

Economic Impact Analysis



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Overview

In contemplating the feasibility of the Ecusta Rail Trail, it is useful to identify and estimate the many economic impacts that may result from the project. It will provide a variety of economic benefits to a variety of audiences, which can be estimated based on conservative assumptions.

1. The economic impact of upfront construction of the trail, which translates into a one-time stimulus of economic activity and job creation during the construction period - **\$20 million in total expenditures supporting 180 jobs**
2. The property value impact associated with people's willingness to pay a premium to be located near such an outdoor amenity, which translates into wealth gains for property owners and property tax revenue generation for municipalities and school districts – **\$22 million in property value increases, and up to \$160,000 per year in property tax revenues generated**
3. The economic impact of additional tourism activity that is attracted to the region by the existence of the trail, which draws in purchasing power from outside the region to support economic activity and employment within the region – **20,000 new visitors injecting \$1.2 million into the local economy, resulting in \$2 million in total expenditures supporting**

27 jobs each year

4. The direct use value impact enjoyed by users of the trail - **1.2 million new uses and \$2.2 million in aggregate value to users each year**
5. The health care cost reduction impact of increased active exercising resulting from the newfound accessibility of a recreational amenity - **1,600 new exercisers, and \$5 million per year in health care cost reductions**
6. The environmental impact of additional pervious surface and tree cover and the various ecological services that are rendered by them - **minimal value generated per year**

These impact estimates are based on conservative assumptions; a retrospective look, upon completion and implementation of this recreational amenity, may very well yield much higher impact results, and the estimates do not include the trail's role in attracting and retaining employees and employers, which may prove to be significant¹. Whether these "returns" – to the local economy, property owners, users, and local government – warrant the initial investment to construct the trail is for policymakers to decide. It is hoped that this report has provided some of the framework, categories, and estimates to inform that decision.

Table 5.1 – Estimated Total, One-Time, Upfront Economic Impact Resulting from Construction of the Ecusta Rail Trail

IMPACT TYPE	EXPENDITURES	EMPLOYMENT
Direct	\$13.4 Million	131
Indirect	\$6.6 Million	52
Total	\$20.0 Million	183

Source: US Department of Commerce (2011), Econsult Corporation (2011)

Economic Impact from Upfront Construction

There is a growing realization of and appreciation for the significant economic stimulus that results from large-scale physical improvement projects. They create immediate construction employment opportunities, resulting in large initial expenditures that ripple through entire local and regional economies. They create jobs within a region and generate tax revenues for the local jurisdictions within that region. This is particularly helpful at a time of slack construction demand, high unemployment, and distressed fiscal conditions.

Project costs for the initial construction of the Ecusta Rail Trail are estimated at about \$13 million for the 20-mile trail, as calculated by Alta/Greenways.² To estimate the total economic impact associated with this amount of upfront construction, a standard input-output model was developed. Multiplier data provided by the US Department of Commerce was used to calculate the composition and scale of total expenditures, employment, and earnings resulting from the aggregate direct expenditures from trail construction.³ Based on this model, it is estimated that economic impact within Henderson County and Transylvania County during the construction period of the Ecusta Rail Trail will be significant. It is estimated that economic impacts within the two-county region will total about \$20 million in expenditures and will support about 180 jobs (see Table 5.1).⁴

To be sure, the primary objective of the construction of the Ecusta Rail Trail is not the upfront economic gain of stimulating the local economy and creating construction jobs, but rather the ongoing provision of a recreational

amenity. Nevertheless, at a time of high unemployment, slack construction demand, and constrained municipal budgets, it is noteworthy that trail construction has the immediate effect of stimulating economic activity, creating construction work, and producing tax revenues.

Property Value Impact

The Ecusta Rail Trail would represent a major recreational resource and infrastructural investment. It would also increase the demand to live near such an amenity, which would increase house values and population, which would generate additional tax revenues to support future investment. Property value impact is therefore another major form of economic impact that would result from the proposed Ecusta Rail Trail, with gains to homeowners in the form of increased household wealth and to local jurisdictions in the form of higher property tax revenues.

A more extensive and direct calculation of the property value impact of the proposed Ecusta Rail Trail on its immediate surroundings is beyond the scope of this report, especially since the exact location of the trail is not yet finalized. However, there is extensive literature and analysis in this field that can offer guidance on the nature and scale of this property value impact, and their results can be applied to the Ecusta Rail Trail (see Table 5.2).

Since it is yet uncertain as to the existence and distribution of trail characteristics - such as access points, vista points, and other amenities - that may have an influence on property values, one can only make a rough estimate of the property value impact at this juncture. To be conservative, it is assumed that the implementation of the Ecusta

Rail Trail will result in a one-time four percent increase in the value of properties located within a quarter mile of the trail.⁶

Based on this conservative assumption, it is estimated that implementation of the Ecusta Rail Trail will result in a one-time property value increase of about \$21.6 million, of which about \$18.5 million will be in Henderson County and about \$3.1 million will be in Transylvania County (see Table 5.3).

This has the effect of increasing household wealth for property owners located within a quarter mile of the Ecusta Rail Trail. Also, to the extent that these house value increases are properly accounted for in assessed values, this property value impact also has the effect of generating additional property tax revenues for municipalities and school districts.⁷ It is estimated that implementation of the Ecusta Rail Trail will result in additional property tax revenues of about \$160,000 per year, of which about \$134,000 will be in Henderson County and about \$25,000 will be in Transylvania County (see Table 5.4).

It is important to note from this analysis that the Ecusta Rail Trail will benefit even non-users. People living near the trail need not actually use the trail to receive benefits from it since their proximity to this attractive recreational amenity results in an increase in the value of their houses irrespective of if and how often they use it.

Table 5.2 – Summary of Relevant Studies on the Property Value Impact of Trails, Parks, and Green Space⁵

SOURCE	ESTIMATED PROPERTY VALUE IMPACT
“A Dynamic Approach to Estimating Hedonic Prices for Environmental Goods: An Application to Open Space Purchase,” Riddel (2001)	+3.75%
“Quantifying the Economic Value of Protected Open Space in Southeastern Pennsylvania,” Econsult Corporation (2010)	+7%
“The Economic Impact of the Catawba Regional Trail,” Campbell and Monroe (2004)	+4%
“The Potential Economic Impacts of the Proposed Carolina Thread Trail,” Econsult Corporation (2007)	+4%
“Valuing the Conversion of Urban Green Space,” Econsult Corporation (2010)	+7.2%

Source: Econsult Corporation (2011)

Table 5.3 – Estimated One-Time Property Value Increase in Henderson County and Transylvania County Resulting from Implementation of the Ecusta Rail Trail

	HENDERSON	TRANSYLVANIA	TOTAL
# of Houses within 1/4 mile	2,401	425	2,826
Median House Price	\$192,600	\$180,930	
Aggregate House Value within 1/4 mile	\$462.4 Million	\$76.9 Million	\$539.3 Million
Estimated Increase in House Value	4%	4%	4%
Estimated Increase in Property Value	\$18.5 Million	\$3.1 Million	\$21.6 Million

Source: US Census Bureau (2010), Econsult Corporation (2011)

Table 5.4 – Estimated Additional Annual Property Tax Revenues Generated in Henderson County and Transylvania County Resulting from Implementation of the Ecusta Rail Trail

	HENDERSON	TRANSYLVANIA	TOTAL
Equalization Ratio	95%	98.77%	
Estimated Increase in Assessed Value	\$17.6 Million	\$3.0 Million	\$20.6 Million
Estimated Property Tax Rate ⁸	0.76	0.83	
Estimated Additional Annual Property Tax Revenues Generated	\$134,000	\$25,000	\$159,000

Source: US Census Bureau (2010), North Carolina Department of Revenue (2011), Henderson County Assessor’s Office (2011), Transylvania County Tax Assessor’s Office (2011), Econsult Corporation (2011)

Table 5.5 – Estimated Increase in Spending Resulting from Implementation of the Ecusta Rail Trail

Users per Mile per Year	1,000
# of Users per Year	20,300
% Increase in Visitors	3%
Increase in Tourism Spending	\$1.2 Million
Economic Impact from Increase in Tourism Spending	\$1.9 Million
Total Jobs Supported by Increase in Tourism Spending	27

Source: North Carolina Division of Tourism (2011), US Department of Commerce (2011), Econsult Corporation (2011)

Tourism Impact

Tourism is an important engine of economic growth; visitors spend money on hotels, transportation, dining, and entertainment, and therefore, they represent the use of outside purchasing power to support local businesses and governments. Thus, it is important to consider the tourism impact of a major recreational amenity such as the Ecusta Rail Trail.

It is unknown at this time how much additional tourism activity will result from implementation of the Ecusta Rail Trail. One way to forecast this amount is to estimate the current base of tourism activity, and then assign some percentage increase that results from the implementation of the trail.⁹

The experience of other, similar trails suggests that about 1,000 out-of-town users per mile per year is a conservative estimate for usage. This represents about 20,000 new visitors. Conservatively estimating \$58 of spending per out-of-town visitor,¹⁰ this translates into an annual \$1.2 million injection of spending into the local economy, and it is estimated to result in a total economic impact of about \$2 million within Henderson County and Transylvania County as a result of increased tourism spending, supporting an additional 27 jobs (see Table 5.5).

These estimates could very well end up being far too conservative. The State of North Carolina currently attracts about \$17 billion in tourism spending and receives some 37 million visitors, supporting an industry that employs about 185,000 people; \$203 million of that tourism spending takes place in Henderson County, while \$72 million takes place in Transylvania County. Thus, \$1.2 million in additional spending by visitors, as estimated for the Ecusta Rail Trail,

would represent less than one half of one percent of current visitor spending within Henderson County and Transylvania County. As trail plans proceed, better estimates of usage and of the tourism impact will yield a better understanding of the economic impact associated with purchasing power imported into Henderson County and Transylvania County by implementation of the Ecusta Rail Trail.

In addition to drawing tourists, the trail is likely to play a major role in attracting and retaining employees and employers. Increasingly, cities and regions are making investments in outdoor amenities for this very purpose. For example, it is estimated that Millennium Park, Chicago's premier outdoor amenity, is responsible for one-quarter of all new retail, commercial, and residential development that has taken place in the East Loop since the park's creation¹¹. It is therefore conservative to not assign any figure to the significant role the trail is likely to play in influencing locational decisions by employees and employers.

The amenities that currently exist in the Ecusta region have already yielded success in attracting businesses. In January 2012, California-based Sierra Nevada Brewing Company selected Henderson County, NC for their east coast expansion. Sierra Nevada's location in the town of Mills River will inject \$107 million into the local economy, resulting in the creation of nearly 200 full- and part-time positions, an estimated 60 construction jobs during the brewery's development, and annual tourism dollars. Founders of the company desired an expansion location consistent with their business plan and for the well-being of their employees, which included opportunities for outdoor recreation.

Direct Use Impact

At its core, a recreational amenity like the Ecusta Rail Trail is designed to enable enjoyable uses on it, such as jogging, hiking, horseback riding, and bicycling. Little or no money exchanges hands when people use a trail in these ways, but they still derive significant gains, which economists call “consumer utility” and which can be quantified using “willingness to pay” surveys.

The implementation of the Ecusta Rail Trail is likely to lead to a significant increase in the number of recreational users and recreational uses, and therefore it confers a benefit to those users, on which an estimated aggregate value can be placed. The most accepted “willingness to pay” estimates are based on surveys conducted by the US Army Corps of Engineers, which publish “Unit Day Values” of a variety of recreational activities. Hence, the direct use value of every recreational

activity on the Ecusta Rail Trail can have a dollar amount assigned to it.

It is unknown at this time how much additional recreational activity will result from the implementation of the Ecusta Rail Trail. One way to forecast this amount is to estimate the current base of recreational activity and assign some percentage increase that results from the implementation of the trail.

The State of North Carolina’s Statewide Comprehensive Outdoor Recreation Plan (SCORP) provides some guidance as to the percentage of residents who partake in various recreational activities.² These percentages can be applied to the populations of Henderson County and Transylvania County. Since usage of the Ecusta Rail Trail is likely to be heavily dependent on proximity to the trail, these residents are segregated between those who live within a

Table 5.6 – Estimated Current Base of Recreational Users in Henderson and Transylvania Counties, by Activity Type

ACTIVITY	% OF POPULATION PARTICIPATING	HENDERSON – WITHIN ¼-MILE	HENDERSON – NOT WITHIN ¼-MILE	TRANSYLVANIA – WITHIN ¼-MILE	TRANSYLVANIA – NOT WITHIN ¼-MILE	TOTAL RECREATIONAL USES
Population		5,651	101,089	977	32,113	139,830
Walk for Pleasure	84%	4,753	85,015	822	27,007	117,597
View/Photograph Natural Scenery	67%	3,758	67,224	650	21,355	92,987
Day Hiking	47%	2,645	47,309	457	15,029	65,440
Bicycling	31%	1,752	31,337	303	9,955	43,347
Backpacking	13%	757	13,546	131	4,303	18,737
Mountain Biking	13%	718	12,838	124	4,078	17,758
Horseback Riding	11%	650	11,626	112	3,693	16,082
Total Users (Select Activities)		15,073	269,604	2,606	85,646	372,928
Total Uses (Select Activities)		827,236	14,796,853	143,007	4,700,548	20,467,644

Source: North Carolina Division of Parks and Recreation (2009), Econsult Corporation (2011)

Table 5.7 – Estimated Amount and Value of Increase Resulting from Implementation of the Ecusta Rail Trail

ACTIVITY	UNIT DAY VALUE	HENDERSON – WITHIN ¼-MILE	HENDERSON – NOT WITHIN ¼-MILE	TRANSYLVANIA – WITHIN ¼-MILE	TRANSYLVANIA – NOT WITHIN ¼-MILE	TOTAL RECREATIONAL USES
Estimated Increase in Uses		25%	5%	25%	5%	
Total Increase in Uses		202,499	724,426	35,007	230,130	1,192,062
Walk for Pleasure	\$1.47	\$174,669	\$624,864	\$30,196	\$198,502	\$1,028,230
View/Photograph Natural Scenery	\$1.32	\$62,011	\$221,839	\$10,720	\$70,472	\$365,042
Day Hiking	\$3.16	\$52,237	\$186,872	\$9,030	\$59,364	\$307,503
Bicycling	\$3.16	\$34,601	\$123,783	\$5,982	\$39,322	\$203,688
Backpacking	\$1.47	\$6,958	\$24,891	\$1,203	\$7,907	\$40,958
Mountain Biking	\$3.16	\$14,175	\$50,711	\$2,451	\$16,109	\$83,446
Horseback Riding	\$6.99	\$28,395	\$101,582	\$4,909	\$32,270	\$167,156
Total Value of Increase in Uses		\$365,828	\$1,308,720	\$63,242	\$415,744	\$2,153,534

Source: North Carolina Division of Parks and Recreation (2009), US Army Corps of Engineers (2010), Econsult Corporation (2011)

quarter mile of the trail and those who do not. Thus, out of an estimated 356,000 recreational activity participants, it is estimated that 14,000 are located in Henderson County within a quarter mile of the trail; 257,000 are located in Henderson County over a quarter mile from the trail; 2,000 are located in Transylvania County within a quarter mile of the trail; and 82,000 are located in Transylvania County over a quarter mile from the trail (see Table 5.6).¹³

It is further assumed that residents who live within a quarter mile of the trail will increase their recreational activities by 25 percent as a result of the implementation of the trail, while residents who do not live within a quarter mile of the trail will increase their recreational activities by five percent as a result of the implementation of the trail.¹⁴ Based on these conservative assumptions, it is estimated that implementation of the Ecusta Rail Trail will result in 1.2 million additional

recreational uses, resulting in an aggregate \$2.2 million in direct use benefits to users (see Table 5.7). About 78 percent of the additional uses and aggregate direct use benefits are expected to take place in Henderson County, and about 22 percent of the additional uses and aggregate direct use benefits are expected to take place in Transylvania County.

While no money is changing hands when people use the trail, this estimated aggregate direct use benefit is real and significant. In a sense, there are monetary consequences to the trail's usage since people may choose from a variety of recreational options. Using the trail for free may substitute for other options that cost money, thus saving households money that can be diverted to other, preferred uses.

Health Care Cost Reduction Impact

Direct use of a recreational amenity confers enjoyment to users. It also produces a health care cost reduction impact since it makes exercising options more accessible. Unhealthiness due to inactivity is a growing problem in the US, and outdoor amenities are particularly helpful in making possible the manageable amounts of physical activity and the minor changes in daily habits that can make a difference.

There is an increasing body of literature connecting access to recreational amenities to increased exercise, and in turn connecting

increased exercise to improved health outcomes and to lower health care costs.¹⁵ Health care cost reductions take place on a number of levels:

1. Direct health care costs – The amount spent immediately as a result of short-term health care needs.
2. Indirect health care costs – The amount spent over a lifetime as a result of reduced risk of chronic illness.
3. Direct worker’s compensation costs – The direct amount spent on worker’s compensation claims.
4. Indirect worker’s compensation costs – The

Table 5.8 – Estimated Number of New Exercisers Resulting from Implementation of the Ecusta Rail Trail

	HENDERSON -WITHIN 1/4-MILE	HENDERSON -NOT WITHIN 1/4-MILE	TRANSYLVANIA -WITHIN 1/4-MILE	TRANSYLVANI -NOT WITHIN 1/4-MILE	TOTAL
# Residents	5,651	101,089	977	32,113	139,830
% New Exercisers	5%	1%	5%	1%	
# New Exercisers	283	1,011	49	321	1,663

Source: US Census Bureau (2010), Econsult Corporation (2011)

5.9 – Estimated Health Care Cost Reduction Impact Resulting from Implementation of the Ecusta Rail Trail

	LOW-END ESTIMATE PER EXERCISER	ESTIMATED IMPACT (IN \$M)
Direct Health Care Cost Reductions	\$308	\$0.5
Indirect Health Care Cost Reductions	\$924	\$1.5
Direct Worker’s Compensation Cost Reductions	\$6	\$0.0
Indirect Worker’s Compensation Cost Reductions	\$24	\$0.0
Lost Productivity Cost Reductions	\$1,630	\$2.7
Total		\$4.8

Source: US Census Bureau (2010), Econsult Corporation (2011)

Table 5.10 – Estimated Characteristics of the Ecusta Rail Trail

Trail Length (mi)	20.3
Average Trail Width (ft)	12 ²⁰
Trail Area (acres)	29.5
% Pervious	35%
% Tree Cover	10%

Source: Alta Greenways (2011), Econsult Corporation (2011)

Table 5.11 – Estimated Value of Ecological Services Rendered by the Ecusta Rail Trail (all values are annual unless otherwise noted)

Water Regulation	\$21
Waste Treatment	\$454
Biological Control	\$124
Soil Formation	\$10
Pollination	\$134
Pollution Removal	\$823
Carbon Storage (one-time)	\$2,477
Carbon Sequestration	\$82
Total Value of Ecological Services Rendered	\$4,125

Source: Costanza et al (2006), Econsult Corporation (2011)

indirect administrative amount spent on worker’s compensation claims.

5. Worker productivity – The cost of absenteeism (unhealthy and not at work) and “presenteeism” (unhealthy and present at work but not fully functioning).

Using similar assumptions from the previous section,¹⁶ it is estimated that the implementation of the Ecusta Rail Trail will yield about 1,600 new exercisers in Henderson County and Transylvania County (see Table 5.8). Multiplying this number by the low-end estimates of cost impacts for each of the five health care cost reduction categories conservatively yields an estimated health care cost reduction impact of about \$5 million per year as a result of implementation of the Ecusta Rail Trail (see Table 5.9).¹⁷ About 78 percent of that impact is expected to take place in Henderson County, and about 22 percent is expected to take place in Transylvania County.

As health care costs continue to soar, and as individuals’ health care burdens are increasingly inter-related, these health care cost reduction impacts will continue to increase in importance. The provision of an accessible outdoor recreation amenity provides a very real benefit to local residents, and, in turn, to the health care coverage groups of which they are a part.

Environmental Impact

To the extent that the Ecusta Rail Trail would represent net new additions in pervious surface and in tree cover, it is rendering ecological services that have a value to the region and to society as a whole. There are many ways to place a value on these services. The value may be what

it costs in the marketplace to replace the service, the value of costs to the public the service avoids, or how much people say they value the service in “willingness to pay” surveys.

For the purposes of this report, impact estimates from existing literature were conservatively applied in order to arrive at rough estimates of the value rendered by the following types of ecological services:¹⁸

1. Water Regulation – Management of storm-water runoff
2. Waste Treatment – Protective buffer between water supplies and metals and sediments
3. Biological Control – Control of invasive or unwanted species (e.g. mosquitoes, weeds)
4. Soil Formation – Protection of soil quality
5. Pollination – Preservation of plant fertilization
6. Pollution Removal – Absorption of particulate matter by trees
7. Carbon Storage – Current carbon storage by trees
8. Carbon Sequestration – Carbon storage by new trees, minus carbon release by dying and decaying trees

In the absence of more detailed information about what the trail will look like upon completion, assumptions were made about its characteristics (see Table 5.10).

Based on these conservative assumptions, it is estimated that implementation of the Ecusta Rail Trail will render a relatively small amount of ecological services - only a few thousand dollars

per year (see Table 5.11).¹⁹ This is due in large part to the fact that, because it is long and thin and utilizes area that was previously cleared for man-made use, it is not actually adding that much acreage of green space or tree cover to the region. However, to the extent that it is literally and programmatically connected to other green space and other green space initiatives, it is playing a positive role in broader environmental objectives.

visitor profile based on the use of similar trails, as identified by geography, demographics, or other factors. This section summarizes the available data on the usage and user profile of several rail trails in North Carolina, Virginia, South Carolina, Georgia, and Pennsylvania. A range of estimated demand for use of the proposed Ecusta Rail Trail is presented following a brief description of the most relevant of these trails and a comparison of their use.

Market Analysis

Conservative estimates of local and non-local visitors to the proposed Ecusta Rail Trail were provided in the Direct Use Impact and Tourism Impact sections. It is also useful to estimate both the number of potential visitors and the typical

Existing Rail Trail Projects

Several rail-to-trail conversions have been successfully implemented in North Carolina and neighboring states. Table 5.12 summarizes these trails and their regional population demographics.

Table 5.12 – Existing Rail Trails and their Demographic Context

TRAIL	ANCHOR LOCATION(S)	POPULATION	REGIONAL LOCATION	TOTAL POPULATION	MEDIAN INCOME	MEDIAN AGE	LENGTH (MILES)
American Tobacco Trail	Durham/ Cary, NC	228,330/ 33,090	Durham/ Wake/ Chatham Co, NC	1,232,085	\$60,044	35	22
Atlantic & Yadkin Greenway	Greensboro/ Summerfield, NC	269,666/ 10,232	Guilford Co, NC	488,406	\$44,950	36	8
Heritage Rail-Trail	York, PA	43,718	York Co, PA	434,972	\$57,283	40	21
New River Trail	Pulaski/ Galax, VA	9,086/ 7,042	Caroll/ Grayson/ Pulaski/ Wythe Co, VA	109,682	\$37,925	44	39
Silver Comet Trail	Smyrna, GA	51,271	Cobb/ Paulding/ Polk Co, GA	871,877	\$62,830	35	58
Swamp Rabbit Tram Trail	Greenville/ Travelers Rest, SC	58,409/ 4,576	Greenville Co, SC	451,225	\$46,025	37	14
Virginia Creeper Trail	Abingdon/ Damascus, VA	8,191/ 814	Washington/ Grayson Co, VA	70,409	\$38,603	44	33
Washington & Old Dominion Trail	Arlington/ Purcellville, VA	207,627/ 7,727	Arlington/ Fairfax/ Loudoun Co, VA	1,601,664	\$106,031	36	45
Ecusta Rail Trail	Hendersonville/ Brevard, NC	13,137/ 7,609	Henderson/ Transylvania Co, NC	139,830	\$43,507	46	20

Source: U.S. Census Bureau, 2010 Census, 2010 ACS 3- and 5-year estimates



View along the Virginia Creeper Trail

Virginia Creeper Trail

The 33 mile long Virginia Creeper Trail, built in 1984, is the most similar rail trail to the proposed Ecusta Rail Trail.²¹ The Virginia Creeper trail extends through a rural section of southern Virginia, as well as the Towns of Damascus and Abingdon, the latter of which is slightly larger than Brevard. Damascus is known as “Trail Town, USA”, since five trails intersect in this small town.²² The outdoor recreational draw of this region bears resemblance to Henderson and Transylvania Counties, which currently draw tourists to significant recreational amenities. While the regional population surrounding the Virginia Creeper Trail is less than half that of the Ecusta corridor, the median income and age of the region reflects that of Henderson and Transylvania Counties.

Similarities - Regional Population; Regional location; Demographics; Several outdoor recreational attractions

Differences - No significant differences

Activities - Biking, Fishing, Horseback Riding, Mountain Biking, Walking, Cross-Country Skiing²³

New River Trail

This 39-mile trail occurs along the New River from Pulaski, VA to Galax, VA and lies within the New River State Park. The entire linear State Park totals 57 miles. The corridor was donated to the state of Virginia by Norfolk Southern when the rail line was discontinued, and the trail was built in 2004.²⁴ The park also connects to several other outdoor recreational facilities, such as the Mt. Rogers National Recreational Area. Beyond the trail, the park contains several campgrounds. Activities such as tubing, fishing, and boating are popular on the river.

The towns of Pulaski and Galax along the New River Trail are the closest in size to Hendersonville and Brevard of the trails examined in this study. The total regional population, median age, and median income are similar to the Ecusta corridor’s region as well.

Similarities - Regional Population; Regional location; Demographics

Differences - River focused: major activities are fishing/boating; Trail length

Activities - Biking, Fishing, Horseback Riding, Mountain Biking, Walking, Cross Country Skiing

Swamp Rabbit Tram Trail

The 13-mile Swamp Rabbit Tram Trail follows the Reedy River from Greenville to Traveler’s Rest in South Carolina. Of the trails examined in this study, The Swamp Rabbit Tram Trail is closest in proximity to the Ecusta corridor.²⁵ This trail was completed in 2009, connecting the North Greenville Medical Campus to the City of Greenville, and has become extremely popular in the short period since then.

Local officials estimate 1,000 daily users on the Swamp Rabbit Trail. The trail’s traffic has generated many new local businesses along its corridor, such as Swamp Rabbit Grocery, TTR Bikes, the Leopard Forest Coffee House, and the Café at Williams Hardware. Greenville’s public transportation system has supported the trail by providing bus service equipped for bicycles between Greenville and Traveler’s Rest, allowing users to make use of the full length of the trail without having to make it back on bicycle or foot.

Similarities - Regional location

Differences - Anchor in mid-size city

Activities - Biking, Inline Skating, Walking

Other Trails

Several other rail trails share characteristics with the proposed Ecusta Rail Trail. The American Tobacco Trail (ATT) is similar in length and located in the Triangle region of North Carolina. Annual usage estimates were not available for the ATT.

The Atlantic & Yadkin Greenway is located in Greensboro, NC. It connects several local trails that have been constructed at different times. While this trail is more similar in demographics to the Swamp Rabbit Tram Trail than the proposed Ecusta Rail Trail, it offers a third example of a successful North Carolina rail-to-trail conversion of significant length, at 7.5 miles.

The Heritage Rail-Trail in York, PA lies in a region similar to that of the Atlantic & Yadkin, but it was constructed in 1999. Usage data has been collected over a period of many years. Given the scarcity of such data, it is a useful comparison.

Finally, the Washington & Old Dominion Trail and Silver Comet Trail each run through the suburbs of significant urban areas - Washington D.C. and

Atlanta, GA, respectively - and are thus significantly different from the Ecusta corridor in terms of the population distribution along their corridors. They were included in this comparison, nevertheless, in order to further examine the connection between trail use and population density.

Trail Usage Comparison

Usage data for the rail-trails considered is provided in Table 5.13. Anticipated local and non-local usage estimates of the proposed Ecusta Rail Trail, based on the Economic Impact Analysis, are also included in this table for comparison to observed usage. Data on the three Virginia trails came from a 2004 report series funded by the Virginia Department of Conservation. Data for the Heritage Rail Trail came from a 2001 User Survey and Economic Impact Analysis. The remaining estimates of annual visitation were provided by local officials and trail advocates. Average population densities across the counties through which each trail runs are included in Table 5.13. This measure is limited since the trails may run through more- or less- densely developed areas of the counties, and density varies greatly from city centers to rural boundaries in several



Runners along the American Tobacco Trail

Table 5.13 – Existing Rail-Trail Usage Data

TRAIL	LENGTH (MILES)	POPULATION DENSITY (PERSONS PER SQ. MILE)	ANNUAL VISITS	NON-LOCAL VISITS	% NON-LOCAL	TOTAL VISITS/ MILE	NON-LOCAL VISITS/ MILE
Atlantic & Yadkin Greenway	7.5	753	82,668	-	-	11,022	-
Heritage Rail-Trail	21	481	394,823	157,929	40	18,801	7,520
New River Trail	39	64	155,331	66,331	43	3,983	1,701
Silver Comet Trail	58	904	2,000,000	-	-	34,483	-
Swamp Rabbit Tram Trail	13.6	571	350,000	-	-	25,735	-
Virginia Creeper Trail	33.4	70	130,172	68,669	53	3,897	1,507
Washington & Old Dominion Trail	45	1,702	1,707,353	89,807	5	37,941	1,996
Anticipated Ecusta Rail Trail Estimates	20.3	186	1,192,062	20,300	2	58,722	1,000



Over 60,000 visitors travel to the New River Trail in Virginia each year. (Photo courtesy of the Virginia Department of Conservation and Recreation)

of the counties. The values nevertheless provide a sense of each trail’s context to aid in a useful comparison of trail demand.

Total annual visitation varies greatly among the trails examined - from 3,897 visitors per mile on the Virginia Creeper Trail to 37,941 visitors per mile on the Washington & Old Dominion Trail. Population density appears to account for this effect to a large degree. The Washington & Old Dominion and Silver Comet Trails see significantly higher usage given their location near dense urban and suburban areas. The New River Trail and Virginia Creeper Trail, conversely, lie in rural areas and thus attract fewer total visitors.

Despite the incomplete nature of this data, however, it should be noted that the more rural trails still attract a significant number of non-local visitors, similar to that seen on the busy Washington & Old Dominion Trail per mile. The economic impacts of visitor spending on their local economies are therefore significant, despite the lower total usage. In 2011 dollars, estimated total economic output generated from visitor spending on the New River Trail and Virginia

Creeper Trail was \$2.8 million and \$2 million, respectively, supporting 50 and 27 jobs annually. These numbers align with the \$2 million economic output estimated for the proposed Ecusta Rail Trail. While the total visitation estimated in the Economic Impact Analysis appears to be optimistic given the usage per mile on existing trails, the level of non-local visitation is very conservative and could reasonably be expected to reach levels similar to the Virginia Creeper or New River Trails. If the proposed Ecusta Rail Trail is assumed to attract between 1,500 and 1,700 non-local visitors per mile per year, Henderson and Transylvania Counties can expect between 30,450 and 34,510 non-local visitors annually on the trail.

Anticipated Usage of the Ecusta Rail Trail

Beyond the potential number of visitors, the types of visitors expected to visit the proposed Ecusta Rail Trail are of interest. Given the similarity of the Ecusta region’s demographics and population density to both the New River Trail and the Virginia Creeper Trail, visitor profiles of those two trails provide the most insight into potential Ecusta Rail Trail visitors. Table 5.14 summarizes

Table 5.14 – Existing Trail User Profiles

TRAIL	AVERAGE AGE	EMPLOYMENT STATUS		AVERAGE INCOME		AVERAGE TRAVEL DISTANCE		% OF VISITS MAY - OCT	PRIMARY ACTIVITY
		EMPLOYED	RETIRED	LOCAL	NON-LOCAL	LOCAL	NON-LOCAL		
New River Trail	41	75%	11%	\$43,100	\$67,000	47 min	3.5 hours		Fishing (43%), River activities (32%), Biking (9%)
Virginia Creeper Trail	47	69%	18%	\$59,511	\$80,702	15 min	4.6 hours	82	Local - Walking (51%), Non-Local - Biking (71%)
Washington & Old Dominion Trail	41	84%	7%	\$98,322	\$99,322	14 min	3 hours	76	Biking (66%), Walking (16%), Jogging (16%)

Source: 2004 Trail Assessments of User Demographics, Preferences, and Economics, Bowker, Bergstrom and Gill

the visitor profile data collected by Bowker, et al in their 2004 study of these Virginia trails and the Washington & Old Dominion Trail.

Trail visitors are typically middle-aged and still employed, with incomes higher than those of local trail users or regional median income. This income gap is significant because it increases the likelihood that trail visitors have the disposable income to spend money in the local economy during their visit. Average travel distances on the rural trails indicate that visitors could be drawn from several hours away to visit the proposed Ecusta Rail Trail. Greensboro, Winston-Salem, Charlotte, and Asheville in North Carolina; Columbia and Augusta in South Carolina; Knoxville, Tennessee; and Atlanta, Georgia are all within four hours driving distance of the potential trail, indicating a significant geographic market reach.

The high percentage of non-local visitors biking on the Virginia Creeper indicates that the primary activity expected on the proposed Ecusta Rail Trail is bicycling. The majority of users of the Washington & Old Dominion trail are bicyclists, and the most common use of the New River Trail - after river-related activities - is bicycling. Given the existing bicycling community in Brevard and Hendersonville, it is likely that one of the major activities on the proposed Ecusta Rail Trail would be bicycling. Based on the users observed on other trails, inline skating, jogging, horseback riding, and cross country skiing may also be expected, to the extent that these uses are allowed.

Finally, seasonal variation is expected on the proposed Ecusta Rail Trail. Both the Virginia Creeper and Washington & Old Dominion Trails receive the majority of their use between May and October. The climate around Hendersonville and

Brevard is similar to that of the Virginia Creeper area, so it is likely that the Ecusta would see similar variation in seasonal use.

Summary and Cost-Benefit Analysis

In summary, the Ecusta Rail Trail provides a variety of benefits to a variety of audiences, all of which can be compared against the upfront investment of \$13 million to construct the trail, to provide a sense of impact on a “per \$1 million invested” basis (see Table 5.15). These impact estimates are based on conservative assumptions; a retrospective look, upon completion and implementation of this recreational amenity, may very well yield much higher impact results. Furthermore, the estimates do not include the trail’s role in attracting and

retaining employees and employers, which may prove to be significant. Whether these “returns” – to the local economy, property owners, users, and local government – warrant that initial investment is for policymakers to decide. It is hoped that this report has provided some of the framework, categories, and estimates to inform that decision.

Table 5.15 – Summary of Benefits Generated by Implementation of the Ecusta Rail Trail

IMPACT CATEGORY	BENEFICIARY(IES)	ESTIMATED RESULT	ESTIMATED RESULT PER \$1 MILLION INVESTED
Economic impact from upfront construction	Local economy, particularly the construction industry	\$20 million in total expenditures supporting 180 jobs	\$1.5 million in total expenditures supporting 13 jobs
Property value impact	Property owners, local municipalities and school districts	\$22 million in total property value increases, and up to \$160,000 per year in additional property tax revenues generated	\$1.8 million in property value increases, and up to \$13,000 per year in additional property tax revenues generated
Tourism impact	Local economy, particularly the hospitality industry	20,000 new visitors injecting \$1.2 million into the local economy, resulting in \$1.9 million in total expenditures each year supporting 27 jobs	\$160,000 in annual expenditures supporting 2 jobs
Direct use impact	Trail users	1.2 million new uses and \$2.2 million in aggregate value to users each year	100,000 new uses and \$180,000 in aggregate value to users each year
Health care cost reduction impact	Trail users and their health care coverage groups	1,600 new exercisers and \$5 million per year in health care cost reductions	130 new exercisers and \$420,000 per year in health care cost reductions
Ecological services rendered	Region as a whole	Minimal value generated per year	Minimal value generated per year

Source: Econsult Corporation (2011)

Notes

1. These results are not intended to be precise since they necessarily involve estimates that are rough in nature; results are therefore rounded accordingly. Also, it is important to note that impacts accrue to various audiences: individuals, government jurisdictions, or society as a whole. Finally, impact estimates represent different kinds of amounts. For example, an estimate of the value of a particular ecological service rendered may represent the cost of replacing it in the private markets, a larger value inclusive of spillover effects, or a “willingness to pay” amount determined through survey and research. Therefore, impact amounts are properly described so the reader understands what those amounts mean.
2. This does not include approximately \$4 million in land acquisition costs, which are typically not included in input-output modeling because they do not represent the purchase of goods and services.
3. The economic impact model takes multiplier data from the US Department of Commerce’s Regional Input-Output Modeling Systems (RIMS II) to produce estimates of the distribution of economic impact at the county and state level. See Appendix A for a summary of Econsult’s economic and fiscal impact methodology.
4. Since construction activity has a finite time period, resulting impacts are one-time and not ongoing in nature. This is contrasted against impacts from ongoing activities, which generate impacts that are ongoing and not one-time in nature.
5. See Appendix B for a more detailed version of this table.
6. What is meant by this assumption is that, all else equal, properties located within a quarter mile of the Ecusta Rail Trail will increase in value by four percent more than other, similar properties not located within a quarter mile of the trail. Thus, if properties in the area increase in value by three percent, then properties located within a quarter mile of the trail will increase by seven percent (3 percent + 4 percent), while if properties in the area decrease in value by three percent, then properties located within a quarter mile of the trail will increase by one percent (-3 percent + 4 percent). This may turn out to be conservative on one or more of three fronts. First, the one-time property value increase may be larger than four percent, as may be suggested by the body of literature. Second, there may be a difference in the ongoing appreciation rate over time between properties located within a quarter mile of the Ecusta Rail Trail and properties not located within a quarter mile of the trail, such that the property value increase resulting from the implementation of the trail is not just the upfront four percent difference but also some ongoing difference that grows over time. Third, some upfront and/or ongoing difference in property value may apply to properties that are not located within a quarter mile of the Ecusta Rail Trail but are still reasonably close to the trail; for example, properties located between a quarter mile and a half mile of the trail may sell for a premium, since such a distance from the trail may still be considered easily covered on foot.
7. Actual annual increases in property tax revenues will depend on the extent to which assessments adjust to changes in house values. If assessments lag, so will property tax revenue increases; if they only partially adjust, property tax revenue increases will not be as large as estimated.
8. Property tax rates equal the sum of the county property tax rate and the average of all municipality property tax rates. Since a large proportion of the houses located within a quarter-mile of the Ecusta Rail Trail are located in either Hendersonville or Brevard, which have higher property tax rates, this approach yields an artificially low estimate of additional annual property tax revenues generated, and it can therefore be considered to be conservatively low.
9. See Appendix C for additional details on tourism impacts.
10. Campbell and Munroe’s 2004 study of the Catawba Regional Trail in North Carolina found a range of possible expenditures per out-of-town visitor, with a low estimate of \$37.50, a mid-point estimate of \$58.25, and a high estimate of \$79.00. Campbell and Munroe, “The Varied Impact Of Greenways On Residential Property Values In A Metropolitan, Micropolitan, and Rural Area: The Case Of The Catawba Regional Trail,” (2004).
11. “2009 Rudy Bruner Award: Silver Medal Winner – Millennium Park,” Rudy Bruner Foundation (2010).
12. The National Park Service requires that states prepare a SCORP every five years. The State of North Carolina’s most recent SCORP is from 2009. Data on percentages of residents who partake in various

recreational activities is available for the state as a whole as well as for regions within the state. Data were selected from the West Region, which includes 23 counties and includes both Henderson County and Transylvania County. Neither state-level nor region-level SCORP data include averages for the number of uses per year by participants of each type of recreational activity. Therefore, low-end figures were estimated by using averages for number of uses from other states that did report this data. Estimates were made more conservative by only including a narrow set of activities instead of the full range of activities that might take place on the trail. See Appendix D for additional detail on estimates of new recreational activities and of their aggregate value to users resulting from implementation of the Ecusta Rail Trail.

13. These figures are estimated by determining the number of households located within a quarter mile of the trail and those that are not, and then multiplying by the average household size in Henderson and Transylvania Counties.
14. By way of comparison, a study of the increase in recreational activity resulting from the implementation of a beltway trail in Atlanta found that residents who lived within a half mile of the new open space increased their outdoor recreation by 50 percent. To be conservative, 25 percent is assumed and only for residents who live within a quarter mile, not a half mile.
15. See Appendix E for a partial bibliography of relevant sources.
16. In the previous section, it was estimated that existing recreational activity participants living within a quarter mile of the trail will increase their activity by 25 percent (five percent for those not living within a quarter mile of the trail). Here, it is conservatively estimated that the trail will increase the number of recreational activity participants by five percent among residents living within a quarter mile of the trail (one percent for those not living within a quarter mile of the trail).
17. See Appendix F for more detailed information on estimated health care cost reduction impacts.
18. Estimates are based on the addition of pervious surface and tree cover represented by the implementation of the Ecusta Rail Trail. Figures were adjusted downward in many cases to account for the particular nature of the Ecusta Rail Trail (e.g. it is a long, skinny shape - rather than a square or rectangle - and it is not always next to water). See Appendix G for a partial bibliography of sources used in determining the approach and assumptions used to estimate the environmental impact.
19. Minimum impact estimates were used to be conservative. See Appendix H for additional detail on the value of ecological services rendered by the Ecusta Rail Trail.
20. Preliminary plans suggest a range in widths between 10 and 50 feet, with much more of the trail being closer to 10 feet wide than 50 feet wide.
21. Virginia Creeper Trail Club
22. J. M. Bowker, J. C. Bergstrom, and J. Gill, "Estimating the economic value and impacts of recreational trails: a case study of the Virginia Creeper rail trail," *Tourism Economics* 13 (2007): 241-260.
23. Activities for each of the trails came from TrailLink.com, Rails-to-Trails Conservancy
24. Virginia State Parks, Virginia Department of Conservation & Recreation
25. Greenville County Recreation District