

ECONOMIC IMPACT OF THE UPPER JAMES RIVER WATER TRAIL

ECONOMIC DEVELOPMENT STUDIO at VIRGINIA TECH

FALL
2014



PREPARED FOR Botetourt County Department of Parks, Recreation and Tourism

WRITTEN BY Ebonie Atkins, Leeann Budzevski, Adam Culpepper, Sarah Scott,
and Ross Zelenske

Economic Development Studio at Virginia Tech, December 2014

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EXECUTIVE SUMMARY

The Economic Development Studio at Virginia Tech is a collaborative effort between Virginia Tech's Urban Affairs & Planning (UAP) program and the Office of Economic Development. The studio serves as a resource for communities throughout Virginia seeking assistance with their economic development efforts and challenges. This allows graduate students to work with real-life clients to set goals, provide recommendations, and create a strategic plan of action.

The Fall 2014 Economic Development Studio was asked to perform an economic impact analysis of the Upper James River Water Trail (UJRWT) for Botetourt County, Virginia. The UJRWT is a 45-mile stretch of the James River that winds through the northern portion of Botetourt County. In order to assess the economic impact of the trail, the team began with an asset-based approach, allowing the studio to evaluate the community's existing assets and potential. Particular strength was noted near the Buchanan area of the trail, while untapped potential existed along the northwestern launch points. The water trail also provides additional benefits outside of economic impacts, including educational opportunities, community events, and health and fitness.

The team completed an in-depth literature review, met with stakeholders, and conducted trail user and business surveys. The studio found that the trail was a major draw for bringing tourists to Botetourt County. Most survey respondents reported living within a 75-mile radius of the trail; although some trail users lived outside of Virginia. The survey results also indicated that the average spending per person was \$23, not including rental equipment. Businesses reported that blueway users accounted for a substantial amount of gross revenue. However, the results of the survey were limited due to the time of year and time constraint of the studio's semester. To address this, the team recommends that Botetourt County organize a second collection of survey data to strengthen the findings in this report.

Overall Recommendations

- Botetourt County has done an excellent job in designing its access point signage and is currently in the process of adding in-river signage. Once this is completed, roadway signage should be developed to advertise the river and help guide users to the access points.
- The County should continue exploring the various local and regional packaging options that include natural, scenic, historical, cultural attractions, and events to build a stronger tourism base.
- A "Friends of the James River" volunteer group should be created to increase community engagement, facilitate hands on education, and help protect the river's environmental quality.



INTRODUCTION

Purpose

This study was designed to investigate the economic impact and make recommendations on how to maximize that impact on the Upper James River Water Trail (UJRWT) in Botetourt County. Information collected from stakeholder interviews, intercept surveys, business surveys, and blueway case studies was used to create a comprehensive report that identifies gaps and proposes measures for assessing the economic activity blueway usage brings to the region.

Background

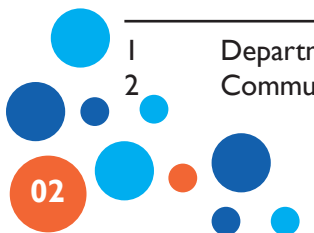
The Upper James River Water Trail was created by Botetourt County in 2010. The UJRWT begins at the confluence of the Jackson and Cowpasture Rivers. The water trail is a small boat, angling, and paddling recreational route. Forty-five miles of this recreational water trail runs through Botetourt County, fourteen of which (between Eagle Rock and Springwood) are designated as a Virginia Scenic River. The river is broken up into seven segments offering recreationists a variety of experiences along the water trail. The river consists of class I and class II rapids on the trail, accommodating different levels of experience and intensity. Currently there are eight public access points in Botetourt County that are owned and operated by the Department of Game and Inland Fisheries, five of which allow for shoreline access and three have concrete ramps.

Botetourt County is part of the Roanoke Metropolitan Statistical Area (MSA), consisting of approximately 35,000 residents with the median age of 45 and median family income of slightly over \$75,000. Most individuals that live in Botetourt also work within 34 minutes of their home.² According to the Botetourt County Profile, it is likely that residents live, work and play close to their residence. Botetourt is located in a very accessible part of the state connecting easily to Interstate 81 and is within close proximity to Interstate 64. This connectivity facilitates visitor travel to the area from within Virginia and beyond state lines.

Methodology

The data gathered for this study was collected from a variety of sources, each of which was used to consider multiple facets of the economic impact of the UJRWT. This report presents user demographics and economic benefits and impacts attributed to blueway usage. The studio team conducted a review of current impacts on recreational activities and asset based economic development. The team collected data from business surveys, trail user surveys, discussions with key stakeholders, and census data. This information was used to perform data analysis, which includes trail user trends, perceived impact of trail users on businesses, and asset mapping. From the analysis and stakeholder interviews, the team has outlined recommendations for increasing the economic impact of trail use. The team also developed a comprehensive framework tailored to the water trail that provides a step-by-step process for future studies economic impact.

1 Department of Conservation & Recreation Scenic River Programs
2 Community Profile



BENEFITS of the BLUEWAY

Considering 40 percent of tourist attractions contain a water feature, it is important to present the additional benefits in conjunction with the economic impacts of the Upper James River Water Trail.³ The following will discuss those benefits, including educational opportunities, community-centered activities, health benefits, and economic revenue. Developing these benefits will compliment an asset-based approach to attracting new visitors and expanding tourism efforts in the local area.

Educational Opportunities

The rich ecosystems that surround rivers provide a great platform for scientific exploration. Rivers are often used as educational resources, especially in K-12 school systems. Topics such as wildlife education, environmental stewardship, and water systems can be explored in a real-life setting, providing hands-on learning for students. Additionally, these opportunities can be linked to clean-up and preservation efforts. River trail community education partnerships may not directly correlate to increased tourism or waterway use, but it does raise local awareness of the existence of the blueway for residents in Botetourt. In turn, this may increase tourism activities on and around the blueway.

Case Study: The Great Calusa Blueway
Location: Lee County, Florida
Source: The Great Calusa Blueway Blog

Provides paddlers an “Environmental Toolkit Training” through the Florida Paddling Trails Association.

- Identifies environmental concerns (such as invasive species)
- Class is branded “Paddling with a Purpose!”
- Goal is to help paddlers understand and address environmental and wildlife issues



Source: <http://calusablueway.com/gallery/Photo%20Gallery>

Community-Centered Activities

Connecting to the local community is a crucial piece of any small town tourism effort. Community participation in tourism attractions and events may not inject new money into the local economy, but as locals come to enjoy the amenities that surround them, they spread the word to family and friends who reside outside the area. Festivals are a great way to engage local residents as well as focus on a local attribute or feature that is unique to Botetourt County.

Additional local festivals can compliment the annual events already occurring in the county or be presented as single events focused on a specific occasion or seasonal theme. In addition to annual events such as the Magic Mountain Festival and Community Carnival in Buchanan, organizers may want to consider hosting more festivals that link attendees to an agricultural crop or specialized food that is unique to the local area. Event packaging will be discussed later in this report, but one suggested packaging idea is a “Corks and Kayaks Festival” that connects blueway users to wineries in the region.

3 “Small Town Tourism: Building the Dreams” available at http://www.iira.org/pubs/publications/IIRA_RRR_739.pdf





Hosting a fundraising event near or on the blueway is a great method for attracting individuals who may not normally participate in water sport activities. Fundraisers can be connected to a local cause, or may even tie in with a national event. Fundraising efforts can be organized in the form of an auction, concert, or water trail race. Kayak and canoe races for various age and experience levels would again raise awareness of the water trail and increase its visibility.

Health Benefits

In a 2010 study by the United States Surgeon General, obesity was named as a public health challenge that threatens American quality and years of healthy life. The report notes that two-thirds of adults and nearly one in three children are overweight or obese. Adults and children suffering from obesity are at increased risk of developing chronic conditions such as diabetes, high blood pressure, respiratory illnesses and other life-altering diseases. The report calls for inventive ways of promoting physical activity that stray away from routine, repetitious exercise, especially for teenagers and young children.⁴ Blueways are the perfect means to promote individual health and encourage enthusiasm for physical activity while allowing for increased engagement with nature.

Health benefits to kayakers and canoers are overlooked assets of blueways. Depending on when and where users plan their water activity, they can control the length and intensity of the sport. The duration of blueway activities varies widely. Trips can be as short as an hour, or extend all day. The water can be traversed with speed, thereby increasing the physical component, or users may enjoy a more leisurely time on the river. Waters sports are also great for accommodating groups of varying sizes. Water activities such as kayaking and canoeing allow participants of all ages and physical ability to get moving while engaging with the beautiful scenery along the water trail. Tandem, or 2-person kayaks, allow blueways users to pair up with children or adults who may have difficulty navigating the water alone. The UJRWTF has well constructed and maintained put-ins to facilitate ease of use. The ability to enter and exit the waterway with ease is paramount for individuals with physical limitations.

Economic Benefits

Outdoor recreation is a growing industry that attracts visitors and revenue to local areas. Recreational tourism brings in new economic opportunities, diversifies the economy, creates jobs, and raises tax revenue. According to a report by the Outdoor Industry Association, at least 46% of Virginia residents participate in outdoor recreation each year. This figure excludes participants in hunting, fishing, and wildlife activities. The Virginia outdoor recreation industry attracts \$13.6 billion in consumer spending and \$923 million in state and local tax revenue.⁵ In response to this growth in the outdoor recreation economy and conversations with the Virginia Tourism Corporation, the team encourages Botetourt to direct attention and resources to natural assets that may serve as ready-made tourist attractions.

4 The Surgeon General's Vision for a Healthy and Fit Nation

5 "Virginia: The Outdoor Recreation Economy" available at http://outdoorindustry.org/images/ore_reports/VA-virginia-outdoorrecreationeconomy-oia.pdf

EXISTING CONDITIONS

After examining the benefits of the blueway, there are some existing conditions of the Upper James River that should be addressed before recommendations can be established. These conditions include the river's floodplain, seasonality, and rural character. These existing conditions should not be viewed as limitations, but rather challenges that can be overcome. The studio team sees these challenges as positive features that help maintain the water trail's natural character.

Floodplain

The floodplain of the James River has created a buffer for development that protects the natural scenery and rural character of the region. Construction or renovation in the floodplain depends on certain factors outlined by the Federal Emergency Management Agency (FEMA) and the locality. These stringent requirements may cause hesitation among potential businesses looking to develop within the floodplain, therefore the Planning & Zoning Office should be readily available to offer guidance and assistance throughout the development process. In light of these development challenges, growth should be channeled toward communities along the northwestern section of the James River that do not face a large flood potential as well as keep growth within a community's main street. This will aid in keeping areas along the river scenic and aesthetically pleasing.

Case Study:	Chippewa River
Location:	Durand, Wisconsin
Source:	Leader-Telegram 12/2009 article

The Town of Durand has experienced recent flooding issues that has inhibited business development.

- Converted the riverfront to a river walk
- Included a veterans memorial
- Started summer music series called Music in the Park



Source: <http://www.durand-wi.com/>

Seasonality

The typical blueway season stretches from Memorial Day to Labor Day. Traffic counts provided by the Botetourt Parks, Recreation, and Tourism Department and customer transactions recorded by Twin River Outfitters indicate that the season along the UJRWT starts in April and extends until late October, with peak season during June, July, and August. This is a unique feature that many other rivers do not have; enabling the season to start earlier and last longer. The studio team suggests the county capitalize on this extended season through marketing efforts and event coordination that draw paddlers to the area in the spring and fall months. The consistent water level of the James River is an additional asset that complements the seasonality of the water trail. Generally, paddlers are able to enjoy the water trail with a guarantee that the river will be above non-paddling level.



Rural Character

The James River winds through the northern portion of Botetourt County, which is predominantly rural and sparsely populated. One of the key themes listed in the county's Comprehensive Plan is controlling growth in order to "minimize the impact on the rural character."⁶ With citizens passionate about maintaining a strong sense of rural character, development opportunities should be steered toward communities with an established commercial base. Uncoordinated development may spark citizen concern about the county's commitment to ensuring a rustic setting. When marketing the area to potential business investors, the County's Economic Development Office should make sure to consider boat landing traffic counts, mention the current and future water trail access points, and highlight the water trail user need for a commercial hub in the northwestern portion of the trail.

Additionally, while collecting surveys in the field, a group of trail users commented about the overload of other paddlers at the Buchanan put-in. They mentioned that the high traffic of this site conflicted with the serene atmosphere they sought. This led them to move north into a less populated portion of the river. The planned additional launch sites should help open opportunities to diffuse users away from the Buchanan location. This will help oversaturation and spread the economic benefits to other communities.



⁶ Botetourt Comprehensive Plan available at: http://www.botetourt.org/government/planning_cp.php

FINDINGS

In order to generate a general blueway user profile, the studio conducted interviews at the Roanoke Go Outside Festival with outdoor recreation enthusiasts. The findings from these interviews helped construct the next step of data collection. Two separate surveys were created and conducted with the intent of gathering information from two target groups: trail users and local businesses. Answers from these anonymous surveys provided objective information to compare against previous observations made about the trail.



Go Outside Interviews

The Roanoke Go Outside Festival took place the weekend of October 17-19, 2014. The festival serves as a tool for encouraging healthy living with outdoor recreation. People from the Roanoke Valley, the New River Valley, and outside of the state come to the festival to enjoy food, music and outdoor activities. The festival served as a platform for learning more general information about blueway users, not specific to the UJRWT. Studio members met up with one of the co-owners of Twin River Outfitters (TWO) at their information tent. While interviewing festival goers, the studio group noted that children were engaging with a paddle sports demo pool located across from the TWO tent. After discussing blueway use with water trail enthusiasts, the team learned that most users look first for easy accessibility in a blueway. They also enjoy going out on a waterway that is calm, relaxing and scenic. The majority of blueway users the team spoke with at the festival owned their own equipment. Most of these users spend three or more hours on a blueway. Seventy-two percent of the blueway users the team spoke to kayak, while a few fished and canoed on the water. These responses show that location and ease of water put-in are essential for attracting blueway users.

While at the festival, the studio also asked blueway users about the possibility of various special events along the Upper James River Water Trail. The team asked if they would be willing to pay for a festival, race, or another type of community event incorporated with the Upper James River. Eighty-three percent of the interviewees said they would be willing to pay for a festival. An event that brought people together around the UJRWT would not only promote use of the blueway but would also bring people to Botetourt County to explore the other recreational and entertainment opportunities.

Blueway User Survey

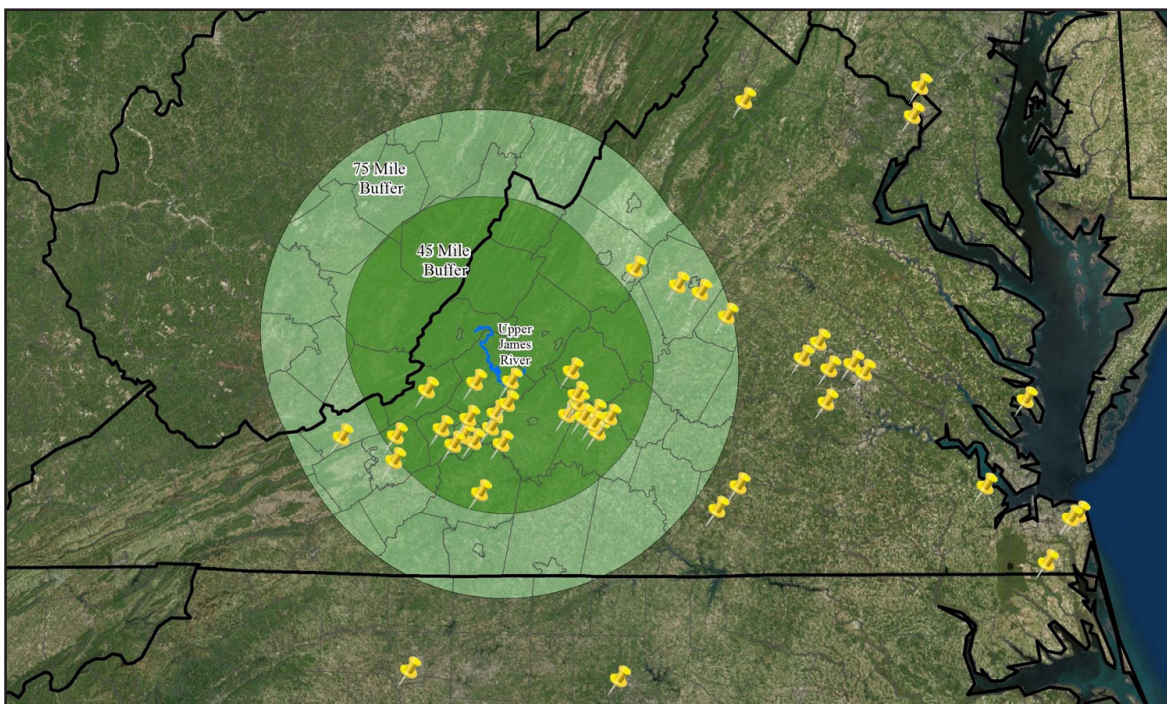
The blueway user survey was originally conducted via personal intercepts at designated access points along the UJRWT. The team went out to the water trail on two separate weekends in October 2014. Given the seasonality of blueway use, the team did not get a large number of intercept surveys. With this limitation in mind, another round of surveys was conducted through the Twin River Outfitters newsletter. Twin River Outfitter newsletter subscribers were asked to participate in the survey online and reflect on their latest trip to the UJRWT. In total, the team collected fifty-five completed blueway user surveys.

General Demographics

This section presents a general breakdown of Upper James River Water Trail users. Through this, the studio team hopes to establish the range of group size, miles traveled by visitors, and the importance of the blueway to a visitor's likelihood of traveling to Botetourt County. Survey results show that visitors come from all over Virginia, but respondent demographic data indicated out-of-state visitors are common as well. Sixty-five percent of users traveled from within a 45-mile radius. Eighty-five percent of those surveyed indicated that the UJRWT was the primary purpose of their trip. From the participants surveyed, the average group size was 5.5 people. This is indicative of the social nature of outdoor recreation; facilitating group activity and a shared experience.

Survey respondents were predominantly male (65%) and within the 36-45 age group (30%). Few users were under 25 and over 65 (9% combined), though the studio team did not survey visitors who were under 18. Although the survey did not include questions on education, race, and income, academic literature on recreational tourism describes the typical trail user as middle aged, white men of high income and educational backgrounds.⁷

7 "The Waterway at New River State Park: An Assessment of User Demographics, Preferences, and Economics: Virginia Department of Conservation and Recreation," p.11



Individuals that reported an overnight stay in connection with blueway activities reported an average stay of two nights. Visit frequency to the UJRWT varied, however the top two responses were “2-3 times a year” and “7 or more times a year”. Participants revealed that the most targeted blueway use was kayaking (45%), followed closely by canoeing (38%), then fishing (11%), and finally camping (2%). However, most blueway users indicated they engage in several activities while on the blueway, with over half the participants surveyed noting that they had kayaked, canoed and fished on the trail. Weekend trips were the most common for blueway activities (53%), but 31% of participants reported using the trail on both weekends and weekdays.

When asked how users found out about the trail, “other” was the highest response (33%). The comments that elaborated on the “other” category ranged from “live nearby” to “the Natural Bridge package.” Word of mouth (31%) and the Upper James River Water Trail website (19%) were the next popular responses. No respondents stated that they found out about the blueway from roadway signage or newspapers. Respondents generally chose the Buchanan put-in (46%), which also included the Twin River Outfitters launch, as the typical access point. This aligns with Botetourt County’s traffic counter findings. There was not a close second for access point preference. However, all access points, except Alpine were mentioned at least once.

Spending

In most economic impact analyses, local and non-local spending trends serve as the basis for the report. Keeping in mind the limited blueway use typical of the fall season when this study was conducted, an accurate portrayal of local vs. non-local spending is unattainable. Instead, the studio collected data on dining, retail, outdoor recreation, lodging, gas, and entertainment, and other spending to determine where the majority of revenue from blueway use is collected. This data was used to calculate median spending of survey respondents. Although this data is not representative of all blueway users, it is useful in painting a picture of dollars spent in Botetourt County in connection with use of the UJRWT. It is useful to note that of those surveyed, 57% said they would not come to Botetourt County if the UJRWT didn’t exist. This figure is important as evidence that the UJRWT serves an important role in attracting visitors to the area.

Survey participants indicated they spent money on a variety of items during their visit to the blueway. Of the 44 responses to the question on purchases related to blueway use, the most popular expenditures were on kayaks, fishing supplies, and footwear. Sixty-six percent spent money on kayaks, 55 percent on fishing supplies and 50 percent on footwear. The high amount of responses for almost all these items indicates that blueway users are willing to spend money on outdoor recreational equipment to enhance the blueway experience. However, many of these items are one time purchases that could be used long term and in different applications.

The outdoor recreation category shows the highest spending amount, yet this data may be skewed by an unusually high outlier. One group indicated they spent a total of \$1,350 on outdoor recreation. This amount seems to be an overestimation given the group size. Excluding this outlier, median spending was highest in the hotel/lodging category, calculated at \$100. Median spending on dining and outdoor recreation (excluding outlier) were \$90 and \$80 respectively. Gas and retail ranked next in spending with \$32 median gas expenditures and \$25 median retail spending. Entertainment spending was low at \$10 while few respondents reported any spending in the “other” category.





	Dining	Entertainment	Gas	Hotel	Outdoor Recreation	Retail
Median Visitor Spending (in dollars)	\$40	\$10	\$32	\$100	\$80	\$25

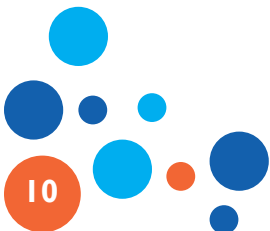
Figure 1: Median Water trail User Spending by Expenditure Category

A calculation of spending per person showed on average each visitor to the UJR-WT spent about \$30 per person during their trip. The table below provides a breakdown of this spending by expense category. The greatest amounts were reported in hotel/lodging spending and outdoor recreation, followed by dining and gas expenditures.

	Dining	Entertainment	Gas	Hotel	Outdoor Recreation	Retail	Total
Average Spending per person (in dollars)	\$5.80	\$0.70	\$4.80	\$7.90	\$3.40	\$3.40	\$29.4

Figure 2: Average Spending per person by Expenditure Category

Of the 55 survey respondents, 45% rented equipment for their last trip on the UJR-WT. This indicates that 55% of the respondents own the equipment they use on the Upper James. Of the 17 respondents to the question on rental spending, 11 gave an estimate of the amount they spent on renting equipment for their blueway use. The costs ranged from \$20 to \$1,350. Again, this \$1,350 is an outlier in the data. By analyzing the median instead of the mean, one can get a better understanding of typical spending for blueway rentals. The median is \$70. This median would align with an average of two users per trip spending \$35 each for equipment rentals.





Business Survey Results

The studio conducted a business survey designed to investigate the impact created by and on businesses around the UJRWT. Specifically, the studio was looking for an estimate of the economic activity blueway usage brings to the region, yet the limited resources at the team's disposal and low business response rate inhibit the ability to provide a definitive figure. Businesses were invited to participate in an online survey via email, phone call, Facebook message, or contact section of business webpages. A total of 8 businesses responded to the survey including hotels/motels/bed & breakfasts, outdoor recreation and retail/specialty. These businesses were selected through an online search for businesses in the area surrounding the Upper James River Water Trail.

The survey is divided into four sections: Business Demographics, Connection With Blueway, Seasonal Change, and Revenue. The Business Demographics provide basic information about the businesses that completed the survey, such as type of business, time at that location, and employment numbers. The second section, Connection to Blueway, asks questions to assist the studio team in establishing gaps in the market, as well as, strengths that can be exploited to increase economic activity in the area. The Seasonal Change section asked if businesses were affected by the seasonality of blueway use. The final section was a single question about revenue. This question allowed the studio to provide a rough estimate of the amount of money businesses receive as a result of the UJRWT.

Business Demographics

Of the respondents to the business survey, most businesses are open year round and have been in operation for 6-10 years. The businesses vary a great deal in size, with some having as few as one full time employee, while others had as many as 30. This variation in business size increases even more when looking at part time employees. While some businesses have no part time employees, one business surveyed had up to 100.

Connection With Blueway

The majority of respondents indicated that their business is directly affected by the UJRWT, though 75 percent said they did not choose their location due to the water trail. This is reiterated by the fact that just over half have not expanded or downsized based upon blueway users and those that did expand, made their expansions at their current location. Although businesses felt they were affected by the blueway, responses indicated that the additional customers have done little to affect their employment numbers or expansion. Businesses in the area have taken additional steps to attract visitors to the area. These include advertising in publications catered to blueway users and in one case donating time and money to the boat launch closest to them. Most business respondents indicated they don't provide parking for James River users. This may limit economic activity as users exit the water in search of food or other amenities.



Seasonal Change

As stated earlier in the report, water activities are highly seasonal. The survey asked businesses what months of the year they experience peak season. The graphic shows the seasonal fluctuation according to survey businesses. As one can see all survey participants felt that June- August is the peak season. According to 63% of participants, that fluctuation can be attributed to the fluctuation of blueway users. When it comes to handling the rush of peak season it is a 50/50 split, with half of the businesses increasing employment during the summer months. It can be assumed that businesses in the area attribute the lack of business in the winter months to the colder climate.

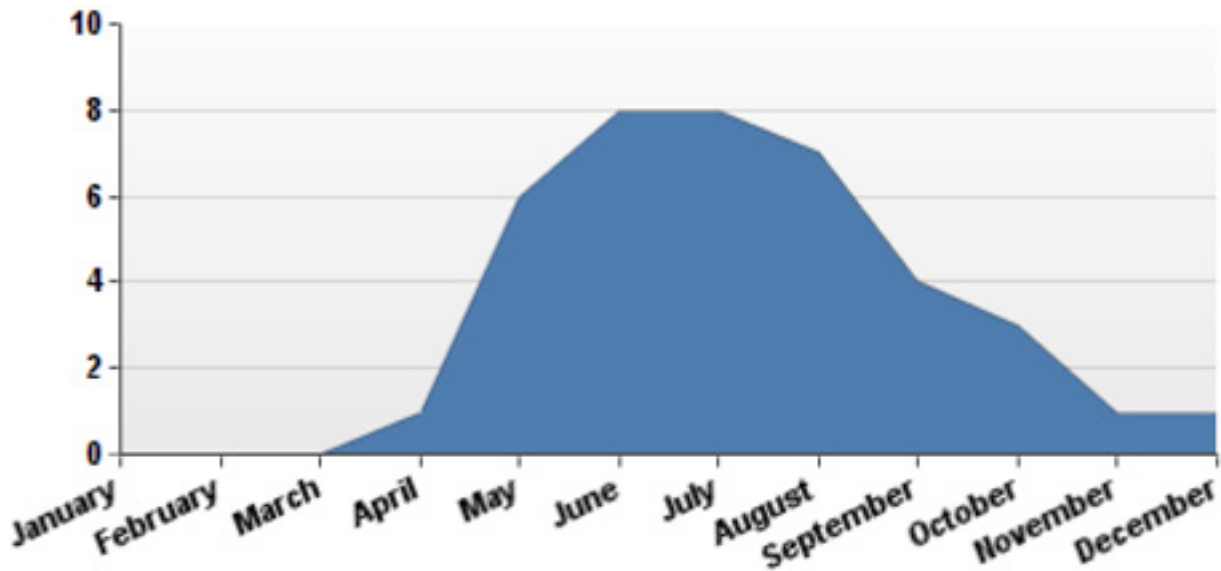


Figure 3: Business Estimate of Peak Blueway Season

Revenue

To get an estimate of revenue coming into the area, businesses were asked to estimate the average gross annual revenue for the past three years. Of the participating businesses, 67 percent see annual gross revenue figures greater than \$250,000. All six businesses that completed this portion of the survey had a combined annual revenue of over \$1.15 million. They estimated that 18 percent of business sales were from blueway users, and blueway users alone bring over \$200,000 a year to local businesses.

Based on the survey results, one can see that the Upper James River Water Trail creates a positive economic impact on businesses within the area, however many of those businesses only count blueway users as supplemental customers.



RECOMMENDATIONS

Although there is no figure to quantify the exact economic impact of the Upper James River Water trail at this time, the following recommendations have been proposed to build upon the assets of the UJRWT. These recommendations are based upon the and expand upon the existing resources

Funding Opportunities

Botetourt County has had a number of successes in securing state grants to help with area tourism and recreational development. As recently as September 2014, the County was awarded a \$30,500 grant from the Virginia Tourism Corporation's (VTC) Marketing Leverage Program. A \$25,000 grant was awarded in 2009 from VTC and in 2010 a grant application was submitted to use funding from the National Environmental Policy Act to make improvements at select launch sites. Botetourt County should continue seeking any and all funding opportunities available, that includes conventional forms of funding such as loans, grants and community sponsorships, and non-conventional financing, which can include organization dues, volunteers, special events and other creative sources of capital funding. A program offered by the Virginia Tourism Corporation provides financing for localities seeking to increase tourism activity in the local area. Through a gap funding mechanism the Tourism Development Financing Program will fund 20 percent of a tourism development project's budget. This program may be a funding source to support development of a northern hub along the Upper James River. It should also be noted that small investments have the potential to garner large returns. A conversation with one key stakeholder pointed out the relatively low amount of funding needed to make trail improvements, while yielding a high return on investment. This may be especially true compared to traditional economic development projects.

Further Packaging Options

As a locality with a rich agricultural background, history of music and art, and an abundance of scenic beauty and natural features, Botetourt County is a highly marketable tourism destination. Upon completing a preliminary asset inventory, the studio team discovered a variety of local and regional packaging options. An inventory of local and regional tourism assets ideal for packaging is available in Appendix B. Many attractions on this list would be ideal to present to visitors as a package deal either before or after their experience along the James River. One potential route branding option would begin with the water activities on the UJRWT, followed by a hike and picnic at Roaring Run, then conclude with a swim at the Humpback Bridge (one of the oldest bridges in the Country). In addition, the northern section of the blueway could be packaged with the new rails-to-trails project proposed for the area between New Castle in Craig County and Eagle Rock. The southern end of the blueway could be connected to other trails such as Apple Orchard Falls. In addition, Botetourt's wine trail is a tourism attraction that could be packaged with blueway use. Other regional features that draw visitors into area with packaging potential include the Peaks of Otter, and Natural Bridge.



Develop Roadway Signage

While the studio group traveled to access points along the Upper James River Water Trail, the group noticed the signage improvements located at each access point. The signage provided helpful location and safety information, as well as a detailed description of the rapid classes and fishing opportunities along the journey and expected travel time. Although the Botetourt Parks, Recreation, and Tourism department is currently addressing the need for signage along the trail that signify mile markers and alerts users of access points on the river, there was a lack of signage along the roadways directing road travelers to the access points. The few signs that were found were very small with simple lettering that read, “Public Boat Landing.” Improved signage along the roadway would draw the attention of commuters and visitors who might otherwise pass the James River without stopping.



Source: <http://www.beyondthecreek.com/walnut-creek-wayfinding-project-open-house-dec-12th/>

A wayfinding initiative has been adopted by many cities throughout the country to promote recreational opportunities from historic sites to recreational trails. The Town of Cary, NC is in the process of developing roughly 100 signs as part of a wayfinding system “to direct visitors to downtown and to Parks, Recreation and Cultural Resource facilities from major transportation arteries, including freeways and limited access highways on the periphery of town”.⁸ This system grabs the attention of motorists that might otherwise miss these opportunities. The studio believes that a system similar to that of Cary, NC would draw in more visitors to the UJRW.

8 Cary, North Carolina (2014). Town Wayfinding Project

The California Tahoe Conservancy funded a report called, “Lake Tahoe Paddle Access Strategy and Non-Motorized Wayfinding Symbology.” “Representatives of public land agencies, private landowners and other organizations from around the Lake Tahoe region participated in a design effort to create graphic images intended to communicate specifically with kayakers, paddle boarders, canoeists and other non-motorized boaters”.⁹ Existing roadway signage within the Lake Tahoe Basin does not currently display signage exclusive to paddle boat users. Because of this many users go to areas better suited for motorized boats, i.e. large boat ramps. The Lake Tahoe report, through a series of workshops and meetings worked to combat their signage problem by designing new signage that would steer non-motorized users to launch ramps and put-ins via graphic image and signage. They established the three signs shown and are now working to narrow the results to one image and get the signage approved by Nevada DOT, in order to implement these signs along roadways.

9 Shaw, M. and Hunt, B. (August 2011) Lake Tahoe Paddle Access and Non-Motorized Wayfinding Symbology



Source: <http://tahoe.ca.gov/wp-content/uploads/2013/06/Paddle-Wayfinding-Report.pdf>

“Friends of James River” Group

A “Friends of the James River” group may be a great resource for garnering community, educating youth and protecting the environmental quality of the river. Currently, cleanup efforts are limited to annual clean-up drives held one day a year, particularly focused on collecting tires along the riverbed. This initiative can be extended to include more cleanup projects around access points to address the prevalence of trash and graffiti at the landings. This initiative would bring more awareness to environmental issues around the river and could be a beneficial educational tool for Botetourt County schools. The group could also partner with the James River Association for other advocacy and outreach events. A consolidated group would help build the image of the Upper James River Water Trail as well as build awareness of the many activities available in Botetourt County.

There are other “friends of” groups for rivers in close proximity to the Upper James River Water Trail. For instance, the mission of the Friends of the New River group is to “promote the conservation, protection, and enjoyment of the natural, cultural, recreational, scenic, and historical values of the New River”.¹⁰ There are also groups along the Rappahannock River and for the James River Park in Richmond. All of these groups can be used as a resource for starting a “Friends of the Upper James River” group in Botetourt County.



Traffic Counts from Twin River Outfitters and Botetourt County

Prior to the studio's economic development analysis, Botetourt County's Parks, Recreation, and Tourism Department made an effort to obtain a rough traffic count estimate by placing motion activated traffic counters at boat landings. The county only had enough to be placed at two locations at once, so counters were rotated throughout all the sites on a two-week basis. Based on this two-week data, monthly estimates were calculated for each location, compared against Twin River Outfitter sales data, and scaled back to ensure a conservative estimate. Although this method requires limited man-hours and tracks visitors entering and exiting the blueway around the clock, it results in a high margin of error because the counters have no way to differentiate users that pass by more than once or together in large groups. To address the high margin of error, the county should continue its practice of keeping counts as conservative as possible and to consider the purchase of additional motion-activated counters for all launch sites. An alternative would involve enlisting volunteers to count trail users by hand. This could be performed with the help of the "Friends of the Upper James River," county staff, and additional volunteers. Further information on traffic counts can be found in Appendix A. Regardless of the choice, it is important to keep in mind that no method will provide a completely accurate count.

CONCLUSION

While examining the studio's findings and recommendations, it is important to recognize the study's limitations. Since the survey collection was completed in October, towards the end of the blueway season and outside peak usage, results were limited and economic impact and spending estimations contain a high margin of error. To achieve a more accurate picture, it is recommended that the county organize a second economic impact analysis that includes collection of survey data from trail users throughout the entire season.

The procedure for conducting an economic impact analysis and survey collection is discussed in greater detail in Appendix A. In order to conduct this second phase of surveys, the County must determine who and how surveys will be distributed. County staff may not be available to visit site locations on a regular basis due to workload and limited staffing, or perform intercept surveys during weekends, when usage is highest. Hiring an intern or collaborating with a volunteer group are more viable options. The studio group utilized tablets, such as iPads, and a survey application known as Qualtrics that was available for offline usage. Qualtrics was used to build the survey, gather the responses, and perform preliminary data analysis. Online survey applications as well as traditional paper and pen surveys are also effective means to conduct data collection. Analyzing the survey and other data collected can be a daunting task considering the various economic models available and lack of familiarity. The studio group recommends that the county focus on the direct monetary effects created by the water trail, as these are the most important for economic analysis. This will provide the monetary figure to support the UJRWT as a regional asset. The lack of a total economic impact figure in this report should not take away from the role the UJRWT plays in linking the community to the river's natural appeal.

Botetourt County's tranquil and scenic qualities along with its plentiful natural amenities and Appalachian culture set it apart from other localities. These features combined with the Upper James River Water Trail position Botetourt County as an outdoor tourism recreation destination. The county has the opportunity to capitalize on these unique attributes through asset-based development strategies. To develop these strategies the studio completed an in-depth literature review, met with stakeholders, and conducted trail user and business surveys.

According to data from the blueway user survey and the Go Outside interviews the most frequented blueway activity includes kayaking and more than half reported owning their own equipment. The blueway user survey indicated that most respondents lived within 45 miles of the blueway and participated in activities several times a year. Go Outside interviews revealed that the most important aspect of a blueway is easy access to the water. Businesses reported that blueway users accounted for a noticeable amount of gross revenue.

Based on the studio's findings, there is an apparent economic impact, but there is still room for growth. Further packaging and funding opportunities should be explored to promote blueway usage. Preliminary asset inventories revealed local and regional package options. These packaging opportunities have the potential to create mutually beneficial partnerships. In addition, event tagging and seasonally-themed events can serve as a non-conventional source of funding, while increasing awareness. Blueway users affirmed that they would be willing to pay for an event in connection to the Upper James River Water Trail. The creation of volunteer groups can act to increase civic engagement, community identity, and area pride. In addition, the blueway offers educational opportunities that can foster a sense of ecological responsibility and awareness. With these initiatives the Upper James River Water Trail will continue to serve as a regional asset for local and non-local visitors alike.

**Botetourt County Department of Parks, Recreation and Tourism
Botetourt County Board of Supervisors
Botetourt County Development Services Department
Roanoke Outside
Virginia Tourism Corporation
The James River Association
The Town of Buchanan
Twin Rivers Outfitters**

APPENDIX A

HOW TO GUIDE

Performing An Economic Impact Analysis

This How-To Guide is an adaptation of the guide provided by the Fall 2011 Virginia Tech Economic Development Studio Report. It is available in Appendix G of their report titled “Building Connectivity Through Recreation Trails.” The tools and recommendations in this guide are based on other studies on the economic impacts of trails, a Trail User Survey Workbook created by the Rails-to-Trails Conservancy (will be referred to as the Workbook), and the experiences of this economic impact analysis.

Why study the economic impact of your trail?

A trail is a wonderful addition to a community, providing inexpensive recreational opportunities and health benefits that come with outdoor exercise. It can increase the value of adjacent property and bring tourists to the area, but trails require significant investment and maintenance. Whether overseen by a “Friends of” group or a government entity, grants and funding must be sought to preserve the trail attributes and ensure its popularity. The data from an economic impact analysis are a great supplement to these applications to show how the trail contributes to the local community and justify its worth for further investment. The data obtained can also be used to improve and expand marketing strategies. Knowing where the majority of trail users come from and what the dominant uses are will allow the county to target those populations and/or to expand marketing to underserved customers.

Characterizing Your Study

Step 1: Define your objective

The very first thing you need to ask yourself before starting an economic impact analysis is, “What do I plan to do with this data?” How you wish to use the information garnered will figure heavily into the types of data you seek. The use of the term “economic impact” indicates that the primary goal is to learn about how the trail interacts with the local economy. But there are a number of other pieces of information that you may be interested in that can add to or complement your economic data. In addition to how much money trail users spend you may also be interested in:

- Trail user demographics (age, gender, socio-economic status, etc.)
- Preferred trail activity (kayaking, canoeing, fishing, swimming)
- Most common time of use (evenings, weekends, holidays)
- User attitudes (regarding safety, maintenance, access)

The type of information you are interested in obtaining will determine who you survey and/or speak to, what questions you ask and what pre-existing data you may seek to use. It will also be a key factor in deciding the scope of your study. Trails differ greatly in length and how you frame your study will depend on how much of your trail you wish to examine. The analysis performed by the Economic Development Studio team was limited to the Buchanan and Springwood access points.

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Step 2: Define Local

Defining local and non-local users in an economic impact analysis is important for understanding the number of tourists traveling to the area. For many regions it can be hard to define a clear local boundary. A study could define “local” as visitors who have traveled 45 miles or more to their destination. Anything within that 45 mile radius is local. Whatever you choose, your definition of local should be included in survey questions about purchases made. Participants should be asked what they purchased in that geographic area.

The definition of local is also important because purchases made by local residents would not be considered “new money” for the area. This money is only being redistributed and it is assumed they would have been spent in the area regardless. When calculating economic impact, it is non-local purchases that are of greatest importance. Thus, when surveying blueway users, it is important to separate local and non-local users. (Asking for zip codes is a fairly simple way to do this.)

Designing Your Study

Step 3: Choose your study method(s)

Thus far, this guide has referred to surveys as the primary method for conducting the study. We are recommending the use of a survey as it is the simplest method for obtaining this type of data, however, we also recommend that this not be your only data source. Interviews with key stakeholders, tax data, are examples of other sources of data that may be important to this type of analysis.

Trail User Counts

The analysis should include information on the number of trail visits, which can then be used to calculate the overall economic impact of the trail. Estimating the number of trail visits is generally done via one of two methods: infrared counters and volunteers counting users as they pass certain points along the trail. Both of these methods have their advantages and disadvantages, which must be weighed when selecting an option. Infrared counters, which pick up on a person’s heat signature, are far less time consuming than manual counters. They are however, more expensive and can be inaccurate. Those who enter the trail at one access point and exit at another pass more than one counter, thus being counted twice. A strict measure to address the double count, could be to divide all trail counts in half. Infrared counters can also report an undercount, if a large group of trail users walk by together, inhibiting the counter’s ability to differentiate each user individually.

Volunteer counters are less expensive than infrared but they are far more time consuming and require a large number of people to assist in the study. Volunteers must conduct their counts (about 2 hours) on multiple, randomly selected days and times throughout the study period to get a representative sample. It is important to be sure that the counts are not biased toward certain times of the day or favor weekends over weekdays. It is also useful to differentiate between peak and non-peak seasons depending on your study period. Under and over counts are still possible because of human error, an issue, which can be alleviated to a certain point by stationing volunteers in pairs.

When estimating annual counts, accuracy can be improved by averaging the raw counts based on similar times, days, and seasons. For instance, one could average Monday through Thursday morning counts taken during peak season months, and then multiply the average by the total weekday mornings in that season to find the total estimated visits during that period. The more precise the time period averages, the more accurate the result. Because the method used is dependent upon the resources you have available, this guide is not recommending one method in particular. We will only say that, regardless of which method you choose, it is important to keep in mind that you will only be making an estimate at the number of trail visits. Neither will give you a 100% accurate count.

Stakeholder Interviews

A study of the economic impact of a trail is in some ways a study of the relationship between the trail and the communities through which it travels. For a complete picture, you must talk to both parties. To whom you speak will, as always, be determined by what you wish to do with your findings and therefore what kinds of information you want to learn.

A stakeholder is a person who affects or is affected by the trail. This includes those who use the trail, those who help to maintain the trail and those who receive economic benefit from the trail. It also includes community and government officials who make decisions with regard to the trail. Such interviews may not give you direct information on how the trail impacts the economy (X number of trail users = Y dollars in the local economy) but can provide more subtle details. Impact is not a one way street and choices made by the municipality affect access to and awareness of the trail. Knowing about these bi-directional impacts can help you to make suggestions and changes in the future.

Surveys

Trail user surveys are the principle method for performing an economic impact analysis. The simpler and straight forward these documents are, the better. The studio team found that offering multiple choice responses was easiest for those filling out the surveys. While the studio team did not choose to create separate surveys for local and nonlocal trail-users due to already limited data collecting time, this method is something to consider.

Conducting business surveys is another component that is not often used, but the studio team suggests. We suggest taking this a step further and surveying inventoried businesses to gain a more accurate depiction of the economic relationships. This is a prime example of why the use of multiple data sources improves a study. Data obtained from trail user surveys can only provide estimates because they are based on samples and not the entire user population. The information is in-

complete. Likewise, money that is spent at local establishments is not marked as local or non-local in origin so it is not possible to determine the precise impact of each dollar. Together, however, these estimates complement each other.

Using Pre-existing Data

There are two main benefits to using pre-existing data. The first is that it requires less effort on your part; you do not have to gather it yourself. The second is that it can provide information that you would not be able to gather. For the purposes of an economic impact analysis, data on lodging and meals taxes and sales taxes contribute to assessing the impact of tourists (i.e. trail users). Another question that can be answered through pre-existing data is, how much taxpayer money is spent on the trail? Funds to maintain, police and promote the trail are taken away from the local economy and must be subtracted to inputs attributed to the trail. The municipality's budget should provide this information.

Step 4: Choose your survey distribution method

Because it may affect the type of questions you ask, you should choose your distribution method prior to writing the survey. The Workbook provides six options, which we will discuss in relation to both trail user and business surveys.

Self-Selecting: Drop Box

This least expensive and minimally time consuming method involves placing surveys at trail access points for users to fill out and put into a collection box. The advantages having already been named, the disadvantage is that it is self-selecting, however there are concerns that a representative sample cannot be obtained, as the participant may not be reflected of the entire population. It can also have limited results as far as the level of participation. Self-selecting methods are not applicable to business surveys.

Self-Selecting: Mail Back

In the Mail Back method, surveys are still placed at access points but participants are provided with self-addressed, stamped envelopes rather than a drop box to return completed surveys. This is quite a bit more expensive because of the postage³⁸ and still had the problem of being self-selecting and thus non-representative.

Personal Intercepts

Performing personal intercepts (otherwise known as standing on the side of the trail asking people to fill out your survey) can result in a more representative sample but it is extremely time consuming and requires a lot of assistance. Conducting surveys at the same time as trail user counts can help to lessen the overall time commitment for volunteers. To obtain a representative sample, surveys must be collected "randomly across all daylight hours and every day of the week." This is not to say that someone has to be on the trail all day everyday but that all days and times must be sampled at some point, ideally in equal proportions. This must be done over the course of the entire study period. The Workbook lists training volunteers and staff in the art of personal intercepts as a requirement for use of this method, but the Studio team employed novice interceptors with little challenge.

Direct Mail

Direct mail cannot be used for trail user surveys but could be utilized for business surveys. This would require less time than personal intercepts but would be more expensive since two stamps would have to be provided per survey.

Website

Based

The Workbook lists this as a potential distribution method but does not recommend it. This method could be employed using the Upper James River Water Trail website.

Email

The studio was able to use email for distributing both trail and business surveys. Many businesses listed email addresses online and a link to the Studio's online survey was sent via email to past Twin River Outfitters' customers.

Step 5: Write your survey(s)

As already discussed, the type of survey questions you choose will be dependent on what type of information you are interested in. Fortunately it is not necessary to reinvent the wheel. The Workbook has four sample surveys for different types of trails from which you can pull your questions. Many of the questions used by the Studio team come from these sample surveys. Shorter surveys are less obnoxious to trail users. To create a shorter survey, one important question to ask about each question is "What will I do with the information gathered in response to this question?" Given the ultimate goal of your study, the survey examples in Appendix C could be far more targeted. A question that must be asked when designing your survey is whether you want to use open ended questions. The Workbook recommends avoiding such questions because they are harder to analyze. Questions related to economic impact can probably be fully answered with multiple choice quantitative data but if you are interested in how users feel about the trail you might consider using some qualitative data. The studio team found that open ended questions were beneficial. They reinforced ideas found in the other survey results as well as revealed nuances in responses that could inform future actions taken by stakeholders.

Analyzing your Data

The studies reviewed when designing this research project and writing this guide demonstrate that there is not a single accepted model for analyzing economic impact data. Some are quite complex and others are much simpler. Lacking a comparative analysis on which model yields more accurate results and knowing that all models give only estimates we suggest a simpler approach and only calculate direct effects.

Trail Surveys

The first step to analyzing the trail surveys is to create an Excel spreadsheet with the responses to each of the questions. This will allow you to perform calculations and identify trends. Next you should calculate percentage for each non-monetary, closed-ended (multiple choice) question to determine the majority response(s). From this information you can also do cross comparisons to see if different age groups, genders, etc. answered differently. Open ended questions should be categorized based on the type of response provided, for example whether a positive or negative assessment of the

trail was given. Again these can be compared to characteristics of the survey participant. When analyzing the money spent in the study region, you should calculate an average within each category of goods purchased. Some studies suggest differentiating hard goods like kayaks, and spreading those costs over the estimated longevity of the good (e.g. 10 years for a kayak). The Studio Team suggests focusing on the time of initial purchase because that is when the money enters the study region. When averaging purchases, be sure to count only those surveys that have dollar amounts as some users will refrain from filling out this section. For a more accurate analysis, you can provide a check box for those who spent nothing within the local boundary. In this case they would be counted in the average. These values can then be added for an overall average.³⁸

To calculate the total annual spending, multiply the average expenditures and total annual user visits counts. We suggest using the proportion of total nonlocal trail users instead of the total annual user count in order to determine money coming into the study region. You can determine this proportion through the trail user survey and support it using the business survey.

Business Surveys

Analyzing business survey data is similar to the analysis used for the trail user surveys. Responses should be entered into an Excel spreadsheet from which percentages can be calculated to find the majority answer for each question. Cross comparisons can also be made, this time based on the business type. The most important calculation to be made is an average of the percent of annual income they attribute to the existence of the trail. Assuming that the answer choices you provided were ranges (e.g. 11 to 20%, 21 to 30%) use the middle of the range. The studio team recommends that you specifically ask for annual income attributed to nonlocal trail user spending. This question would better estimate money coming into the community.

Tax Data

Assuming that the available tax data is broken up by month, you can compare the peak tax months to the peak trail months (based on the number of surveys obtained per month or the averaged perspectives of business owners). This will give you an approximation of how much tax revenue is attributable to the trail. A second use of the tax data is to combine it with the percentage annual income attributed to the trail provided in the business surveys. For each business category (e.g. Hotel/motel/B&B, Retail) multiply the average income attributed to the trail by the tax revenue applicable to that business. This will also approximate the amount of tax revenue attributable to the trail.

Stakeholder Interviews

The stakeholder interviews will provide only qualitative, non-numerical data so analysis will be all about looking for commonalities among what is said. Do the majority of the individuals interviewed think that the trail has a significant economic impact? is an example of the type of trend you will look for.

Net Direct Economic Impact

Coming up with that one economic impact number translates to adding up the trail user expenditure data. In the case of a state park, those expenses that come from the state and are then dispersed into the community (e.g. salaries and goods brought into the region)

may be included in the total number. The rationale here is the money is coming from outside the region and would be spent elsewhere if not for the trail. Refrain from including tax data or dollar amounts coming from businesses as that would result in double counting. Those numbers should be used as additional indicators of economic impact.

This final summed-up number is considered the gross direct impact. It does not, however, take into account the money spent or “lost” by regional stakeholders to create or support the trail. Thus, in this case, subtracting the average annual cost to maintain the already existing trail is necessary for determining the true financial “profit” of the trail—the net direct impact.

Final Report

The final report should include a 1-2 page executive summary highlighting key findings, an introduction defining the study region, a detailed account of your methods used, and a section describing your results. Pay special attention to the executive summary. It will essentially make or break many readers’ opinions of your study. Many of these studies also have an appendix charting responses of each close-ended question on the trail-user survey.

Economic Impact Models

Economic impact models attempt to calculate total economic impact of a policy or project by determining net initial impact, or net direct effects, and then adding the indirect and induced effects (secondary effects) calculated using regional multipliers. Indirect effects are the changes in sales, income and jobs in “backward linked” industries. These are firms that supply goods and services to those businesses that sell directly to the visitor. Induced effects are the changes in economic activity in the region resulting from household spending of income earned through a direct or indirect effect of the visitor spending. In essence, these effects estimate the amount of visitor spending that is re-circulated within the study region. The multipliers used to determine these secondary effects are based off of several economic indicators including jobs, per capita income and sales within the region. They are calculated for all the various industries involved in the study project, in this case, hotels/motels, gas and oil, grocery stores, etc. The Bureau of Economic Analysis (bea.gov), for example, uses and calculates the multiplier values for the RIMS input-output model. Many models like RIMS attempt to account for “leakages”, or money spent outside the study area to buy other goods and services. The smaller the study region, the more leakage occurs and the smaller the likelihood of larger secondary effects.

Because the study region of the Upper James River Water Trail is so small in terms of jobs, goods and services, the secondary effects should realistically be very small in these cases. Regional businesses import many of their goods from elsewhere; they may outsource certain services. Employees and those whose livelihoods are in part dependent on the trails may spend a decent portion of their money outside the region. Consider a project in a metropolitan area, where many of the goods (save perhaps raw materials) may be bought in the area and people/businesses also spend their money gained from the project in that area. In comparison, the secondary effects in a small rural region are minimal.

The team therefore suggests focusing on the direct effects. Strengthening connectivity and partnerships between the trail and community businesses, offering events that capitalize on the patronage of all community entities may increase the one big impact number. Although the team also argues that other indicators of impact may equally if not more so reveal overall impact of the trail. These include community health, population growth or retention, percent business attributed to the trail, change in household retail prices and more.

If you wish to include secondary effects in your total analysis of economic impact, we recommend the IMPLAN model. Using this model would require training on your part or contracting out. The costs of these types of endeavors could likely outweigh the benefits.

We hope that you have found this how-to guide useful and that it may help in pursuing new studies on the economic impacts of trails. Important steps to remember are: Know your ultimate objective while designing your study: what typed of data do you want in the end?

- Define your study region: what is local?
- Choose your study period
- Choose your study method: trail counts, surveys, stakeholder interviews, tax data
- Choose your survey distribution method: drop box, personal intercepts, mail back, direct mail, email, web-based
- Write your surveys: keep in mind what you will do with the information gathered in response to each question
- Analyze your data: quantitative and qualitative data that may back each other up; calculating gross direct impact versus net direct impact

APPENDIX B

ASSET INVENTORY

Preliminary Inventory of Natural and Scenic Attractions		
Natural and Scenic Attractions	Botetourt County	Regional
Bird Watching	Woodpecker Ridge Nature Center	
Cliffs	Tinker Cliffs	
Gorges		New River Gorge
Caves		Natural Bridge Caverns Dixie Caverns
Rivers	James River	
Lakes		Smith Mountain Lake Lake Moomaw
Forests	Jefferson National Forest George Washington National Forest	
Geologic Formation		Natural Bridge
Hot Springs		Jefferson Pools
Mineral Springs		The Spa at the Omni Home- stead
Mountains	Blue Ridge Mountains Appalachian Mountains	Blue Ridge Mountains Appalachian Mountains
Nature Water Trails	Upper James River Water Trail	
Nature Hiking Trails	Roaring Run Falls Appalachian Trail North Creek	
Scenic Driving Trails	Blue Ridge Parkway	
Orchards, Farms, and Produce	Amethyst Acres Equine Center Ann's Apple Butter Apple Barn II Gifts & Collect- ibles Apple Barn Nichols Orchard Botetourt Farmers Market Bryant Orchards & Country Store Heritage Family Market Ikenberry Orchards and Coun- try Store Jeter Farm Murray Cider	
Vineyards and Breweries	Blue Ridge Vineyard Fincastle Vineyard and Winery Flying Mouse Brewery Virginia Mountain Vineyards	
National Parks	Jefferson National Forest George Washington National Forest	

State Parks		Natural Bridge (end of 2015)
Local Parks	Blue Ridge Park Blue Ridge Park Trail Botetourt Sports Complex at Greenfield Greenfield Recreational Park Boxley Park Blue Ridge Springs Trail Loop (at Boxley Park) Breckinridge Elementary Buchanan Recreation Park Central Academy Middle School Cloverdale Elementary Colonial Elementary	
Gardens	Glebe Hill Gardens	
Views	Blue Ridge Parkway	
Waterfalls	Roaring Run Apple Orchard Falls	Falling Springs
Wildlife, natural settings, sanctuaries, zoos		Natural Bridge Zoo Natural Bridge Safari Park Mill Mountain Zoo

Preliminary Inventory of Recreational Activities		
Recreational Activities	Botetourt County	Regional
Archery		Sherwood Archery, Inc
Ballooning	Blue Ridge Balloon Rides	
Biking	Springwood Loop	Blue Ridge Parkway
Camping	Roaring Run North Creek Middle Creek	
Fishing	Upper James River Stocked Streams	
Golf	Botetourt Country Club Ashley Plantation	
Hang Gliding	Skywackers	
Horseback Riding	Botetourt County Horseman's Association	
Bungee Jumping		New River Gorge
Racing		Natural Bridge Speedway
Sporting and Recreation	Ashley Plantation Blue Ridge Park Botetourt Golf and Swim Club Botetourt Sports Complex Boxley Park Buchanan Park Greenfield Disc Golf Course Greenfield Recreation Park Prestige Gymnastics Roaring Run Falls	
Swimming	Read Mountain Swim Club	

Preliminary Inventory of Cultural and Historical Attractions

Cultural & Historic Attractions	Botetourt County	Regional
Archaeological Sites	Bessemer Looney Mill Creek	Archaeology Field School at Natural Bridge Park
Historic Districts	Historic Fincastle	Southwest Historic District
Museums	Botetourt History Museum	Science Museum of Western Virginia The Artisan Center along the Crooked Road Blue Ridge Institute & Museum Center in the Square Eleanor D. Wilson Mueum at Hollins University Harrison Museum of African American Culture Historic Fincastle, Inc. History Museum of Western Virginia O. Winston Link Museum Salem Museum & Historical Society The Taubman Museum of Art Vinton Historical Society & Museum Virginia Museum of Transportation
Historic Mills	Breckinridge Mill Nininger's Mill (Tinker Mill)	In Lee County In Scott County
Historic Iron Furnace	Callie Furnace Roaring Run Furnace	
Historic Homes	Santillane Wiloma	Smithfield Plantation The Johnson Farm
Historic Warehouse	Wilson Warehouse	Roanoke Warehouse Historic District
Historic Landmarks	Locks, canal abutments and tunnels from the James River and Kanawha Canal	Natural Bridge National D-Day Memorial
Art Galleries and Work Shops	Apple Barn Gallery Art Images-Ed Bordett Botetourt Farmer's Market Caldwell Mountain Copper Finacastle Gallery Bed and Breakfast Fincastle Gallery Jacob Cress Furniture Make Gallery by James Miles of Styles Old Trinity School Quilt Shop The Appalachian Craftsman The Frame Shop and Gallery Willie Simmons Woodturning	
Theaters	Attic Productions Buchanana Theater	

APPENDIX C

BLUEWAY USER SURVEY AND DATA

Blueway-User Survey

1. What is your residence zip code? _____

2. How many people are in your group? _____

3. How far did you and/or your group travel to use the trail today? _____ miles

4. Is the water trail your primary reason for visiting the area? If the trail did not exist, would you still come to Botetourt?

5. Estimate how much you will spend on this visit in Botetourt County?

Dining	\$ _____
Retail (souvenirs and groceries)	\$ _____
Outdoor Recreation	\$ _____
Hotel	\$ _____
Gas	\$ _____
Parking	\$ _____
Entertainment/Arts	\$ _____
Other: _____	\$ _____
Total	\$ _____

6. How often, on average, do you use the blueway?
 ___ Daily ___ 1 to 2 times a week

___ 3 to 5 times a week ___ Once a week

___ Once a month ___ A couple of times a month

___ A few times a year ___ First time

7. What is your primary activity on the blueway?

___ Kayaking ___ Canoeing
 ___ Tubing ___ Fishing
 ___ Camping
 ___ Other activity (specify)

8. Generally, when do you use the trail?

___ Weekdays ___ Weekends
 ___ Both

9. During your trail visit, did you (check all that apply)

___ Fish ___ Canoe ___ Kayak

___ Tube

___ Camp

___ Other: _____

10. Did you rent any equipment? If so, what did you rent, from where did you rent it and what was the cost?

11. Has your use of the trail influenced your purchase of any of the following...

___ Kayak/paddles ___ Life vests ___ Auto accessories

___ Footwear ___ Clothing ___ Fishing supplies

___ Other: _____

12. Did your visit to the trail involve an overnight stay in one of the following types of accommodations?

___ Motel/Hotel ___ Bed and Breakfast

___ Friend or Relatives Home ___ Campground

___ Other (please specify)

13. How many nights did you stay in conjunction with your visit to this trail?

14. How did you find out about the blueway?

___ Word of mouth ___ Roadside signage

___ Driving past ___ Newspaper

___ Local business ___ Convention & Visitors Bureau

___ Roanoke Outside Website ___ VA Outdoors Website

___ Social Media ___ UJRW Website

___ Other _____

15. Which access point do you generally use when you visit the trail?

16.. Please identify your age group.

- 15 and under 36-45
 66 or older
 16-25 46-55
 26-35 56-65

17. What is your gender? Male Female

18. Would you be willing to pay for a special event (ex. festivals, races, and community events) located on the Blueway?

- Yes No

Additional comments:

Thank you for your time.

What is your zip code?	How many people are in your group?	How far did you and/or your group travel to use the trail today?	Is the water trail your primary reason for visiting the area?	If the trail did not exist, would you still come to / Botetourt?	Estimate how much you will spend on this visit in Botetourt County?-Dining	Estimate how much you will spend on this visit in Botetourt County?-Retail (souvenirs and groceries)	Estimate how much you will spend on this visit in Botetourt County?-Outdoor Recreation	Estimate how much you will spend on this visit in Botetourt County?-Hotel/Lodging
23222	7	120	Yes	No			120	170
24060	12	from blacksburg	Yes	Yes	50		50	
24060	16	1 hour drive	Yes	No	0	5	0	0
24060	2		Yes	No	40		100	
24066	6	60 miles	Yes	No	60	15	120	100
24014	3	20	No				4 hours	
24014	2	25	Yes	No	15	0	0	0
22902	2	90 min	No		0	18	0	0
24502	2	50 miles	Yes	Yes	20	10	70	0
23228	1	175	Yes	Yes			20	
24503	4	10 miles	Yes	No	0	0	0	0
22903	1	1.5 hours	No					
24127	2	40 miles	No		\$5	0	0	0
23452	2	120 miles	Yes	No	200		30	150
49224	8	600 miles	Yes	No	400	300	1000	400
22630	30	200-300 miles	No		50	50		100
24551	4	10 miles	Yes	Yes	20			
24504	2	50 mi.	Yes	No		20		
24018	4	21	Yes	No	0	20	150	0
27705	3	Iron Gate to Snowden	Yes	No	50	150	360	100
20815	9	215	Yes	No	70	20	1350	
24153	20	30-120 miles	Yes	No	50			200
23974	6	3 hours	Yes	No	\$30.00	\$25.00		\$65.00
24153	10-Aug	up to 130 miles	Yes	Yes	25	10		0
23974	10	90 miles	Yes	No	\$50	\$30		\$100
24019	10-Feb	30 - 50 miles	Yes	Yes	50			
23238	8	from Richmond	Yes	Yes	\$20	\$0	\$0	\$15
24151	2	1 hour	Yes	Yes				
24574	5	63 miles	Yes	No	0	0	0	0
24153	8	30-40 miles	Yes	Yes	100	100	250	0
24064	6	5 miles	Yes	Yes				
23322	4	200 miles	Yes	No	125	50	160	200
24015	1	30 miles	Yes	No	10		40	100
24179	2	10miles	Yes	Yes	25		30	
24018	3	40-45 miles	Yes	No	\$15.00	\$4.00	\$90.00	0
62876	1	5	Yes	No	50	0	0	350
24095	5	30 miles	Yes	Yes	\$20	\$30		
24090	2	27 miles	Yes	Yes	\$40		\$70	
24090	2	20 miles	Yes	Yes	30	20	60	0
24066	4	5 miles	No		0	0	0	0
24090	12	10 miles	Yes	Yes	\$45.00		\$120.00	
22980	2	3 hour kayak trip	Yes	No			\$60	
24066	2	4 miles	No					
23454	2	From Staunton	Yes	No	100	100	200	100
23112	2	2.5 hrs	Yes	Yes	30	20	75	0
22963	2	Palmyra 1.5 hours	Yes	No	50	50		32
23056	4	3hours	No		35	60	100	400
27103	16	1 hour	Yes	No				
24060	2	About an hour and a half	Yes	No	\$0	\$0	\$70	\$0
24134	15	Giles co	Yes	No	None	None	Maybe some	None
24073	15	35 miles	Yes	No			30	
24501	3	40	Yes	Yes	20		20	
24122	3	25 miles	Yes	Yes	\$25	\$10	0	0
24066	4	5 miles	Yes	Yes	30			
22312	2	4 miles	Yes	Yes	40	40	80	80

Estimate how much you will spend on this visit in Botetourt County?-Gas	Estimate how much you will spend on this visit in Botetourt County?-Parking	Estimate how much you will spend on this visit in Botetourt County?-Entertainment/Arts	Estimate how much you will spend on this visit in Botetourt County?-Other	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Motel/Hotel	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Bed and Breakfast	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Friend or Relative's Home	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Campground	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Other (specify)
100							Campground	
20								
70	0		0	Motel/ Hotel				
0	0	0	0					
50	0	0	0			Friend or Relative's Home		
0	0	0	0					
30		10						Other (specify)
0	0	0	0					
\$15								
\$30	0	0	0					
50				Motel/ Hotel				
150	0	0	0	Motel/ Hotel				
100							Campground	
20								
35								
30	0	0	0					
55	0	0		Motel/ Hotel				
							Campground	
							Campground	
\$50.00							Campground	
50	0	0						
\$24							Campground	
30							Campground	
\$30	\$0	\$0				Friend or Relative's Home		
0	0	0	0					
200	0	0	50				Campground	
80				Motel/ Hotel	Bed and Breakfast			
40		15			Bed and Breakfast			Other (specify)
\$18.00	0	0	0					
40	0	0	old books 75.00	Motel/ Hotel				
\$20								
\$8								
30	0	0	0					
10	0	0	0					
\$60.00			\$80.00				Campground	
\$30								
25				Motel/ Hotel				
40	0	0	0					
							Campground	
40				Motel/ Hotel				
			\$1.50 water					
\$0	\$0	\$0	\$0					
None	None	None						
		10						
\$15	0	0	0					Other (specify)
20	0	0		Motel/ Hotel				

Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Other (specify)-TEXT	Did your visit to the trail involve an overnight stay in one of the / following types of accommodat...-Not Applicable	If you stayed overnight, how many nights did you stay in / conjunction with your visit to this trail?	How often, on average, do you use the blueway?	What is your primary activity on the blueway?	What is your primary activity on the blueway?-TEXT	Generally, when do you use the trail?	During your trail visit, did you (check all that apply)-Fish	During your trail visit, did you (check all that apply)-Canoe
		2		Camping		Weekends		
	Not Applicable			Canoeing		Weekends		Canoe
	Not Applicable			Canoeing		Weekends		Canoe
	Not Applicable			Canoeing		Weekends		Canoe
		1	Once a year	Kayaking		Both	Fish	
	Not Applicable		2-3 times a year	Tubing		Weekends		
	Not Applicable		2-3 times a year	Canoeing		Both	Fish	Canoe
		2	2-3 times a year	Kayaking		Weekends		
	Not Applicable		4-6 times a year	Kayaking		Weekends	Fish	Canoe
on the river		2	2-3 times a year	Fishing		Weekends		Canoe
	Not Applicable		2-3 times a year	Canoeing		Weekends		Canoe
	Not Applicable		4-6 times a year	Canoeing		Both	Fish	Canoe
	Not Applicable		7 or more times a year	Fishing		Both	Fish	
		1	Once a year	Kayaking		Weekdays		
		1	First time	Canoeing		Both		Canoe
		4	2-3 times a year	Other activity (specify)	Kayak Fishing	Weekends	Fish	
	Not Applicable		7 or more times a year	Canoeing		Both	Fish	Canoe
	Not Applicable		Once a year	Canoeing		Weekends		Canoe
	Not Applicable		Once a year	Canoeing		Weekends	Fish	Canoe
		5	Once a year	Canoeing		Both	Fish	Canoe
		5	First time	Canoeing		Both	Fish	Canoe
		3	7 or more times a year	Kayaking		Weekends	Fish	
		3	7 or more times a year	Kayaking		Both	Fish	
	Not Applicable		4-6 times a year	Kayaking		Both	Fish	Canoe
		2	7 or more times a year	Kayaking		Both	Fish	
		1 to 2 nights	4-6 times a year	Kayaking		Both	Fish	
		2	Once a year	Fishing		Both	Fish	Canoe
	Not Applicable		7 or more times a year	Fishing		Both	Fish	
			Once a year	Canoeing		Weekends	Fish	Canoe
		3	7 or more times a year	Kayaking		Both	Fish	Canoe
	Not Applicable		7 or more times a year	Kayaking		Weekends	Fish	Canoe
		2	Once a year	Kayaking		Weekends	Fish	Canoe
James River house		one	4-6 times a year	Kayaking		Weekdays		
	Not Applicable		4-6 times a year	Fishing		Weekdays	Fish	
	Not Applicable		2-3 times a year	Kayaking		Weekends		
		3	Once a year	Kayaking		Weekends		
	Not Applicable		4-6 times a year	Kayaking		Weekends	Fish	
	Not Applicable		2-3 times a year	Kayaking		Weekdays		
	Not Applicable		2-3 times a year	Kayaking		Weekdays		
	Not Applicable		4-6 times a year	Kayaking		Weekends	Fish	
		2	2-3 times a year	Canoeing		Weekdays		Canoe
	Not Applicable		Once a year	Kayaking		Weekends		
	Not Applicable		4-6 times a year	Fishing		Both	Fish	Canoe
		1	First time	Kayaking		Both		
	Not Applicable		First time	Canoeing		Weekends		Canoe
		2	7 or more times a year	Kayaking		Weekends	Fish	
		2	First time	Canoeing		Weekends		
	Not Applicable			Canoeing		Weekends		Canoe
	Not Applicable			Canoeing		Weekends		Canoe
	Not Applicable			Canoeing		Weekdays		Canoe
	Not Applicable			Canoeing		Weekends		Canoe
	Not Applicable		7 or more times a year	Canoeing		Weekends	Fish	Canoe
				Kayaking		Weekends	Fish	
	Not Applicable		7 or more times a year	Kayaking		Weekdays		
		1	2-3 times a year	Kayaking		Weekdays		

During your trail visit, did you (check all that apply)-Kayak	During your trail visit, did you (check all that apply)-Tube	During your trail visit, did you (check all that apply)-Camp	During your trail visit, did you (check all that apply)-Other	During your trail visit, did you (check all that apply)-Other-TEXT	Did you rent any equipment?	What did you rent, / from where did you rent it, and what was the cost?	Has your use of the trail influenced your purchase of any of the / following? (check all that apply) -Kayak/ paddles	Has your use of the trail influenced your purchase of any of the / following? (check all that apply) -Life vests
Kayak		Camp			No		Kayak/ paddles	
					Yes		Kayak/ paddles	
					Yes	0		
					No			
Kayak					Yes			
Kayak					Yes			
Kayak		Camp			Yes	kayak, Twin River, don't remember		Life vests
Kayak					No		Kayak/ paddles	Life vests
Kayak					Yes	Twin River Outfitters \$70	Kayak/ paddles	
					No			
Kayak					No		Kayak/ paddles	
Kayak					No			
Kayak					No		Kayak/ paddles	Life vests
Kayak					Yes	kayaks, wild river outfitters.		
		Camp			Yes		Kayak/ paddles	
Kayak		Camp			No		Kayak/ paddles	
					No			
					No		Kayak/ paddles	
		Camp			No			
		Camp			Yes	Canoes, paddles, life jackets, dry bags		
		Camp			Yes	Canoes and related equipment, Twin River		
Kayak		Camp			No		Kayak/ paddles	Life vests
Kayak		Camp			No		Kayak/ paddles	Life vests
Kayak		Camp			No		Kayak/ paddles	Life vests
Kayak		Camp			No		Kayak/ paddles	Life vests
Kayak		Camp	Other	swim !	No		Kayak/ paddles	Life vests
					No			
			Other	raft	No		Kayak/ paddles	Life vests
		Camp			No			
Kayak		Camp			Yes	twin river outfitters \$35	Kayak/ paddles	Life vests
Kayak		Camp			No		Kayak/ paddles	Life vests
Kayak	Tube				Yes	Twin river outfitters	Kayak/ paddles	Life vests
	Tube				Yes	Twin Rivers, about \$20.	Kayak/ paddles	Life vests
Kayak					No		Kayak/ paddles	
Kayak					Yes	Kayaks from James river outfitters		
Kayak					Yes		Kayak/ paddles	Life vests
Kayak					Yes	twin rivers I rented 2 kayaks for \$55	Kayak/ paddles	Life vests
Kayak					Yes	Twin Rivers with Groupon		
Kayak					Yes	Twin River Outfitters, kayaks, \$60		
Kayak					No		Kayak/ paddles	
Kayak					Yes	Canoes & Kayaks (olus PFDs, paddles.	Kayak/ paddles	Life vests
Kayak					Yes		Kayak/ paddles	
					No		Kayak/ paddles	Life vests
Kayak					Yes	Kayaks from twin River Outfitters in	Kayak/ paddles	
					Yes	TRO 75		
Kayak					No		Kayak/ paddles	
Kayak					Yes	Kayak twin tivers 100		
					No			
					Yes	Canoe, life jacket, waterproof bag \$70		
					No			
					No			Life vests
Kayak					No			Life vests
Kayak					No		Kayak/ paddles	Life vests
Kayak					Yes			

Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Auto accessories	Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Footwear	Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Clothing	Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Fishing supplies	Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Other (specify)	Has your use of the trail influenced your purchase of any of the following? (check all that apply) -Other (specify)-TEXT	How did you find out about the blueway?	How did you find out about the blueway? -TEXT	Which access point do you generally use when you visit the trail?
						Upper James River Water Trail website		craigs creek
						VA Outdoors website		twin rivers
						Other (specify)	blacksburg rec	
						VA Outdoors website		
						Upper James River Water Trail website		Buchanan
						Roanoke Outside website		Buchanan
	Footwear		Fishing supplies	Other (specify)	canoe	Local business		Buchanan
Auto accessories	Footwear					Other (specify)	From the area	
Auto accessories			Fishing supplies			Word of mouth		Horseshoe Bend, Springwood,
			Fishing supplies			Other (specify)	Brochure	Botetourt
						Upper James River Water Trail website		varies
			Fishing supplies			Other (specify)	James River Association	multiple...but mostly Buchanan
	Footwear	Clothing	Fishing supplies			Word of mouth		Springwood,gala,craigs creek,narrow
	Footwear	Clothing				Other (specify)	internet search	
						VA Outdoors website		Confluence
	Footwear		Fishing supplies			Social Media		Glasgow/Natural Bridge
		Clothing	Fishing supplies			Word of mouth		Craig creek
						Roanoke Outside website		Buchanan
		Clothing	Fishing supplies			Word of mouth		Twin River Outfitter Buchanan
		Clothing	Fishing supplies			Other (specify)	Can't remember	Iron Gate
						Other (specify)	BSA Lenhok'sin	Iron Gate Put In
Auto accessories	Footwear	Clothing	Fishing supplies			Word of mouth		Buchanan Boat Ram0
Auto accessories	Footwear	Clothing	Fishing supplies			Word of mouth		Buchanan, Arcadia, Springwood, Narrow
Auto accessories	Footwear	Clothing	Fishing supplies			Other (specify)	Live in area	Buchanan
Auto accessories	Footwear	Clothing	Fishing supplies			Word of mouth		Buchanan
Auto accessories	Footwear	Clothing		Other (specify)	coolers, dog gear	Other (specify)	we love water, live in roanoke	various - buchanan , arcadia, horseshoe -
						Word of mouth		Eagle Rock
Auto accessories	Footwear	Clothing	Fishing supplies			Word of mouth		Buchanan, Gala
						Upper James River Water Trail website		eagle rock
	Footwear	Clothing	Fishing supplies			Upper James River Water Trail website		arcadia
	Footwear		Fishing supplies			Word of mouth		
			Fishing supplies			Upper James River Water Trail website		Arcadia
	Footwear	Clothing				Other (specify)	Groupon	Twin Rivers
Auto accessories	Footwear		Fishing supplies			VA Outdoors website		eagle rock
	Footwear	Clothing				Upper James River Water Trail website		Buchanan
	Footwear	Clothing				Upper James River Water Trail website		Buchanan
Auto accessories			Fishing supplies			Word of mouth		Narrow passage or springwood
				Other (specify)	Dry bags	Other (specify)	Planning Committee	Springwood
	Footwear					Word of mouth		Springwood, Buchanan
						Word of mouth		Public boat access in Town of Buchanan
	Footwear	Clothing				Other (specify)	Botetourt County Tourism	Spingwood
						Upper James River Water Trail website		public access - shuttle from Twin River
	Footwear		Fishing supplies			Other (specify)	Live near by	Eagle Rock
		Clothing				Upper James River Water Trail website		Scsess provide by Twin Rivers Outfitters
		Clothing				Other (specify)	trip advisor	buchanan
			Fishing supplies			Other (specify)	Virginia paddlers	Buchanan
						Other (specify)	Natural bridge package	Put out in Buchanan
						Other (specify)	Trip	
						VA Outdoors website		
				Other (specify)	None	Other (specify)	Blacksburg	
		Clothing				Word of mouth		Twin river
			Fishing supplies			Word of mouth		81
	Footwear		Fishing supplies			Word of mouth		Buchanan
Auto accessories	Footwear	Clothing	Fishing supplies	Other (specify)	Yeti Cooler	Word of mouth		Buchanan and Arcadia

Please identify your age group:	What is your gender?	Would you be willing to pay for a special event (ex. festivals, / races, and community events) loca...
36-45	Male	Yes
26-35	Female	Yes
36-45	Female	Yes
36-45	Male	Yes
36-45	Male	Yes
56-65	Male	Yes
46-55	Male	Yes
26-35	Male	No
46-55	Male	Yes
46-55	Male	Yes
36-45	Male	No
36-45	Male	Yes
36-45	Male	No
65 or older	Female	Yes
46-55	Male	Yes
56-65	Male	Yes
26-35	Male	Yes
26-35	Male	Yes
46-55	Male	Yes
56-65	Male	No
		No
46-55	Female	Yes
36-45	Female	Yes
46-55	Male	Yes
46-55	Male	Yes
46-55	Female	Yes
46-55	Male	No
36-45	Male	No
36-45	Male	Yes
36-45	Male	Yes
36-45	Male	Yes
36-45	Male	Yes
56-65	Female	Yes
65 or older	Male	No
56-65	Female	Yes
56-65	Female	Yes
26-35	Male	Yes
56-65	Female	Yes
56-65	Male	Yes
26-35	Female	Yes
36-45	Male	Yes
46-55	Female	Yes
56-65	Male	Yes
56-65	Male	Yes
26-35	Male	Yes
56-65	Female	Yes
26-35	Female	Yes
16-25	Female	Yes
16-25	Male	No
16-25	Female	Yes
36-45		Yes
26-35	Male	Yes
26-35	Female	No
36-45	Female	Yes

APPENDIX D

BUSINESS SURVEY AND DATA

Business Survey

1. What is your primary business classification?

- | | |
|---|---|
| <input type="checkbox"/> Hotel/motel/B&B | <input type="checkbox"/> Campground |
| <input type="checkbox"/> Restaurant/tavern/café/ice cream | <input type="checkbox"/> Retail/specialty |
| <input type="checkbox"/> Convenience/grocery store | <input type="checkbox"/> Bike rentals/sales/supplies |
| <input type="checkbox"/> Outdoor recreation/outfitter | <input type="checkbox"/> Cultural Heritage Attraction |
| <input type="checkbox"/> Arts and Crafts | <input type="checkbox"/> Other _____ |

2. Do you think your business is affected by blueway use? Yes No

3. Do you provide parking for blueway users? Yes No

4. How long have you been in business in this location?

- | | | |
|---|--------------------------------------|---|
| <input type="checkbox"/> Less than a year | <input type="checkbox"/> 6-10 years | <input type="checkbox"/> More than 40 years |
| <input type="checkbox"/> 1-2 years | <input type="checkbox"/> 11-20 years | |
| <input type="checkbox"/> 3-5 years | <input type="checkbox"/> 21-40 years | |

5. Are you open seasonally or year-around? _____

6. During what months of the year do you experience your peak seasons?

- | | | | |
|-----------------------------------|--------------------------------|------------------------------------|-----------------------------------|
| <input type="checkbox"/> January | <input type="checkbox"/> April | <input type="checkbox"/> July | <input type="checkbox"/> October |
| <input type="checkbox"/> February | <input type="checkbox"/> May | <input type="checkbox"/> August | <input type="checkbox"/> November |
| <input type="checkbox"/> March | <input type="checkbox"/> June | <input type="checkbox"/> September | <input type="checkbox"/> December |

7. Do you think these seasonal fluctuations in business are due to seasonal fluctuations in blueway use?

- Yes No

8. What are your hours of operation? _____

9. How many people, including yourself, do you employ full-time? _____

10. How many people, including yourself, do you employ part-time? _____

11. Do you increase employment during the peak season? Yes No

12. How many hours a week do your employees typically work on average?

Full-time: _____ hours

Part-time: _____ hours

13. What impact did the blueway location have on your choice of store location?

- Very Strong influence
 Strong influence
 Some influence
 Limited Influence
 No influence

14. Has the blueway impacted your decision to do the following with respect to operations?

- | | |
|---|---|
| <input type="checkbox"/> Expand operations in the past year | <input type="checkbox"/> Downsize operations in the past year |
| <input type="checkbox"/> None | |

15. If expanding, how did/will you expand your operations?

- At your current business location
- Open a new shop (not specified)
- At a location that is not part of the blueway system
- At another location of the blueway system
- Other

16. Has the blueway impacted your decision to do the following with respect to your workforce?

- Create new positions in the past year
- Plan to create positions
- None
- Eliminate positions in the past year
- Plan to eliminate position

17. Approximately, what are the annual gross-revenue figures for your business during the past three years?

- Less than \$50K
- \$50K to \$149K
- \$150K to \$249K
- More than \$250K

18. What percent of your 2014 annual business would you estimate could be largely attributed to the existence of the area's biking/hiking trail?

- None
- Less than 5%
- 5% to 10%
- 11% to 20%
- 21% to 30%
- 31% to 40%
- 41% to 50%
- 51% to 60%
- 61% to 70%
- 71% to 80%
- 81% to 90%
- 91% to 100%

19. Please explain any other actions that you have taken to attract and/or cater to blueway users?

- Shuttle Service
- Water Activity Training
- Safety Courses
- Ads in publications
- Signs on the trail
- Ads on the Internet/Social Media
- Equipment Storage
- Other: _____

20. In your estimation, what percentage of your customers are from...

- Local Area
- Nonlocal, In-state
- Out of state
- 100% Total

Additional Comments:

What is your primary business classification?	What is your primary business classification?- TEXT	Do you think your business is affected by blueway (the James River) / use?	Do you provide parking for blue way users?	How long have you been in business at this location?	Is your business open year round?	What months of the year do you experience your peak seasons?	Do you think these seasonal fluctuations in business are due to / seasonal fluctuations in blueway...	What are your days and hours of operation?
Outdoor Recreation/Outfitter		Yes	No	11-20 years	No	June, July, August	No	April-October / 9am-3pm / 7 days a week
Restaurant/Tavern/Cafe		Yes	Yes	6-10 years	Yes	May, June, July, August	Yes	Tuesday - Sunday ..Teusday-Thursday 11 a.m. - 9 p.m. Friday - Saturday 11 a.m. - 2 a.m. Sunday 1 p.m. - 8. p.m.
Retail/Specialty		Yes	No	3-5 years	Yes	April, May, June, July, August, September, October, November December	Yes	Mon-friday. 9-6 / Saturday. 8-3 / Sunday. Closed
Outdoor Recreation/Outfitter		Yes	Yes	6-10 years	No	May, June, July, August, September	Yes	9 am to 5pm, 7 days a week April 1 thru October 31. Closed over winter.
Hotel/Motel/Bed & Breakfast		Yes	No	Less than a year	Yes	June, July, October	No	
Hotel/Motel/Bed & Breakfast		No	No	6-10 years	Yes	May, June, July, August, October	No	open 24 hours
Retail/Specialty		Yes	No	1-2 years	Yes	May, June, July, August, September	Yes	M-F 9-5:30 Sat 9-12 Sunday Closed
Restaurant/Tavern/Cafe		Yes	Yes	Less than a year	Yes	May, June, July, August, September	Yes	M-Thursday 11-6, Friday 11-8, Saturday 8-8, Sunday 11-3

How many people, including yourself, do you employ full-time?	How many people, including yourself, do you employ part-time?	Do you increase employment during the peak season?	How many hours a week do your employees typically work on average?-Full-time	How many hours a week do your employees typically work on average?-Part-time	What impact did the blueway location have on your choice of store / location?	Has the blueway impacted your decision to do the following with / respect to operations?	If expanding, how did/will you expand your operations?	Has the blueway impacted your decision to do the following with / respect to your workforce?
2	2	Yes	40	10	No influence	Expand operations in the past year	Expanded at current business location	None
4	0	No	60	20	No influence	None		
One	One	No	40	17	No influence	None		
2 full time	12	Yes	61	38	Very strong influence	Expand operations in the past year	Expanded at current business location	Create new positions in the past year
30	100	Yes	46	20	No influence	Expand operations in the past year	Expanded at current business location	Create new positions in the past year
30		No	39	20	No influence	None		None
3	4	No	40	20	No influence	None		None
4	3	Yes	40	20	Strong influence	None		Plan to create new positions

Approximately, what are the annual gross revenue figures for your / business during the past three...	What percent of your 2014 annual business would you estimate could / be largely attributed to the e...	Please explain any other actions that you have taken to attract / and/or cater to blueway users?	Please explain any other actions that you have taken to attract / and/or cater to blueway users?- TEXT	In your estimation, what percentage of your customs are from:-Local area (within 45 mile radius)	In your estimation, what percentage of your customs are from:-None local, but in state	In your estimation, what percentage of your customs are from:-Out of state
Less than \$50k	5% to 10%	Other	Donation of time and money to the Alpine Public Boat Landing.	40	35	25
More than \$250k	21% to 30%	Other	Added River front camping	20	60	20
More than \$250k	21% to 30%	Water activity training		50	20	30
More than \$250k	None			10	30	60
More than \$250k	5% to 10%	Advertisements in publications		95	3	2
\$50k to \$149k	21% to 30%	Advertisements in publications		65	25	10

APPENDIX E

ANNOTATED BIBLIOGRAPHY

<p>Economic Development Studio: Trails</p> <p>Cox, S., Hedrick, J., Jeffries, C., Kumar, S., Lyon-Hill, S., Powell, W., Shackelford, K., Westfall, S., Zilke, M. (2011). Building Connectivity Through Recreation Trails.</p>	<p>“Building Community Through Recreation Trails” was the report for the Fall 2011 studio class. They studied the economic impact of the New River Trail State Park in the City of Galax and the Virginia Creeper Trail in the town of Damascus.</p> <p>The asset based development techniques, the emphasis on strengthening connections between jurisdictions and the “how to” guide are all important take-aways for our study.</p>
<p>Knox and Mayer</p> <p>Knox, Paul L., & Mayer, Heike. (2009). Small town sustainability: economic, social, and environmental innovation. Basel; Boston: Birkhäuser.</p>	<p>Globalization threatens the distinctiveness of smaller urban places and threats vitality and culture. Intensifying experience of spectacular and distinctive places, physical settings and landscaping is an important element of consumer culture.</p>
<p>American Trails</p> <p>NRT Paddling and Water Trails http://www.americantrails.org/nationalrecreation-trails/waternrts.html</p>	<p>National Recreation Trails awards exemplary trails of a variety of recreations including water trails, that exemplify the programs ideas on preserving and celebrating the nations trails and bring communities closer together and explore the wildlife and nature of the area.</p> <p>NRT Certification can be obtained by demonstrating: Recreation Opportunities Education, Conservation, Community Support, Public Information, Trail Maintenance, and Planning.</p>
<p>American Trails Water and Boating http://www.americantrails.org/resources/water/index.html</p>	<p>This site includes a water trails index with case studies of other trails, tips on how to develop a trail, suggestions for marketing strategies, and developing partnerships.</p>
<p>ABD Institute Review- Asset-Based Community Development Institute</p> <p>“Asset-Based Community Development Institute ::Asset-Based Community Development Institute :: Northwestern University.” Asset-Based Community Development Institute ::Asset-Based Community Development Institute :: Northwestern University. N.p., n.d. Web. 27 Oct. 2014. <http://www.abcdinstitute.org/>.</p>	<p>Provides resources on approaches to asset based development, mostly centered on community engagement. The site lists research examples, publications, and other tools in taking an asset-based vs. needs-based approach.</p> <p>This may be useful when trying to assess the assets of the UJRWT. The exercises and tool kits may be helpful in this process.</p>

<p>The Appalachian Regional Commission</p> <p>The Appalachian Regional Commission (September 2010), Program Evaluation of ARC's Tourism, Cultural Heritage and Natural Asset-Related Projects, http://www.arc.gov/assets/research_reports/TourismHeritageNaturalAssetProgramEvaluation.pdf</p>	<p>“The Regional Technologies Strategies (RTS) project team, including Mt. Auburn Associates and Appalachian State University, was charged with examining and critiquing the Appalachian Regional Commission’s (ARC) investment in Tourism, Cultural Heritage and Natural Asset-Related projects with a specific focus on how those projects were evaluated.”</p> <p>An evaluation of the ARCs funded projects and the metrics used to establish these projects and how the metrics used might be improved.</p>
<p>Chmurra</p> <p>The Tobacco Indemnification and Community Revitalization Commission Allocation. (2004). Evaluating the Economic Impact of the Proposed High Bridge Rail-Trail State Park.</p>	<p>Chmurra Economics & Analytics were hired to estimate the economic impact of a proposed rails-to-trails project in central Virginia. The study emphasized the ripple effect that will increase spending as visitors to the trail spend money in other industries.</p> <p>One key takeaway from this study was the importance of connecting the trail to other historical monuments and attractions, in their case civil war history was a tourist draw. The economic impact piece of this study includes local spending.</p>
<p>Weisbrod</p> <p>Citation: Weisbrod, G., & Weisbrod, B. (1997). Measuring Economic Impacts of Projects and Programs.</p> <p>Author Critique: Written by two brothers, Glen and Burton, in 1997. Have extensive backgrounds in economic development research and university economics, won various awards and honors.</p>	<p>Article explains how economic impacts are often misrepresented, what and how to select the proper measurement techniques, and outlines common mistakes</p> <p>In reference to our project, we need to recall how to properly measure economic impacts, avoid overlap. We also have used this paper to select an appropriate measure based on our purpose, which was Public Information. Although we are not using an multiplier, we need to review the “Seven Deadly Sins” to avoid making the common errors</p>
<p>NCRT</p> <p>Consulting, P. (1994). Analysis of Economic Impacts of the Northern Central Rail Trail: Maryland Greenways</p>	<p>This report outlines the economic impact analysis of the Northern Central Rail Trail in Baltimore County, Maryland. It was completed by a consulting firm for the Maryland Greenways Commission.</p> <p>The trail user business surveys all served as helpful resources in the completion of our own water trail surveys. In the NCRT study, there was a noted decrease in crime and vandalism decreased. Considering the graffiti at particular access points along the UJRWT, It may be interesting to track these behaviors.</p>

<p>Busbee</p> <p>Busbee, R. Ph.D. (May 2001) Maximum Economic Benefits From A Rails-To-Trails Project In Southern West- Virginia -- A Case -- A CASE STUDY OF THE GREENBRIER RIVER TRAIL</p>	<p>This report presents the results of a 10-month project designed to inventory the recreation opportunities in the Greenbrier River Trail corridor. An extensive infrastructure inventory, trail user survey, and public meetings were used to establish the economic impact of the Greenbrier River Trail</p>
<p>PWC</p> <p>Price Waterhouse Coopers (2004). Economic Impact Analysis Trans Canada Trail in Ontario</p>	<p>This report analyzes the economic impact of the Province of Ontario's 4,061 kilometre stretch of the Trans Canada Trail, that is existing and proposed. The results indicated that areas with completed trails derive significant economic pacts. These impacts include creation of jobs, non-local expenditures, recurrent tax revenues and that construction cost to complete proposed trail areas could be recovered from four years worth of tax revenues.</p>
<p>Stitch and Miller</p> <p>Stich, B and Miller, C (July, 24 2011) Economic Development Perspectives and the Policy Process: The Case of Railroad Revitalization Versus Rails-to-Trails http://aas.sagepub.com/content/early/2011/07/22/0095399711413872</p>	<p>"State and local governance operates in the context of multiple competing economic development perspectives...RTC argued that trails such as these can improve the overall quality of life for people in the community by providing a safe place for children to ride their bikes and for older people to recreate and enjoy life, creating safe places for equestrians to ride, encouraging older businesses to remain in the area and new businesses to relocate there, improving property values of landowners near the trail, and providing a convenient location for all area citizens to exercise, socialize, and enjoy the outdoors."</p>
<p>VEDP: Botetourt, Roanoke Valley https://scholar.vt.edu/access/content/group/6d0e8a01-ddb7-4cee-81d3-cc4e0dc32739/Old%20studio%20projects%20and%20presentations/bot.pdf</p>	<p>Botetourt County consists of approximately 35,000 residents with the median age of 45 and median family income of slightly over \$75,000. Most individuals that live in Botetourt also work within 34 minutes of their homes. Therefore it is likely that residents live, work and play close to home. Botetourt is located in a very accessible part of the state in due to the connectivity of I-64, I-81 and I-581.</p>
<p>Economic Development Studio: Floyd</p>	<p>This study was commissioned by SustainFloyd to propose sustainable business opportunities for the Floyd area.</p> <p>As an asset-based project, this report will be helpful in suggesting business opportunities and development strategies that are compatible with the rural character of Botetourt County.</p>

<p>RV,AH, Franklin, Upper James</p> <p>Roanoke River Blueway. (n.d.). Retrieved October 1, 2014, from www.rvarc.org/blueway</p> <p>Alleghany Highlands Blueways. (n.d.). Retrieved October 1, 2014, from www.alleghanyhighlands-blueway.com</p> <p>Franklin County Blueways. (n.d.). Retrieved October 1, 2014, from http://www.franklincountyva.gov/blueways</p> <p>Upper James River Water Trail. (n.d.). Retrieved October 1, 2014, from www.upperjamesriverwatertrail.com</p>	<p>Websites of all four blueways in Roanoke region that provide descriptions, maps, water level data, outfitter and business information, and other relevant information.</p> <p>This website, and its counterparts, are a cornerstone for marketing and information. The Upper James website provides users with almost all necessary information and appears to have been recently updated.</p>
<p>Bowker et al (Virginia Creeper)</p> <p>Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). Virginia Creeper Trail: An Assessment of User Demographics, Preferences and Economics: Virginia Department of Conservation and Recreation.</p>	<p>This report is the first part of a three part series looking at recreational trails in Virginia. This section analyze the Virginia Creeper Trail, a 34 mile long rail trail with trailheads in Abingdon, and Whitetop Station Virginia. The results indicated that the construction of trail will create new jobs and tax revenues. The study also highlighted the importance of marketing, promotion and attraction efforts to achieving significant economic impacts.</p>
<p>Bowker et al 2 (Old Dom)</p> <p>Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). The Washington & Old Dominion Trail: An Assessment of User Demographics, Preferences and Economics: Virginia Department of Conservation and Recreation.</p>	<p>This report is the second in the series and assesses the user demographics, preferences and economics of the Washington and Old Dominion Trail, a 45 mile recreation corridor in northern Virginia.</p> <p>This study incorporated local use in visitor spending with the justification that local users and non-local visitors will cause a “ripple effect” that increases revenue in other industries, especially food service.</p>
<p>Bowker et al 3 (New River)</p> <p>Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). The Waterway at New River State Park: An Assessment of User Demographics, Preferences, and Economics: Virginia Department of Conservation and Recreation.</p>	<p>This report is the third in the series and assesses the user demographics, preferences and economics of the New River State Park. The proximity of the New River to the Upper James River Water Trail draws many comparisons between the two economic impact studies.</p> <p>The major take-aways for this study are the organization of findings and the analysis of local use versus non-local use and spending. The on-site-local questionnaire was also a key resource for the development of our water trail user survey.</p>

Johnson (Water trail impacts)

Citation: Johnson, L. (2002). Case Studies of Water Trail Impacts on Rural Communities.

Author Critique: Paper is one of the few (or at least earliest) specifically written on water trails by a graduate student for a terminal paper in 2002.

Reviews three case studies on communities that have constructed blueways and makes recommendations based on those cases.

Some key notes on this include, an upward trend on water sports usage, a demographic of the usual paddler (high income, high education), ECONOMIC IMPACT of trails reported, and concerns to address.

REFERENCES

- Alleghany Highlands Blueways. (n.d.). Retrieved October 1, 2014, from www.alleghanyhighlandsblueway.com
- Appalachian Regional Commission (September 2010), Program Evaluation of ARC's Tourism, Cultural Heritage and Natural Asset-Related Projects. Retrieved from http://www.arc.gov/assets/research_reports/TourismHeritageNaturalAssetProgramEvaluation.pdf
- Asset-Based Community Development Institute. Northwestern University. (n.d.). Retrieved November 18, 2014, from <http://www.abcdinstitute.org/>
- Botetourt Comprehensive Plan (March 2011) Retrieved from: http://www.botetourt.org/government/planning_cp.php
- Botetourt Fire and EMS Study
[file:///C:/Users/student/Downloads/2014-04-02-BotetourtCountyFireandEMSSStudy-Final-March2014%20\(1\).pdf](file:///C:/Users/student/Downloads/2014-04-02-BotetourtCountyFireandEMSSStudy-Final-March2014%20(1).pdf)
- Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). The Washington & Old Dominion Trail: An Assessment of User Demographics, Preferences and Economics: Virginia Department of Conservation and Recreation.
- Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). The Waterway at New River State Park: An Assessment of User Demographics, Preferences, and Economics: Virginia Department of Conservation and Recreation.
- Bowker, J. M., Bergstrom, J. C., & Gill, J. (2004). Virginia Creeper Trail: An Assessment of User Demographics, Preferences and Economics: Virginia Department of Conservation and Recreation.
- Busbee, R. (May 2001). Maximum Economic Benefits from a Rails-to-Trails Project in Southern West-Virginia -- A Case Study of the Greenbrier River Trail. Retrieved from <http://www.americantrails.org/resources/economics/GreenbrierWV.html>
- Cary, North Carolina (2014). Town Wayfinding Project, http://www.townofcary.org/Departments/Planning_Department/Projects___Plans/Wayfinding.htm
- Community Profile: Botetourt County, Virginia. (n.d.). *Virginia Economic Development Partnership*.
- Department of Conservation and Recreation. (n.d.). Retrieved October 15, 2014, from http://www.dcr.virginia.gov/recreational_planning/srmain.shtml
- Franklin County Blueways. (n.d.). Retrieved October 1, 2014, from <http://www.franklincountyva.gov/blueways>
- Harshbarger, B. (2012). Small Town Tourism: Building the Dream. Rural Research Report, 22(6), 1-7. Retrieved October 13, 2014, from http://www.iira.org/pubs/publications/IIRA_RRR_739.pdf
- Johnson, L. (2002). Case Studies of Water Trail Impacts on Rural Communities.
- Knox, P., & Mayer, H. (2009). Small town sustainability: Economic, social, and environmental innovation. Walter de Gruyter. PKF Consulting. (1994). Analysis of Economic Impacts of the Northern Central Rail Trail: Maryland Greenways
- River Groups. (n.d.). Retrieved October 10, 2014, from <http://www.roanokeoutside.com/clubs/rivers>

- Roanoke River Blueway. (n.d.). Retrieved October 1, 2014, from www.rvarc.org/blueway
- Stich, B and Miller, C (July, 24 2011) Economic Development Perspectives and the Policy Process: The Case of Railroad Revitalization Versus Rails-to-Trails
<http://aas.sagepub.com/content/early/2011/07/22/0095399711413872>
- Shaw, M. and Hunt, B. (August 2011) Lake Tahoe Paddle Access and Non- Motorized Wayfinding Symbology, <http://tahoe.ca.gov/wp-content/uploads/2013/06/Paddle-Wayfinding-Report.pdf>
- The Surgeon General's Vision for a Healthy and Fit Nation 2010. (n.d.). U.S. Department of Health and Human Services.
- The Tobacco Indemnification and Community Revitalization Commission Allocation. (2004). Evaluating the Economic Impact of the Proposed High Bridge Rail-Trail State Park.
- Tomes, Patricia, et. al. (2005). How to conduct a survey and win support for your trail, Sample Surveys and Methods. Rails-to-Trails Conservancy Northeast Regional Office and Trail Facts, Interactive Marketing. Retrieved from: http://www.railstotrails.org/resources/documents/resource_docs/UserSurveyMethodology.pdf
- Town Wayfinding Project. (n.d.). Retrieved November 18, 2014, from http://www.townofcary.org/Departments/Planning_Department/Projects___Plans/Wayfinding.htm
- U.S. Department of Health and Human Services. The Surgeon General's Vision for a Healthy and Fit Nation. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, January 2010
- Upper James River Water Trail. (n.d.). Retrieved October 1, 2014, from www.upperjamesriverwatertrail.com
- Virginia: The Outdoor Recreation Economy. (n.d.). Recreation Economy. Retrieved December 2, 2014, from http://outdoorindustry.org/images/ore_reports/VA-virginia-outdoorrecreationeconomy-oia.pdf
- Virginia Tech Economic Development Studio Fall 2011 (2011). Building Connectivity Through Recreation Trails. Retrieved from <http://www.econdev.vt.edu/index.php/what-we-do/studio>
- Weisbrod, G., & Weisbrod, B. (1997). Assessing the economic impact of transportation projects: How to choose the appropriate technique for your project. Transportation Research Circular, (477).