TRUST FOR PUBLIC LAND®

Economic Benefits of Mountain Biking

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Each Green Paper is a rigorous analysis of a topic in support of TPL's mission of creating parks and protecting land for people, ensuring healthy, livable communities for generations to come. Collectively these papers advance TPL's goals and strategic commitments that parks and green spaces deliver healthier people, stronger communities, greater equity, and climate solutions. They are not an end-product; they are a starting point for change.

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COVER: Captain Ahab Trail. Moab, UT. © Leslie Kehmeier; PAGE 38: Nakusp, B.C., Canada. © Gibson Pictures

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Executive Summary

Mountain biking offers rural communities an opportunity to leverage their natural resources and tap into the growing outdoor recreation economy in the U.S.

Trust for Public Land (TPL) conducted a literature review to identify the direct and indirect economic benefits of mountain biking, focusing on benefits to smaller rural communities. The majority of the quantitative analyses included in this report estimated the impact of mountain bike tourism. Travel for outdoor recreation has downstream effects on a community's economic condition, generating sales and lodging taxes as well as business and employment opportunities in the community. Across all studies included in the literature review, the average expenditure for individual mountain biking tourists was $416 per visit.[i]

Mountain biking also offers economic benefits to residents, visitors, and riders, such as increased property values, improved physical and mental health outcomes, and social connectedness.

TPL also identifies potential challenges that rural communities may face when investing in their outdoor recreation economy, and potential solutions and resources. These findings are based on the experiences of TPL and its partner, the International Mountain Bicycling Association (IMBA), a pioneer of mountain bike trail advocacy. A successful natural-surface trail implementation includes finding suitable lands; funding land acquisition, trail design, construction, maintenance, and programming; meeting the service needs of trail users and new and existing residents; supporting equitable and inclusive access to the trails; addressing housing, infrastructure, and environmental impacts; and resolving conflicts between trail users and residents.

Outdoor Recreation as an Economic Driver

Across the U.S., many rural communities face socioeconomic challenges that have built up over the last several decades. These include the loss of anchor industries (especially those dependent on resource extraction like coal or timber), an aging population, and increasing income inequality. Residents in rural communities have experienced chronic disinvestment in infrastructure and services, leading to more people living at or below the poverty line.[1]

Outdoor recreation has emerged as an opportunity for communities to tackle these challenges and strengthen their resilience through industry diversification while balancing economic needs with environmental integrity and celebrating their cultural heritage.[2] It provides employment and business development opportunities and increases the quality of life for riders and nearby residents. Nationally, the outdoor recreation economy generates an estimated $124.5 billion in federal, state, and local tax revenues, and consists of nearly 5 million jobs in a diverse set of industries.[3]

Some rural communities are constructing, expanding, or enhancing mountain biking trails as part of their outdoor recreation strategy. Cycling tourism initiatives are often driven by grassroots community efforts to introduce or expand trail access and encourage investments in cycling infrastructure. For this research, TPL reviewed studies and peer-reviewed papers on the economic benefits of mountain biking in the U.S., identifying the benefits gained, challenges faced, and solutions implemented in communities with growing outdoor recreation economies.

i Note: all dollar value throughout the report have been adjusted for inflation and reflect 2024$.

Catamount Outdoor Center, Williston Community Forest, VT. © Brian Mohr/Ember Photography

Mountain Biking in the U.S.

Mountain biking encourages participants to engage directly with the natural environment, cycling through forests, mountainsides, or fields. The number of mountain bikers in the U.S. has rapidly increased over the past two decades, with about 8.7 million mountain bikers nationwide (ages 6+) as of 2021.[4] Trailforks, an online trails management system and app, identifies more than 244,000 trails in the U.S. that are accessible to mountain biking, with a total distance of 313,778 miles (although many more unofficial trails exist as well).[5]

On average, mountain bikers in the U.S. are affluent, older men who take an average of five trips each year.[6] During the COVID-19 pandemic, mountain bike participation surged as people looked to move their fitness and recreation activities outside. This includes more casual riders and people visiting newly established trails near home. Ridership has since begun to decline, so that while more people (and more diverse people) are participating in outdoor recreation than before, they are participating less frequently across all outdoor recreation activities.[7]

In a 2018 survey of mountain bikers, over 85% of participants agreed that mountain biking is an important part of their identity (with little variation between genders).[8] The Outdoor Industry Association found that mountain and gravel cycling has one of the highest percentage of core participants at 41.5%, meaning that participants go mountain biking frequently—13 or more times per year.[9] Mountain bikers also travel in order to ride, seeking trails that offer different experiences in unique environments.

Kaslo, B.C., Canada. © Gibson Pictures

Literature Review Methodology

TPL focused on studies conducted in the last 10 years for this literature review, and on mountain biking destinations in the United States. This review of more than 50 studies on the economic benefits of mountain biking included peer-reviewed literature, white papers, theses, and other reports. Many studies estimated the economic benefits of bicycling, trails, or outdoor recreation generally, but few focused on mountain biking.[10] Other studies described the benefits qualitatively but did not quantify the impacts.

With support from IMBA staff, TPL searched for peer-reviewed literature using Google Scholar, and for studies conducted by economic research groups and market research firms using Google Search.

The review identified a set of direct and indirect economic benefits of mountain biking, described in the Key Findings section below. In the Direct Economic Benefits section, TPL focused on the economic impacts of mountain biking tourism at 13 destinations in the U.S., and of mountain biking special events at an additional four destinations. These studies focused on mountain biking (versus cycling generally or shared-use trails), quantified economic impacts, and were conducted over the past 10 years.

Economic impact studies identify the spending that takes place due to a change from the status quo. In this context, economic impact studies focus on the "new" spending that takes places after the addition or expansion of natural surface trails. The new spending comes from people who have traveled for mountain biking (studies that define "local" and "nonlocal" spending assume that people have traveled 50 miles or more to participate in mountain biking and likely stay overnight in the area.)

Eight studies leveraged IMPLAN, a widely used economic impact modeling program that traces links through the economy to estimate the ripple effects of visitor spending. These studies estimate the direct, indirect, and induced economic benefits of mountain biking trails, including number of jobs supported, labor income generated, value-added to the economy, and state, local, and federal taxes generated due to nonlocal mountain biker spending.

In the Indirect Economic Benefits section, TPL identified the qualitative and quantitative benefits that riders experience, as well as the benefits that accrue to the communities where trails are located.

Copper Harbor, MI. © Leslie Kehmeier/
International Mountain Bicycling Association

Key Findings

Direct Economic Benefits

Mountain biking provides direct economic benefits to the communities that have trail systems and that build bicycles.

New and expanded trail systems can lead to employment and business development opportunities in multiple industries. In addition to the direct employment in the recreation industry, opportunities include trail construction and maintenance, manufacturing of bicycles and related gear, accommodations, restaurants, and retail. The U.S. Bureau of Economic Analysis estimates the national- and state-level employment, compensation, and value add for outdoor recreation activities and the industries that support them.[11] However, mountain biking is included in the broader cycling category. To understand the economic benefits of mountain biking explicitly, TPL reviewed literature on individual destinations, studies of travel expenditures, and surveys of mountain bikers.

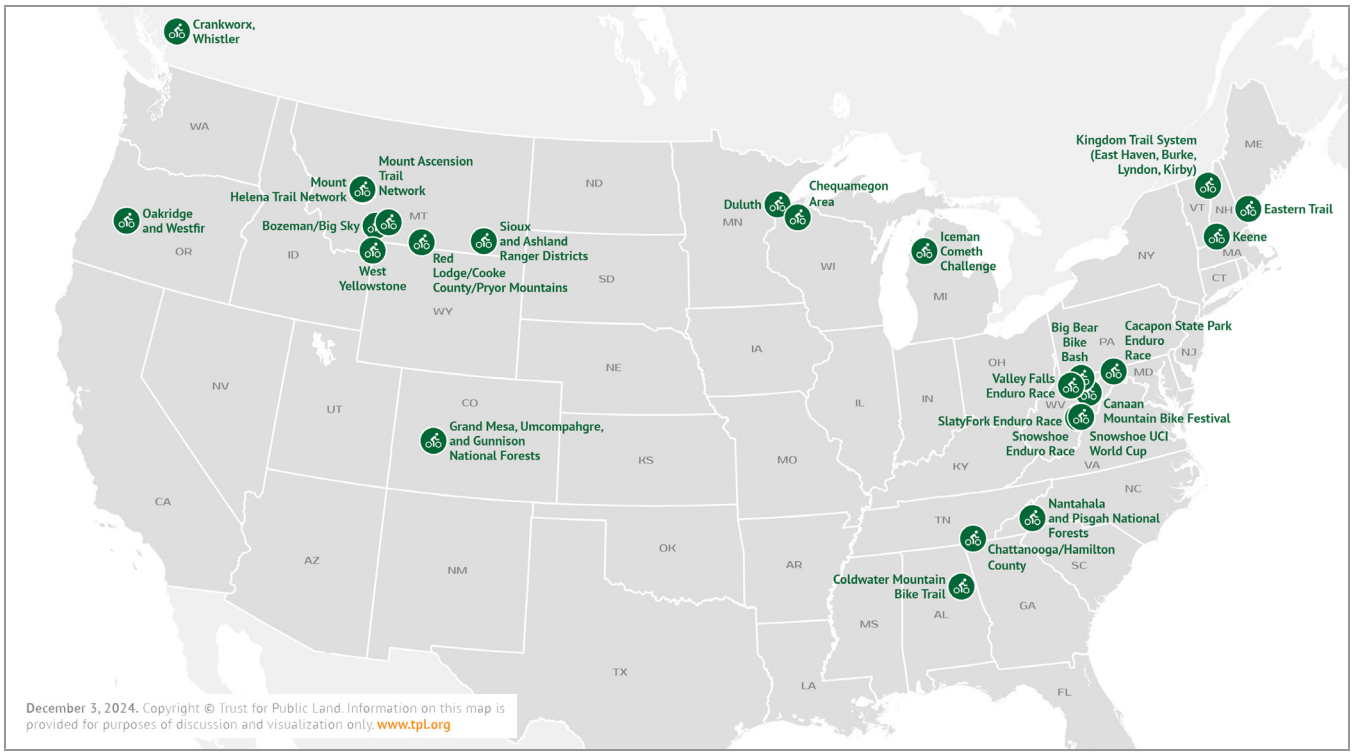
New and expanded trail systems can lead to business development opportunities in these industries, such as trail construction or maintenance or lodging and restaurants to support visiting mountain bikers in the region. The workforce to meet these needs can vary depending on the destination and state of trail development—workers are needed to plan, design, and construct the trails, while trail crews are necessary to maintain the trails, sometimes seasonally. However, an influx of new workforce-age residents and mountain bikers may also increase the need for public services (see the Challenges of Planning Trails in Rural Communities section for additional information).

In this literature review, TPL sought economic impact studies that (a) were conducted between 2014 and 2024, (b) focused on mountain biking (rather than cycling generally or other types of trails), and (c) analyzed the impact of trails in the United States. Literature on the direct economic benefits of mountain biking is limited, but the findings of this TPL review represent a diverse set of trails. They are geographically distributed throughout the country, in Alabama, Colorado, Maine, Minnesota, Montana, New Hampshire, North Carolina, Oregon, South Dakota, Tennessee, Utah, Vermont, and Wisconsin. About half of the trails are in rural areas, and the other half are in more urbanized environments. Some trail systems are a regional destination, while others are a smaller-scale destination; some mountain biking trails were created on public lands such as national forests, while others deal with land ownership challenges (such as Kingdom Trails, VT).

The economic impacts of tourism at mountain biking destinations are summarized in Appendix.

Across these studies, the per-visit spending for overnight mountain biking trips ranged from $103 (Duluth, MN) to $1,107 (Chequamegon, WI).[ii] Spending estimates across all studies vary based on average length of stay, average size of group, and the expenditure categories included in the study.

ii Note: The economic impact study conducted at Custer Gallatin National Forest in Montana and South Dakota presented an average of $67 per visit by mountain bikers. However, TPL excluded the value from the minimum and maximum values because they did not include hotel and lodging expenses.



U.S. Mountain Biking Destinations in Report

The study of mountain bike trail users in Duluth calculated expenditures of residents and nonlocal visitors separately, and further divided nonlocal visitors into day trips and overnight stays. The estimate of $103 per visit includes spending on mountain biking equipment (purchases or rentals), bike repair and maintenance, lift tickets and trail fees, retail, gas, food, entertainment, and lodging. The study area is urbanized and has hotels and restaurants readily available to support outdoor recreation tourism.[12]

Visitors to Chequamegon Area Mountain Bike Association (CAMBA) trails in Wisconsin anticipated spending about $245 per day, for lodging, food, groceries, gas, recreation-related spending (entertainment, shopping, biking expenses, outdoor rec, gaming), and other items. Based on the number of days that CAMBA trail riders stayed i n the region, the average per-visit expenditure per person exceeded $1,000.[13]

For the destinations included in Appendix, the average per-visit spending for nonlocal mountain bikers is $416. The spending categories included in the studies were lodging (hotels, resorts, or camping); sit-down and fast-food restaurants; grocery stores; entertainment; shopping; transportation (gasoline/oil, rental cars, ride-sharing); biking expenses (retail or rental bicycles or gear, trail fees, and repairs); other outdoor recreation (adventure tourism and guide services); gaming; and other.

The total employment supported due to spending by visiting mountain bikers ranged from 1,522 to 1,626 jobs per site, and the total labor income across all studies was worth $50.4 million to $54.1 million.[iii]

A 2019 study surveyed mountain bike riders to estimate the benefits of mountain biking in the U.S. overall (Buning et al.). They found that the average mountain bike tourist spends about $490 per trip, just under $75 higher than the studies included in this report. This difference may be driven by the study methodology, which surveyed people through an online questionnaire posted to Singletracks, a popular mountain biking website, and may reflect the more affluent demographics

iii A range is presented because the Duluth study calculated a range of potential economic impacts based on estimated visitation rates.

of the average rider. The survey also asked respondents about air travel, unlike the studies identified in Table 1. The mean trip duration was 2.7 nights, if traveling specifically for mountain biking, with riders taking an average of five short trips each year.[14]

The following section highlights some of the findings from the literature review on mountain biking tourism.

MOUNTAIN BIKING TOURISM DESTINATIONS

KINGDOM TRAILS, VERMONT

The Kingdom Trail Association was established in 1994 to encourage recreational use while balancing ecological sensitivity. The trail system has become the premier mountain biking destination in the Northeast and is a model for other communities in building their outdoor recreation economy collaboratively.

The Kingdom Trail system connects four towns—East Haven, Burke, Lyndon, and Kirby—that together to promote tourism in an otherwise remote area. The trail system was named the best trail network in North America by *Bike Magazine* and helped bring major racing events such as the Enduro World Series to Burke Mountain in 2022 (the first time the event was held on the East Coast). The trails are open year-round. The Kingdom Trail Association hosted Vermont's premier fat bike festival, Winterbike, in 2024.

A 2016 study found that Kingdom Trails had a total economic impact of $10.3 million each year. The trail system had an estimated 94,000 visitors annually and an average visitor daily spending of $176.

The Kingdom Trail Association offers daily, monthly, and annual memberships that help sustain and maintain the trail network. Memberships are required to access the trail system.[15] From 2009 to 2019 membership sales increased an average of 15% per year, reaching 150,000 members in 2019.[16]

The study also found that out-of-town visitors stayed for 2.7 days on average, spending money in local communities on lodging, restaurants, and retail. Kingdom Trails attracts many nonlocal visitors, with 84% of riders coming from out of state.[17]

CHATTANOOGA, TENNESSEE

Researchers at the University of Tennessee at Chattanooga's Tourism Center worked with the Southern Off Road Bicycle Association in 2022 to estimate the economic impact of mountain biking in the region. They reported that mountain biking on 85.5 miles of trails in Hamilton County attracts 44,089 annual visits, including 16,910 visits from nonlocal visitors. The average per-trip spending (including lodging, food, and transportation) is $367 per person.

Overall, mountain bikers in Chattanooga annually contribute $7.4 million to the local economy. Their spending generates nearly $518,000 in county and state taxes and over $534,000 in federal taxes.[18]

OAKRIDGE AND WESTFIR REGION, OREGON

The communities of Oakridge and Westfir depended on their timber industry to drive their economies. When the local sawmills closed and 1,600 jobs were lost, they turned to outdoor recreation for new economic opportunities. They worked with the U.S. Forest Service on a community trails plan, and with the U.S. Department of Agriculture Rural Development program to improve regional infrastructure and business development.[19]

A 2014 study on Oakridge reviewed published literature on the economic impact of mountain biker tourism spending. The researchers found that nonlocal mountain bikers spent between $63 and $84 per person per night, for an estimated total trip expenditure between $598 and $802.[20]

GRAND MESA, UNCOMPAHGRE, & GUNNISON (GMUG) NATIONAL FORESTS, COLORADO

The GMUG National Forest system attracts 2.6 million visits each year. In its economic benefits of outdoor recreation study, the Outdoor Alliance focused on paddling, climbing, hiking, snow sports, and mountain

biking in the region. Across all recreation types, the GMUG National Forests generate $489.7 million in annual spending.[21]

While the trails facilitate multiple kinds of outdoor recreation activity (including hiking and trail running), researchers broke down economic benefits by activity. Mountain bikers visited the area 150,000 times annually. Nonlocal mountain bikers spent $30.0 million in the region, supporting 315 jobs and $9.9 million in job income.[22]

The mountain biking trails in these National Forests also serve as a model for communities seeking to build or expand trails on existing public land systems.

MOUNTAIN BIKING SPECIAL EVENTS

Another four studies analyzed the economic impact of special mountain biking events and tournaments. These events take place in Alabama, Michigan, Virginia, and Whistler (British Columbia).

Special events like festivals and organized races can amplify the economic benefits of mountain biking to a community. Bike festivals, criterium races, cross-country races, and other multisport races attract both participants and spectators who spend money on food and lodging.[26]

TPL identified four recent economic benefit studies on mountain biking special events, described below. Similar to the economic impact studies on mountain biking destinations cited above, the visitor spending and economic benefits accrue to the communities in which these events take place.

MOUNTAIN BIKE TRAIL EVENT AND FESTIVALS, WEST VIRGINIA

In 2022, researchers at West Virginia University conducted a survey and IMPLAN modeling to estimate the economic contribution of mountain biking events across the state. The average per-rider spending ranged from $145 (Big Bear Bike Bash) to $416 (WVICL NICA Series: Cacapon). Events attracted nearly 7,300 riders as well as guests and spectators; the total estimated rider spending across all events was over $4 million. The 13 events also brought in nearly $150,000 in state and local taxes.[27]

COLDWATER MOUNTAIN FAT TIRE FESTIVAL, ALABAMA

In 2021, the Coldwater Mountain Bike Trail in Anniston hosted a three-day fat tire bike festival. A study by the Jacksonville State University Center for Economic Development and Business Research on the economic impact to the broader county found that the weekend festival generated over $131,400 in direct, indirect, and

ADDITIONAL ECONOMIC BENEFITS STUDIES

Many studies in the literature review did not focus on mountain biking but looked at cycling and trails more broadly. One region with a tremendous economic impact due to cycling is Northwest Arkansas, where significant investments have been made beginning in the 1990s to create "a world-class trail system to enhance the economic vitality of Northwest Arkansas."[23]

A 2018 study found that the cycling trails attract between 90,000 and 150,000 annual visitors from out of town, leading to $34.5 million of tourism-related spending each year. Residents and local cyclists spend an estimated $27.1 million each year, generating $3.6 million in bicycle retail sales and retail sales tax.[24]

Other studies did not look at individual destinations but covered a much broader geographic range. The Recreation and Conservation Office for the State of Washington collected data on outdoor recreation participation statewide in 2017. The total expenditures for mountain biking on natural-surface trails was estimated at $435.7 million, with 415,246 participants participating in 7.5 million visits.[25]

induced economic output; $41,163 in labor income; and $67,400 in value add (due to effects of visitor spending and hosting the event).[28]

ICEMAN COMETH CHALLENGE, MICHIGAN

The Iceman Cometh Challenge is the largest single-day, point-to-point mountain bike race in the U.S. In 2022, the race attracted 16,569 visitors, with 88% of attendees coming from outside Grand Traverse County. Visitors stayed an average of 2.5 days. Direct spending due to the event was over $5 million (with $4.8 million coming from visitors outside the county). Overall, the total economic impact of nonlocal visitors and the spending associated with operating the festival is estimated to be $7.2 million, supporting 57 jobs in Grand Traverse County.[29]

CRANKWORX WHISTLER FESTIVAL, BRITISH COLUMBIA

The 2023 festival in Whistler generated $50.7 million in economic activity in Canada (about $38.5 million USD), with about $29.6 million going to Whistler alone ($22.4 million USD). Over 10 days, there were 301,460 people in attendance: 61% were visitors, 2% were owners of a second home, and 37% were local residents. The average spending per group was $1,659 ($1,259 USD), including accommodations, food, entertainment, retail, and transportation. Most nonlocal visitors stayed overnight (87%); the average was 5.2 nights.[30]

Indirect Economic Benefits

Indirect economic benefits accrue to riders and residents who live near trails. Though harder to quantify, indirect benefits improve quality of life and are essential to understanding the full impact of mountain biking. The benefits can accrue to different categories of people:

- hyper-local users are nearby residents who use the trails for mountain biking and greatly benefit from access to new outdoor recreation experiences;
- nearby property owners are residents who do not necessarily use the trails regularly but benefit from increased property values due to the trail system;
- business owners are people in the private sector who benefit from an expanded customer base, including those who choose to locate near the trails or work in the hospitality industry; and
- mountain bike tourists are people who travel to visit mountain biking trails and experience benefits to their physical and mental health and recreational value.

The vigorous physical activity inherent in mountain biking can lead to **positive health outcomes** for riders, which in turn reduce individuals long-term healthcare costs. Cycling and other forms of outdoor recreation counteract the negative health outcomes associated with physical inactivity and improve cardiovascular health.[31] In the U.S., where 33% of adults are obese, studies have shown that physical inactivity and related health problems such as heart disease are a leading cause of death nationwide.[32]

A 2020 study of mountain bikers across the U.S. looked at the perceived health benefits and outcomes from the sport. The researchers used the "Perceived Health Outcomes of Recreation Scale," which measures recreation outcomes in terms of prevention, improvement, and psychological benefits of participation. Survey respondents ranked improving overall fitness and overall health as two key reasons that they ride on trails, as well as improved muscle strength. The study also found that bikers had similar outcomes whether they participated twice monthly or every day, suggesting that mountain biking can promote healthy lifestyles even when practiced infrequently.[33]

One study looked at the impact of cycling trails on avoided health care costs. Researchers analyzed the benefits of the trail system in Northwest Arkansas, which was created with significant and sustained support from the Walton Family Foundation. Cycling on these trails is associated with over $8.7 million in avoided health care costs and 10 avoided deaths because they increase riders' physical activity levels, estimated to be worth just over $101.7 million annually.[34] (For additional information on this trail system, see the callout box on page 10).

Mountain biking, like other forms of outdoor recreation, also benefits participants' **mental health outcomes**. Riders have the additional benefit of exercising in nature, which confers additional benefits such as reduced stress, improved mood, and greater life satisfaction.[35] The 2020 study of perceived health outcomes of mountain biking also assessed riders' psychological benefits of participation. The highest-ranked factors for participation were increased appreciation of life; connection to other positive aspects of life; increased life satisfaction; and a sense of self-reliance.[36]

Mountain biking also reduces stress and improves self-reported well-being. A 2018 study of mountain bikers found that almost 90% of the survey respondents believe that "mountain biking makes them feel good about who they are," especially females and younger riders. Participants also shared that mountain biking helps them manage negative thoughts or feelings (more than 80%) and to de-stress (over 90%).[37]

The mental health benefits of mountain biking also accrue to riders and society at large in economic terms.[38] Direct benefits to riders may include avoided wage loss (through maintaining well-being and reduced sick days or burnout) and avoided costs of prescriptions or medical office visits. On a larger scale, for employers, reduced staff turnover, as well as productivity gains with a labor force enjoying better mental health, would be beneficial.[39]

Mountain biking also provides **social benefits** to participants, increasing social connectedness among bikers. As an important part of riders' cultural identity, cycling connects people to a broader community of outdoor recreation enthusiasts, as well as to nature. The 2018 survey of mountain bikers also found that more people preferred to ride in groups compared with riding alone, encouraging connectedness through shared experiences on the trail.[40]

A 2022 study on outdoor adventure recreation looked at people who participated in rock climbing, mountain biking, and whitewater paddling. The researchers found that the three activities helped define participants' identity, provided access to the subculture, and were considered restorative. Additional social benefits included facilitating new vistas and being "away" from other human impacts.[41]

Outdoor recreation is linked to improved well-being and **quality of life** metrics, driven by the improved physical and mental health outcomes and social connectedness discussed above.

Community residents also benefit from nearby trails, due to the downstream effects of a growing outdoor recreation economy (e.g., business development and employment opportunities, investment in infrastructure). A high quality of life in turn increases community vibrancy and deepens a sense of place, which helps attract residents and employers of other industries to the region.[42]

Mountain biking provides **recreational value** to cyclists above and beyond anything they pay to participate. Economists can measure this value by surveying cyclists about their willingness to pay for mountain biking or modeling trip expenditures. For example, researchers conducting a case study in the Mount Agamenticus area in Maine estimated an average willingness to pay for a day of mountain biking at $68.[43]

Research has shown that outdoor recreation access and proximity to trails is associated with an **increase in property value**. Property owners see benefits in terms of higher home values, while the community broadly benefits from increased property sales tax revenues due to trails. As a result, developers also see proximity to trails as a desirable trait when seeking new areas for residential construction.

New and expanded mountain biking trails also increase access to nature, which **helps attract and retain residents in the region**. Access to outdoor recreation opportunities contributes to a greater well-being (including physical and mental health outcomes and social connectedness) and can be a significant advantage for workforce attraction and youth retention.[44]

"Amenity migration" describes relocation because of community offerings beyond employment opportunities. Highly skilled workers are more likely than ever to work remotely and seek places to live based on quality of life and housing affordability metrics rather than work opportunities. For example, a 2021 study on the Adirondacks region found that people who are likely to

move to the area within five years considered access to nearby outdoor recreation the most important factor when selecting where to live (followed by quality housing that they can afford, availability of health care services, employment opportunities/income potential, and strong sense of community/community spirit).[45]

Retaining and attracting residents counteracts the population decline that many rural communities face and economically benefits the broader community as they spend their wages near home. However, an influx of amenity migrants may also have its disadvantages, including impacts on housing availability and affordability and on long-term residents' sense of belonging in their community, discussed in the Planning Challenges section below.

Mountain biking trails can also help **retain existing and attract new businesses**, even those not directly related to cycling. The benefits of the trails may be geographic: Businesses may choose to locate near the trails if cyclists are an important customer base, as it increases their visibility and accessibility for customers and staff.[46] Existing businesses may benefit from the influx of visitors to the region, especially those in hospitality. Attracting new residents through outdoor recreation creates business development opportunities to meet their needs as well, such as health care, education, and construction.

New and expanded trails can shift existing business interests and practices, which may help communities with declining industries over the past several decades. In a report on outdoor recreation economies, the U.S. Department of Agriculture identifies several locations that have successfully transitioned from natural-resource extraction industries to industries that rely on outdoor recreation access, including Oakridge, OR, and Forest County, PA.[47]

Trails may also attract new types of businesses that cater to riders. Businesses that provide bicycles, gear, and adventure travel opportunities have a new or expanded customer base. New and expanded trails attract riders who travel to experience mountain biking trails, also increasing demand for businesses in the hospitality industry such as lodging and restaurants.

© Cecilio Ricardo/U.S. Forest Service

Mountain biking trails near Asheville, NC, helped shift the region from manufacturing to tourism, with an increase in bicycle shops, restaurants, and lodging in the area. In Brevard, one small business, Sycamore Bikes, expanded to new and larger locations in response to an increase in mountain bike tourism. Sycamore Bikes in turn offered shared space to a local coffee shop, Crank Coffee, expanding economic opportunities for other businesses in the area. The trail system near Asheville also attracted Colorado-based Oskar Blues Brewery to open an East Coast location in 2012. The brewery employs about 100 people and continues to expand its operations, with the intent of increasing production and expanding distribution to new states.[48]

In Vermont, as the Kingdom Trails system expanded thanks to cooperation between nearly 100 landowners in the region, events and festivals flourished, and tourism-related businesses cropped up to meet rising demand. Taverns, breweries, and restaurants attract riders after a long day on the trails, and inns and hostels such as Kingdom Farm Lodge and the Inn at Burklyn cater to traveling cyclists.[49]

Mountain biking can also help outdoor recreation destinations adapt to changes in climate. For example, many communities in New England have begun to see a decline in annual snowfall due to increased annual temperatures, which has hurt the local ski and snowboard industry. In Claremont, NH, the community has adapted its outdoor recreation offerings to emphasize mountain biking, which can attract visitors year-round and is not as weather-dependent as snow sports.[50]

Bellingham, WA. © Eric Mickelson

Challenges of Planning Trails in Rural Communities

Though mountain biking tourism provides important economic benefits, rural communities should weigh any potential disadvantages of mountain biking tourism as an economic strategy.

For a new trail network, the most fundamental need is **access to suitable lands**. Existing parks and public lands are often the easiest option for new trail development, but public land managing agencies may have missions or rules that make new trail development challenging. The trails in the GMUG National Forests in Colorado, for instance, demonstrate how mountain biking trails can leverage existing public lands.

The location of the trails is also important in attracting ridership. Ideally, trails should be connected to downtown areas, retail centers, or lodging needed to support tourism. Riders prefer seamless access from trails to their lodging, restaurants, and retail without having to load and unload bikes. A trail network that is well-connected to commercial areas boosts spending at local businesses and reduces reliance on cars.

Communities could consider acquiring or designating new public lands to host trail networks or gaining access to nontraditional public lands such as water and sewer districts that often hold parcels suitable for trails close to town. Private lands owned by a land trust or nonprofit (including schools or hospitals) are also suitable for new trail development, but negotiating a permanent trail agreement requires some skill and diplomacy.

Community forests are becoming a desirable venue for natural-surface trails. These are locally owned conservation lands designed to provide a suite of benefits, including recreation access. They provide residents and community members with a direct say in how these lands are managed and stewarded over time and can serve as a critical economic development tool that supports long-term sustainability. Their economic benefits can vary, depending on the goals of the community forest, but may include access to amenities for recreation, education, and tourism; forest-based products like timber, maple syrup, and firewood; and forest-based environmental services like carbon storage and sequestration and improved water quality. TPL documented several successful case studies of the economic benefits of community forest across the U.S. in a special report, "Community Forests: A path to prosperity and connection."[51]

Communities will also need to secure **funding for their trail network**. In addition to land acquisition, communities should identify funding sources for trail planning and design, construction, and long-term maintenance and programming. There are many funding mechanisms available, including

- federal, state, and local grant or loan programs;
- private philanthropy;
- leasing agreements with landowners; or
- partnerships with bicycling associations, civic clubs, municipal agencies, or even utility companies.

Communities should consider multiple funding types to increase the likelihood of successful trail funding, and work to ensure that residents are not shouldering the full burden of capital and maintenance costs.

Distance from major population centers may affect some rural communities' ability to support an outdoor recreation economy. It increases competition with other tourism destinations and increases travel costs for

visitors. However, recent research from the Outdoor Industry Association found that out of all types of winter recreation, mountain bikers were most likely to plan to travel 100 or more miles to participate in the sport (compared with hikers, downhill skiers and snowboarders, snowshoers, and cross-country skiers).[52]

Remoteness also affects **emergency service access**. Trail users may expect effective cell phone signals and relatively quick access to appropriate medical facilities in the event of an accident on the trail. Communities should consider the costs associated with the appropriate levels of staffing and skills needed to respond to an increased level of service associated with trail development.

Equitable and inclusive access to outdoor recreation is essential to ensuring that the benefits of nature are experienced by everyone. Those who are designing, building, programming, and marketing the trail system should consider multiple perspectives to understand who has access. Communities will have to work proactively, through trail design, programming, and equipment availability, to address equitable access and participation in mountain biking across different races, genders, ability levels, and socioeconomic groups.

Mountain bikers tend to be white, male, and affluent.[53] A recent study on mountain bikers in Portland, OR, found that respondents were predominantly middle-aged (68% between 32 and 52), male (82%), white (87%), and high income (with a quarter making more than $200,000 per household).[54]

Mountain biking can also be an expensive sport, with bike prices ranging from $500 easily into the mid-thousand-dollar range (in addition to clothing, gear, and travel expenses).[55] The expense may be prohibitive for new participants. In addition to socioeconomic barriers to entry, people with physical disabilities face greater obstacles to participating in outdoor recreation like mountain biking, such as the need for accessible trails and/or specialized equipment.[56]

The expensive nature of mountain biking can set up an inherent division between long-term residents and visitors and new residents drawn to communities with outdoor recreation access. By investing in the trail system and increasing quality of life, communities may experience **an increase in seasonal or year-round residents**. While attracting new residents can be positive for many reasons—for example, countering trends of population loss and reaping the benefits of new property tax income—it can also put significant pressure on the local and regional housing market.

Rural communities with growing outdoor recreation economies may experience the disadvantages of **the short-term rental market**. Vacation rental sites such as VRBO and Airbnb can support an expanding tourism base without expensive hotel infrastructure and provide a new revenue stream for local property owners. However, when vacation rental owners or developers purchase homes to rent weekly or monthly, it exacerbates pressure on the housing market and reduces availability of year-round rental housing. A 2021 study on the effect of short-term rentals on house prices and rents in the United States found that increases in the number of Airbnb listings correlate with a rise in both housing prices and rental prices. The increase of listings also decreased the supply of long-term rental units, though the total supply of housing was not affected.[57]

An increase in the number of residents or tourists, even seasonally, can affect the **ability of local infrastructure to meet demand**. This may include transportation infrastructure (roads, bridges, and parking); water and sewage infrastructure; and buildings, especially in any centralized downtown area with hotels, restaurants, and small businesses. Land managers and planners should pay particular attention to trailhead facilities, where overflow parking can be a safety concern and a source of conflict with neighbors.

While mountain biking trails facilitate enriching experiences in nature, new or expanded trails can lead to **negative impacts on the environment**, such as erosion, increased stormwater runoff, the removal of trees or other vegetation necessary for trail construction, and wildlife impacts.

Communities may face conflict as they grow their outdoor recreation destinations, either between trail user groups (e.g., mountain bike riders and hikers, dog

walkers, or all-terrain vehicle riders), between tourists or new residents and existing residents, and between new employers and existing industries.

Trail-user conflicts arise between all users (e.g., in places with limited parking); between cyclists and vehicles (such as cars and trucks on roads or all-terrain vehicles on the trail); and between cyclists and other trail users (such as hikers or dog walkers). Multiple-use properties may also lead to conflict, such as between mountain bike riders and timber production, agriculture, or hunting.

Conflict between outdoor recreation tourists or new residents and existing residents can arise during rapid growth and development. Residents may face the brunt of the unintended consequences, such as stretched local infrastructure and facilities, an increase in new and/or nonlocal workers and business owners, and impacts to the natural and social environment. These conflicts are especially contentious when residents do not benefit from changes driven by tourism and economic development, and instead feel pushed out by new businesses, new residents, and increased housing prices.[58] In time, this type of conflict can diminish residents' sense of belonging in their home and disrupt social cohesion, which are essential to maintaining and building community resilience and civic participation.[59]

Fishers Peak State Park, Trinidad, CO. © Bergreen Photography

Nakusp, B.C., Canada. © John Gibson Photo

Best Practices for Rural Outdoor Recreation Planning

Communities can proactively take measures to avoid or mitigate the negative impacts of expanding outdoor recreation.

Investment in workforce and multifamily housing can counter increased housing costs and create affordable housing opportunities for residents in need. Communities should also consider regulations that would limit the effects of the short-term housing rental market on year-round residents. Some areas that rely recreation and tourism implemented innovative financing options to take advantage of this market. The Cape Cod and Islands Water Protection Fund, for example, is funded through a 2.75% excise tax on lodging and short-term rentals, and is used to pay for water-quality remediation projects and wastewater infrastructure that is otherwise strained by the summer visitor influx.[60]

Inclusive design and programming increase access to mountain biking trails and mitigate conflicts between residents and visitors. Inclusive trail design means considering the needs and abilities of all potential users, and requires early and consistent engagement with a diverse range of stakeholder groups. In addition to trail champions, planners, elected officials, and existing residents, communities should include BIPOC and adaptive mountain biking advocates in discussions on trail accessibility, safety, and participation.

Inclusive programming for mountain biking should focus on delivering programming that supports trail access for multiple age groups, people with physical disabilities, underserved communities, and nearby residents. Access to mountain bikes and related equipment can be a barrier for many people given the upfront expenses of the bikes and gear, so rental bike programs, bike swaps, and gear libraries can facilitate participation for people who otherwise could not afford to participate. Programming and subsidies for affordable youth leagues, summer camps, and coaching can also expand access and remove barriers to entry.

Catamount Outdoor Center/Williston Community Forest, Green Mountains, VT. © Brian Mohr/Ember Photography

Thoughtful design by **professional trail builders** can mitigate impacts to the surrounding natural environment. Certain lands may also be considered so environmentally sensitive that any trail development is not appropriate, such as extensive wetlands or habitats for federally endangered species. Well-designed trails can also separate trail user groups where conflict is highest, such as high-speed downhills.

Though the remoteness of trails in rural communities can pose challenges, it can also be a tourism driver. Mountain bike riders seeking adventure may consider trail remoteness a benefit, visiting unique natural environments they may otherwise not be able to experience. To reach an audience of outdoor recreation enthusiasts, rural communities may benefit from **marketing destinations on a regional scale**. Mountain bikers can visit multiple nearby sites to experience different trails and amenities. Communities may also wish to engage adventure travel providers or planners to help reach potential visitors.

A promising example of successful regional destination marketing is the Bike Borderlands collaborative coordinated by the Northern Forest Center.[61] Bike Borderlands offers joint marketing for eight trail networks across Vermont, New Hampshire, Maine, and Quebec. By working collaboratively, each trail network and host community realizes economic benefits from visitors who stay more than one night in the region.

In addition to tourism marketing, **communications on and near the trails and online** can better prepare visitors for potential challenges on their ride and reduce conflicts between and within trail user groups and residents. Instilling visitor expectations about self-reliance is an important message in remote locations, such as first aid preparedness and how to reach emergency services. Educational messaging is essential before hikers or cyclists arrive at the trailhead, when they are already committed to an outing after traveling for significant distances.

For instance, information about shared use or exclusive trail use and trail rules is best conveyed on websites and trail-mapping applications to help users choose trails that meet their expectations. In addition, information about temporary trail closures (such as during timber harvests or hunting seasons) should be communicated to the public clearly and frequently, including onsite signage, website updates, and social media posts.

Increasing awareness of safety challenges while on the trail is an essential outcome of communication with visitors, though accidents may still occur. Coordination with **search and rescue agencies** should be an early step as part of trail and facility design, especially in more remote regions. Understanding potential challenges from an emergency services perspective can help communities and first responders prepare for them, including obtaining equipment and developing standard protocols to keep mountain bike riders safe on the trails.

Messaging around landowner appreciation is also wise to include in marketing materials to facilitate a culture of respect between visitors and community members. One effective example is Bike Borderlands' Ride with Gratitude pledge for mountain bikers, to help build a culture of shared respect for the places and people that make mountain bike trails possible.[62]

Communities can proactively mitigate conflict with clear and frequent communication to both riders and residents, including early and in-depth community participation in trail and facility planning, listening sessions to glean local knowledge that could shape outdoor recreation efforts, and rider education about respectful engagement with community residents.

Communication, education, and community-led conversations around best practices are critical to addressing these planning challenges proactively.

Fatscutney fat bike race during Winterfest at Ascutney Mountain, Brownsville, VT. © Ian MacLellan

Conclusion and Lessons Learned

Mountain biking and trails can bring a wide range of direct and indirect economic benefits to communities, riders, businesses, and current and future residents. Outdoor recreation has the potential to attract riders, counter trends of population loss, improve physical and mental health outcomes for riders, and increase social connectedness and quality of life in the community. Mountain biking and other forms of outdoor recreation can offer economic revitalization opportunities in rural communities that have suffered from historical disinvestment in public infrastructure, health, and education.

The findings from this literature review offer communities considering mountain biking trail development some helpful takeaways, summarized on the following page.

Recommended Actions to Maximize Economic Benefits of Mountain Biking Trails

1. **Create a robust, cross-sector collaborative stakeholder process** to drive trail development strategies. Residents can help identify public concerns and critical challenges for trail stewardship, natural resource management, workforce housing, and anticipated infrastructure needs such as parking, bathroom facilities, and tourism services. Other decision-making partners could include community-based organizations, advocacy groups, emergency service representatives, environmental nonprofits, natural resource managers, planners, major employers and other business owners, elected officials, and local government agencies (such as parks and recreation departments).[63]

2. **Focus on connecting trails to existing assets**—a Main Street or business district, other recreational assets, public transportation, or accommodations. A well-connected trail system reduces transportation needs to and from the trailhead, reduces infrastructure needs (like connecting roads), increases outdoor recreation access for residents, facilitates regional marketing and business development opportunities, and increases the likelihood that trail users visit local businesses.

3. **Identify trail champions.** In many communities, trail planning is most successful when driven by an individual or group that tirelessly advocates for their implementation. Trail champions may be local agency staff, volunteers, or residents who believe in the transformative power of outdoor recreation and take responsibility for its creation and stewardship.

4. **Collect baseline economic data** prior to the development of a trail system in order to measure its economic benefits. If considering an investment in outdoor recreation as an economic revitalization strategy, communities should begin by collecting baseline data about economic, demographic, and health conditions. Community perception surveys can also track changes in user or resident behavior and attitudes, social cohesion, and programming or maintenance needs. Measuring returns on public and private investments in trails can facilitate further funding in the future and help advocates demonstrate the scale of economic benefits of trails.

5. **Reduce costs by leveraging partnerships**, such as by working with professional organizations that are familiar with the legal and regulatory requirements of trail building. Local land trusts can help identify potential suitable lands for trail development. Rather than taking on land acquisition costs, some trail organizations work closely with private landowners to gain written permission for trails on their property (such as the Kingdom Trails and others in Vermont).[64] Take advantage of federal and state grant programs for trail planning and implementing to reduce the burden of capital and maintenance costs on the community.

6. **Be inclusive** in trail planning and programming, in order to increase accessibility for outdoor recreation enthusiasts of all ages, ability levels, demographics, and socioeconomic backgrounds. This includes accessible trail design, integrating adaptive mountain biking advocates into community engagement processes, and providing equipment and mentoring for community members new to mountain biking.

7. **Be mindful about the potential for conflicts** within and between new and existing residents, mountain bikers, and other trail users. Making sure that they all have a voice in decision-making can help foster a sense of gratitude, pride, and belonging in their communities.

Resources for Best Practices

Potential Community Partners

Trust for Public Land (TPL)

www.tpl.org

TPL is a national nonprofit organization, and its mission is to connect everyone to the outdoors. TPL has significant expertise in conservation, focusing on large landscapes, parks, trails, and schoolyards, as well as Conservation Economics staff who can assist communities planning for expanded outdoor recreation opportunities.

International Mountain Bicycling Association (IMBA)

www.imba.com

IMBA is a pioneer of mountain bike trail advocacy, with a mission to create, enhance, and protect great places to ride mountain bikes. It has built thousands of trails in partnership with hundreds of communities over 35 years of advocacy. Its expertise and range of resources for communities span securing access for trails; community engagement to unite stakeholders; professional planning, design, and construction; community education; fundraising for trails; and more. IMBA's community assessment tools, resources library, and on-the-ground services are available for communities wishing to derive economic benefits from mountain bike trails.

Trails are Common Ground

www.trailsarecommonground.org

Trails are Common Ground™ is a coalition of people, businesses, and advocacy groups working to create a safe, inclusive, and respectful environment for anyone who steps, rides, or rolls onto any trail, anywhere. Its approach leaves behind finger wagging, blaming, and shaming in favor of resources that help people become better citizens and give communities and agencies tools to manage and improve their trails.

Local Mountain Bike Clubs

Many communities have an existing mountain biking club that promotes the sport, stewards trails, and hosts events. For investments in new natural-surface trails, these groups can be allies for gaining access to public lands, providing volunteer labor for trail construction and maintenance, and setting up festivals, races, and events that bring economic benefits. Many clubs are IMBA affiliates, but many are independent organizations. The Trailforks website usually lists the trail club that maintains a local trail network (www.trailforks.com).

Professional Trail Builders Association (PTBA)

www.trailbuilders.org

PTBA is the trade association for the trail industry, including professional trail contractors, designers, and consultants. PTBA currently represents 130+ private-sector companies that employ about 2,000 trail builders worldwide. Since 1976, PTBA member companies have designed, built, and maintained tens of thousands of miles of trail. PTBA represents the leading edge in sustainable trail development; it believes in trail design, construction, management, and advocacy that enhance resource protection, recreational opportunities, economic development, active citizens, and connected communities worldwide.

American Trails

www.americantrails.org

The mission of American Trails is to "advance the development of diverse, high-quality trails and greenways for the benefit of people and communities. Through collaboration, education, and communication, American Trails raises awareness of the value these trail systems offer." Its comprehensive website provides many resources to trail planners and managers, including resources to support trail inclusivity (www.americantrails.org/resources/trails-are-inclusive).

Rural Outdoor Recreation Economy Support

Outdoor Recreation Roundtable (ORR)

www.recreationroundtable.org

ORR is the leading business coalition advancing a sustainable and growing outdoor recreation economy for the benefit of all Americans. The coalition recently updated its Rural Economic Development Toolkit, which rural communities can use to help advocate for better outdoor recreation economies (www.recreationroundtable.org/programs/rural-development/). The intersecting goals of the toolkit are healthy communities, high quality of life, robust businesses, resilient economies, and vibrant outdoor places.

U.S. Environmental Protection Agency (EPA) Recreation Economy for Rural Communities (RERC) planning assistance program

www.epa.gov/smartgrowth/recreation-economy-rural-communities

The RERC program helps rural communities identify strategies to grow their outdoor recreation economy and revitalize their main streets. The EPA staff and partners work with communities across the U.S. to host community workshops, galvanize grassroots support, build consensus, and develop action plans that support economic diversification and ways to connect people with nature.

U.S. Department of Agriculture (USDA) report, "Recreation Economy at USDA: Economic Development Resources for Rural Communities"

www.rd.usda.gov/sites/default/files/usdard_recreational_economy508.pdf

Rural communities that are considering expanding or adding new outdoor recreation amenities may benefit from the findings in this USDA report, especially "Factors to Consider in Building the Recreation Economy," and success stories that describe what has worked well in other locations.

Appendix

SITE: COLDWATER MOUNTAIN BIKE TRAIL (AL)		
Estimated Annual Visits (Total)		15,000 – 37,000
Year of Study		2014
Economic Data Included in the Study		
Visitors	Daily Expenditures (Individuals)	$185.51
	Total Annual Spending	$1,282,977 – $3,164,675
	Sales/Income/Lodging Taxes	$1,206,628 – $297,550
Residents	Daily Expenditures (Individuals)	$39.75

Source: Boozer, B. B., Self, M., & Jankoski, M. J. An economic and impact analysis of the Coldwater mountain bike trail. Report for the Calhoun County Community Development Corporation; Center for Economic Development: Jacksonville, AL, USA, 73 (2012).

SITE: GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FOREST (CO)		
Year of Study		2018
STUDY AREA: GRAND JUNCTION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	27,440
	Per Visit Expenditures (Individuals)	$481.86
	Jobs Supported	100.9
	Labor Income	$3,349,607
	Value Added	$5,065,966
	Economic Output	$9,100,010
	State/Local Taxes Generated	$690,847
	Federal Taxes Generated	$789,756
Residents	Estimated Annual Visits	11,888
STUDY AREA: CRESTED BUTTE: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	37,583
	Per Visit Expenditures (Individuals)	$616.83
	Jobs Supported	167.4
	Labor Income	$4,931,129
	Value Added	$7,240,314
	Economic Output	$13,552,096

Visitors	State/Local Taxes Generated	$1,001,473
	Federal Taxes Generated	$1,130,947
Residents	Estimated Annual Visits	16,107
STUDY AREA: WEST SLOPE: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	9,843
	Per Visit Expenditures (Individuals)	$329.06
	Jobs Supported	27.3
	Labor Income	$809,079
	Value Added	$1,180,490
	Economic Output	$2,256,562
	State/Local Taxes Generated	$167,692
	Federal Taxes Generated	$184,118
Residents	Estimated Annual Visits	4,218
STUDY AREA: OURAY: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	10,738
	Per Visit Expenditures (Individuals)	$409.13
	Jobs Supported	19.9
	Labor Income	$799,650
	Value Added	$1,605,681
	Economic Output	$2,555,687
	State/Local Taxes Generated	$176,801
	Federal Taxes Generated	$193,168
Residents	Estimated Annual Visits	4,602

Source: Maples, J. N. & Bradley, M. J. Economic impact of mountain biking in the Grand Mesa, Uncompahgre, & Gunnison National Forests. Study funded by Outdoor Alliance. https://www.outdooralliance.org/gmug-economic-reports (November 2018).

SITE: EASTERN TRAIL (ME)		
Estimated Annual Visits (Total)		251,978
Year of Study		2018
ECONOMIC DATA INCLUDED IN THE STUDY		
All Trail Users	Daily Expenditures (Individuals)	$242.35
	Total Annual Spending	$76,286,079

Source: Eastern Trail Alliance. "The Economic Benefits of the Eastern Trail in Southern Maine (Second Edition)." https://www.easterntrail.org/documents/ETEconomicImpactStudy2018.pdf (2018).

SITE: DULUTH (MN)		
Estimated Annual Visits (Total)		33,750 – 45,000
Year of Study		2017
ECONOMIC DATA INCLUDED IN THE STUDY		
Visitors	Per Visit Expenditures (Individuals)	$61.39 (nonlocal day trip) – $102.87 (nonlocal overnight trip)
	Jobs Supported	313.1 – 417.4
	Labor Income	$11,224,652 – $14,966,203
	Value Added	$18,191,061 – $24,254,748
	Economic Output	$32,996,356 – $43,995,142
Residents	Estimated Annual Visits	11,250 – 15,000
	Total Annual Spending	$13.9 – $18.6 million

Source: Savolt, A. & McIntosh, C. Economic impact of off road cycling in Duluth: An expenditures approach. Dissertation (University of Minnesota Duluth, April 2017).

SITE: MT. ASCENSION AND MT. HELENA TRAIL NETWORK (MT)		
Estimated Annual Visits (Total)		4,781
Year of Study		2018
ECONOMIC DATA INCLUDED IN THE STUDY		
Visitors	Daily Expenditures (Individuals)	$90.29 – $110.59
	Total Annual Spending	$5 million
	Jobs Supported	60
	Labor Income	$1,920,755
	Value Added	$2,808,018
	Economic Output	$5,345,904
	State/Local Taxes Generated	$231,370
Residents	Estimated Annual Visits	12,567

Source: Sage, J.L. & Nickerson, N.P. Trail Usage and Value – A Helena, MT Case Study. University of Montana – Missoula, Institute for Tourism and Recreation Research Publications. 365. https://scholarworks.umt.edu/itrr_pubs/365 (2018).

SITE: CUSTER GALLATIN NATIONAL FOREST (MT/SD)		
Year of Study		2018
STUDY AREA: BOZEMAN/BIG SKY: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	53,875
	Per Visit Expenditures (Individuals)	$182.40
	Jobs Supported	98.7

Visitors	Labor Income	$3,894,710
	Value Added	$5,493,739
	Economic Output	$9,571,149
	State/Local Taxes Generated	$411,386
	Federal Taxes Generated	$846,759
Residents	Estimated Annual Visits	125,708
	Per Visit Expenditures (Individuals)	$314.01
STUDY AREA: LIVINGSTON/PARADISE VALLEY/CRAZY MOUNTAINS: Economic Data Included in the Study		
Visitors	Per Visit Expenditures (Individuals)	$66.97
	Jobs Supported	4.1
	Labor Income	$135,758
	Value Added	$162,884
	Economic Output	$309,093
	State/Local Taxes Generated	$10,590
	Federal Taxes Generated	$28,244
Residents	Per Visit Expenditures (Individuals)	$123.25
STUDY AREA: RED LODGE/COOKE COUNTY/PRYOR MOUNTAINS: Economic Data Included in the Study		
Visitors	Per Visit Expenditures (Individuals)	$66.97
	Jobs Supported	2.2
	Labor Income	$67,983
	Value Added	$93,716
	Economic Output	$172,963
	State/Local Taxes Generated	$6,300
	Federal Taxes Generated	$15,194
Residents	Per Visit Expenditures (Individuals)	$123.25
STUDY AREA: SIOUX AND ASHLAND RANGER DISTRICTS: Economic Data Included in the Study		
Visitors	Per Visit Expenditures (Individuals)	$66.97
	Jobs Supported	0.50
	Labor Income	$15,919
	Value Added	$21,373
	Economic Output	$40,587
	State/Local Taxes Generated	$1,277
	Federal Taxes Generated	$3,151
Residents	Per Visit Expenditures (Individuals)	$123.25

STUDY AREA: WEST YELLOWSTONE: Economic Data Included in the Study		
Visitors	Per Visit Expenditures (Individuals)	$66.97
	Jobs Supported	5.70
	Labor Income	$197,758
	Value Added	$253,150
	Economic Output	$470,397
	State/Local Taxes Generated	$16,800
	Federal Taxes Generated	$41,289
Residents	Per Visit Expenditures (Individuals)	$123.25

Note: The estimated annual visitation across the last four sites was 24,685 visitors and 56,290 residents.

Source: Maples, J. N. & Bradley, M. J. Economic impact of mountain biking in the Custer Gallatin National Forest. Study funded by Outdoor Alliance. https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/5bf30d6ab8a0454ab8a8cd8a/1542655338425/OA_CusterGallatinNF_MtnBikingStudy2018.pdf (November 2018).

SITE: NANTAHALA AND PISGAH NATIONAL FORESTS (NC)		
Year of Study		2017
STUDY AREA: GRANDFATHER STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	34,800
	Total Annual Spending	$5.1 million
	Jobs Supported	39
	Labor Income	$1,118,761
	Value Added	$2,025,857
	Economic Output	$3,957,746
	State/Local Taxes Generated	$222,881
	Federal Taxes Generated	$238,023
Residents	Total Annual Spending	$5.2 million
STUDY AREA: APPALACHIAN STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	17,400
	Total Annual Spending	$2.8 million
	Jobs Supported	20
	Labor Income	$737,213
	Value Added	$1,375,035
	Economic Output	$2,438,952
	State/Local Taxes Generated	$131,225
	Federal Taxes Generated	$165,210
Residents	Total Annual Spending	$14.1 million

STUDY AREA: PISGAH STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	60,900
	Total Annual Spending	$17.9 million
	Jobs Supported	198
	Labor Income	$6,590,447
	Value Added	$11,824,113
	Economic Output	$15,884,680
	State/Local Taxes Generated	$1,127,399
	Federal Taxes Generated	$1,492,559
Residents	Total Annual Spending	$2.0 million
STUDY AREA: CHEOAH STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	17,400
	Total Annual Spending	$4.1 million
	Jobs Supported	34
	Labor Income	$1,029,722
	Value Added	$1,847,234
	Economic Output	$2,923,946
	State/Local Taxes Generated	$201,405
	Federal Taxes Generated	$239,400
Residents	Total Annual Spending	$2.1 million
STUDY AREA: TUSQUITEE STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	17,400
	Total Annual Spending	$2.8 million
	Jobs Supported	19
	Labor Income	$556,349
	Value Added	$966,545
	Economic Output	$1,901,668
	State/Local Taxes Generated	$111,959
	Federal Taxes Generated	$114,922
STUDY AREA: NANTAHALA STUDY REGION: Economic Data Included in the Study		
Visitors	Estimated Annual Visits	26,100
	Total Annual Spending	$5.9 million
	Jobs Supported	55
	Labor Income	$1,582,351

Visitors	Value Added	$3,063,955
	Economic Output	$4,722,574
	State/Local Taxes Generated	$354,529
	Federal Taxes Generated	$382,960

Source: Maples, J. N. & Bradley, M. J. Economic impact of mountain biking in the Nantahala and Pisgah National Forests. Study funded by Outdoor Alliance. https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/5a996697652dea576a855021/1520002715468/OA_NPNF_MtnBikingStudy_Final_2.pdf (August 2017).

SITE: KEENE (NH)		
Year of Study		2023
Economic Data Included in the Study		
All Trail Users	Estimated Annual Visits	9,935
	Daily Expenditures (Individuals)	$149.28
	Total Annual Spending	$1,483,064

Source: Smith, M., & O'Leary, E. Exploring the Economics of Mountain Biking in Keene, New Hampshire: A Gap Analysis. https://scholars.unh.edu/cgi/viewcontent.cgi?article=2746&context=extension (December 2023).

SITE: OAKRIDGE TRAIL SYSTEM (OR)		
Year of Study		2014
Economic Data Included in the Study		
Visitors	Per Visit Expenditures (Individuals)	$597.60 – $801.66
	Daily Expenditures (Individuals)	$63.39 – $83.49
	Total Annual Spending	$3.2 million – $6.5 million
Residents	Daily Expenditures (Individuals)	$26.50 – $58.05
	All Trail Users	
	Estimated Annual Visits	10,700-15,900

Source: Meltzer, N. S. Adapting to the New Economy: The Impacts of Mountain Bike Tourism in Oakridge, Oregon. University of Oregon Department of Planning, Public Policy, and Management. (June 2014).

SITE: CHATTANOOGA (TN)		
Year of Study		2022
Economic Data Included in the Study		
Visitors	Estimated Annual Visits (Total)	16,910
	Per Visit Expenditures (Individuals)	$366.93
	Total Annual Spending	$6,205,106.45
	Jobs Supported	73.6

Visitors	Labor Income	$2,626,969
	Value Added	$4,327,098
	Economic Output	$7,387,887
	State/Local Taxes Generated	$517,714
	Federal Taxes Generated	$534,034
Residents	Estimated Annual Visits	31,405

Source: Bailey, A. W. & Chandler, N. Chattanooga Mountain biking impact report: 2022. UTC Tourism Center. 2/12022. https://sorba.org/wp-content/uploads/2022/02/SORBA_Chattanooga_Impact_Report.pdf.

SITE: MANTI-LA SAL NATIONAL FOREST (UT)		
Year of Study		2021
Economic Data Included in the Study		
Visitors	Estimated Annual Visits (Total)	46,521
	Per Visit Expenditures (Individuals)	$331.56
	Jobs Supported	165.08
	Labor Income	$5,950,625
	Value Added	$9,850,191
	Economic Output	$17,425,143
	State/Local Taxes Generated	$1,405,599
	Federal Taxes Generated	$1,333,744
Residents	Estimated Annual Visits	2,448

Source: Maples, J. N., Rehm, M.N. & Bradley, M. J. Economic impact of mountain biking in Utah's Manti-La Sal National Forest. Study funded by Outdoor Alliance. https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/628e7459dd02c73d245d2969/1653503071138/MLSNF_Biking_EIS_May2022_v4.pdf (February 2022).

SITE: VERMONT TRAILS AND GREENWAYS KINGDOM TRAIL SYSTEM		
Year of Study		2016
Economic Data Included in the Study		
Visitors	Estimated Annual Visits	70,263
	Per Visit Expenditures (Individuals)	$176.44 – $189.51
	Per Visit Expenditures (Groups)	–
	Total Annual Spending	$13,658,376
Residents	Estimated Annual Visits	23,737

Source: Camoin Associates. Economic and fiscal impact analysis of the Vermont trails and greenway council member organizations. Prepared for the Vermont Trails and Greenway Council. https://www.greenmountainclub.org/wp-content/uploads/2017/12/Economic-and-Fiscal-Impact-Analysis-of-the-Vermont-Trails-and-Greenways-Council-Member-Organizations.pdf (October 2016).

SITE: CHEQUAMEGON AREA (WI)		
Year of Study		2020
Economic Data Included in the Study		
Visitors	Estimated Annual Visits (Total)	27,666
	Per Visit Expenditures (Individuals)	$1,017.18
	Daily Expenditures (Individuals)	$245.40
	Jobs Supported	118
	Labor Income	$2,822,081
	Value Added	$4,571,771
	Economic Output	$9,575,443
Residents	Estimated Annual Visits	10,494

Source: Hadley, S. & Trechter, D. Chequamegon Area Mountain Bike Association economic impact and user experience survey summary, 2020. University of Wisconsin River Falls Survey Resource Center Report 2020/9. https://cambatrails.org/wp-content/uploads/2020/08/Survey-Report-2020-Final.pdf (May 2020).

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