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Virginia Creeper Trail Economic Impact Report

Nov 2025



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Acknowledgements

This report would not be possible without the support of the Wellspring Foundation and local communities and businesses that surround the Virginia Creeper Trail. Their local insights provided key context for understanding the intangible impacts of the Creeper Trail. The research team from the Virginia Tech Center for Economic and Community Engagement and the Virginia Tech Southwest Center would not have been able to do this work without the willingness of local stakeholders to engage with us. A special thanks to the Town of Abingdon for providing Placer.Ai data, to Chris Bell, Anna Blake-Wright, and Mayor Katie Lamb from Damascus for their support across the life of this research, to Tracy Cornett from Grayson County tourism, to Kerry Guest for his support and insights, and last to all the businesses and residents that engaged in this process.

This work stands on many years of dedication by the Virginia Creeper Trail Conservancy whose members have worked tirelessly to maintain and preserve the trail, promote the trail, and guarantee a bright future for the Virginia Creeper and for the communities it crosses. Specifically, the Conservancy's work and advocacy led to the funding and pursuit of the Master Plan for the trail which subsequently led to the Wellspring Foundation's funding of this economic impact study. Without the Conservancy's investment in trail counters along the trail, accurate and reliable visitor counts would have been very challenging. Special thanks to Jeff Van Cleef who installed and now oversees those counters. His collaboration with the Virginia Tech team in working through the trail counter numbers was essential. The Conservancy's work with local businesses and engagement with visitors to the region was also pivotal in gathering the business and survey data needed to complete this work. Special thanks as well to Lisa Quigley who actively promoted this work in discussions and digital outreach to businesses and trailusers. As a volunteer organization, the Virginia Creeper Trail Conservancy epitomizes the strong sense of community and passion that continues to drive Southwest Virginia, which is essential in telling the true story of the region.

Additionally, we want to acknowledge what this region has gone through after the devastation of Hurricane Helene in the fall of 2024. Hurricane Helene left significant damage in its wake across southwest Virginia. The Virginia Creeper Trail region was particularly affected with nearly half of the trail being closed afterwards. We extend our deepest gratitude to the first responders and all those who jumped to action to take care of the folks that live in this region and to those who came to the region to help with recovery. Throughout our travel in the region our team was able to witness the spirit of the communities impacted by Hurricane Helene. The comradery and compassion we witnessed was a testament to the richness of the community bonds. We heard stories of those that lost their homes working to ensure that others in the community were okay. It was a reminder of the greatness of communities when they come together.

Executive Summary

The Virginia Creeper Trail is a critical economic asset in Southwest Virginia, serving as a powerful engine for tourism, small business activity, and economic resilience across Washington, Grayson, Smyth, and Russell counties. This 34-mile trail saw over 348,400 single uses in 2023, representing more than 112,600 visitors coming to the region to use the Virginia Creeper Trail (VCT). These visitors bring in new dollars that support restaurants, outfitters, lodging providers, and local governments through meals and lodging taxes.

Economic impact is determined based on the amount of total visitor spending attributed to the existence of the Creeper Trail. One must ask, would the money be in this region if the Virginia Creeper Trail did not exist? Based on 409 trail user survey responses, representing people who have used the trail in the past 3+ years, 61% of visitors said their sole reason for being in the region was the trail and 24% of visitors said the trail was a significant factor in their trip to the region. These responses confirm the trail's role as a destination driver. Using IMPLAN, an economic modeling software, Virginia Tech estimated the trails annual impact to be approximately \$61.1 million within Washington, Grayson, Smyth, and Russell counties. Thanks to the ripple effects created through visitor spending, the Virginia Creeper Trail supports about 582 full-time equivalent jobs annually in the region, and it generates \$2.1 million in local tax revenue.

The economic importance of the trail was further highlighted following the devastation from Hurricane Helene in 2024, which caused widespread trail closures and infrastructure damage, especially along the Whitetop-to-Damascus section of the trail. Local businesses reported revenue losses of 50% or more during the critical fall season, with some fearing permanent closure if disruptions continue. In the words of locals, this event proved how the trail is “the lifeblood of the community” in Damascus.

The Virginia Creeper Trail also benefits local trail users, with many residents using the trail to exercise, spend time with their families, or simply decompress. With at least 5.5% of the region's residents or about 6,800 people regularly using the trail, studies can help us infer that these trail users are likely to have 32% fewer sick days and 55% lower healthcare costs. Local trail users are also 25% less likely to suffer from depression, 30% less likely to suffer from anxiety, and 50% less likely to have a heart attack or stroke, particularly if they bike three hours or more a week. [17][18] With per capita healthcare costs estimated to be about \$12,427 in 2025, that is an annual cost savings of \$6,835 per person or \$46.6 million for Creeper Trail local users.

This study began just prior to Hurricane Helene. Thus, the activities and findings from this work were hindered by the effects of the hurricane, particularly with respect to the inability to conduct trail user intercept surveys. Survey responses were gathered through partner listservs, which may have skewed impact estimates. In the future, when the whole trail is open, Virginia Tech recommends conducting trail users surveys during the spring, summer, and fall months. The Appendix of this report offers suggestions on how to approach sampling and survey questions.

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Introduction

The Virginia Creeper Trail is one of Southwest Virginia's most notable outdoor recreational assets, drawing visitors from across the Mid-Atlantic region and beyond. In 2024, the Wellspring Foundation of Southwest Virginia commissioned the Virginia Tech Southwest Center and the Virginia Tech Center for Economic and Community Engagement to illustrate the value of the trail to businesses, residents, and localities. This study quantifies the trail's economic and social contributions to the communities surrounding the Creeper Trail, including Abingdon, Damascus, and Whitetop, as well as the larger economic region of Washington, Grayson, Smyth, and Russell counties. The primary questions guiding this work were: What are the economic and social impacts of the Virginia Creeper Trail? How does the trail influence visitor attraction, local business revenues, and overall quality of life in the region?

The importance of this economic impact analysis is magnified by the effects of Hurricane Helene, which hit the region in the fall of 2024. The hurricane caused significant damage to portions of the trail infrastructure, neighboring towns, and local businesses dependent on tourism. The economic shock highlighted how crucial the Virginia Creeper Trail is to the local economy, as many businesses missed out on fall trail user revenue—often the most popular and profitable season for hospitality and outdoor recreation-based businesses. Understanding the trail's broader impact on economic resilience, community identity, and regional tourism can provide the data needed to inform recovery efforts. Demonstrating the trail's value may support future investments, including public and private funding, to restore damaged sections and reinforce the region's long-term economic sustainability.

Approach

Trail User Survey

Invitations to take the online trail user survey were disseminated through the Virginia Creeper Trail Club listserv and at some Damascus businesses between February and April 2025. Because of the effects of Hurricane Helene, Virginia Tech refrained from using intercept surveys. Thus, the surveys collected represented past visits, not 2025 visits. Virginia Tech collected 324 completed and 85 partial surveys. The survey instrument is in the Appendix.

In addition to gaining an understanding of visitors' overall experience, the trail user survey was used to estimate the average spending pattern of single-day and multi-day Creeper Trail visitors to the region. In this case, the "region" is Washington, Grayson, Smyth, and Russell counties. Virginia Tech compared these spending patterns with Virginia Tourism Corporation visitor spending estimates to validate these numbers. Overall, Creeper Trail visitors spent \$248 more on average.

Virginia Tech used 2023 data to gauge total annual visitors pre-Hurricane Helene. Estimates were derived from the Virginia Creeper Trail Club's electronic counters along the trail and the Town of Abingdon's Placer.AI data. See Appendix for more detail.

Visitor Spending Impacts

IMPLAN, a widely recognized input-output modeling software, served to estimate the impacts of trail visitor spending in the region. IMPLAN models how new money circulates within a given economy, generating new economic activity and dollars through indirect effects (business spending) and induced effects (household spending).

Local Interviews

Virginia Tech visited Damascus, Abingdon, Whitetop, and the broader Grayson and Washington County communities to interview businesses, town government officials, and individuals impacted by the hurricane. Interviews provided perspective of trail impacts and how prolonged trail closure from the hurricane might effect businesses.

Existing Data

Virginia Tech used existing data sources to provide context for the regional economy and trail-related industries. Tools such as Lightcast and local tax information are examples. These sources helped establish a baseline understanding of tourism activity, demographic trends, and regional economic indicators. Additionally, they help portray the benefits of nature based tourism assets for residents.

About the Virginia Creeper Trail

The Virginia Creeper Trail (VCT) is a 34-mile rail-to-recreation trail in Southwest Virginia, stretching from the town of Abingdon to Whitetop Station near the North Carolina border. Originally a railway corridor, it is now a multi-use path popular for biking, hiking, horseback riding, running or walking, and fishing.

The VCT traces its roots back to the late 19th century when it served as a rail line for the Norfolk & Western Railway. Originally built to transport lumber, iron ore, and passengers through the rugged mountains of Southwest Virginia, the railway earned the nickname "Virginia Creeper" because of the slow speed needed to ascend the steep grades. Over time, the railroad became less profitable, and by 1977, service had ended. Recognizing the corridor's scenic and recreational potential, the towns of Abingdon and Damascus, along with the U.S. Forest Service, acquired portions of the right-of-way in the early 1980s.



In 1987, after significant restoration and volunteer efforts, the VCT officially opened as a multi-use recreational trail. Its path crosses 47 trestle bridges and passes through lush forests, rolling farmland, and charming small towns. The trail's transformation is often cited as a national model for rail-to-trail projects, preserving local history while boosting tourism and outdoor recreation in the region. Today, the Virginia Creeper Trail remains a vibrant symbol of community collaboration and outdoor adventure.[1]

OWNERSHIP & MAINTENANCE

Abingdon to Damascus (Western Section): In 1982, the towns of Abingdon and Damascus purchased the right-of-way for this portion of the trail from the Norfolk & Western Railway with assistance from state grants and partial cost forgiveness by the railroad.

Damascus to Whitetop (Eastern Section): This segment falls under the jurisdiction of the U.S. Forest Service as part of the Mount Rogers National Recreation Area.

The Virginia Creeper Trail Conservancy, a nonprofit organization, plays a key role in maintaining and advocating for the trail.¹

The Virginia Creeper Trail is enjoyed by a variety of users that are drawn to it for its natural beauty. Biking is by far the most popular activity on the trail, drawing riders who want to complete the 34-mile stretch between Abingdon and Whitetop Station or ride a section of it. Additionally, many users choose to traverse the trail on foot whether that is walking, hiking, or running. Users may also choose to ride sections of the trail on horseback or simply use the trail as a convenient method to travel to their favorite fishing spot. The trail is also commonly used for more leisurely activities like picnicking, sightseeing, birdwatching, or taking in the vibrant colors of the fall leaves.

Trail Users

348,426

Total Uses in 2023

184,666

Total Trail Visitations (53% of total)
(Those living outside Washington, Grayson, Smyth & Russel)

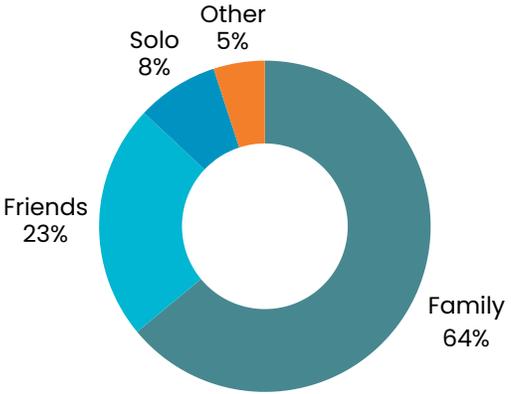
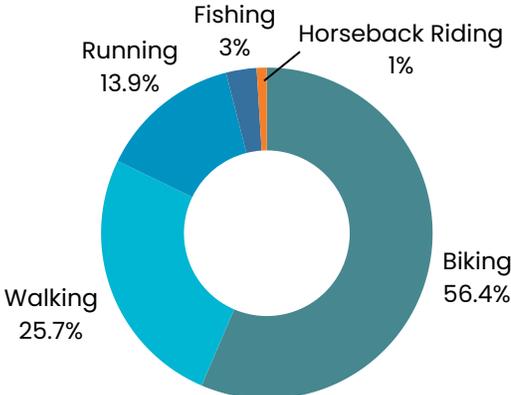
112,646

Visitors coming to the region for the Virginia Creeper Trail (61% of visitors)

6,823

Local Trail Users
(Using the trail 2X per month)

Data from Creeper Trail Trail Counter and VT CECE Trail user survey 2025.

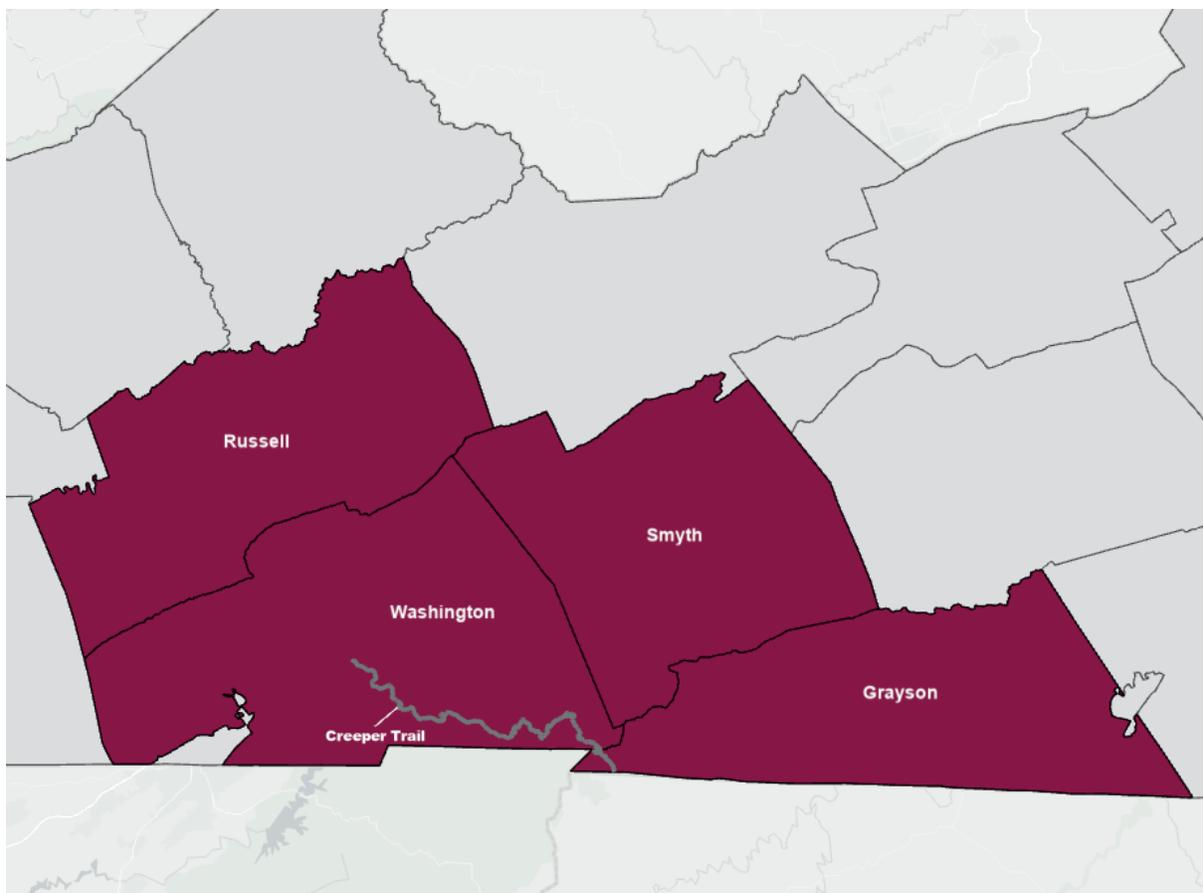


Regional Overview

This section provides an overview of key trends and regional data for the Virginia Creeper Trail region. Virginia Tech analyzed demographic, economic, and industry data trends in the region, its localities, the state, and nation to better understand the factors that shape today's hospitality and outdoor tourism industries. Virginia Tech also conducted interviews with selected regional tourism officials, visited each locality, and reviewed regional tourism data.

Defining the region

For the purposes of this report, the Virginia Creeper Trail region is defined as Washington, Grayson, Russell, and Smyth counties in Southwest Virginia. These four counties encompass the full length of the 34.3-mile Virginia Creeper Trail, which stretches from Abingdon through Damascus and into Whitetop Station near the North Carolina border. As gateway communities and trail access points, Washington and Grayson counties serve as the primary economic and recreational hubs influenced by trail-related activity. This regional definition captures the direct and spillover economic impacts of tourism, outdoor recreation, and local business development associated with the Virginia Creeper Trail.



Population

In 2025, the region’s population is 123,809. The population has decreased by 5.9% since 2010 and by 1.4% since 2020 (911 individuals). This rate of decline is slower than other regions with comparable population sizes. If trends continue, the population is expected to decrease by another 1,405 people over the next five years (2025-2030). A significant portion of the region’s population, about 44% or 54,327 residents, is concentrated in Washington County, where most of the Creeper Trail resides. The county experienced an approximate 1.2% decrease in population between 2010 and 2020.

Table 1. Creeper Trail Region Population

Year	Region	Grayson County	Russell County	Smyth County	Washington County
2010	131,537	15,500	28,873	32,198	54,966
2015	129,576	15,960	27,863	31,444	54,309
2020	124,720	15,281	25,757	29,787	53,895
2025	123,809	15,296	25,229	28,957	54,327

Source: Lightcast Populations Demographics Table 2010-2025

When examining population shifts by age demographics, the most significant declines have been among individuals under the age of 30 and 35-64 years of age, with losses of about 3,822 individuals and 7,126 individuals respectively since 2010. The region has 20,314 millennials (ages 25-39), slightly below the national average for an area this size.

Meanwhile, the region has seen a sizable population growth of individuals over the age of 65 by approximately 4,615 individuals. Individuals over the age of 65 constitute approximately 21% of the region’s population signaling that it is a favorable place for retired individuals. Retirement risk is relatively higher in this region due to its high population of individuals age 55 or older. The region currently has 48,844 individuals that would be considered near retirement [2].

Income & Unemployment

Regional employment in 2025 is 51,291, a decrease of 670 jobs since 2020. However, jobs are projected to grow by 1,515 by 2030 [2]. In the region, 13.2% of residents possess a Bachelor's Degree (8.3% below the national average), and 11.1% hold an Associate's Degree (2.2% above the national average). [2]

Labor force participation is about 52.4% which falls short of state and national rates by roughly 10%. Meanwhile, 2025 regional unemployment is approximately 3.8%, slightly lower than the national average of 4.2% and slight higher than the state average of 3.2%. [2]

The median household income for the region is \$50,819, below the national average of \$80,610. There are also noticeable differences in income between the counties. The median household income in Washington County and Grayson is \$59,116 and \$43,348 respectively. Additionally, Smyth County sits at \$46,859 and Russell County at \$49,020. Average hospitality industry incomes range from roughly \$25,572 to \$47,029 a year in the region depending on the specific role and corresponding experience. [2]

Due to lower earnings, a slightly larger portion of the population live below the poverty level. The percentage for the region is about 14.6% with Washington County being at the lower end with 11% and Russell and Grayson Counties being at the higher end, with both at about 18% and Smyth County Settling in at 16.5%. These numbers are higher than the state 10.2%, and nation 11.1% for all families. [2]

Creeper Trail Region Tourism Overview

There is a variety of industries that can fall into the larger tourism bucket, in which the outdoor recreation industry resides. Tourism industry definitions typically include (identified by 3-digit NAICS codes in parentheses): Food and Beverage Stores (445); Furniture, Home Furnishings, Electronics, and Appliance Retailers (449); General Merchandise Retailers (455); Health and Personal Care Retailers (456); Gasoline Stations and Fuel Dealers (457); Clothing, Clothing Accessories, Shoe, and Jewelry Retailers (458); Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers (459); Scenic and Sightseeing Transportation (487); Performing Arts, Spectator Sports, and Related Industries (711); Museums, Historical Sites, and Similar Institutions (712); Amusement, Gambling, and Recreation Industries (713); Accommodation (721); and Food Services and Drinking Places (722).[2]

Looking across those industries, the Creeper Trail region has about 7,896 tourism-related jobs. The average salary for these jobs is \$31,131, below both the state (\$36,685) and national (\$40,019) averages. There are about 482 different tourism-related businesses in the region with 114 businesses posting job openings in the past year. These businesses posted over 4,000 unique (non-duplicative) postings for jobs in these industries over the past 12 months. As a whole, these industries contributed \$489,550,300 to the Gross Regional Product in 2024, including \$96,366,770 in local, state, and federal taxes [3].

Creeper Trail Region Hospitality Sub-sector

Hospitality is a sub-sector of the tourism industry. Businesses such as hotels, restaurants, event planning services, and travel agencies serve the hospitality market. As of 2025, the hospitality industry cluster supports approximately 2,926 jobs in the region, reflecting a slight increase since 2015 of 104 jobs. Between 2015 and 2025, the United States had an 11% increase in hospitality industry jobs (1,243,297 jobs).

Table 2. Creeper Trail Region Hospitality Industry

NAICS	Description	2014 Jobs	2024 Jobs	2014-2024 Change	Percent Change	% of Total Jobs in Industry
561510	Travel Agencies	<10	<10	Inf. Data	Inf. Data	Inf. Data
561599	All Other Travel Arrangement and Reservation Services	0	<10	Inf. Data	Inf. Data	Inf. Data
721110	Hotels (except for Casino Hotels) and Motels	329	359	30	9%	12%
722511	Full-Service Restaurants	884	1,027	143	16%	35%
722513	Limited-Service Restaurants	1,557	1,387	-170	-11%	47%
722515	Snack and Nonalcoholic Beverage Bars	50	148	98	196%	5%

Source: Lightcast 2014-2024 4 County Industry Report

Table 3. National Hospitality Industry

NAICS	Description	2014 Jobs	2024 Jobs	2014-2024 Change	Percent Change	% of Total Jobs in Industry
561510	Travel Agencies	105,879	104,029	-1,850	-2%	0.8%
561599	All Other Travel Arrangement and Reservation Services	81,143	81,725	582	1%	0.6%
721110	Hotels (except for Casino Hotels) and Motels	1,567,386	1,592,092	24,706	2%	12%
722511	Full-Service Restaurants	5,255,165	5,491,414	236,249	4%	42%
722513	Limited-Service Restaurants	4,137,397	4,735,499	598,102	14%	37%
722515	Snack and Nonalcoholic Beverage Bars	609,347	994,854	385,507	63%	8%

Source: Lightcast 2015-2025 United States Industry Report

Hospitality Occupations

Hospitality workers are a critical occupation within the hospitality industry, although the sector encompasses different professions such as hotel managers, chefs, waitstaff, and event planners. The term "hospitality worker" typically includes individuals directly involved in providing services to guests. In 2025, the region contained 2,713 hospitality workers, a decrease of 387 jobs since 2015. Customer service representatives represent the second largest group with 780 jobs. Additionally, fast food workers and local restaurants jobs account for a large portion too.

Table 4. Creeper Trail Hospitality Occupations

SOC	Description	2014 Jobs	2024 Jobs	2014-2024 Change	Percent Change	% of Total Jobs in Industry
35-2014	Cooks, Restaurants	204	336	132	65%	12%
35-1011	Chefs and Heads Cooks	21	32	11	52%	1%
35-3031	Waiters and Waitresses	561	492	-69	-12%	18%
43-4051	Customer Service Representatives	919	780	-139	-15%	29%
11-9081	Lodging Managers	<10	<10	Insf. Data	Insf. Data	0.1%
35-3023	Fast Food and Counter Workers	1,392	1,066	-326	-23%	39%

Source: Lightcast 2015-2025 4 County Occupation Report

Creeper Trail Region Tourism, Retail, and Entertainment Sub-sector

Tourism, retail, and entertainment can be viewed as a sub-sector of the broader tourism industry. In the region, businesses in these categories are indicative of the type of tourists that is driving the region and the overall economic health of these industries. In 2025, the United States had a total of 3,901,468 million jobs in this same industry sub-cluster, a 13% increase (438,221 jobs) since the year 2015.

Table 2. Creeper Trail Region Tourism, Retail, and Entertainment Industry

NAICS	Description	2015 Jobs	2025 Jobs	2015-2025 Change	Percent Change	% of Total Jobs in Industry
4591	Sporting Goods, Hobby, and Musical Instrument Retailers	209	71	-138	-66%	8%
4594	Office Supplies, Stationery, and Gift Retailers	54	20	-34	-63%	2%
4599	Other Miscellaneous Retailers	158	178	20	13%	19%
7111	Performing Arts Companies	157	49	-108	-69%	5%
7112	Spectator Sports	27	85	58	215%	9%
7115	Independent Artists, Writers, and Performers	23	50	27	117%	5%
7121	Museums, Historical Sites, and Similar Institutions	25	42	17	68%	5%
7139	Other Amusement and Recreation Industries	184	432	248	135%	47%

Source: Lightcast 2015-2025 4 County Industry Report

Tourism, Retail, and Entertainment Occupation

Tourism, retail, and entertainment workers are a group of critical occupations within the outdoor tourism industry, although the sector encompasses different professions such as craft artists, museum employees, cashiers, and sale representatives. These workers typically includes individuals working in local businesses that sell to travelers. In 2025, the region contained 2,727 of these workers, a marginal increase of 42 jobs since 2015. Cashiers represent the largest group with 1,582 jobs. Additionally, retail workers and sales representatives of services except advertising, insurance, financial services, and travel jobs account for a large portion too.

Table 2. Creeper Trail Region Tourism, Retail, and Entertainment Industry

SOC	Description	2015 Jobs	2025 Jobs	2015-2025 Change	Percent Change	% of Total Jobs in Industry
27-1012	Craft Artists	<10	<10	Insf. Data	Insf. Data	Insf. Data
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	<10	10	Insf. Data	Insf. Data	.1%
41-2011	Cashiers	1,592	1,582	-10	-1%	58%
41-2031	Retail Salesperson	969	927	-42	-4%	34%
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	113	201	88	78%	7%

Source: Lightcast 2015-2025 4 County Industry Report

In 2025, the United States had a total of 8,519,255 million jobs in this same industry sub-cluster, an 8% decrease (785,160 jobs) since 2015. Additionally, within these occupations the United States saw strength in tour guides, and sports complex workers while the Creeper Trail region did not have a comparable strength in either of those occupations. Additionally, this region did have a sizeable increase in occupations related to golf courses and country clubs from 2015 to 2025.

Overview of Outdoor Tourism and Benefits

Current State of Outdoor Recreation Tourism

The U.S. Bureau of Economic Analysis (BEA) reported that outdoor recreation contributed \$1.1 trillion in gross economic output, representing 2.2% of gross domestic product (GDP) in 2022, the most recent year for which data is available. The industry provided jobs to almost 5.2 million people who earned more than \$226.3 billion dollars across the United States [4].

A pre-pandemic report from the Outdoor Industry Association found that American consumers spent more on outdoor recreation than on pharmaceuticals and fuel combined. The impact of outdoor recreation on the United States' economy nearly equaled that of hospital care. Consumer spending on outdoor recreation totaled \$887 billion in 2017, including products as well as trip and travel spending. That amount directly supported 7.6 million American jobs and generated \$125 billion in federal, state and local tax revenue. The vast majority of the \$887 billion, (\$702.3 billion), was for trip and travel spending on items such as airfare, lodging, tickets, lessons, food, and more. [20]

A 2022 report from the National Outdoor Recreation Roundtable (ORR) estimated the economic contribution of outdoor recreation in Virginia to be \$13.4 billion. ORR describes itself as the nation's leading coalition of outdoor recreation associations representing the more than 110,000 outdoor businesses in the recreation economy and the full spectrum of outdoor related activities. ORR further estimated the outdoor recreation industry accounted for 122,405 jobs in Virginia in 2022 and included 2.8% of all employees in the state. [21]

The 2024 Outdoor Participation Trends Report from the Outdoor Industry Association and Outdoor Foundation found that the outdoor recreation participation base grew 4.1% in 2023, to a record of 175.8 million participants, a number that represents 57.3% of the United States population. This represented an increase across demographic groups as even more new and casual participants were beginning activities such as camping, hiking, biking, and more. The report found that over 22 million more Americans were participating in outdoor recreation activities in 2023 than were participating in 2019. [22]

Health and Quality of Life Implications

Quality of life is playing an increasingly significant role in where individuals, families, and businesses decide to locate. While definitions vary, a quality of life asset is generally understood as the elements that make a place appealing and support people's ability to enjoy life. This may include everything from safety and schools to cultural and recreational opportunities. Research shows that people are often willing to pay higher housing prices or even accept lower wages in exchange for living in a place with a higher perceived quality of life for themselves and their families. [5]

A 2023 study found that quality of life had a stronger impact on the economic success of smaller communities than traditional business environment factors. In other words, amenities like outdoor recreation, cultural events, good schools, and reliable transportation may contribute more to a community's economic health than business-friendly policies alone. Communities with higher quality of life tend to experience faster population growth, higher employment, and lower poverty—trends that have only intensified since the COVID-19 pandemic. [7]

Access to outdoor recreation opportunities often ranks at the top of lists for critical quality of life assets. Several studies in the 21st century have offered evidence of significant health benefits from trails and the outdoors. Outdoor recreation has been shown to improve the mental and physical health of residents. [8] These health benefits are even greater in the presence of green space and natural water sources [8]. With greenspace within 1 kilometer of the home, people are 25% less likely to suffer from depression and 30% less likely to suffer from anxiety [9]. Finally, in a cost-benefit study of five pedestrian trails in Lincoln, Nebraska, the researchers showed that for every \$1 invested in each trail, \$2.94 in direct medical benefits was generated. [10]

These benefits are particularly relevant for young, elderly, and low-income residents, who are often most vulnerable with respect to health concerns. [11] Access to outdoor recreation—including parks and trails and other small, informal green spaces—has been shown to improve the health and quality of life for groups that historically have been marginalized. [12] These assets can contribute to having a happier and healthier population that is more civically engaged and passionate about their community. [13]

Additionally, outdoor recreation assets can also enhance a community's ability to attract and retain businesses. Areas with exceptional recreational opportunities are more likely to draw and keep highly skilled, educated, and entrepreneurial talent—as well as the companies that seek them. These are also often the same individuals that start local businesses. [14] These assets can also attract entrepreneurs that start small business such as restaurants, short-term rentals, or supply stores. While these businesses may be aimed at catering to visitors to the region, many of them also provide valuable services to local residents by providing amenities, as well as job opportunities.

Millennials and Generation Z—who now make up roughly half of the national workforce—are particularly influenced by factors like vibrancy, flexibility, diversity, and a strong sense of social and environmental responsibility when making decisions about where to live and work. [14] Many see small to mid-sized cities and towns as having a higher quality of life than previously perceived. Since the pandemic, college graduates cite declining affordability and the greater acceptance of remote work as reasons to move away from or to not locate in larger urban metros. Stanford economist Rebecca Diamond, lists the increased attractiveness of middle-tier cities. Her work has found that since 2000, “college graduates have increasingly been moving toward high-amenity cities and away from the highest-wage ones.” [15]

Quality of life assets play an outsized role in determining the trends in rural communities especially during a period when so many small communities are seeing significant population losses. A study of rural counties from 2010-2016 found that those smaller rural counties that lacked a strong recreational economy lost 19.9 residents per 1,000, while those that had recreation-based economies gained 1.3 residents per 1,000. [16] Rural communities with these types of assets are more competitive in retaining their populations, particularly their younger residents.

Creeper Trail User Survey

Under normal circumstances, Virginia Tech would recommend intercept surveys for a trail impact analysis. However, Hurricane Helene negatively impacted trail usage in 2024 and 2025. As such, the trail user survey was administered electronically, mostly using listservs containing previous visitors to the trail. The data collected was mostly past recollections of experience and spending. This survey data collection method may have led to higher spending estimates and higher estimates of visitors coming to the region because of the Virginia Creeper Trail. Virginia Tech recommends ongoing intercept surveying of trail users in the coming years to create better spending and visitor trail user estimates.

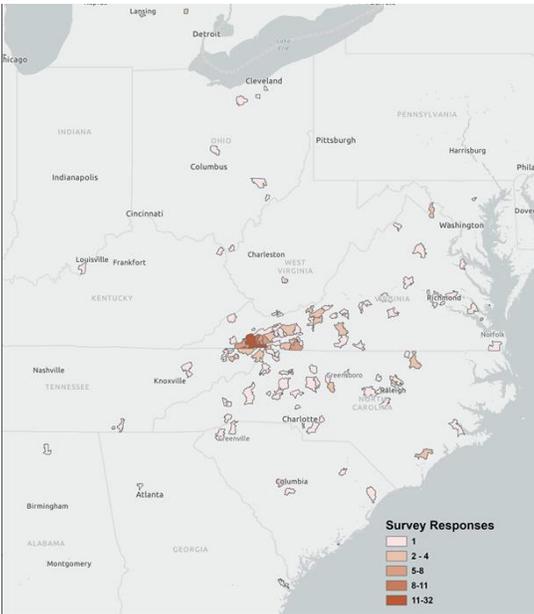
Table 5: Survey Completion Breakdown

Completed Surveys	324
Incomplete Surveys	85
Total Responses	409
Completion Rate	80%

The online survey received responses over a six week period, February 15th – April 1st, collecting 409 surveys, 324 completed and 85 partially completed. With a population of 348,426 trail users, Virginia Tech would need 384 or more surveys to have a confidence level of 95%.

Respondent Demographics

Approximately 47% (186) of respondents lived within a 30-minute drive of the Creeper Trail, classifying them as “local.” This means that 53% (210) of respondents lived more than a 30-minute drive from the Creeper Trail, classifying them as “visitors.” The vast majority of survey respondents lived in southwest Virginia and western North Carolina. States like South Carolina and Ohio were also well represented. Overall, 12 states were represented in the survey. Please note that this does not represent all states from which the Creeper Trail attracts visitors as this survey was only a six-week sampling in one year.

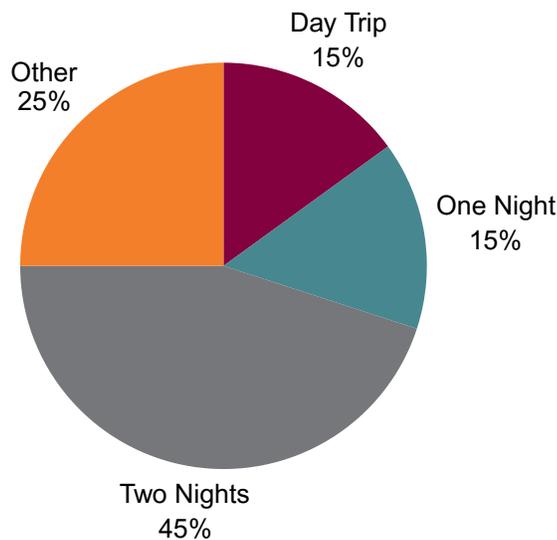


Tourist Responses

The trail's significance to the regional economy is evident, as 61% of visiting trail-users said they came to the region solely to use the Creeper Trail with another 24% saying it was a significant but not the only factor. The vast majority of visitors were either extremely familiar with the Creeper Trail (51%) or very familiar (40%) representing a strong brand recognition for the trail amongst its users.

Among visitors to the region, about 15% come for the day, 15% stay overnight, and approximately 70% stay for two or more nights. The average size of the groups coming to the region is typically one individual (20%) or two people (54%). The next significant group size is four, likely representing family groups (11%).

Figure 1: Length of Stay in the Creeper Trail Region



The Creeper Trail experiences its greatest level of visitors during the fall, when many individuals come to enjoy the vibrant leaf colors. Both the Summer and Spring also received a significant number of visitors. Certain individuals also noted that they visit the trail consistently throughout the entirety of the year.

When asked about where they enter the Creeper Trail, Whitetop and Damascus led the way at 45% and 35% respectively with Abingdon at 17% and about 3% of respondents noting they entered the Creeper Trail elsewhere. Residents on average visit the trail about once a week and visitors visit the trail approximately 2 to 3 times a year.

The top reasons individuals gave for visiting the Creeper Trail were for recreation or health benefits with relaxation, environmental and aesthetic value, and community or social connection.

Within the recreation and health category there was a plethora of different activities survey respondents cited which highlighted biking as the top activity at 57%, and walking or running with 39%. Additionally, other common responses included horseback riding, swimming, and fishing. While doing these activities, 83% of survey respondents said that coming to the Creeper Trail has increased the frequency at which they visit local business in the communities along the trail.

The Creeper Trail has impacted the community and its visitors in many ways, and overall, the feedback is overwhelmingly positive with nearly 98% of trail users reporting they were either very satisfied or satisfied with their experiences on the Creeper. Below is a table that shows how individuals rated the trail in four key categories.

Table 6: Satisfaction with the Creeper Trail

	Very Unsatisfied	Not Satisfied	Neutral	Satisfied	Very Satisfied
Trail Conditions	6.4%	4.3%	6.4%	35.4%	47.6%
Signage and wayfind	4.3%	3.4%	7.0%	30.8%	54.6%
Accessibilty	5.2%	0.9%	5.8%	31.2%	56.9%
Availaiblity of Facilites	5.2%	9.0%	19.3%	38.0%	28.8%

The overall satisfaction with the Creeper Trail was best captured when respondents were asked if they planned to return to the Creeper in the future. All but one respondent said yes.

Survey Demographics

The survey also collected basic demographic information such as age, race, income level, and zip codes. The data is presented below:

Figure 3: Responses by Age Range

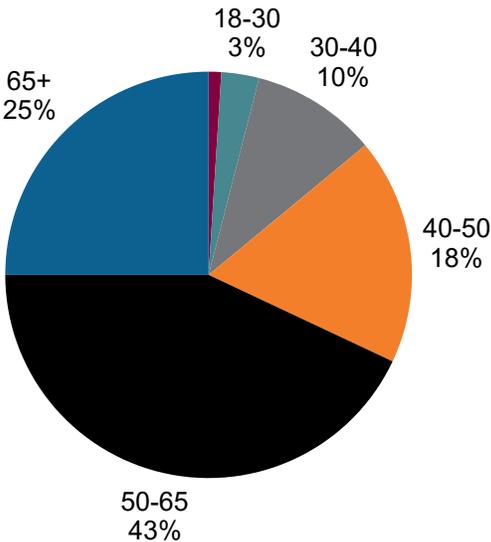


Figure 4: Responses by Race

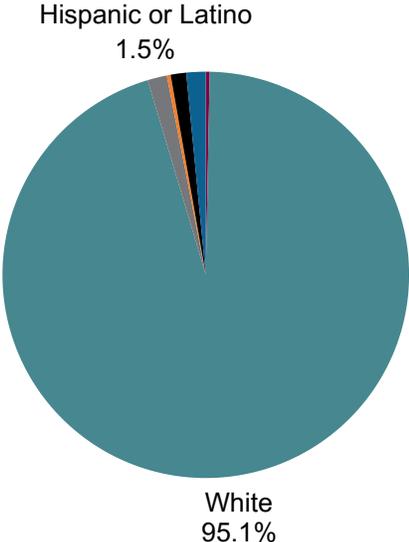
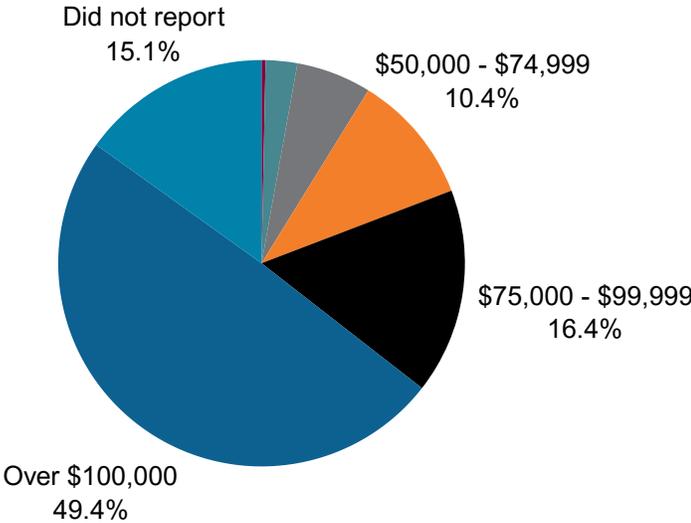


Figure 5: Responses by Income



Economic Impacts

What does “economic impact” mean?

An economic impact study tells us how a specific project, event, business, industry, or policy affects the economy of a defined area (such as a town, region, or state). It quantifies the economic activity generated from that project, event, business, industry, or policy by accounting for new, resulting money coming into the region and then measuring three main ripple effects:

1. Direct Impact: The immediate economic activity generated—such as the number of jobs created, money spent, or revenues generated.
2. Indirect Impact: The money going to suppliers and related businesses and the resulting business-to-business economic activity.
3. Induced Impact: The money going to employees and the resulting household spending in the local economy.

Estimating economic impact for the Virginia Creeper Trail

This economic impact study measured the impacts of the Virginia Creeper Trail on a four county region (Grayson, Russell, Smyth, and Washington). Using responses from the survey referenced in the prior section, Virginia Tech was able to estimate the percentage of visitors coming to the region specifically for the Creeper Trail, roughly 32% to 45%. Virginia Tech used “I came solely for the Creeper” (100% level importance) for the low-end calculation of impact. For the high-end calculation, Virginia Tech used both “I came solely for the Creeper” and “The Creeper was a significant reason” (75% importance). Virginia Tech then worked with the Creeper Trail Conservancy to estimate the annual number of trail uses utilizing Creeper Trail Conservancy trail counters and observation data. Total trail-use counts were most complete for 2023, a relatively good annual count estimate to use since travel and outdoor tourism had more or less normalized post-COVID pandemic.

With 348,426 total trail uses in 2023, Virginia Tech estimated 112,646-156,966 trail users coming to the region for the Creeper Trail. These estimates were then multiplied by average spending per visit created from the user survey, in which visitors estimated their spending per visit in ten spending categories. Total visitor spending was put into an IMPLAN input-output model to assess economic impact from the Creeper Trail. Check the appendix for the full mathematical breakdown.

Economic Impact Findings

With up to \$85.1 million in annual economic output and support for more than 800 full-time equivalent jobs, the data shows that the Virginia Creeper Trail creates meaningful economic activity across Washington, Grayson, Smyth, and Russell counties. The trail pulls in over 92,000 tourists, making 110,000-157,000 annual visits, and spending on average \$545.74 per visit; money that would not come to the region if not for the Creeper Trail. In a region facing population decline and relatively low labor force participation, the trail helps stabilize small business revenue, supports seasonal employment, and boosts local tax bases. The counties' governments in the region benefit from the meals and lodging taxes generated from visitors coming for the Creeper Trail. The low-end tax contribution for counties was \$2.1 million, and the high-end amount was \$3.3 million.

Table 7: Low-end Impacts of the Creeper Trail

Impact	Employment	Labor Income	Value Added	Output
Direct	485.15	\$13,465,028.66	\$26,446,433.94	\$46,072,793.10
Indirect	59.64	\$2,541,314.28	\$4,075,925.60	\$8,998,750.30
Induced	37.30	\$1,620,360.06	\$3,645,503.37	\$6,033,579.68
Total	582.10	\$17,626,703.00	\$34,167,862.91	\$61,105,123.07

Table 8: High-end Impacts of the Creeper Trail

Impact	Employment	Labor Income	Value Added	Output
Direct	676.04	\$18,762,776.20	\$36,851,649.85	\$64,199,900.93
Indirect	83.11	\$3,541,181.55	\$5,679,577.95	\$12,539,263.17
Induced	51.98	\$2,257,882.55	\$5,079,808.26	\$8,407,461.14
Total	811.13	\$24,561,840.30	\$47,611,036.06	\$85,146,625.23

Virginia Creeper Trail's Impacts on Residents

While the Virginia Creeper Trail is widely recognized as a major tourist attraction, its value extends far beyond its appeal to visitors. For the communities it winds through, the trail is an essential asset that delivers lasting economic, recreational, and social benefits. Perhaps the most direct impact is seen in the livelihoods of individuals who have launched businesses specifically to serve trail users. These range from outfitters and bike rental shops to local restaurants, lodging establishments, and shuttle services. For many of these entrepreneurs, the Creeper Trail is not just a resource—it is the foundation of their business and economic well-being. Many interviewees in Damascus agreed that the Creeper Trail is “the lifeblood of the community.”

Beyond its role in supporting small businesses and tourism, the Creeper Trail significantly enhances the quality of life for local residents. Based on Virginia Creeper Trail Conservancy use counts and survey responses that indicate locals use the trail about twice a month on average, Virginia Tech estimated that over 6,800 residents, or 5.5% of the local population, regularly use the trail. Drawing from past studies, this means 5.5% of the region's populations are:

- 25% less likely to suffer from depression and 30% less likely to suffer from anxiety;
- 50% less likely to have a heart attack or stroke if they bike three hours or more a week; and
- Likely to have 32% fewer sick days and 55% lower health costs. With 2025 per capita healthcare costs estimated to be about \$12,427 annually, that is a \$6,835 savings per person or \$46.6 million of savings for Creeper Trail local users. [17] [18][19]

These community members overwhelmingly identified the trail as their primary space for physical activity, whether biking, jogging, or walking. Residents also emphasized its value as a peaceful place to unwind, reconnect with nature, and relieve stress. Some even shared that the presence of the trail was a major factor in their decision to move to the area. This blend of recreation and mental wellness makes the trail a vital everyday asset—not just a seasonal attraction and economic driver.

Impacts of Hurricane Helene

Hurricane Helene caused extensive damage to the Virginia Creeper Trail and surrounding counties in Southwest Virginia, significantly disrupting local economies in Grayson, Washington, Smyth, and Russell counties. The hurricane forced the closure of the most popular 17-mile section of the trail from Whitetop to Damascus and damaged 31 trestles, with large sections still inaccessible for assessment. This disruption occurred just before the fall season, the busiest and most profitable time of year for local tourism businesses.

The economic impact has been severe. In Grayson and Washington many small businesses that heavily rely on fall visitors seeking foliage, hiking, and outdoor recreation, reported revenue losses of 50% or more. For example, a store in Grayson County, which offers lodging, groceries, gas, and hiker resupply services, saw revenue drop from \$20,000 in October 2023 to just \$9,000 in October of 2024. The store suffered flood damage with waist-high water levels and lost an estimated \$10,000 in canceled room reservations.

Similarly, a local campground experienced a 95% decline in revenue in October 2024 when compared to previous years, welcoming only 500 visitors compared to the typical 11,500. The owners fear they may not survive another season without trail traffic, and they anticipate a 75% drop in revenue if closures continue into 2025.

The broader tourism ecosystem has also been affected. Eight bike shops in Whitetop, Damascus, and Abingdon collectively lost an estimated \$60,000 in the first week following the storm and reported damage ranging from \$10,000 to \$100,000. One shop in Whitetop has permanently closed. Local towns such as Damascus, where 60-65% of 70,000 annual patrons are tourists, have reported substantial losses in lodging and meal tax revenues.

Infrastructure damage has further exacerbated the situation. Key highways, including Route 58 and Route 21, were heavily damaged or destroyed, cutting off access between towns and limiting recovery efforts. The federal government has allocated \$10 million for repairs, but full recovery may take more than a year.

Hurricane Helene also devastated the agricultural sector. In Grayson County, a report from Virginia Cooperative Extension showed all 168 farms sustained damage, totaling in over \$61 million in losses, while Washington County suffered nearly \$13 million in agricultural damage. In addition to economic impacts, the region faces housing and public infrastructure challenges. In Damascus alone, more than 120 properties were damaged and over 30 homes were left uninhabitable. Government buildings, police stations, and emergency response centers were also forced to relocate due to storm damage. This does not even consider the emotional and mental toll this storm has had on so many individuals that lost homes, businesses, and had their lives completely uprooted.

Despite the challenges, there are some opportunities for long-term recovery. The closure of Grayson Highlands State Park campgrounds until 2026 may redirect some visitor traffic to nearby private campgrounds. Agritourism efforts, like the Ag Art Adventure, are beginning to take hold, and some campgrounds are considering expanding their offerings to include disc golf and homesteading events. Additionally, communities that traditionally rely on the Creeper Trail are finding new ways to use the sections that are open or creating new events that still align with their culture such as Trout Days in Damascus.

When asked if they were aware that sections of the Creeper Trail are once again open to visitors, 98% of previous Creeper Trail users said yes. Additionally, 71% said they would currently recommend the trail to others in its current condition, with another 22% saying they were not sure if they would. When asked about what improvements or repairs users would like to see happen, many responses cite hopes of reopening the entirety of the trail as soon as possible by fixing the trestles and restoring smooth riding/walking surfaces. Many individuals cited reopening the section from Whitetop to Damascus. While they still enjoy the Creeper, many responses cited this section as their favorite part of the entire trail. The road to recovery will be long, and local economies remain fragile. Without swift restoration of the trail and sustained support for small businesses, many may not survive another disrupted season.

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Appendix

Trail User Survey (Used for this analysis)

Please take 10 minutes to fill out this survey about yourself and your experience on the Virginia Creeper Trail. We are asking trail users to provide survey responses necessary for assessing the benefits of the Creeper Trail and garnering future financial and maintenance support. Your participation in this study is completely voluntary. Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. If you have questions at any time about the survey or the procedures, you may contact Dylan Andrews by email at dylana@vt.edu. Thank you very much for your time and support. Please start with the survey now by clicking on the Continue button below.

Do you live within 30 minutes of the Creeper Trail?

1. Yes
2. No

How familiar are you with the Creeper Trail?

1. Not at all familiar
2. Slightly familiar
3. Moderately familiar
4. Very familiar
5. Extremely familiar

Do you use the Creeper Trail?

1. Yes
2. No

Which of the following activities do you participate in on the Creeper Trail?

1. Exercise
2. Enjoy Nature
3. Spending time with friends and family
4. Relax
5. Other _____

Please rank your view of how Creeper Trail impacts the region. (Economy, Public Safety, Environment, Quality of life, and Recreation.)

Negative
Somewhat Negative
Neutral
Somewhat Positive
Positive
Economy

Has the presence of the Creeper Trail led you to visit local businesses more frequently?

1. Yes
2. No

What benefits do you personally see from the Creeper Trail?

1. Recreation & Health Benefits
2. Relaxation
3. Community & Social Connection
4. Environmental & Aesthetic Value
5. Other

Think about your most recent trip and answer the following questions...

How many days were you staying in the area?

1. One Day
2. Two Days with an overnight
3. Three Days with two night stay
4. I live here
5. Other (specify number of days) _____

How important was the Virginia Creeper Trail in your decision to visit this area?

1. The Creeper Trail did not factor into my decision to visit this region
2. The Creeper Trail was one reason for visiting the area (25% important)
3. The Creeper Trail was one of the important reasons for visiting the area (50% important)
4. The Creeper Trail was a significant factor in visiting the area (75% important)
5. I came for the Creeper Trail (100% important)

In what type of accommodation did you stay?

1. Hotel
2. Airbnb
3. Campground
4. Vacation Rental
5. With Family or friends
6. Other

To the best of your abilities, estimate how much you spent while visiting the area. If you didn't spend any money please enter \$0.

Groceries

Sit-down restaurants

Fast food or takeaway

Lodging

Equipment Rentals (bikes, scooter, etc.)

Entertainment

Arts, crafts, and souvenirs

Clothes and accessories

Travel (gas, rideshares, etc.)

Your spending estimates representing the spending for how many people?

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11+

What is the composition of your group?

1. Family
2. Friends
3. Solo
4. Organized Tour/Group
5. Other

What other local attractions are you visiting while here? Other activities?

What time of the year do you typically visit the trail. (Select all that apply)

1. Spring
2. Summer
3. Fall
4. Winter

How often do you visit the Creeper Trail

1. This is my first visit
2. Once a year
3. Quarterly
4. Monthly
5. Weekly
6. Other

How much time do you spend on the Creeper Trail and areas immediately surrounding the trail when visiting?

1. A few hours
2. Half a day
3. Full day
4. Multiple days

What do you do while on the trail?

1. Walk
2. Run
3. Bike
4. Horseback Riding
5. Other _____

What is your main reason for visiting the trail? (select all that apply)

1. Exercise
2. Enjoy nature
3. Tourism
4. Social Activity
5. Other _____

What stores do you frequent along the trail?

Where do you typically enter the trail?

1. Abingdon
2. Damascus
3. White Top
4. Other

How would you rate your overall experience on the Creeper Trail?

1. Very Unsatisfied
2. Unsatisfied
3. Neutral
4. Satisfied
5. Very Satisfied

How satisfied were you with each category? (Trail conditions, Signage and wayfinding, Accessibility (e.g., parking, bike rentals, etc.), Availability of restrooms and other facilities.)

Very unsatisfied Not satisfied Neutral Satisfied Very satisfied

Do you plan to return in the future?

1. Yes
2. No

Additional Comments/Suggestions:

Are you aware that sections of the Creeper Trail are now open for use?

1. Yes
2. No

Would you recommend the trail to others in its current condition?

1. Yes
2. No
3. Not sure

What improvements or repairs would you like to see prioritized?

Which age group are you a part of?

1. Under 18
2. 18-30
3. 30-40
4. 40-50
5. 50-65
6. 65+

Please select your race or ethnicity: (Select all that apply)

1. Black or African American
2. White
3. Hispanic or Latino
4. American Indian or Alaskan Native
5. Asian or Pacific Islander
6. Other _____

Please select your annual household income: (Select one) *this information is anonymous*

1. Less than \$20,000
2. \$20,000 - \$34,999
3. \$35,000 - \$49,999
4. \$50,000 - \$74,999
5. \$75,000 - \$99,999
6. Over \$100,000
7. Prefer not to say

Please provide the zip code of your home residence

Trail User Survey (Shorter Version)

Help us support the sustained investment in the Virginia Creeper Trail by taking this 10-minute survey! The survey is completely anonymous and will go toward helping calculate economic and other impacts of the trail. If you have questions at any time about the survey, you may contact [NAME] by email at [EMAIL]. Thank you very much for your time and support.

Please provide the zip code of your home residence

Do you live in Washington County, Grayson County, Smyth County, or Russell County Virginia?

1. Yes
2. No

[If yes, the survey should forward the respondent past the next 5 questions]

Thanks for visiting this region of Virginia! This about your current or most recent trip.

How important was the Virginia Creeper Trail in your decision to visit this area?

1. The Creeper Trail did not factor into my decision to visit this region
2. The Creeper Trail was one reason for visiting the area (25% important)
3. The Creeper Trail was one of the important reasons for visiting the area (50% important)
4. The Creeper Trail was a significant factor in visiting the area (75% important)
5. I came for the Creeper Trail (100% important)

To the best of your abilities, estimate how much you spent or plan to spend while visiting the area. If you didn't spend any money please enter \$0.

Groceries
Sit-down restaurants
Fast food or takeaway
Lodging
Equipment Rentals (bikes, scooter, etc.)
Entertainment
Arts, crafts, and souvenirs
Clothes and accessories
Travel (gas, rideshares, etc.)

Your spending estimates representing the spending for how many people?

How many days is/was your visit the area?

1. One Day
2. Two Days with an overnight
3. Three Days with two night stay
4. I live here
5. Other (specify number of days) _____

In what type of accommodation did you stay?

1. Hotel
2. Airbnb
3. Campground
4. Vacation Rental
5. With Family or friends
6. Other

Trail User Survey (Shorter Version)

What time of the year do you typically visit the trail. (Select all that apply)

1. Spring
2. Summer
3. Fall
4. Winter

How often do you visit the Creeper Trail

1. This is my first visit
2. Once a year
3. Quarterly
4. Monthly
5. Weekly
6. Other

How much time do you spend on the Creeper Trail and areas immediately surrounding the trail when visiting?

1. A few hours
2. Half a day
3. Full day
4. Multiple days

What do you do while on the trail?

1. Walk
2. Run
3. Bike
4. Fishing
5. Horseback Riding
6. Other _____

What stores do you frequent in the areas along the trail?

Do you have any recommendations for how to improve you experience?

Which age group are you a part of?

1. Under 18
2. 18-30
3. 30-40
4. 40-50
5. 50-65
6. 65+

Please select your race or ethnicity: (Select all that apply)

1. Black or African American
2. White
3. Hispanic or Latino
4. American Indian or Alaskan Native
5. Asian or Pacific Islander
6. Other _____

Please select your annual household income: (Select one) *this information is anonymous*

1. Less than \$20,000
2. \$20,000 - \$34,999
3. \$35,000 - \$49,999
4. \$50,000 - \$74,999
5. \$75,000 - \$99,999
6. Over \$100,000
7. Prefer not to say

Survey Collection Recommendations

Preparation

- Gather volunteers for one or more training sessions on doing surveys. Training can include volunteers doing intercept surveys but also businesses that might help distribute surveys. Training will include how to approach respondents, where to best catch them, and how to best fill out the survey.
- Virginia Tech will happily facilitate training sessions.

Survey Modality

Surveys can be done on paper and/or online. Online surveys may be preferable for gathering data in an easy format for analysis. In addition, online surveys are very suitable in this case for placing QR codes along the trail and at businesses. Intercept surveyors are still extremely useful in prompting trail users to check out the QR code as well as using their own phones or pads to take the survey for a trail user.

Depending on how this approach goes, paper surveys can be introduced and be put at business counters and used by intercept surveyors as needed.

Intercept Surveys

With an estimate population of 348,426 trail users annually, Virginia Tech recommends getting 384 or more completed surveys to have a confidence level of 95%. To collect these surveys:

1. Spread survey collection across the months of April to November. Aim for 50 surveys completed each month to stay on track and hopefully surpass your survey goal.
2. Each month, select 4-6 3-hour slots
 - At least two morning slots
 - At least two afternoon slots
 - Make sure slots are representative of different days of the week, not all on just Friday and Saturday.
 - Friday, Saturday and Sundays will be the busiest days and should have more than one surveyor, probably 2-3 volunteers.
3. A record should be kept of survey timeslots. Surveyors should note the date they surveyed, where they surveyed, and how many surveys they completed.
4. In addition to these intercept surveys, it is still advised to put QR codes along the trail and at businesses to gather surveys when surveyors are absent.

Estimating Total Annual Trail Users

Virginia Tech Center for Economic Engagement (VTCECE) built on trail user estimates from the Virginia Creeper Trail Club (VCTC), originating from trail counters and certain assumptions based on observation. VCTC factored in five key assumptions including 1) manual calibration, 2) reductions for multiple passes through the same counter, 3) reductions for multiple passes through multiple counters, 4) and 5) additions for entries without counters. VTCECE reviewed these calculations and assumption, and thought them reasonable.

Table 9: Virginia Creeper Trail Club Trail Counter Estimates with Assumptions

Factor#									
1	adjustment applied from manual calibration already included within TRAFx and Eco-Visio portals to calculate ADT.								
2	reduction for multiple passes through the same Counter								
3	reduction for passes through multiple Counters								
4	addition for entries at trailhead not captured by the Counter; travel opposite direction and/or do not pass in front of the Counter								
5	addition for entries at trail head without a Counter and do not pass through a Counter								
Mile Marker	Counter Description	23'ADT	Annual	F1	F2	F3	F4	F5	
MM0083	AbgnSpCpx2	560	204400	1	0.48324	0	0	0	105626
MM0435	Watauga001	223	81395	1	0.49069	0.27498	0.18332	0	33995
MM0868	Alvarado01	118	43070	1	0.45416	0.13648	0.2047	0	26448
MM1630	Damascus01	335	122275	1	0.12003	0.81951	0	0	7393
MM2024	StrgtBnch1	329	120085	1	0.07132	0.83445	0.4172	0	61415
MM2929	GreenCove1	277	101105	1	0.060304	0.0089	0.02	0	96130
	AbingdonTrain							7800	7800
	Golf course							1560	1560
	Drowning Ford							520	520
	VailsMillRoad							1040	1040
	DamascusPark							3900	3900
	TaylorsValley							1560	1560
	CreekJunction							520	520
	WhiteTop							520	520
TOTAL			672330					17420	348426 Estimated annual users

Next, VTCECE reduced total annual users to total annual visitors using the trail, or 53% of total trail users. Visiting trail users come from outside the region (Grayson, Smyth, Russell, and Washington Counties), and spend “new” money in the region, thus resulting in an economic impact for the regional economy.

Not all visiting trail users come for the Virginia Creeper Trail, however. They may have come to the region for family, the Barter Theater, or other attractions. Traditionally, in an economic impact analysis, one only counts “new” money that is there because of the trail. Through the trail user survey, VTCECE could estimate that 61% of visiting trail users came to the region FOR the trail. For 24% of visiting trail users, the Creeper Trail played a significant role in why they came to the region. These responses provided a low and high estimate for understanding the number of visitors spending “new” money in the region thanks to the Virginia Creeper Trail.

Table 10: Visiting Trail User High and Low Estimates

Mile Marker	Counter Description	Total Trail Users	% Visiting	Visiting Trail Users	% Coming for the VCT	High Estimate	% Coming for the VCT	Low Estimate
MM0083	AbgnSpCpx2	105626	0.53	55,982	0.85	47,584	0.61	34,149
MM0435	Watauga001	33995	0.53	18,017	0.85	15,315	0.61	10,990
MM0868	Alvarado01	26448	0.53	14,017	0.85	11,915	0.61	8,550
MM1630	Damascus01	7393	0.53	3,918	0.85	3,330	0.61	2,390
MM2024	StrgtBnch1	61415	0.53	32,550	0.85	27,667	0.61	19,855
MM2929	GreenCove1	96130	0.53	50,949	0.85	43,307	0.61	31,079
	AbingdonTrain	7800	0.53	4,134	0.85	3,514	0.61	2,522
	Golf course	1560	0.53	827	0.85	703	0.61	504
	Drowning Ford	520	0.53	276	0.85	234	0.61	168
	VailsMillRoad	1040	0.53	551	0.85	469	0.61	336
	DamascusPark	3900	0.53	2,067	0.85	1,757	0.61	1,261
	TaylorsValley	1560	0.53	827	0.85	703	0.61	504
	CreekJunction	520	0.53	276	0.85	234	0.61	168
	WhiteTop	520	0.53	276	0.85	234	0.61	168
		348,426	0.53	184,666	0.85	156,966	0.61	112,646

VTCECE used average spending estimates and spending category breakdowns from the trail user survey. The team then multiplied that spending by the high and low visitor trail user estimates.

Table 11: Low Estimate of Visiting Trail User Spending

$$184,666 \text{ (Visitors to the Creeper from outside the region)} * .61 \text{ (Percent of Survey Responses that came to the region solely for the Creeper)} = 112,646$$

Spending Per Person based on Survey Data

	Groceries	Sit-down restaurants	Fast food or takeaway	Lodging	Equipment Rentals (bikes, scooter, etc.)	Entertainment	Arts, crafts, and souvenirs	Clothes and accessories	Travel (gas, rideshares, etc.)	Total per trip
Nonlocal Spending per person	\$79.62	\$91.25	\$15.14	\$215.53	\$48.20	\$15.31	\$18.86	\$17.17	\$44.67	\$545.74
*112,646	\$8,968,354.62	\$10,278,810.13	\$1,705,205.90	\$24,278,401.92	\$5,429,106.02	\$1,724,891.88	\$2,124,492.68	\$1,934,214.24	\$5,032,419.63	

Table 12: High Estimate of Visiting Trail User Spending

$$348,426 \text{ (Trail Users)} * .53 \text{ (Percent of Visitors from outside the region)} = 184,666$$

$$184,666 \text{ (Visitors to the Creeper from outside the region)} * .85 \text{ (Percent of Survey Responses that came to the region solely for the Creeper or it played a significant role in them visiting)} = 156,966$$

Spending Per Person based on Survey Data

	Groceries	Sit-down restaurants	Fast food or takeaway	Lodging	Equipment Rentals (bikes, scooter, etc.)	Entertainment	Arts, crafts, and souvenirs	Clothes and accessories	Travel (gas, rideshares, etc.)	Total per trip
Nonlocal Spending per person	\$79.62	\$91.25	\$15.14	\$215.53	\$48.20	\$15.31	\$18.86	\$17.17	\$44.67	\$545.74
	\$12,496,908.46	\$14,322,956.08	\$2,376,110.56	\$33,830,616.58	\$7,565,160.37	\$2,403,541.88	\$2,960,363.59	\$2,695,221.07	\$7,012,399.72	