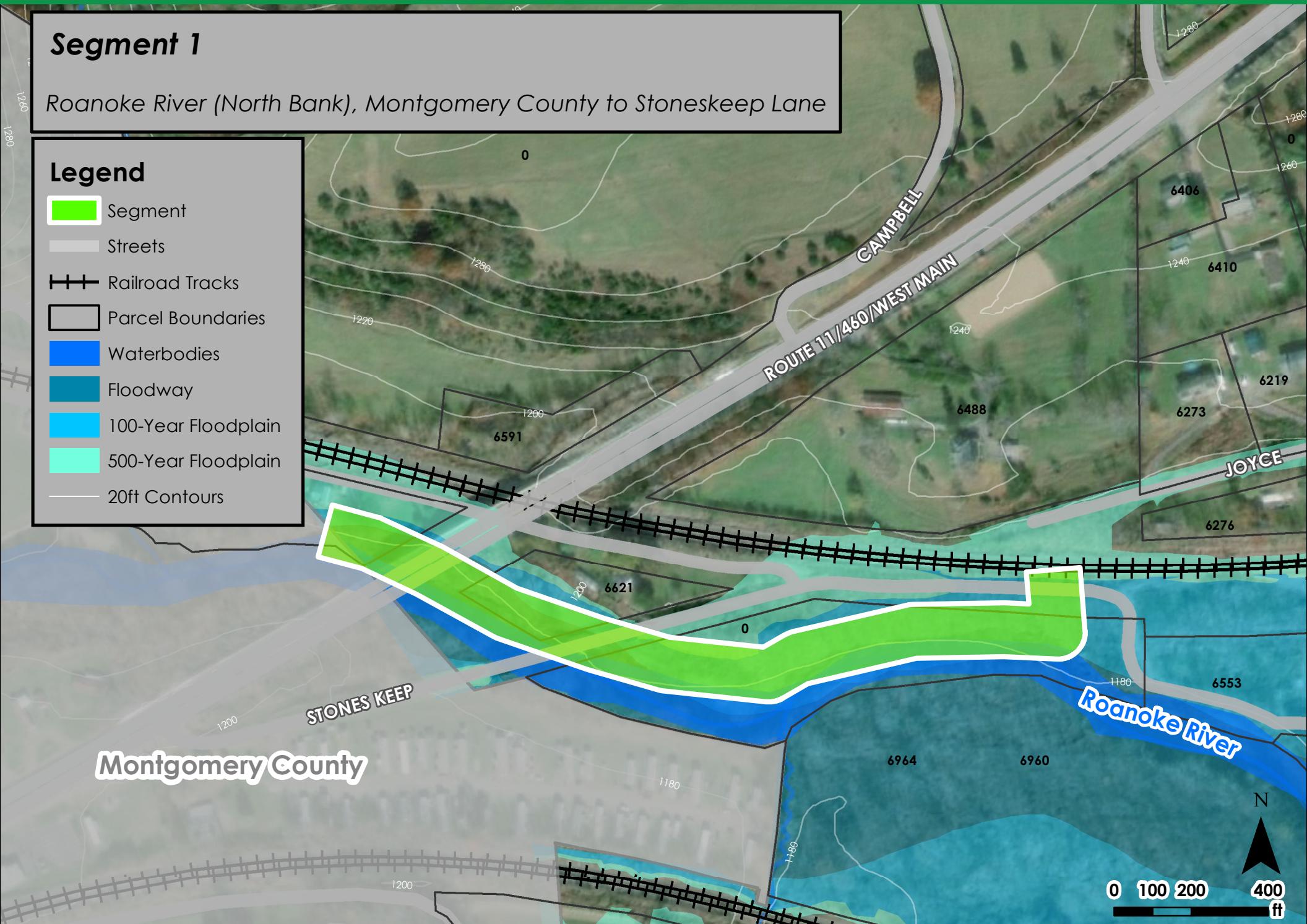
to cross the river at the western end of Green Hill Park, and one to cross back to the south bank adjacent to the existing railroad bridge over the Roanoke River. This segment crosses four parcels owned by three different owners, and approximately 500 feet of the segment crosses Norfolk Southern right-of-way just east of the railroad bridge over the Roanoke River. It may be challenging to gain permission to utilize Norfolk Southern right-of-way, but other than that this segment would likely be simple from a right-of-way acquisition standpoint, as these four parcels are either vacant or occupied by industrial uses, and none have residences on them. Additionally, none of the land on the riverbank that this segment crosses is currently utilized in any way, and current property owners have signaled openness to constructing a greenway in this location. The need for two bridges would drive up the cost of this segment, but the section on the north bank should be relatively simple from an engineering standpoint as the land is fairly flat. The map on page 73 shows a detailed view of this potentially viable segment.

## Segment 1

Roanoke River (North Bank), Montgomery County to Stoneskeep Lane

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

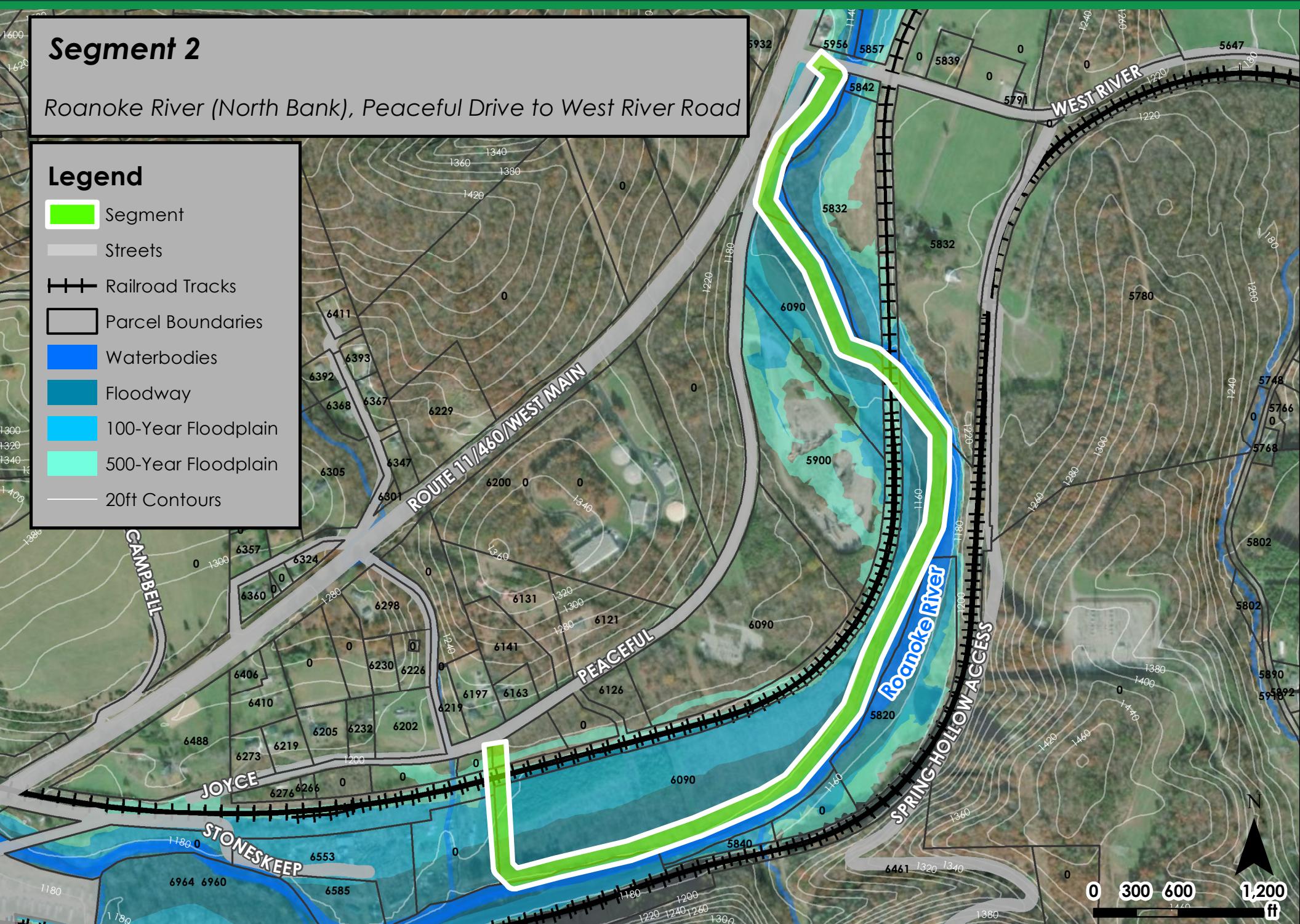


## Segment 2

Roanoke River (North Bank), Peaceful Drive to West River Road

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

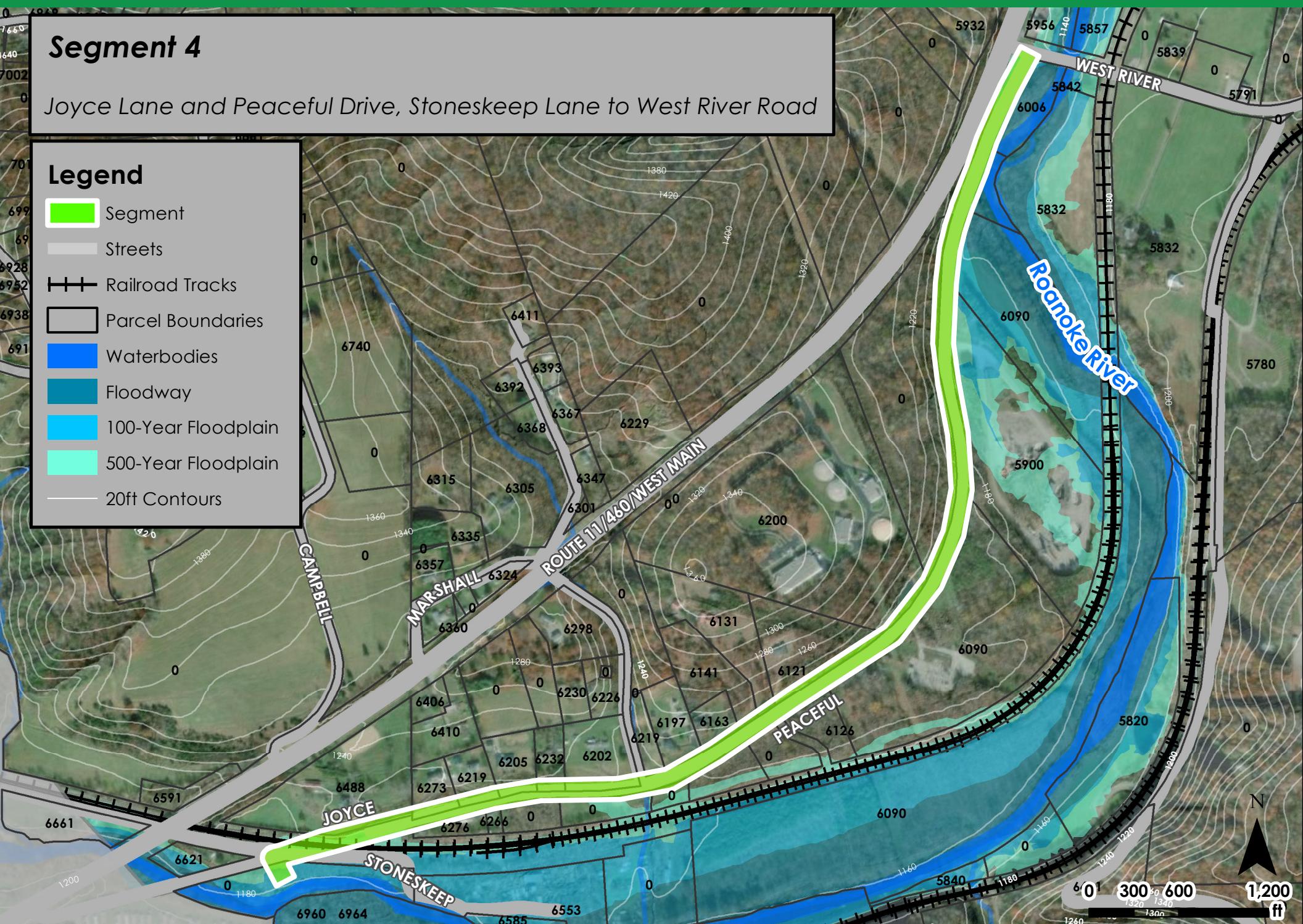


## Segment 4

## Joyce Lane and Peaceful Drive, Stoneskeep Lane to West River Road

## Legend

- Segment
  - Streets
  - Railroad Tracks
  - Parcel Boundaries
  - Waterbodies
  - Floodway
  - 100-Year Floodplain
  - 500-Year Floodplain
  - 20ft Contours

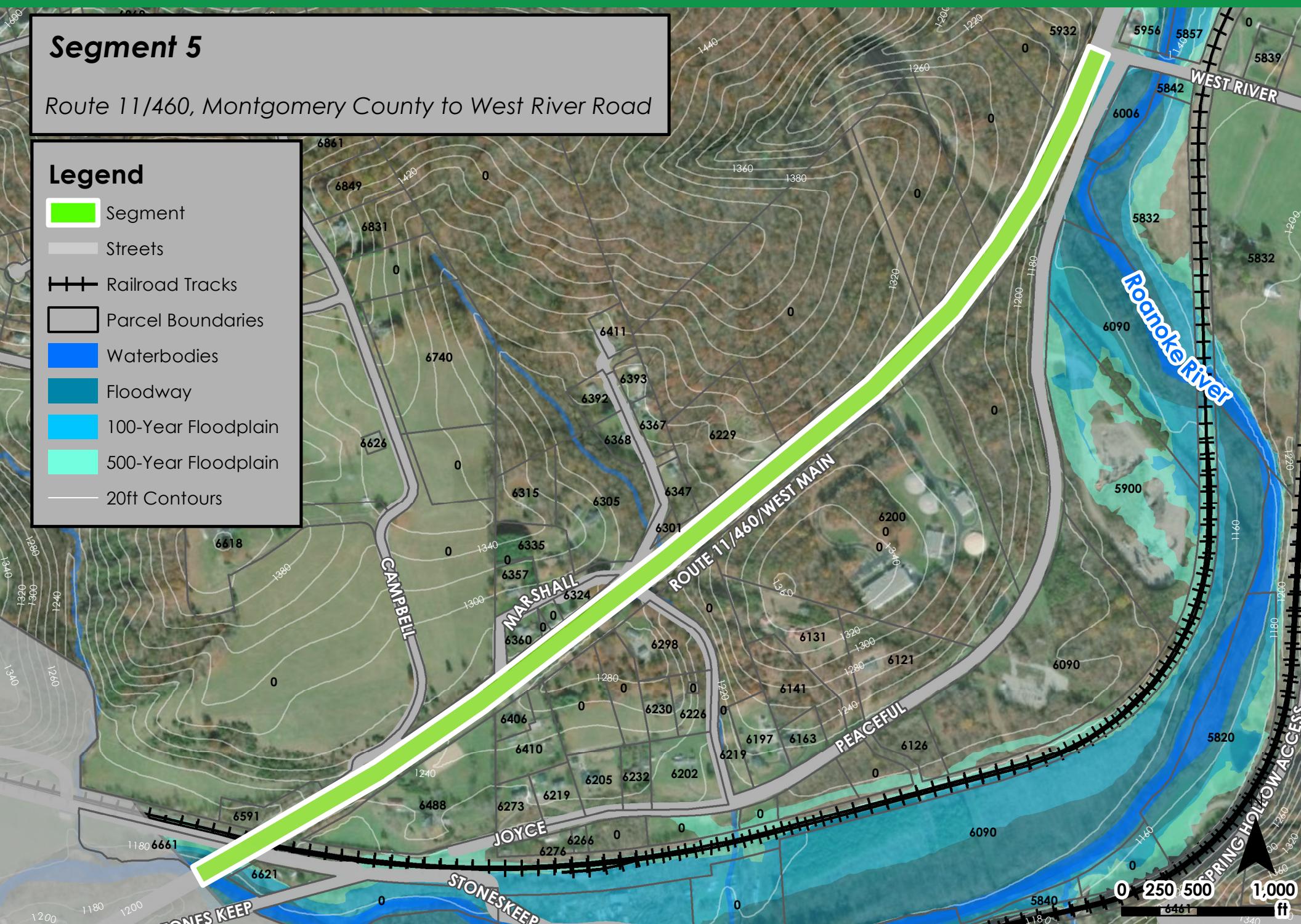


## Segment 5

Route 11/460, Montgomery County to West River Road

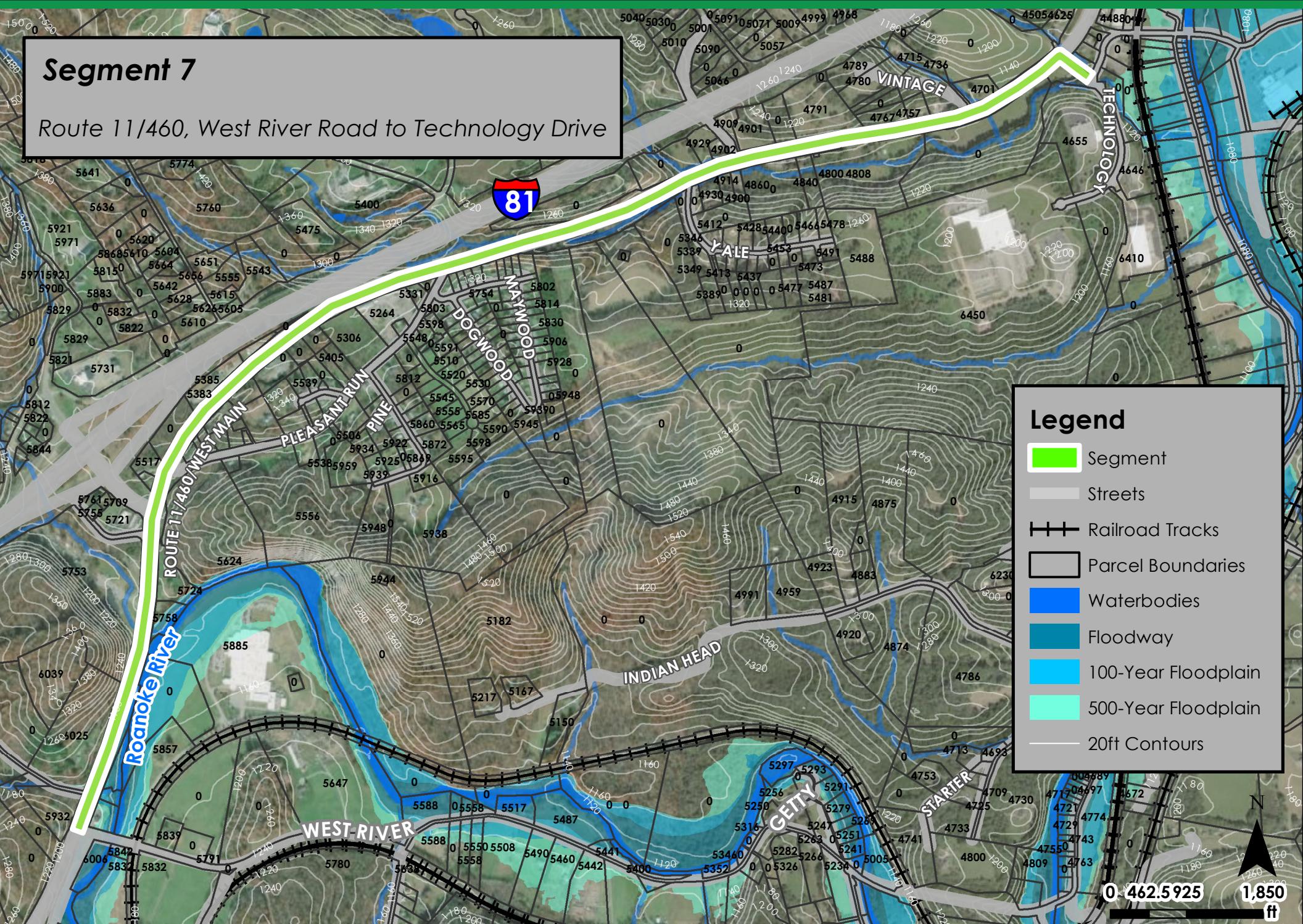
### Legend

- Segment (Green)
- Streets (Grey)
- Railroad Tracks (Black with diagonal lines)
- Parcel Boundaries (Grey lines)
- Waterbodies (Blue)
- Floodway (Dark Blue)
- 100-Year Floodplain (Light Blue)
- 500-Year Floodplain (Cyan)
- 20ft Contours (White lines)



## Segment 7

Route 11/460, West River Road to Technology Drive

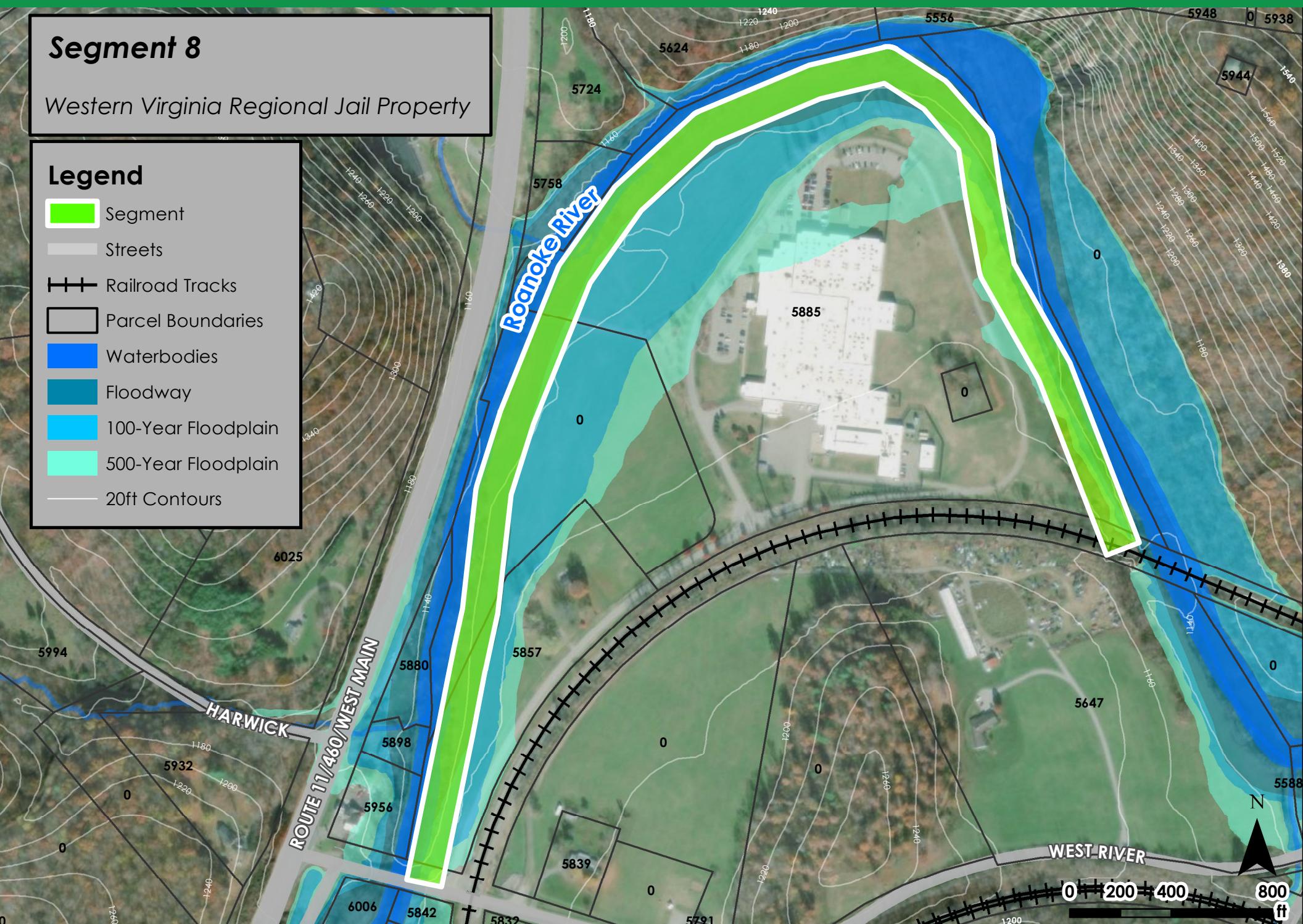


## Segment 8

Western Virginia Regional Jail Property

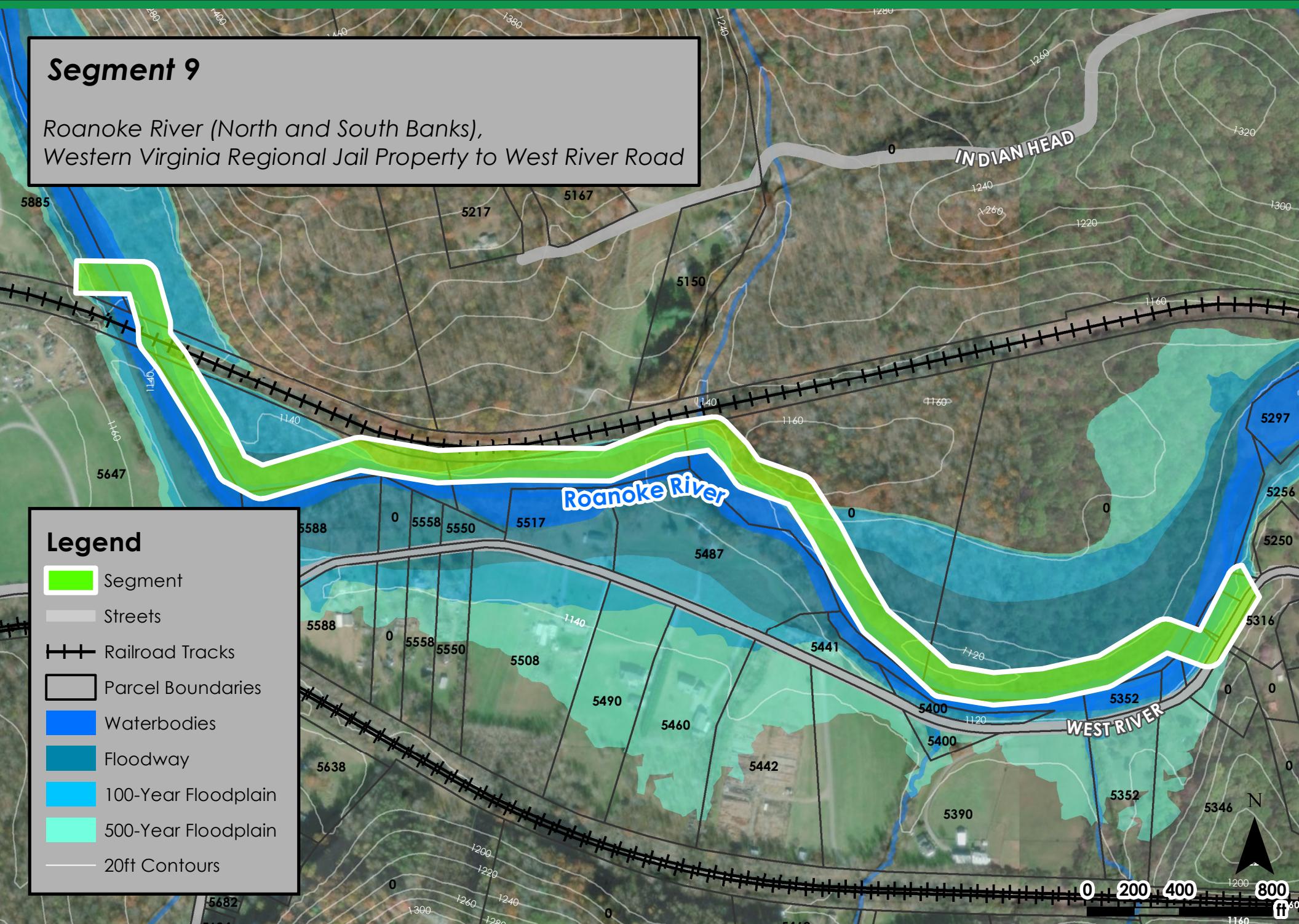
### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours



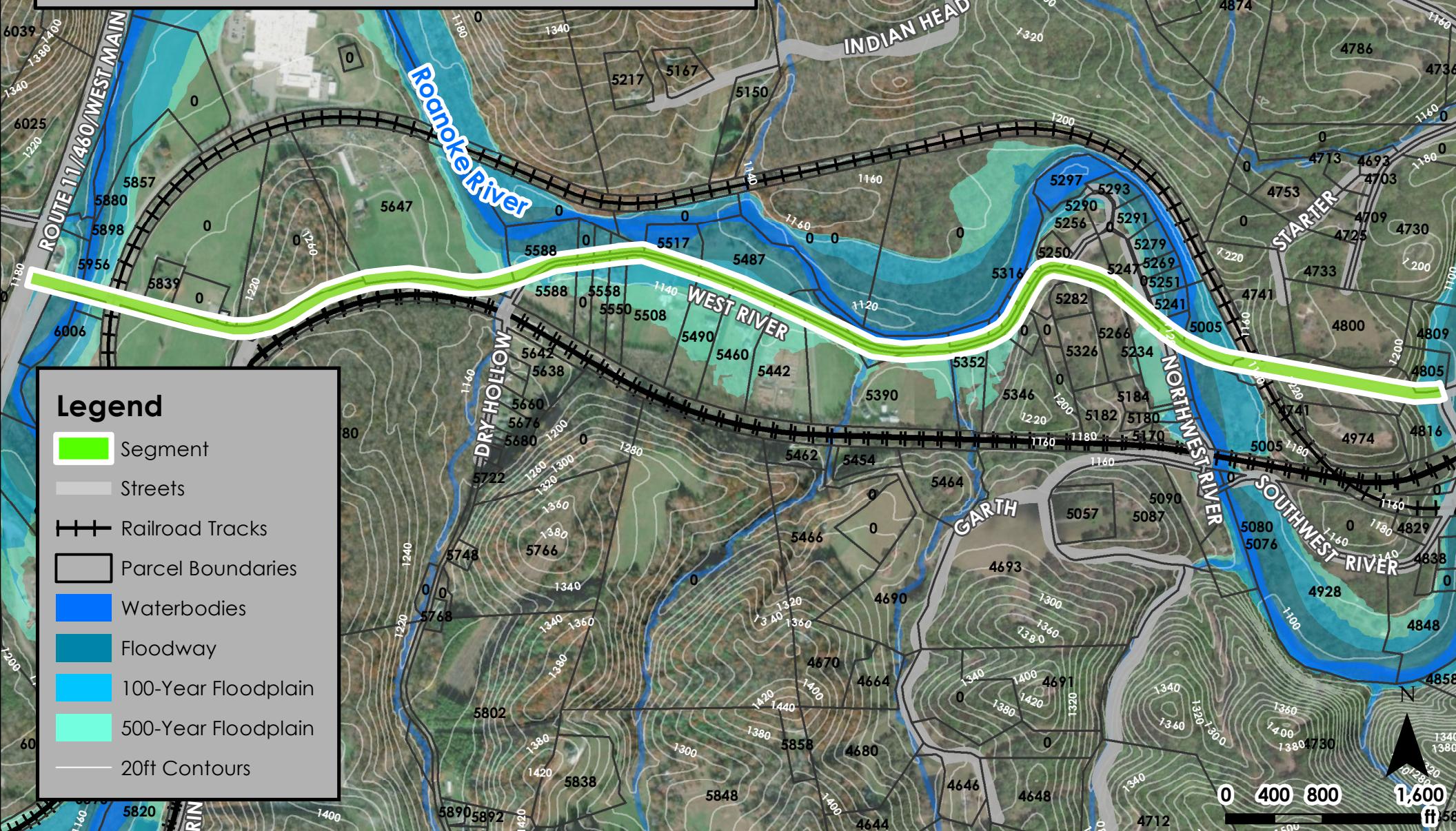
## Segment 9

Roanoke River (North and South Banks),  
Western Virginia Regional Jail Property to West River Road



## Segment 11

West River Road, Route 11/460 to Southwest River Road

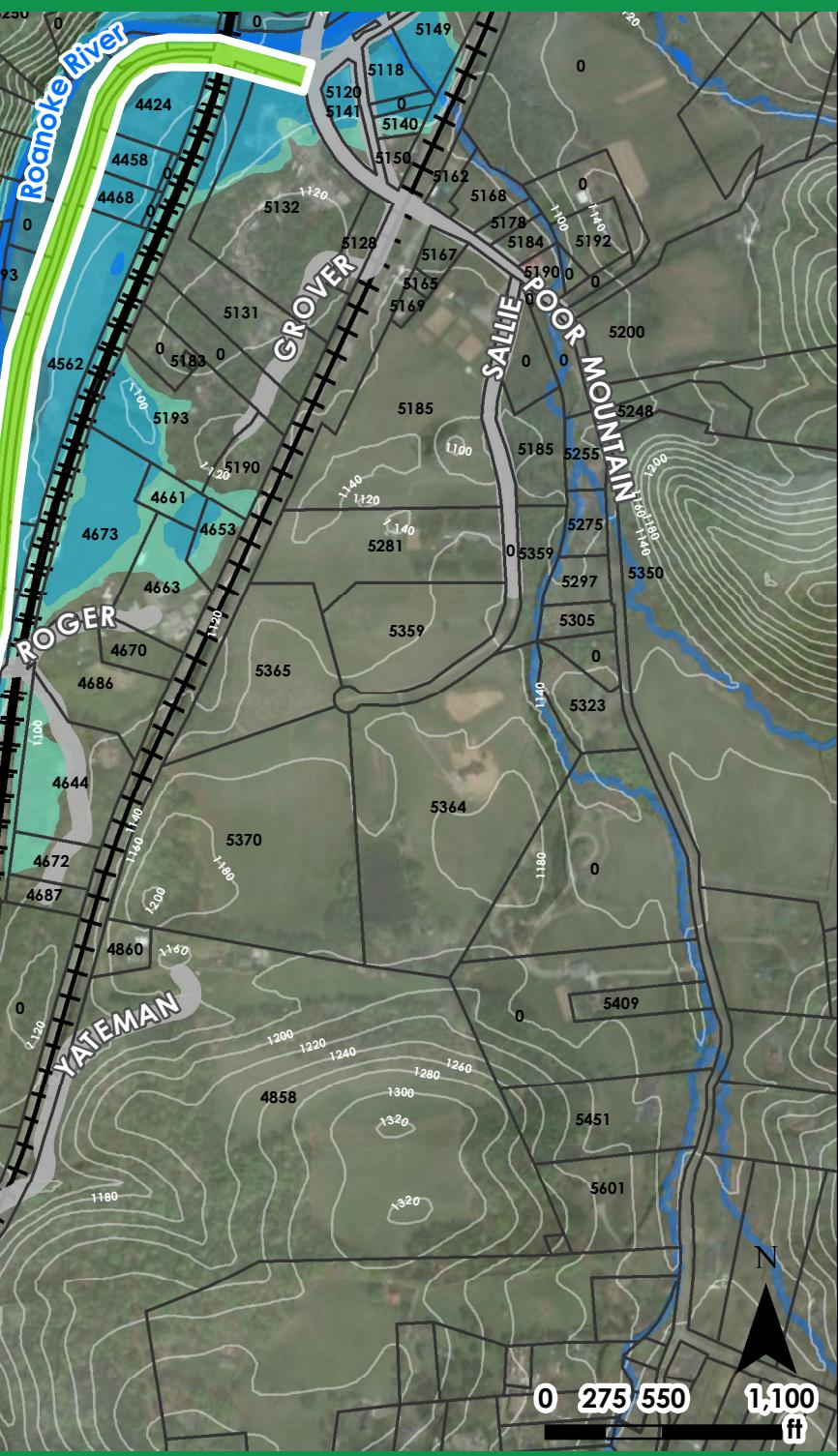


## Segment 12

West River Road, Southwest River Road to Poor Mountain Road

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

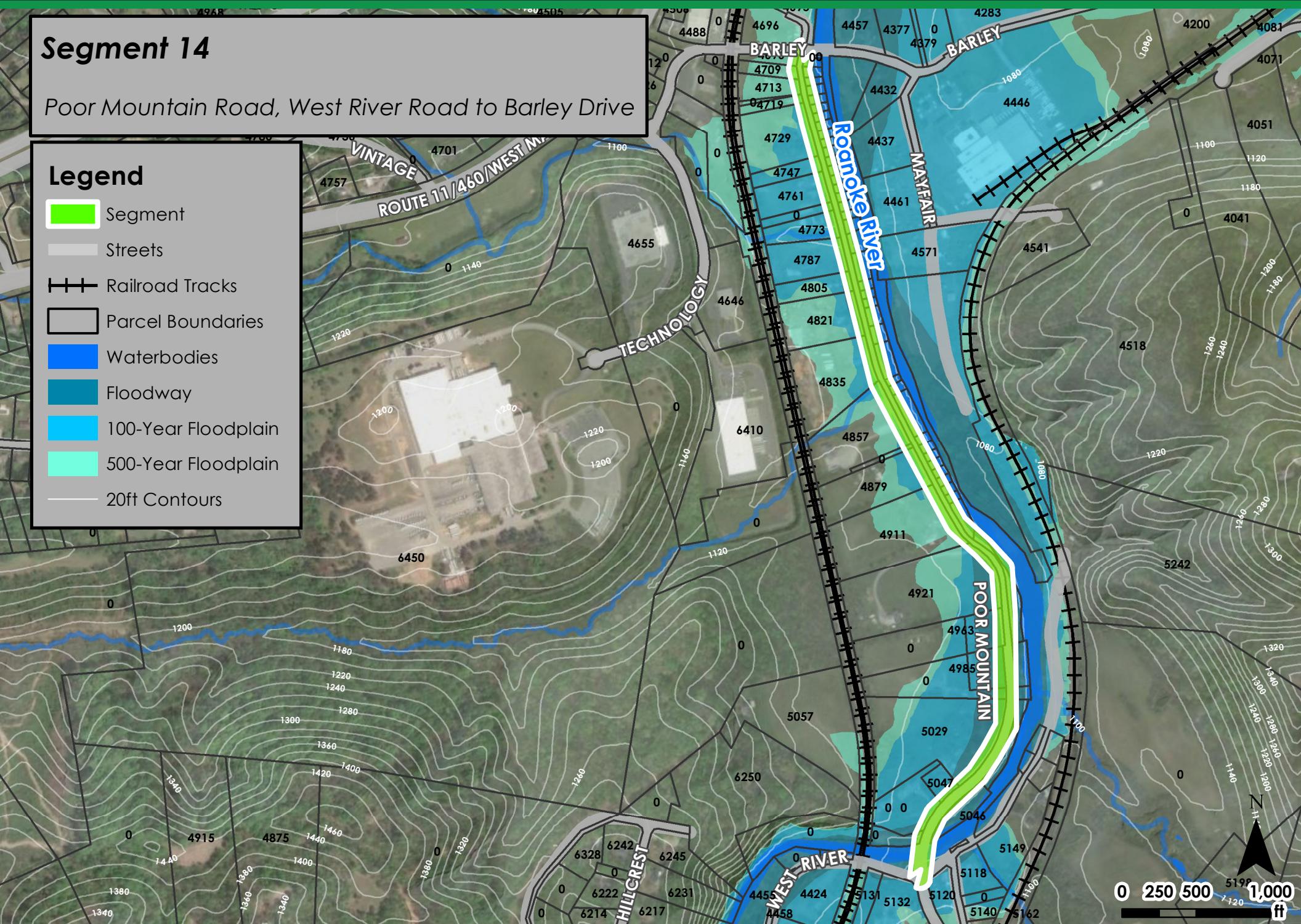


## Segment 14

## Poor Mountain Road, West River Road to Barley Drive

## Legend

- Segment
  - Streets
  -  Railroad Tracks
  -  Parcel Boundaries
  -  Waterbodies
  -  Floodway
  -  100-Year Floodplain
  -  500-Year Floodplain
  -  20ft Contours

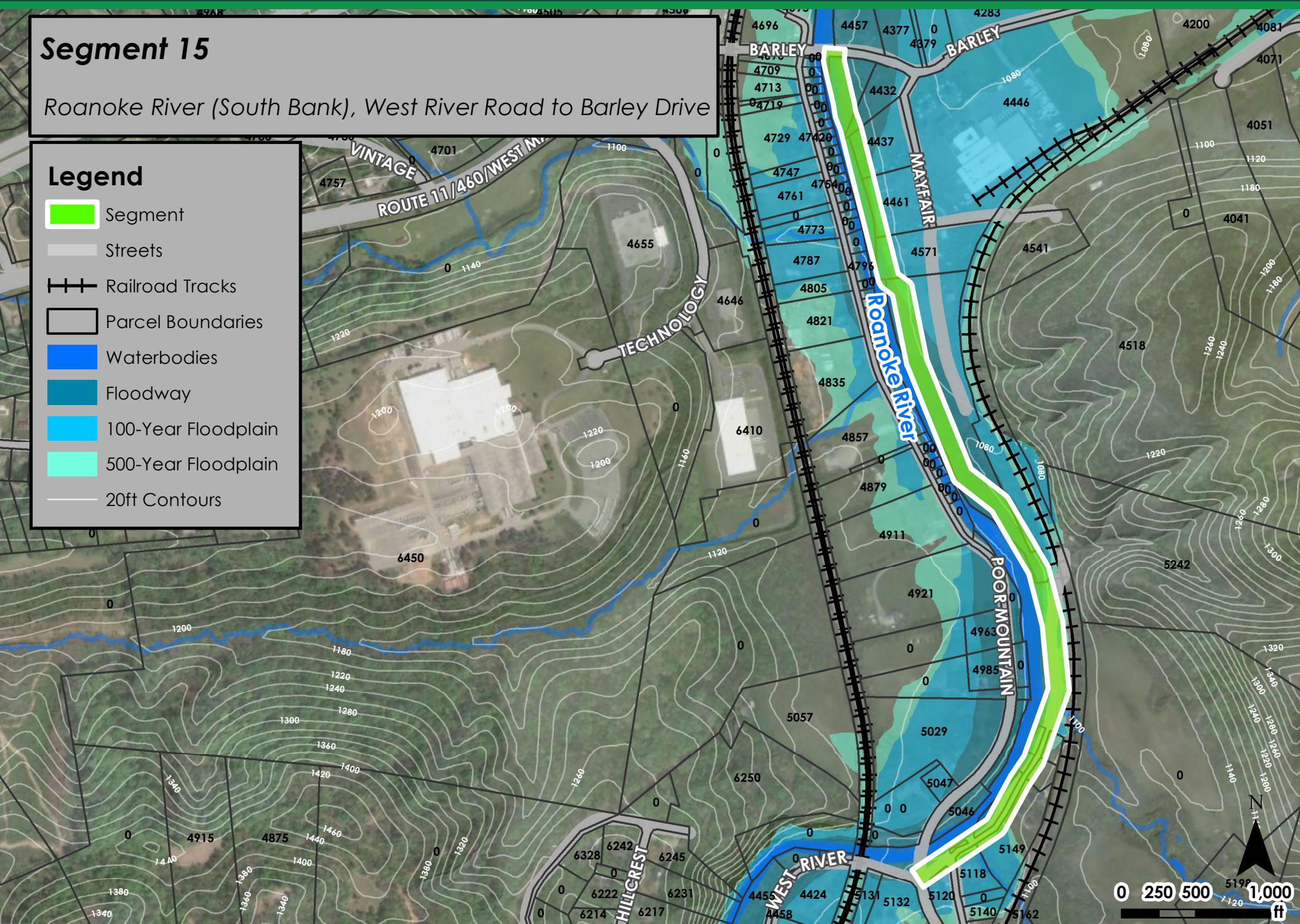


## Segment 15

Roanoke River (South Bank), West River Road to Barley Drive

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

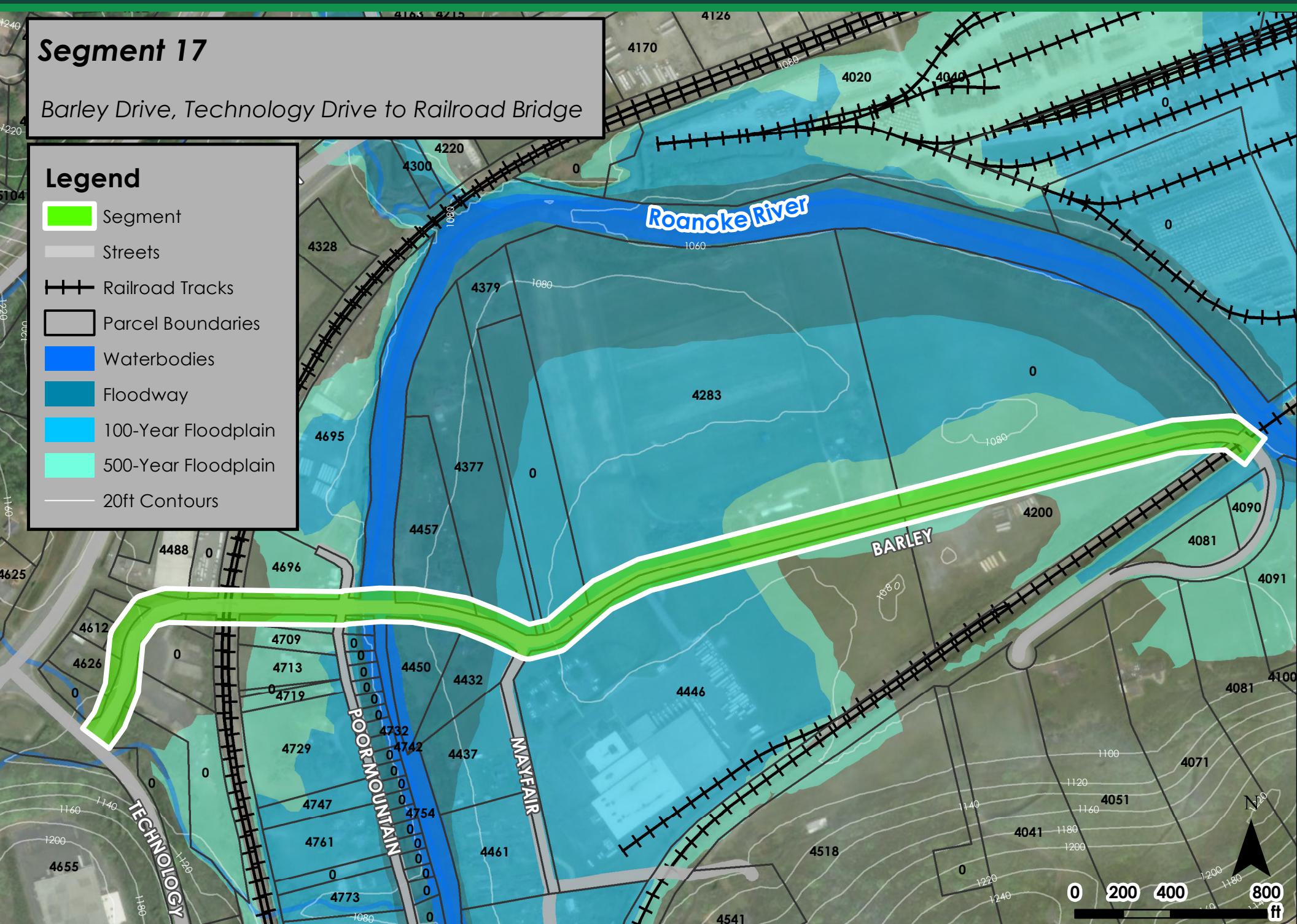


## Segment 17

Barley Drive, Technology Drive to Railroad Bridge

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

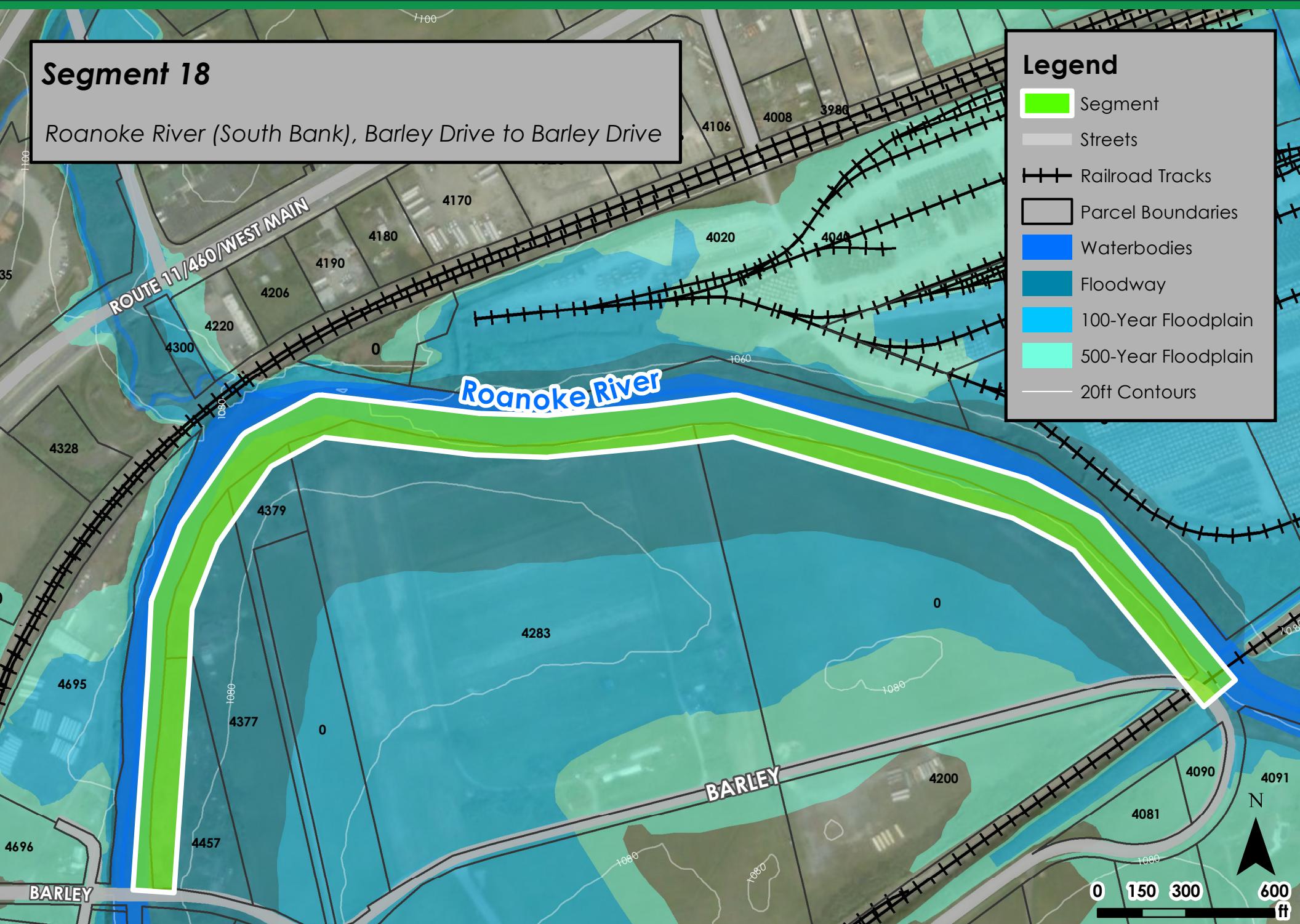


## Segment 18

Roanoke River (South Bank), Barley Drive to Barley Drive

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

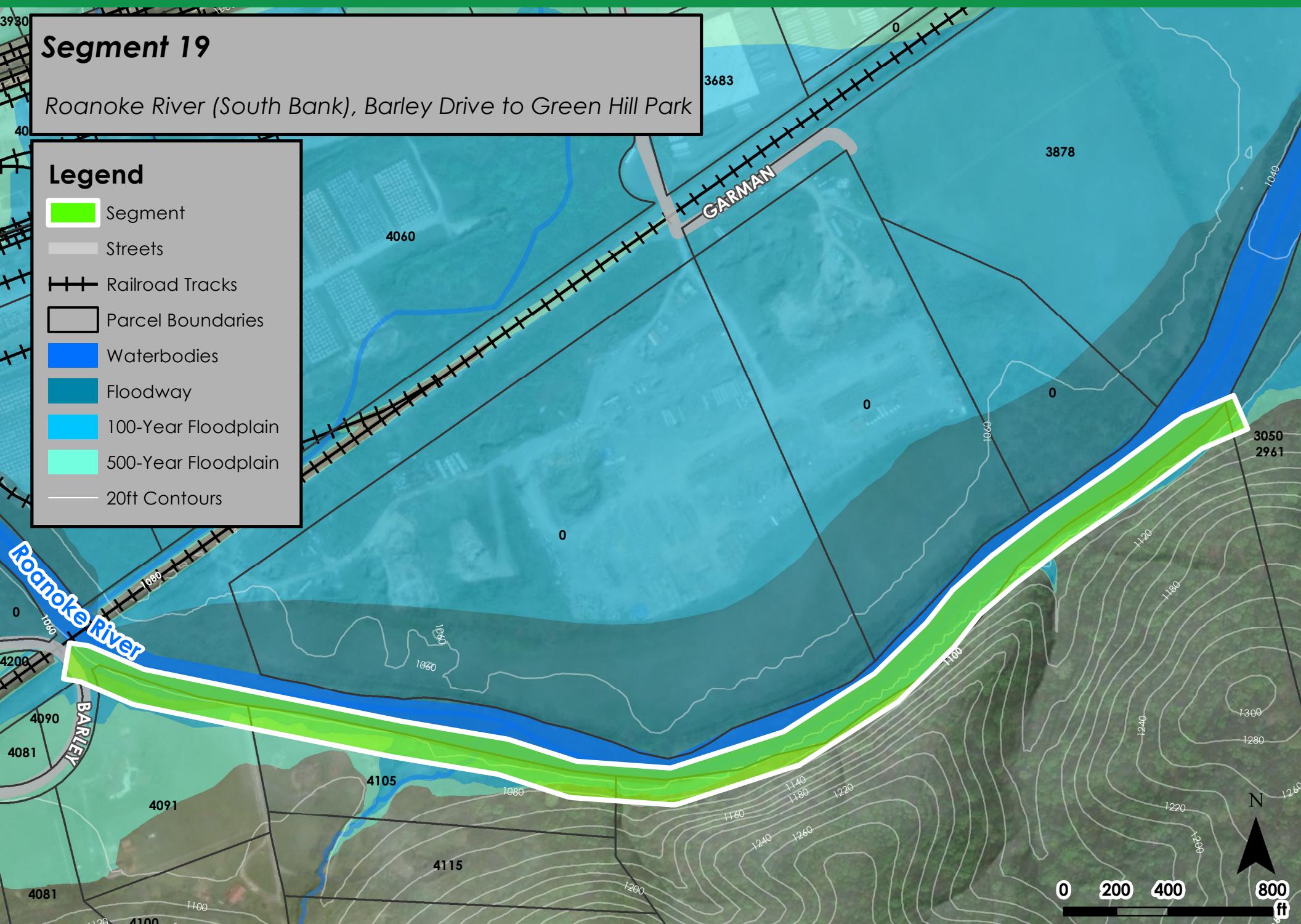


## Segment 19

Roanoke River (South Bank), Barley Drive to Green Hill Park

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours

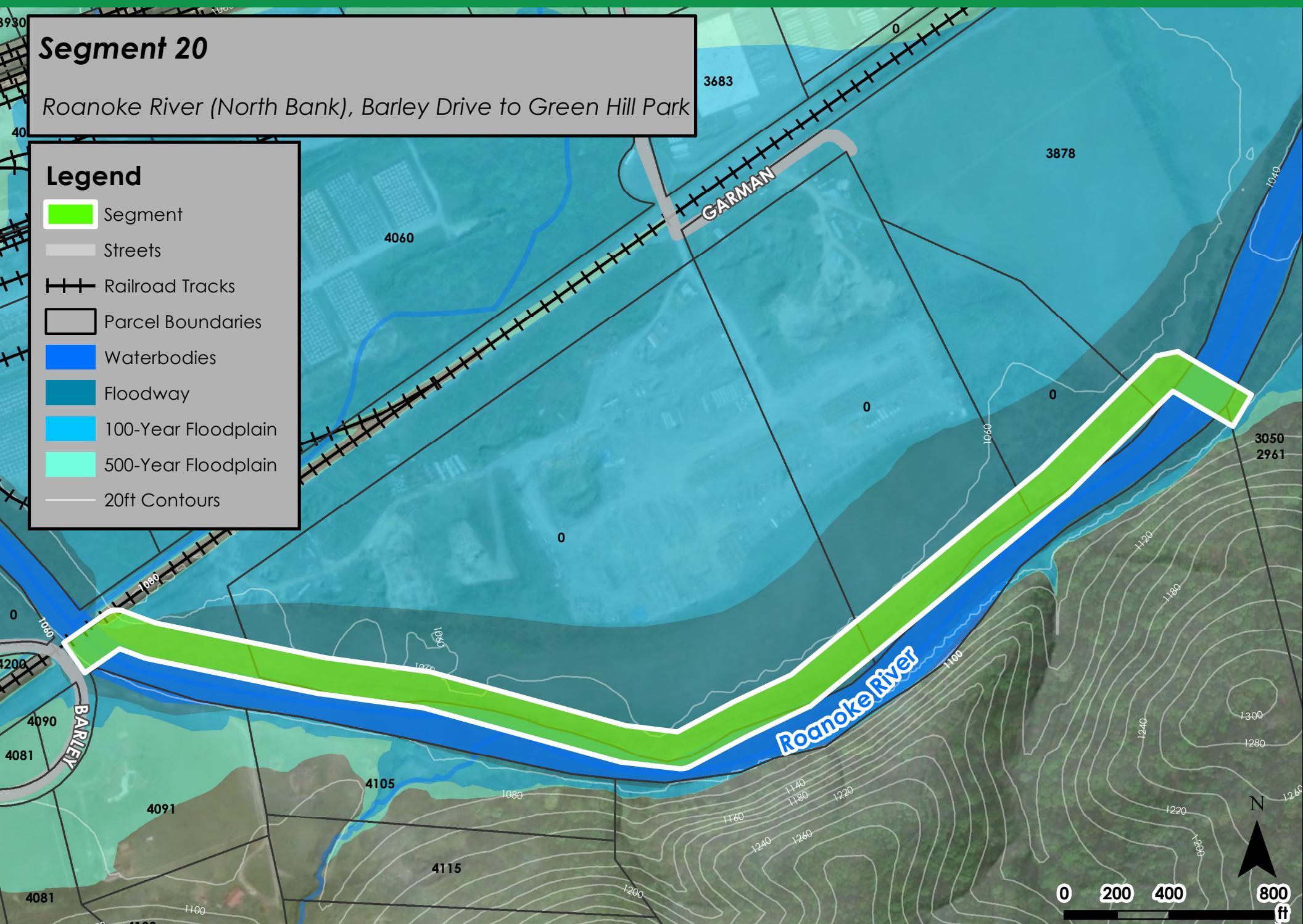


## Segment 20

Roanoke River (North Bank), Barley Drive to Green Hill Park

### Legend

- Segment
- Streets
- Railroad Tracks
- Parcel Boundaries
- Waterbodies
- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- 20ft Contours



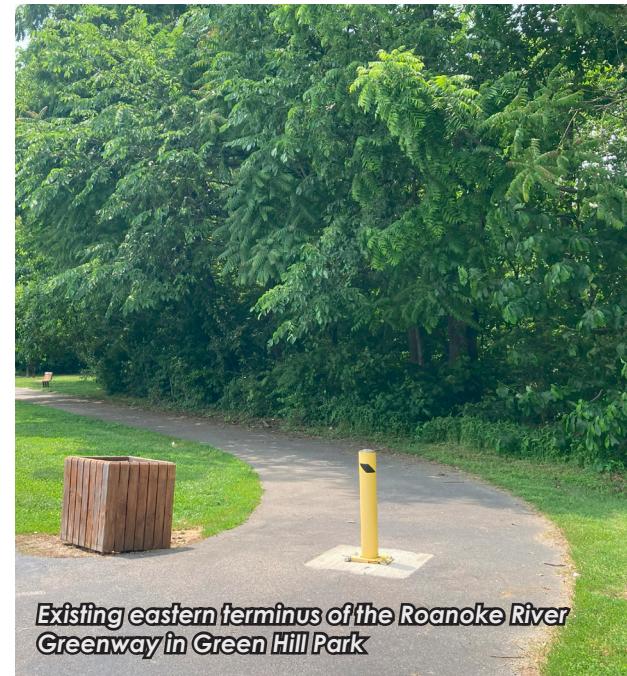
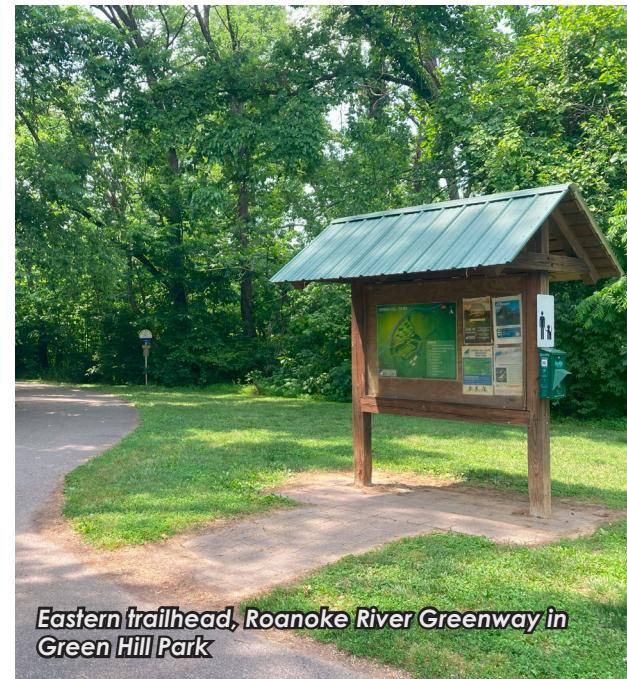
## 5 Next Steps & Implementation

### 5.1 Study Recap

From this study's launch in June 2022 to its adoption nearly three years later, Roanoke County staff spent countless hours exploring potential routes for the West Roanoke River Greenway. Staff from the National Park Service, Roanoke Valley-Alleghany Regional Commission, Roanoke Valley Greenway Commission, and Virginia Department of Transportation made up the rest of the Steering Committee and also contributed many hours of their time toward this study. Each of these organizations had staff present at the October 2022 and July 2023 community meetings, and in attendance for the September 2022 tour of the study area. At various points, staff from each of these organizations were present at Roanoke County's meetings with the corridor stakeholders: Western Virginia Regional Jail, Western Virginia Water Authority, Virginia Passenger Rail Authority, Appalachian Power, Montgomery County, and Trout Unlimited. National Park Service staff helped write many sections of the final study document. Though the study was led and adopted by Roanoke County, it was a true team effort that would not have had any chance of success without the expertise and labor contributed by the members of the Steering Committee. Though this section of the Roanoke River Greenway would be completely within the boundaries of Roanoke County, the Roanoke River Greenway is a regional resource, so it was critically important that more regionally-minded voices were consulted constantly throughout the process.

This study represents the *very first* step toward constructing the Roanoke River Greenway between Green Hill Park and Montgomery County. The potential routes identified in this study are intended to be general, not exact, and more planning will be required to establish the exact location of this greenway. Given the myriad challenges of constructing a greenway between Green Hill Park and Montgomery County, it is imperative that Roanoke County approach this planning process patiently and start with a high-level, exploratory approach. The potentially viable routes identified in this study are fairly close to one another at the edges of the study area but diverge significantly in the middle of the study area, so each segment of the West Roanoke River Greenway that is constructed must be considered in the context of the other segments that would need to be constructed to create a continuous path between Green Hill Park and Montgomery County. Given the right-of-way challenges in the study area, the segments are not likely to be constructed sequentially, and some segments may be isolated from the rest of the Roanoke River Greenway for many years before they are connected. This study ensures that the corridor is considered as a whole before individual segments are constructed, which will decrease the likelihood of building segments that end up "stranded" and never become connected to the rest of the Roanoke River Greenway. Minimizing the risk of this will minimize the funding and time needed to construct the Roanoke River Greenway between Green Hill Park and Montgomery County.

It is highly unlikely that the Roanoke River Greenway will be constructed on the riverbanks for the entire distance between



Green Hill Park and Montgomery County. This is due mostly to right-of-way challenges, but topography and infrastructure (i.e. roads and railroad tracks) are obstacles in certain locations as well. The West Roanoke River Greenway will likely be constructed along the riverbank in some points and adjacent to a public road in other points. Despite the constraints of the study area, Roanoke County will strive to construct a greenway that provides a top-notch user experience. Construction of this greenway would have major regional implications, as it would greatly increase the length of the Roanoke River Greenway and therefore raise its profile as a tourist destination. Ideally, it will one day connect to a trail in Montgomery County that will run all the way to Christiansburg, Blacksburg, and Radford, to create the Valley-to-Valley Trail.

## 5.2 Adoption Process

On \_\_\_\_\_ 2025, the Planning Commission held a public hearing to incorporate the West Roanoke River Greenway Feasibility Study into the Roanoke County 200 Plan. \_\_\_\_\_ citizens spoke during the public hearing and the Planning Commission voted to recommend adoption of the West Roanoke River Feasibility Study to the Board of Supervisors.

On \_\_\_\_\_ 2025, the Board of Supervisors held a public hearing on the adoption of the West Roanoke River Greenway Feasibility Study into the Roanoke County 200 Plan. \_\_\_\_\_ citizens spoke during the public hearing and the Board of Supervisors voted to approve through resolution the adoption of the West Roanoke River Greenway Feasibility Study as an element of the Roanoke County 200 Plan.

The Feasibility Study will also be presented to the Roanoke Valley Greenway Commission for consideration of the study and its adoption into the 2018 Roanoke Valley Greenway Plan.

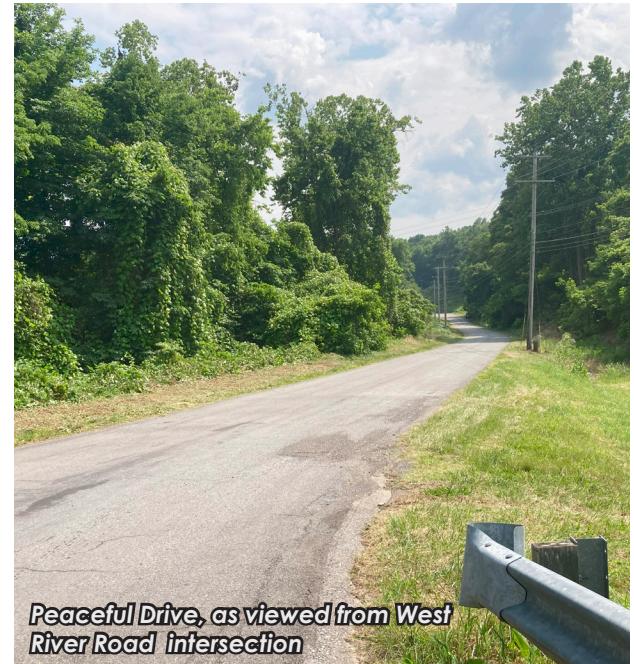
## 5.3 Selection of Areas to Study in Greater Detail

Segments identified in this study will need to be studied further before construction funding is sought. This study provides a high-level overview of potential West Roanoke River Greenway routes, but does not identify exact locations that would work for these routes. Additional planning studies will be required to identify exactly where on the ground these routes will sit. Ideally, these studies will also include preliminary design plans. The following potentially viable routes are those that face the fewest barriers to construction and are thus the first segments for which Roanoke County should seek funding to study in greater detail. These segments are listed in order of the numbers used to identify them in Summer 2023 public outreach. They are not ranked against one another. The map on page 77 shows the locations of the three segments selected for further study in the context of the entire study area.

### Segment 2: North Bank of the Roanoke River between Peaceful Drive at Joyce Lane and West River Road

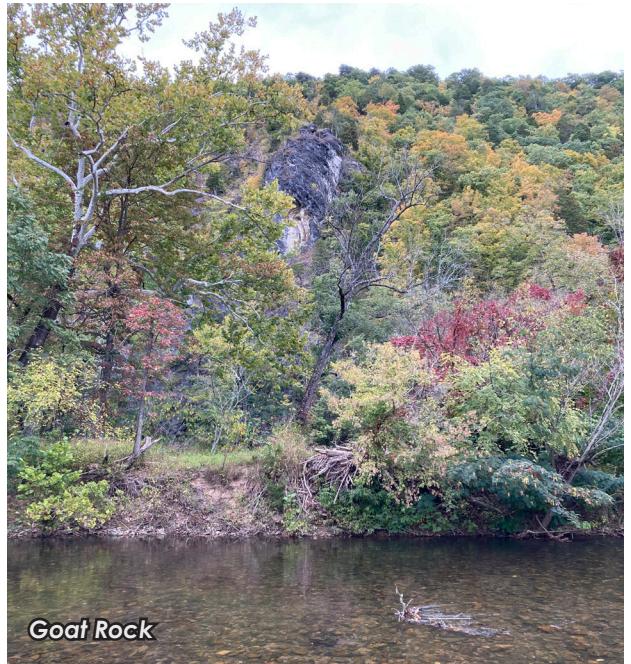
This segment only crosses two parcels, one of which is owned by Roanoke County and the other of which is owned by Appalachian Power, so right-of-way acquisition would likely be simpler than almost every other segment considered in this study. On top of that, this segment would provide a scenic, enjoyable user experience alongside the

Roanoke River, and would bring the Roanoke River Greenway within 3,000 feet of the Montgomery County line. If a greenway were constructed here, it would likely be scenic enough, and close enough to residential areas that are not currently served by any bicycle or pedestrian infrastructure, to draw consistent traffic, even if it remains isolated from the rest of the Roanoke River Greenway for a number of years. This segment's scenic value, simple current land ownership, and strategic location make it one of the first segments for which Roanoke County should pursue funding to study in greater detail and/or develop preliminary design plans. There is potential for this segment to connect to Segment 8 (next subsection), creating an uninterrupted nature-oriented section of the Roanoke River Greenway between 2 and 2.5 miles in length, in a part of Roanoke County





Western Virginia Regional Jail property



Goat Rock

that is not currently served by any bicycle or pedestrian infrastructure.

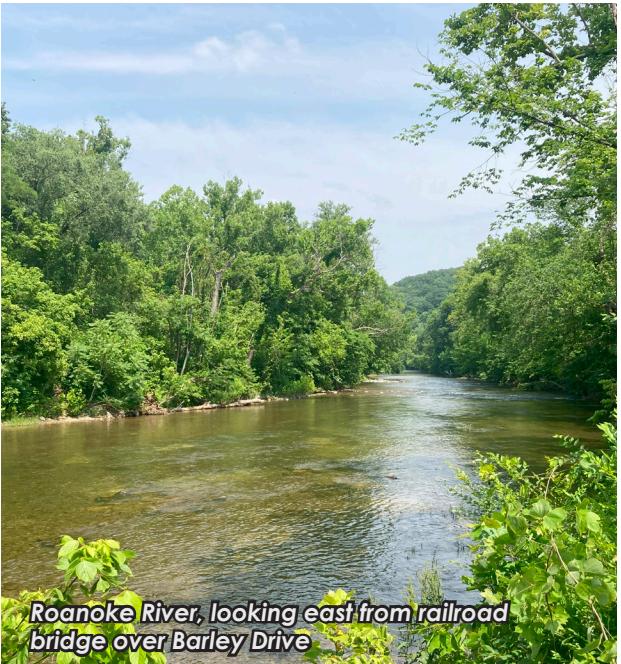
### **Segment 8: South Bank of the Roanoke River on Western Virginia Regional Jail Property, Including a Bridge to Wayside Park**

All parcels crossed by this segment are owned by one entity: the Western Virginia Regional Jail Authority. Current Jail leaders have expressed openness to siting a greenway along the south bank of the Roanoke River on Jail property, provided the greenway is constructed with sufficient security measures in place. These security measures would likely take the form of a tall, unbroken fence between the greenway and the Jail building, with ample signage to communicate to greenway users that they are not to climb over the fence onto Jail property. Like

Segment 2, a greenway at this location would provide beautiful views of the Roanoke River and a top-notch user experience. A rock formation known as Goat Rock rises steeply from the north bank of the river opposite the potential greenway location, adding to the scenic potential of this segment. Additionally, there is potential for this segment to connect to Roanoke County's Wayside Park, already a popular launching point for canoe and tubing trips on the Roanoke River. As mentioned in the previous subsection, there is also potential for Segment 8 to connect to Segment 2, creating a long, scenic section of the Roanoke River Greenway in rural western Roanoke County.

### **Segment 20: North Bank of the Roanoke River between Barley Drive (at Railroad Bridge) and Green Hill Park.**

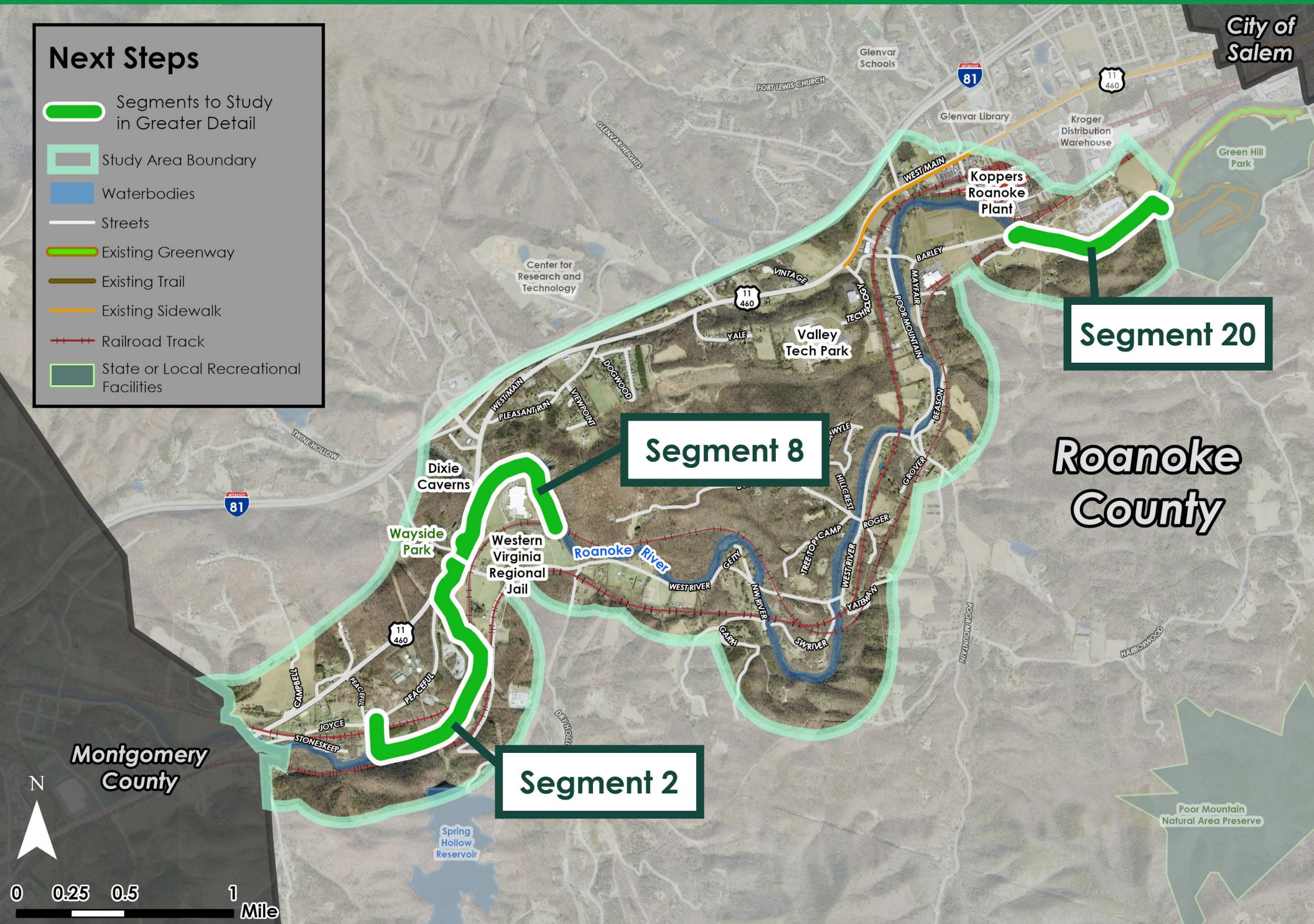
As this segment connects to the current western terminus of the Roanoke River Greenway and a greenway in this location would represent an extension of the existing Roanoke River Greenway, it is a logical segment for Roanoke County to focus on after the adoption of this study. This segment would be simpler from a right-of-way and engineering standpoint than Segment 19, which also connects to the current western terminus of the Roanoke River Greenway. The land on the north bank of the Roanoke River between Green Hill Park and Barley Drive is relatively flat and is occupied by compatible non-residential uses. However, two bridges would be required for this greenway segment, which means that it would likely be expensive to construct despite its other advantages. Still, in an area as challenging for greenway construction as western Roanoke County, this segment represents low-hanging fruit.



Roanoke River, looking east from railroad bridge over Barley Drive

## Next Steps

- Segments to Study in Greater Detail
- Study Area Boundary
- Waterbodies
- Streets
- Existing Greenway
- Existing Trail
- Existing Sidewalk
- Railroad Track
- State or Local Recreational Facilities



## 5.4 Potential Funding Sources

The development and construction of greenways has been funded through a variety of federal, state, local and private sources. Although Roanoke County officials can guide public investment and Greenway development decisions, a majority of the funds used for the construction of greenways in Roanoke County have been secured from outside sources. The following are funding sources that can aid in the future planning, design, construction, and maintenance of the West Roanoke River Greenway.

### VDOT Six-Year Improvement Program

The VDOT Six-Year Improvement Program (SYIP) is the mechanism by which the Commonwealth Transportation Board funds projects over a six-year timeframe. Funding is first allocated to maintenance of assets, including special structures and bridges. Projects in the Fiscal Years 2025-2030 SYIP include improvements to the interstate, primary, secondary and urban highway systems, public transit, ports, airports, and other programs. Improvements funded through the other programs outlined in this section are included in the SYIP.

### Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) is a federal grant program that provides funding to all 50 states to implement safety improvements on roadways. This funding is distributed in Virginia through the Virginia Highway Safety Improvements Program (VHSIP), which is administered by VDOT. VHSIP is guided by the Strategic Highway Safety Plan (SHSP), a five-year plan that

provides direction and focus to programs and projects that will provide a transportation system for residents and visitors to arrive safely at their destinations. This plan includes recommendations for improving travel for all modes of transportation, including those who walk, bicycle, drive, ride transit, and travel by other modes. As of the adoption of this study, Roanoke County has received more VHSIP funding for bicycle and pedestrian projects than roadway projects (Virginia 2022-2026 Strategic Highway Safety Plan).

### VDOT Revenue Sharing Program

The VDOT Revenue Sharing Program provides a 50 percent funding match to localities on a biennial basis for projects that construct, maintain, or reconstruct highway systems. The Revenue Sharing Program may be used to finance sidewalks, trails, and other facilities that accommodate pedestrian and/or bicycle access within the highway network.

Projects are evaluated and prioritized for funding based on the following four priority tiers established by the Virginia Code:

**Priority 1:** Construction Projects that have previously received Revenue Sharing funding as part of the Program application process

**Priority 2:** Construction Projects that meet a transportation need identified in the Statewide Transportation Plan (VTRANS) or when funding will accelerate advertisement of a project in a locality's capital improvement plan

**Priority 3:** Projects that address deficient pavement resurfacing and bridge rehabilitation

**Priority 4:** All other eligible projects

As of May 2025, any construction of greenway between Green Hill Park and Montgomery County would be considered Priority 4.



## SMART SCALE

The SMART SCALE program is the Commonwealth Transportation Board's process for distributing limited state dollars to projects that show the greatest benefit compared to their cost. Proposed projects are evaluated based on how they improve safety, reduce congestion, increase accessibility, contribute to economic development, encourage efficient land use, and impact the environment. Since project applications were first solicited in 2015, Roanoke County has been awarded over \$55 million in SMART SCALE funding. Recent project applications have shifted from widening roads to analyzing roadway corridors and identifying solutions that may utilize a different set of tools to maximize available funding sources through competitive grant programs.

## *Regional Surface Transportation Program / Surface Transportation Block Grant*

Since the 2010 Census, the Roanoke Urbanized Area has been designated as a Transportation Management Area by the U.S. Department of Transportation. This designation enabled the RVTPO, which is responsible for transportation planning and programming for the Roanoke Valley Urbanized Area, to be eligible for annual Federal Regional Surface Transportation Program (RSTP) funding. This funding is administered by RVTPO through its Transportation Technical Committee which has allocated over \$35 million to Roanoke County for the construction of multimodal transportation projects since funding was first distributed in 2013.

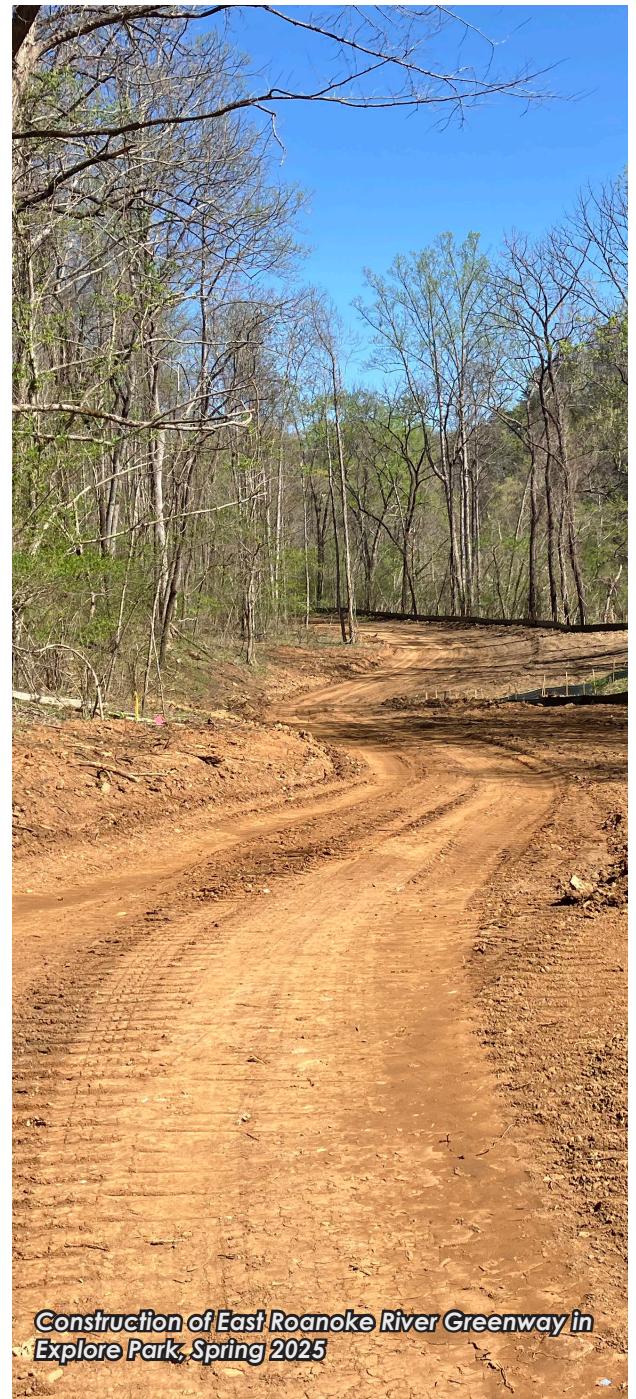
This funding source is now referred to as Surface Transportation Block Grant (STBG) funding and new applications are solicited on a biennial basis. It has become common for

localities to submit requests for STBG funding to leverage towards SMART SCALE project applications. This strategy has brought tens of millions of dollars of additional SMART SCALE funding to the Roanoke Valley.

## *Transportation Alternatives Program*

The Transportation Alternatives Program is a federal reimbursement program to help localities and other project sponsors fund community-based projects that expand non-motorized travel choices and enhance the transportation experience by improving the cultural, historical, and environmental aspects of transportation infrastructure. This program focuses on providing pedestrian facilities, bicycle facilities, and community improvements; it does not fund traditional roadway projects or maintenance. Funding for the Transportation Alternatives Program is provided by the federal government and distributed to states, which have some options for distributing amongst the Secretary of Transportation, CTB members, and the metropolitan planning organizations (MPOs) serving Transportation Management Areas.

As the MPO for the Roanoke Valley region, RVTPO receives Transportation Alternatives funds to distribute on a biennial basis. The localities and public agencies served by RVTPO apply for Transportation Alternatives funding through VDOT, and projects in the RVTPO service area are usually funded with a mix of the funds distributed to RVTPO and the funds distributed to the CTB member for the Salem District. Through the Transportation Alternatives Program, Roanoke County has received funding for the Roanoke River Greenway, Glade Creek Greenway, sidewalks along Williamson Road, and a shared use path along Plantation Road.



**Construction of East Roanoke River Greenway in Explore Park, Spring 2025**

## Bipartisan Infrastructure Law

The Bipartisan Infrastructure Law (BIL) was signed into law on November 15, 2021, and provides federal funding for transportation infrastructure, water infrastructure, resilience, and broadband. BIL, which provides \$550 billion in new funding for Fiscal Years 2022 through 2026, expanded existing federal grant programs and created numerous new grant programs. Discretionary grant programs created or expanded by BIL that could fund further planning or construction of the West Roanoke River Greenway include the Reconnecting Communities Pilot Program, the Better Utilizing Investments to Leverage Development (BUILD) Grant Program (formerly known as TIGER and RAISE), and the Safe Streets and Roads for All Program (SS4A). BIL also established the Carbon Reduction Program (CRP), a formula grant program which provides funds to VDOT and RVTPO for projects designed to reduce carbon dioxide emissions from transportation. At the time of this study's adoption, RVTPO processes CRP and STBG applications concurrently during a defined biennial window, and awards CRP

funding to eligible projects before awarding less restrictive STBG funding. The change in Presidential administrations that took place in January 2025 creates uncertainty around the funding sources created by BIL, so it will be necessary to stay abreast of developments at the federal level concerning these programs.

## Congressionally Directed Spending & Community Project Funding

Colloquially called "earmarks," Congressionally Directed Spending and Community Project Funding are the processes through which members of the U.S. Senate and U.S. House of Representatives can request funding for specific projects in their states or districts. Congressionally Directed Spending is the name for the Senate process, while Community Project Funding is the name for the House process.

To receive funding through these processes, governments and non-profits submit funding requests to their Senators and House Representative, who select up to fifteen requests to submit to their respective Committees on Appropriations. These

Committees then select projects from this pool to be included in annual federal appropriations bills. In Fiscal Years 2022 and 2023, Congress designated a total of \$24.4 billion for 12,500 projects through Congressionally Directed Spending and Community Project Funding. In Spring 2024, Roanoke County submitted a Fiscal Year 2025 request to Senators Tim Kaine and Mark Warner for \$5.5 million to improve the McAfee Knob Trailhead Parking Lot on Route 311 (Catawba Valley Drive).

## Department of Conservation and Recreation (DCR) Recreational Trail Program

The Recreational Trails Program (RTP) is a federal 80-20 matching reimbursement program for building and rehabilitating trails and trail-related facilities. RTP is made possible by funding through the Federal Highway Administration and the Infrastructure Investment and Jobs Act funds and is administered by the DCR in the state of Virginia. RTP requirements mandate that funding is allocated among three categories: 30% for motorized trail uses, 30% for non-motorized trail uses, and 40% for multi-use/diversified trail uses. RTP funds can be used to construct natural surface trails and paved trails.

RTP funding may be used for a variety of projects including constructing new recreational trails and linkages, development of trail facilities and amenities, and acquisition of easements and fee simple title to property for recreational trails or corridors. Construction of the West Roanoke River Greenway will likely involve all these activities, so RTP should be strongly considered as a potential source of funding for the West Roanoke River Greenway.



## DCR Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) was established as a federal reimbursement program for the acquisition and/or development of public outdoor recreation areas and facilities. To be eligible for LWCF assistance for acquisition and development grants, each State is required to prepare a Statewide Comprehensive Outdoor Recreation Plan (SCORP) and update it at least once every five years. In Virginia, the DCR administers the LWCF on behalf of the National Park Service and has prepared the Virginia Outdoors Plan to meet the SCORP requirement. The LWCF is a 50-50 matching reimbursement program and grant recipients are required to be able to fund 100% of the project while seeking periodic reimbursements.

The implementation of the Roanoke River Greenway Plan is identified in the Virginia Outdoors Plan as a featured project for the Roanoke Valley-Alleghany region. For this reason, the construction of the West Roanoke River Greenway is a strong candidate for future funding opportunities through the LWCF.

## DCR Land Conservation Foundation

The Virginia Land Conservation Fund (VLCF) receives funding from the Commonwealth's annual budget that is made available to state agencies, other public bodies, qualifying nonprofits and state- and federally-recognized Virginia Indian Tribes to fund costs associated with permanently conserving land. There are five grant categories that funding is available for: farmland preservation; forestland conversation; historic

area preservation; natural area protection; and open spaces and parks. The Virginia DCR provides staff and administrative support to localities while an interagency taskforce reviews and recommends grant applications to the Virginia Land Conservation Foundation. Grants may be awarded for up to 50 percent of total project costs pursuant to specific criteria defined in each category of land use.

In Roanoke County, funding available through the VLCF has recently been leveraged to purchase two areas for conservation. In 2018, Roanoke County received funding to conserve 242 acres of land that is now home to the Hinchee Trail which connects the Hanging Rock Battlefield Trail to the trails within Carvins Cove Nature Reserve under the Open Space and Parks category. In 2022, the Virginia DCR received funding to add 78 acres to the Poor Mountain Natural Area Preserve under the Natural Area Preservation category.<sup>59</sup>

For purposes of constructing the West Roanoke River Greenway, funding may be sought through the category of Open Space and Parks, which accepts applications for the permanent protection and acquisition of public recreational lands or open-space lands. Application criteria for this category includes consideration for projects that provide public access to state waters, expand existing park systems or other recreational resources, and address needs identified in the Virginia Outdoors Plan. Construction of the West Roanoke River Greenway has the opportunity to meet these VLCF requirements making it a strong candidate for future grant rounds.



## DCR Community Flood Preparedness Fund

The Community Flood Preparedness Fund (CFPF) was established to provide support to regions and localities across Virginia to reduce the impacts of flooding. Funding is prioritized for projects that are in concert with local, state and federal floodplain management standards, local resilience plans and the Virginia Coastal Resilience Master Plan, and is available for the following three categories:

- Capacity Building and Planning:** Funding is awarded for foundational efforts made toward developing and implementing comprehensive approaches to flooding, with priority given to the development of vulnerability assessments and resilience plans.
- Studies:** Funding is available for studies that are designed to help improve the long-term planning and effectiveness of resilience plans and projects.
- Flood Prevention and Protection Projects:** Funding is awarded for activities that prevent loss of life and reduce property damage caused by flooding. Funding for these projects is provided only if a locality has a DCR-approved resilience plan.

The primary limitation associated with CFPF grant money is that applications for studies or project funding are required to be associated with flood prevention activities that have been identified in a resilience plan that has been approved by DCR and adopted by the locality. As of the date of this feasibility study, Roanoke County does not have a DCR-approved resilience plan adopted.

Although this makes Roanoke County ineligible to apply for funding in the studies and projects categories, the County is eligible for apply for funding through the Capacity Building and Planning category for the development of a resilience plan. Developing a resilience plan would provide Roanoke County an opportunity to consider how potential flood prevention projects could be tied into the construction and maintenance of Greenway segments and amenities to make them eligible for additional funding through the CFPF.

### Pathfinders for Greenways

Pathfinders for Greenways is a non-profit organization that was founded in 1997 for the purpose of involving citizens in, and raising funds for, the development of the Roanoke Valley greenway network. Pathfinders for Greenways facilitates volunteer participation, coordinates workdays, organizes promotional events, conducts fundraising, and provides funds to help the member localities of the Roanoke Valley Greenway Commission

offset costs associated with greenway and trail projects. The organization has proven to be particularly effective in purchasing right-of-way for greenways and constructing and maintaining natural surface trails.

## Roanoke County Capital Improvement Program

The Capital Improvement Program (CIP) is a detailed ten-year listing of projects that is submitted to the Board of Supervisors annually for approval. Projects that have been identified as having a county-wide benefit, a cost in excess of \$100,000, and a long-term lifespan are eligible to be included in the CIP. These projects can include items such as assessments and studies and transportation projects, including construction of greenways.

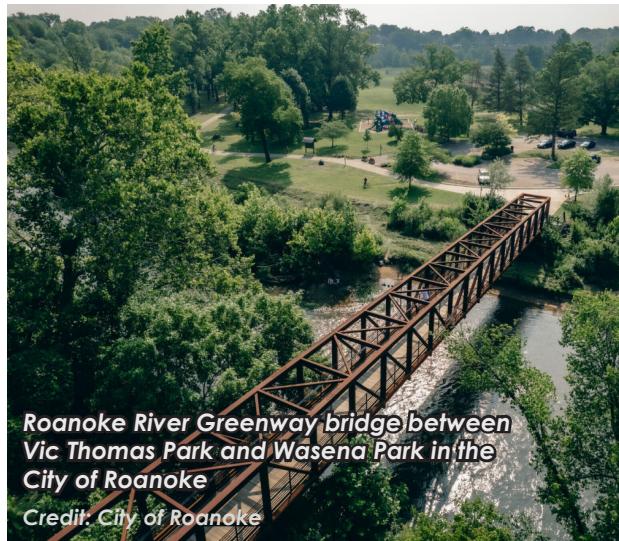
## Roanoke County Operational Budget

The County's operational budget is a fiscal plan adopted on an annual basis that outlines the revenues and expenditures for each fiscal year. Each County department estimates their operational costs for the year





**Muralist John Murrill addresses the Roanoke Valley Greenway Commission, August 2024**



**Roanoke River Greenway bridge between Vic Thomas Park and Wasena Park in the City of Roanoke**  
Credit: City of Roanoke



**East Roanoke River Greenway, Blue Ridge Parkway crossing - construction nearly complete as of August 2025**

for incorporation into the budget, including what amount of funds will be allocated to the construction and maintenance of the greenway projects.

The operational budget also outlines how much funding will be allocated to the Roanoke Valley Greenway Commission annually as established by the Intergovernmental Agreement signed between each participating locality. Though each member locality contributes funding, Roanoke County serves as the fiscal agent and provides salary, benefits, office space, and equipment for the Greenway Coordinator, the only paid position in the Commission.

### Partnerships

The Roanoke River Greenway system is a huge benefit to residents and travelers within the Roanoke Valley region, and completion of the West Roanoke River Greenway to the Montgomery County line would extend benefits to all users of the potential Valley to Valley trail system. For this reason, it is

important for Roanoke County to seek partnerships with other organizations and agencies that recognize the importance of improving the Roanoke River Greenway system. Creating partnerships may help to share the cost of funding additional studies and future projects and strengthen the region's position as a competitive applicant for funding opportunities. There is a long history in the Roanoke Valley of partnerships between different organizations in the public, private, and/or non-profit sectors working together to advance greenway and trail development.

Much of the existing Roanoke River Greenway in the City of Roanoke was made possible by the Roanoke River Flood Reduction Project (RRFRP), a partnership between the City and the U.S. Army Corps of Engineers that bought out flood-prone properties along the Roanoke River and constructed flood walls, levees and, most importantly for the greenway network, the terraced "bench cut" flood storage areas adjacent to the river that now house much of the existing Roanoke River Greenway.<sup>60</sup>

Pathfinders for Greenways have periodically partnered with Roanoke County to purchase right-of-way for greenway projects and to build natural surface trails using volunteer labor. Another potential partner for right-of-way acquisition is the Blue Ridge Land Conservancy (BRLC), a nonprofit organization that protects over 6,000 acres of land in the Roanoke Valley - including large tracts in the Carvins Cove Natural Reserve, on Mill Mountain, and on Roanoke County's own Read Mountain - via 7 conservation agreements.<sup>61</sup>

The birth of the Read Mountain Preserve, operated by the Roanoke County Parks, Recreation & Tourism Department in the Bonsack area of eastern Roanoke County, illustrates how the public sector, private sector, and nonprofits can pool their resources to create new public outdoor recreation resources. In 2001, Botetourt County resident Ron Crawford, with encouragement from Liz Belcher of the Roanoke Valley Greenway Commission,

began fundraising efforts to conserve the Read Mountain ridgeline. Crawford soon joined forces with the Greenway Commission, BRLC, Virginia Outdoors Foundation, and the Roanoke County Parks, Recreation & Tourism Department to form the Read Mountain Alliance, and the Alliance's work eventually paid off in 2005 when real estate company Fralin and Waldron and landowner Al Durham donated 243 acres on the ridgeline and south face of Read Mountain to Roanoke County for the development of public hiking trails.<sup>62 63</sup> The Read Mountain Preserve has since grown to nearly 550 acres, and currently features approximately 4.5 miles of public hiking trails.

Local utilities Appalachian Power and the Western Virginia Water Authority (WVWA) each own multiple tracts of land within the West Roanoke River Greenway Feasibility Study Area and there may be opportunities for Roanoke County to partner with one or both of these groups to construct portions of the West Roanoke River Greenway. Years from now, the opportunity may arise for



Roanoke County to partner with WVWA to develop recreational trails at Spring Hollow Reservoir, following in the footsteps of the City of Roanoke and WVWA partnership at the Carvins Cove Natural Reserve which now features over 60 miles of hiking and mountain biking trails.

There is also potential to partner with Montgomery County on a cross-jurisdictional Valley-to-Valley Trail study at some point in the future, to build off the high-level planning of this Study and the VDOT Valley-to-Valley Trail Study. At the very least, Roanoke County staff will need to stay in contact with Montgomery County staff to ensure that the West Roanoke River Greenway and Montgomery County's potential future portion of the Valley-to-Valley Trail will meet at the Roanoke County-Montgomery County line.

#### *Private Investment*

Although Roanoke County officials can guide public investment and County decisions

related to greenway development, the construction and maintenance of some sections of the greenway network may require investment by private property owners and/or partnerships that facilitate greenway development on private land.

## 5.5 Design Standards

Throughout the construction of the Roanoke Valley greenway network, much attention has been given to the design of the greenway system to ensure that it provides benefits of connectivity and safety to all users. To achieve these objectives, it is important for all regional actors to follow universal design and installation standards for all greenway segments.

Although there are no formal design standards that have been adopted, VDOT has a Complete Streets policy that provides guidelines for the construction of bicycle and pedestrian facilities. Construction of previous greenways have generally followed these



construction guidelines, specifically that the width of a shared use path should be no less than ten (10) feet in width. The typical cross section of a two-way shared use path provided in the current edition of the VDOT Road Design Manual is shown on this page.

In some instances, the best location for a greenway route may be adjacent to a roadway or other existing feature which prevents a standard shared use path from being constructed. For these instances, VDOT's Complete Streets policy provides additional guidelines to help best design individual greenway segments that may need to be catered to fit unique surroundings. These additional design standards include best practices for buffers, signage, and the provision of other greenway features to ensure the safety of users when traveling between different greenway environments.

In addition to VDOT's Complete Streets policy, the 2018 Roanoke Valley Greenway Plan, which has been adopted as part of the Roanoke County 200 Plan, provides additional design recommendations for the greenway network. These recommendations include using national and state guidelines such as American Association of State Highway and Transportation Officials (AASHTO) standards and Crime Prevention through Environmental Design (CPTED) standards to design safe and secure greenway networks.

## 5.6 Post-Construction

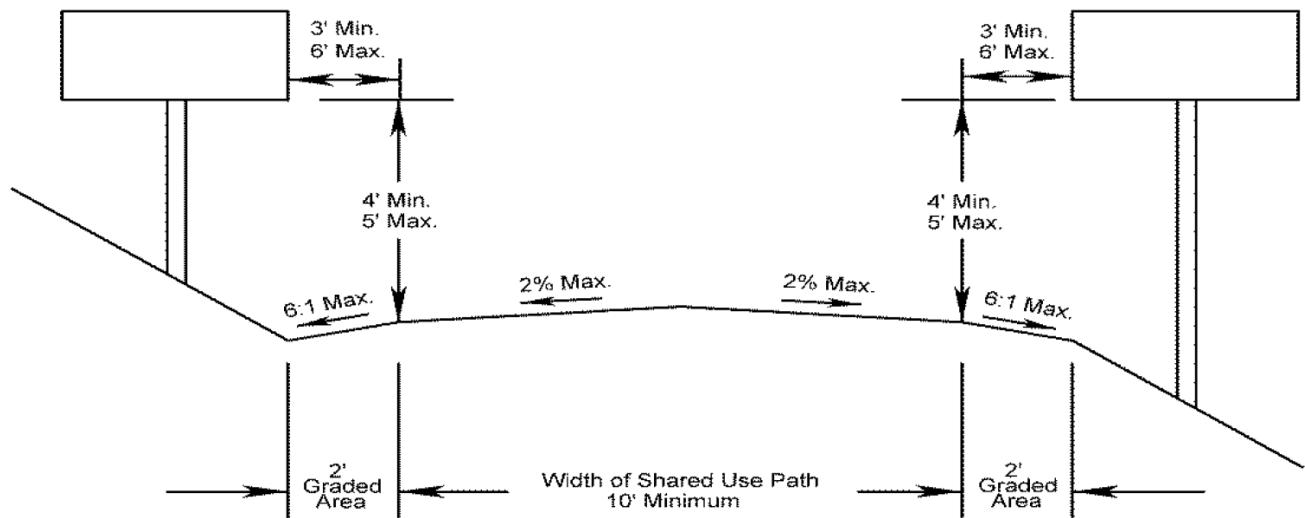
Once segments of the West Roanoke River Greenway have been constructed, maintaining the condition and safety of the Greenway will be a continuous goal. Post-construction responsibilities associated with the greenway extension will include

maintenance of the functional condition of the greenway, ensuring greenway amenities remain in good operation, and keeping the trail safe for all users.

Once completed, the West Roanoke River Greenway is intended to become a Roanoke County facility under the management of the Parks, Recreation & Tourism Department (PR&T), which will handle the operations, upkeep, and long-term maintenance of the trail. As a park facility, PR&T staff will take on the responsibility of ensuring the functionality of the greenway in any weather conditions, including snow plowing, removal of debris, and general inspection of the greenway during all seasons to assess its usability. In addition to maintaining safe travel conditions, PR&T staff will be responsible for upkeep of

greenway amenities such as trashcans, bathrooms, lighting, and other amenity improvements made throughout time.

In addition to maintenance, public safety is a common post-construction concern, considering the fact that greenways are open to all members of the public. Safety concerns raised during the Fall 2022 community meetings focused on crime, trespassing, and homeless camps. Although the West Roanoke River Greenway would not present more danger to the public than any other public facility, it will be important for PR&T staff to coordinate with public safety officials to monitor and assess the safety and security of the West Roanoke River Greenway and continuously work to maintain a safe and secure passage.



**Cross Section of a Two-Way Shared Use Path**

Credit: VDOT Road Design Manual, Revised 3/1/25

## Endnotes (1-15)

- 1 Roanoke County, Pros Consulting. (2007). Roanoke County Parks, Recreation and Tourism Department Comprehensive Master Plan for Parks and Facilities. p. 7
- 2 Centers for Disease Control and Prevention. (2024, March 25). Health Benefits of Physical Activity for Adults. Retrieved from: <https://www.cdc.gov/physical-activity-basics/health-benefits/adults.html>
- 3 Centers for Disease Control and Prevention. (2024, January 10). Why Should People be Active? Retrieved from: [https://www.cdc.gov/active-people-healthy-nation/php/why-be-active/?CDC\\_Aref\\_Val=https://www.cdc.gov/physicalactivity/activepeoplehealthynation/why-should-people-be-active.html](https://www.cdc.gov/active-people-healthy-nation/php/why-be-active/?CDC_Aref_Val=https://www.cdc.gov/physicalactivity/activepeoplehealthynation/why-should-people-be-active.html)
- 4 Centers for Disease Control and Prevention. (2023, December 20). About Physical Activity. Retrieved from: [https://www.cdc.gov/physical-activity/php/about/?CDC\\_Aref\\_Val=https://www.cdc.gov/physicalactivity/about-physical-activity/why-it-matters.html](https://www.cdc.gov/physical-activity/php/about/?CDC_Aref_Val=https://www.cdc.gov/physicalactivity/about-physical-activity/why-it-matters.html)
- 5 U.S. Department of Health and Human Services. (2018). Physical Activity Guidelines for Americans (2nd edition). Retrieved from: [https://health.gov/sites/default/files/2019-09/Physical\\_Activity\\_Guidelines\\_2nd\\_edition.pdf](https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf)
- 6 Reed, Paul. (2021, Dec 15). "Physical Activity Is Good for the Mind and the Body." Office of Disease Prevention and Health Promotion, health.gov blog. Retrieved from: <https://health.gov/news/2021/12/physical-activity-good-mind-and-body>
- 7 Mahindru, Aditya, Pradeep Patil, and Varun Agrawal. (2023). Role of Physical Activity on Mental Health and Well-Being: A Review. Cureus (15:1). Retrieved from: <https://www.cureus.com/articles/121652-role-of-physical-activity-on-mental-health-and-well-being-a-review#!/>
- 8 Anderson Elizabeth, and Geetha Shivakumar. (2013). Effects of exercise and physical activity on anxiety. Frontiers in Psychology (4). Retrieved from: <https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyg.2013.00027/full>
- 9 Broman-Fulks, Joshua J., Mitchell E. Berman, Brian A. Rabian, Michael J. Webster, (2004). Effects of aerobic exercise on anxiety sensitivity. Behaviour Research and Therapy, (42:2), pp. 125-136.
- 10 North, T. Christian, Penny McCullagh, Zung Vu Tran. (1990). Effect of Exercise on depression. Exercise and Sport Sciences Reviews (18:1), pp. 379-416
- 11 Cooney, Gary M., Kerry Dwan, Carolyn A. Greig, Debbie A. Lawlor, Jane Rimer, Fiona R. Waugh, Marion McMurdo, and Gillian E. Mead. (2013). Exercise for depression. Cochrane database of systematic reviews (9). Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9721454/>
- 12 Silva, Alessandro P., Sueli OS Prado, Terigi A. Scardovelli, Silvia RMS Boschi, Luiz C. Campos, and Annie F. Frere. (2015). Measurement of the effect of physical exercise on the concentration of individuals with ADHD. PloS one, (10:3), Retrieved from: <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0122119&type=printable>
- 13 Vysniauske, Ruta, Lot Verburgh, Jaap Oosterlaan, and Marc L. Molendijk. (2020). "The effects of physical exercise on functional outcomes in the treatment of ADHD: a meta-analysis." Journal of attention disorders (24:5), pp. 644-654.
- 14 Yang, Pei-Yu, Ka-Hou Ho, Hsi-Chung Chen, and Meng-Yueh Chien. (2012) Exercise training improves sleep quality in middle-aged and older adults with sleep problems: a systematic review. Journal of physiotherapy (58:3), pp. 157-163.
- 15 Banno, Masahiro, Yudai Harada, Masashi Taniguchi, Ryo Tobita, Hiraku Tsujimoto, Yasushi Tsujimoto, Yuki Kataoka, and Akiko Noda. (2018) Exercise can improve sleep quality: a systematic review and meta-analysis. PeerJ (6). Retrieved from: [https://peerj.com/articles/5172/?fbclid=IwAR0LMECJQi-bRK-g3wN3mLlc4Eg4SjW0duz5KaF4-yK1L1gk3md79v61E3gQ&utm\\_source=TrendMD&utm\\_campaign=PeerJ\\_TrendMD\\_0&utm\\_medium=TrendMD](https://peerj.com/articles/5172/?fbclid=IwAR0LMECJQi-bRK-g3wN3mLlc4Eg4SjW0duz5KaF4-yK1L1gk3md79v61E3gQ&utm_source=TrendMD&utm_campaign=PeerJ_TrendMD_0&utm_medium=TrendMD)

## Endnotes (16-30)

- 16 Erickson, Kirk I., Michelle W. Voss, Ruchika Shaurya Prakash, Chandramallika Basak, Amanda Szabo, Laura Chaddock, Jennifer S. Kim et al. (2011). Exercise training increases size of hippocampus and improves memory. *Proceedings of the national academy of sciences* (108:7), pp. 3017-3022.
- 17 Speisman, Rachel B., Ashok Kumar, Asha Rani, Thomas C. Foster, and Brandi K. Ormerod. (2013) Daily exercise improves memory, stimulates hippocampal neurogenesis and modulates immune and neuroimmune cytokines in aging rats. *Brain, behavior, and immunity* (28), pp. 25-43.
- 18 Childs, Emma, and Harriet De Wit. (2014) "Regular exercise is associated with emotional resilience to acute stress in healthy adults." *Frontiers in physiology* (5). Retrieved from: <https://www.frontiersin.org/journals/physiology/articles/10.3389/fphys.2014.00161/full>
- 19 Kim, Jong-Ho, and Larry A. McKenzie. (2014). "The impacts of physical exercise on stress coping and well-being in university students in the context of leisure." *Health* (6:19), pp. 2570-2580.
- 20 Barton, Jo, Murray Griffin, and Jules Pretty. (2012). Exercise-, nature-and socially interactive-based initiatives improve mood and self-esteem in the clinical population. *Perspectives in public health*, (132:2), pp. 89-96.
- 21 Basso, Julia C., and Wendy A. Suzuki. (2017). The effects of acute exercise on mood, cognition, neurophysiology, and neurochemical pathways: a review. *Brain Plasticity* (2:2), pp. 127-152.
- 22 Barton, Griffin, and Pretty. (2012).
- 23 Zamani Sani, Seyed Hojjat, Zahra Fathirezaie, Serge Brand, Uwe Pühse, Edith Holsboer-Trachsler, Markus Gerber, and Siavash Talepasand. (2016) "Physical activity and self-esteem: testing direct and indirect relationships associated with psychological and physical mechanisms." *Neuropsychiatric disease and treatment* (12), pp. 2617-2625.
- 24 Cohen, Deborah A., Thomas L. McKenzie, Amber Sehgal, Stephanie Williamson, Daniela Golinelli, and Nicole Lurie. (2007). Contribution of Public Parks to Physical Activity. *American Journal of Public Health* (97:3), pp. 509-514.
- 25 Babey, Susan H., Joelle Wolstein, Samuel Krumholz, Breece Robertson, and Allison L. Diamant. (2013). *Health Policy Brief: Physical Activity, Park Access and Park Use among California Adolescents*. UCLA Center for Health Policy Research. Retrieved from: <https://healthpolicy.ucla.edu/publications/Documents/PDF/parkaccesspb-mar2013.pdf>
- 26 Centers for Disease Control and Prevention. (2024, February 8). Priority Strategy: Increasing Physical Activity Through Community Design. Retrieved from: <https://www.cdc.gov/physicalactivity/community-strategies/activity-friendly-routes-to-everyday-destinations.html>
- 27 Email with Nathan Hilbert. September 29, 2023.
- 28 Quint, Rose. (2021). *What Home Buyers Really Want*. National Association of Home Builders Special Study for Housing Economics. Retrieved from: <https://www.nahb.org/-/media/NAHB/news-and-economics/docs/housing-economics-plus/special-studies/2021/special-study-what-home-buyers-really-want-march-2021.pdf>
- 29 National Association of Realtors. (2023). *NAR 2023 Community and Transportation Preferences Survey*. Retrieved from: <https://www.nar.realtor/reports/nar-community-and-transportation-preferences-surveys>
- 30 Lindsey, Greg, Joyce Man, Seth Payton, and Kelly Dickson. (2004). Property Values, Recreation Values, and Urban Greenways. *Journal of Park and Recreation Administration* (22:3), pp. 69-90.

## Endnotes (31-45)

- 31 Asabere, Paul K., and Forrest E. Huffman. (2009). The Relative Impacts of Trails and Greenbelts on Home Price. *The Journal of Real Estate Finance and Economics* (38), pp. 408-419.
- 32 Karadeniz, Duygu. (2008). The Impact of the Little Miami Scenic Trail on Single Family Residential Property Values [Master's thesis, University of Cincinnati]. OhioLINK Electronic Theses and Dissertations Center. Retrieved from: [http://rave.ohiolink.edu/etdc/view?acc\\_num=ucin1211479716](http://rave.ohiolink.edu/etdc/view?acc_num=ucin1211479716)
- 33 Racca, David P., and Amardeep Dhanju. (2006). Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas. Report prepared for Delaware Center For Transportation and The State of Delaware Department of Transportation. Retrieved from: [https://headwaterseconomics.org/wp-content/uploads/Trail\\_Study\\_51-property-value-bike-paths-residential-areas.pdf](https://headwaterseconomics.org/wp-content/uploads/Trail_Study_51-property-value-bike-paths-residential-areas.pdf)
- 34 Resource Dimensions. (2005). Economic impacts of MVSTA Trails and Land Resources in the Methow Valley. Report prepared for the Methow Valley Sport Trails Association. Retrieved from: [https://headwaterseconomics.org/wp-content/uploads/Trail\\_Study\\_65-methow-valley-trails.pdf](https://headwaterseconomics.org/wp-content/uploads/Trail_Study_65-methow-valley-trails.pdf)
- 35 Parent, Oliver, and Rainer vom Hofe. (2012). Understanding the impact of trails on residential property values in the presence of spatial dependence. *The Annals of Regional Science* (51:2), pp. 355-375.
- 36 Nicholls, Sarah, and John L. Crompton. (2005). The Impact of Greenways on Property Values: Evidence from Austin, Texas. *Journal of Leisure Research* (37:3), pp. 321-341.
- 37 Crompton, John L. (2020). The Impact of Trails and Greenways on Property Values. *Parks & Recreation Magazine* (May 2020), Retrieved from: <https://www.nrpa.org/parks-recreation-magazine/2020/may/the-impact-of-trails-and-greenways-on-property-values/>
- 38 Scipione, Paul A. (2014). The Economic Impact of the Erie Canalway Trail: An Assessment and User Profile of New York's Longest Multi-Use Trail. Report prepared for Parks & Trails New York. Retrieved from: [https://www.ptny.org/application/files/2714/4604/5359/Economic\\_Impact\\_of\\_the\\_Erie\\_Canalway\\_Trail\\_Full\\_Document.pdf](https://www.ptny.org/application/files/2714/4604/5359/Economic_Impact_of_the_Erie_Canalway_Trail_Full_Document.pdf)
- 39 McDonald, John. (2015). The Economic impact of Greenways and Multi-Use Trails. Report prepared for the Naugatuck Valley Council of Governments. Retrieved from: <https://cdn2.assets-servd.host/material-civet/production/images/documents/The-Economic-Impact-of-Greenways-and-Multi-Use-Trails.pdf?dm=1620062735>
- 40 Reis, A.C., Jellum, C. (2012). Rail trails development: a conceptual model for sustainable tourism. *Tourism Planning and Development* (9:2), pp. 133-148.
- 41 Bergerson, Terry. (2008). Benefits of Trails & Greenways. Report prepared for the National Park Service Rivers, Trails & Conservation Assistance Program. Retrieved from: <https://www.cdlandtrust.org/sites/default/files/publications/Benefits%20of%20Trails-NPS.pdf>
- 42 Wood, Lisa, Lawrence D. Frank, Billie Giles-Corti. (2010). Sense of community and its relationship with walking and neighborhood design. *Social Science & Medicine* (70:9), pp. 1381-1390.
- 43 Woolley, Helen, Sian Rose, Matthew Carmona, and Jonathan Freedman. (2004). The Value of Public Space. Report produced for the Commission for Architecture and Built Environment. Retrieved from: <https://www.designcouncil.org.uk/fileadmin/uploads/dc/Documents/the-value-of-public-space1.pdf>
- 44 Kaplan, Rachel. (1985). Nature at the Doorstep: Residential Satisfaction and the Nearby Environment. *Journal of Architectural and Planning Research* (2:2), pp. 115-127.
- 45 Email with Pete Eshelman. September 27, 2023.

## Endnotes (46-63)

- 46 Sturgeon, Jeff. (2023, Jul 23). "Cost vs. benefit: what it cost to bring the Ironman 70.3 to Roanoke." The Roanoke Times. Retrieved from: [https://roanoke.com/news/local/business/ironman-virginias-blue-ridge-cost-contract-details-tourism-roanoke-valley/article\\_b1703ff2-2753-11ee-a72f-7f1e00d02b4e.html#:~:text=The%20Carilion%20Clinic%20Ironman%2070.3%20Virginia's%20Blue%20Ridge%20Triathlon%20debuted,times%20the%20%2450%2C000%20local%20fee](https://roanoke.com/news/local/business/ironman-virginias-blue-ridge-cost-contract-details-tourism-roanoke-valley/article_b1703ff2-2753-11ee-a72f-7f1e00d02b4e.html#:~:text=The%20Carilion%20Clinic%20Ironman%2070.3%20Virginia's%20Blue%20Ridge%20Triathlon%20debuted,times%20the%20%2450%2C000%20local%20fee).
- 47 City of Roanoke. (2023). About Our City. Retrieved from: <https://www.roanokeva.gov/DocumentCenter/View/18669/About-Our-City-FY23>
- 48 Nadel, Rebecca Ellen. (2005). Economic Impacts of Parks, Rivers, Trails, and Greenways. Master of Science Practicum, University of Michigan.
- 49 Recker, Nicholas. (2012). Bonds, Bridges and Quality of Life in Small Towns. *Applied Research in Quality of Life* (8), pp. 63-75.
- 50 Recker (2012)
- 51 U.S. Bureau of Transportation Statistics, University of Maryland. (2022). Share of Trips by Distance, 2021. U.S. Department of Energy, Vehicle Technologies Office, Fact of the Week #1230. Retrieved from: <https://www.energy.gov/eere/vehicles/articles/fotw-1230-march-21-2022-more-half-all-daily-trips-were-less-three-miles-2021>
- 52 U.S. Federal Highway Administration, League of American Bicyclists. (2010). National Household Travel Survey – Short Trips Analysis. League of American Bicyclists Blog. Retrieved from: <https://bikeleague.org/national-household-travel-survey-short-trips-analysis/>
- 53 U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy. (2024). Planning and Combining Trips. Retrieved from: <https://www.fueleconomy.gov/feg/planning.shtml>
- 54 Chester County (PA) Planning Commission. (2024). Greenways. Retrieved from: <https://www.chescoplanning.org/MuniCorner/eTools/42-Greenways.cfm>
- 55 Capon, Samantha J. (2020). Riparian Ecosystems. *Encyclopedia of the World's Biomes*. Elsevier, pp. 170-176.
- 56 Bergerson, Terry. (2008). Benefits of Trails & Greenways. Report prepared for the National Park Service Rivers, Trails & Conservation Assistance Program. Retrieved from: <https://www.cdlandtrust.org/sites/default/files/publications/Benefits%20of%20Trails-NPS.pdf>
- 57 Greenways Inc. (2006). The Benefits of Greenways. Retrieved from: [https://smokymountainsgreenways.org/docs/benefits\\_greenways.pdf](https://smokymountainsgreenways.org/docs/benefits_greenways.pdf)
- 58 Greenways Inc. (2006)
- 59 Virginia Department of Conservation and Recreation. (2024). VLCF Funded Projects. Retrieved from: <https://www.dcr.virginia.gov/land-conservation/vlcf-grant-list>
- 60 City of Roanoke. (2024). Floodplain Revisions. Retrieved from: <https://www.roanokeva.gov/2877/Floodplain-Revisions#:~:text=The%20project%20was%20a%20partnership,the%20process%20of%20being%20notified>
- 61 Blue Ridge Land Conservancy. (2024). Where We Work: Roanoke Valley. Retrieved from: <https://www.brlcva.org/roanoke-valley.html#/>
- 62 Virginia Outdoors Foundation. (2022, July 19). Read Mountain Preserve North, Roanoke County. Retrieved from: <https://www.vof.org/2022/07/19/read-mountain-preserve-north-roanoke-county/>
- 63 Blue Ridge Land Conservancy. (2024). Vic Thomas Environmental Stewardship Award. Retrieved from: <https://www.brlcva.org/vic-thomas-environmental-stewardship-award.html#/>