



*Evaluating the Economic Impact of the
Proposed High Bridge Rail-Trail State Park*

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1. Executive Summary

The proposed High Bridge Rail-Trail State Park will have a significant economic impact on the communities of Prince Edward, Cumberland, Nottoway, and Appomattox Counties.

- ✓ In the most conservative scenario, the trail could attract nearly 68,000 visits a year, with a total annual economic impact close to \$1 million.
- ✓ The unique position of the region in Civil War history is expected to attract an additional 15,850 visits to the trail a year, with an economic impact of \$295,127.
- ✓ Leisure travelers that visit the region because of the local colleges or the Green Front Furniture store are estimated to contribute 8,400 visits a year for a \$156,408 economic impact.
- ✓ Trail-related walk/run events are also expected to attract people from surrounding areas and could realistically attract 2,500 visitors a year resulting in \$33,500 more sales in the region.
- ✓ Building on the synergy of the region, Farmville is well-positioned to host a multi-day festival that could attract 20,000 visitors with an economic impact of \$501,900.
- ✓ Combining Civil War visitors and other events, the favorable scenario estimates 115,000 annual visits with a \$1.9 million economic impact per year.

Table 1: Summary Estimate of Visit Volume and Economic Impact			
	Number of Visit	Direct Spending	Total Economic Impact
Base Line Scenario	67,941	\$706,986	\$944,567
Civil War Trail Visitors	14,850	\$207,900	\$276,507
Civil War Re-enactment	1,000	\$14,000	\$18,620
College/Green Front Visitors	8,400	\$117,600	\$156,408
5 Trail Walk/Race Events	2,500	\$25,000	\$33,500
Multi-Day Festival	20,000	\$378,000	\$501,900
Favorable Scenario	114,691	\$1,449,486	\$1,931,502

The proposed High Bridge Rail-Trail State Park is also likely to provide additional benefits that are not easily quantified. (These benefits are not estimated in Table 1.)

- ✓ The trail will enhance the quality of life for the region which in turn supports economic development.
 - ❖ Studies indicate that population growth in rural areas with recreation activities was faster in the 1990s than in rural areas without such attractions.
 - ❖ The trail can induce other types of development such as vacation communities.



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- ✓ Health benefits of increased physical activity can lead to lower health insurance and health care costs.
 - ✓ Environmental benefits include the preservation of natural and cultural treasure for generations to come.
 - ✓ Anecdotal reports indicate that land values appreciate at a faster rate near the rail-trail when compared with other land values in rural areas.

The preliminary cost of the trail, which is 33.8 miles in length extending from Burkeville to Pamplin, is estimated at \$13.2 million.¹

- ✓ The investment in High Bridge Rail-Trail is expected to be 'repaid' by its contribution to the local community after 6 years in the favorable scenario.
- ✓ Conservatively, the return to the community will exceed initial costs in 13 years.

With regard to national trends, a movement began in the 1960's to convert abandoned or unused rail corridors into public trails.

- ✓ As of 2003, there are 12,650 miles of rail-trails in the nation with about 100 million annual users.²
- ✓ The Rails-to-Trails movement in Virginia is relatively new. Virginia has only 208 miles of trails converted from rails, compared with 1,394 miles in Wisconsin, 1,311 miles in Michigan, and 1,244 miles in Minnesota.³

¹ A pre-engineering study of the corridor has not yet been completed. The preliminary cost excludes the \$3.3 million donation of the railroad corridor.

² History of Rail-Trial Movement. Rails-to-Trails Conservancy.

³ Rails-to-Trails Conservancy website, www.railtrails.org.

2. Introduction

For nearly a century, railroads served as the economic engine for the U.S. economy, transporting goods and people across the continent. Railroads brought life to rural areas as train stations became gathering places for small town America. Small businesses thrived around train stations, usually on the main street, in the heydays of railroad travel. With the advent of the interstate highway system and passenger air service in the mid-20th century, railroad transportation declined. Rail passenger services to many small communities have reduced as rail transportation slipped into disuse.

Since the mid-1960s, a movement began to convert abandoned or unused rail corridors into public trails. Starting in the Midwest and slowly spreading to other parts of the country—New England, California, Pennsylvania, and Virginia. By 2003, there were 12,650 miles of rail-trails and around 100 million annual users.⁴

The Rails-to-Trails movement in Virginia is relatively new. By 2003, Virginia has only 208 miles of trails converted from rails, compared with 1,394 miles in Wisconsin, 1,311 miles in Michigan, and 1,244 miles in Minnesota.⁵ There are currently three major rail-trails in Virginia: New River Trail, Virginia Creeper Trail, and Washington and Old Dominion Trail. The first two noted are located in Southwest Virginia. The Washington and Old Dominion Trail is located in populous Northern Virginia.

The benefit of a rail-trail for a community is multifold. Rail-trails create open and safe space for residents and visitors to engage in activities such as biking, walking, and birding. By doing so, they support physical activities and healthy lifestyles that can potentially lower health care costs for a locality. Rail-trails protect the environment by converting disused rail track into greenways and park systems, while also providing sanctuaries to birds and other animals. In addition, many local governments in rural America recognize the rail-trail as an important smart-growth strategy. In addition, attractions such as rail-trails can contribute to local economic growth by bringing outside visitors to the community.

⁴ History of Rail-Trial Movement. Rails-to-Trails Conservancy.

⁵ Rails-to-Trails Conservancy website, www.railtrails.org.

Rail-trail can also help revitalize rural America as many train stops pass through the town center. The recent success of Damascus, Virginia is a wonderful example. In the 10 years since Virginia's Creeper Trail opened, the population of the town increase from 900 to 1,200, the real estate tax almost doubled, and sales tax increased by 70%.⁶

In 2004, Norfolk Southern announced that it would abandon a section of railway from Pamplin to Burkeville, and donate it to the Virginia Department of Conservation and Recreation. Community leaders in Prince Edward County, Cumberland County, Appomattox County, and Nottoway County see this as an opportunity to convert this segment of railroad into a trail for outdoor recreational use. Chmura Economics & Analytics (CEA) was contracted to estimate the economic impact of this rail-trail. In particular, CEA is asked to estimate the number of visitors that would be attracted to the proposed trail, the trail's potential economic impacts to area businesses, and the potential of special events and their impacts associated with this trail.

The next section of this report provides the results of an econometric model used to estimate the number of visitors to the proposed High Bridge Rail Trail, which is based on historic attendance data of Virginia's State Parks. Combining the estimated number of visitors with their spending estimates, CEA analyzes the economic impact of the trail to local communities. In addition, CEA assesses the potential of other economic development opportunities after the trail is completed, such as special events, festivals, cultural/heritage tourism events, and community redevelopment.

3. Estimating Visit Volume

3.1. Estimating Total Number of Visits

Many factors determine the attendance of the trail, such as location, weather, amenities, and demographics. The best approach to combine all these diverse factors is to use a scientific regression approach.

The goal of the model is to predict the attendance at the High Bridge Rail-Trail. Since High Bridge Rail-Trail will be a state park, past park attendance in Virginia is used to estimate the relationship between park attendance and variables such as location, demographics, and amenities.

⁶ See Thomas Horsch "The Economic Impact of Trails on Damascus, Virginia."

Historical visitor attendance at 33 state parks in Virginia is used as the independent variable in the regression analysis.⁷

A variety of variables are used to explain the attendance at a state park in Virginia. CEA classifies these variables into three categories: 1) demographic variables include population and income of the region where the park is located; 2) location variables include whether the park is close to an interstate highway, colleges, and other parks; and 3) park capacity and amenities, which includes variables such as the size of the park and whether it has boating and camping facilities. For a detailed description of the models variables, see Appendix 1.

The regression results show that most of the variables behave as expected. It is not surprising that area population has a significant impact on attendance, as a majority of visitors to most state parks are from local areas. Proximity to interstate highway can boost park attendance as those roads make a state park more accessible to non-local visitors. Park amenities such as camping and boating facilities can also attract more people with different needs for park use. The size of the park also matters, as bigger parks can obviously accommodate more visitors than smaller ones. While in theory, proximity to colleges should bring in more visitors to the park, the model shows this factor not to be significant. A focus group conducted with Longwood University students regarding proposed rail trail also indicates a lack of interest among students.⁸ The focus groups results confirm what we have found in the model. The details of the model are listed in Appendix 2.

Based on the proposed location and amenities of the High Bridge Rail-Trail and the area population and income level, CEA estimates the annual visits to the trail will be 67,941. There are a few factors that seem to work against this trail such as lack of interstate highway in the region and lack of camping and boating facilities in the park. However, the local population of these four counties should provide a good local visitor base.

⁷ Source: Virginia Department of Conservation and Recreation.

⁸ Two focus groups were conducted on October 7th, 2004 by Virginia Department of Conservation and Recreation.

3.2. Estimating Composition of Visits

The economic impact of the High Bridge Rail-Trail will come mostly from visitors' spending, as the admission fees for the trails are probably negligible.⁹ This study classifies visitors into three categories based on their spending patterns: local users, non-local day users, and non-local overnight users.

The percentage of local visits varies greatly among the trails in Virginia. According to a recent study, more than half (52%) of the visits to Virginia's Creeper Trail are non-locals, while 95% of the visits to Washington-Old Dominion Trail are local visits.¹⁰

CEA uses a hybrid approach to estimate the composition of visits for High Bridge. The regression model indicates that the number of visits depends on the population, amenities, and road conditions. Factors such as proximity to interstate have a large impact on non-local visits but will matter little on local visits.¹¹ There is strong reason to believe that the number of local visits is correlated with the local population while the number of non-local visits is driven by many other factors. The number of local visits to the Virginia Creeper Trail is 85% of the local population, while the number of local visits to the Washington-Old Dominion Trail is 75% of the local population.¹² CEA assumes the number of local visits to High Bridge Rail-Trail should be around the same percentage with regard to local population. The four counties where High Bridge Rail-Trail is located have 58,454 residents in 2003, so 85% is applied to reach the estimate of 49,597 of local visits a year.

Since the total number of visits is 67,941, this number indicates that 73% of the visits to the proposed High Bridge Rail-Trail will be local visits, and 27% will be non-local visits. This percentage is consistent with several other studies that have found the percentage of local users to

⁹ The High Bridge Rail Trail is modeled after New River Trail, which does not charge admission fees.

¹⁰ The Economic Impacts and Benefits from Three Trails in Virginia by Bowker, Bergstrom and Gill, September 28, 2004.

¹¹ The ideal method is to estimate local and non-local method separately. However, available data do not differentiate between the two.

¹² The Economic Impacts and Benefits from Three Trails in Virginia by Bowker, Bergstrom and Gill, September 28, 2004.

be between 70% and 85%.¹³ Among the non-local visits, it is assumed that 10% of them are overnight users while 90% are day users.¹⁴ The estimates of visits and their composition are listed in Table 2.

Table 2: Estimate of Number of Visits and Composition		
	Number of Visit	% of Total
Local Visit	49,597	73.0%
Non-Local Overnight	1,834	2.7%
Non-Local Day Trip	16,510	24.3%
Total	67,941	100%

3.3. Additional Visits from Civil War and Leisure Travelers

The 68,000 annual visits estimated above are extremely conservative. The estimate does not take into account several advantageous factors that will likely attract many outside visitors. In addition, it does not take into account the events that are planned by communities that are located near the High Bridge Rail-Trail. This section provides estimates of the number of visitors that may result from these additional factors.

In addition to the natural beauty of rural Virginia, there are several advantages of the location that could attract more visitors to the proposed High Bridge Rail-Trail. The trail is about an hour drive from the Richmond, Lynchburg, and Charlottesville metropolitan areas and is less than 100 miles from the Roanoke and Danville metro areas.

The area surrounding the rail-trail also has historic significance in both the Civil War and Civil Rights movement. One of the last battles of the Civil War was fought at High Bridge on April 6-7, 1865,¹⁵ just days before General Robert Lee's surrender in Appomattox Court House. High Bridge sits on private property and is currently not accessible to Civil War visitors. Public access to this bridge will generate tremendous excitement to Civil War enthusiasts. Prince Edward County is

¹³ See "An Economic Impact Analysis of the Proposed Alignment of the Trans Canada Trail in East-Central Alberta," by Price Water House Coopers. Virginia Creeper Trail is an exception in attracting more than 50% non-local visits.

¹⁴ This assumption is based on Virginia Creeper Trail study.

¹⁵ Source: Heritage Preservation Services of the National Park Services.

also a prominent place in the struggle against segregation in the civil rights movement. Griffin vs. School Board of Prince Edward County is one of the four cases that constituted the landmark Supreme Court case of Brown vs. Board of Education, which ended legal segregation in public schools.

The "Civil War" trail factor can also increase the number of visits to the proposed park. As mentioned above, High Bridge sits on the route of General Robert Lee's retreat from Petersburg to Appomattox Court House. Recent data show that 16,500 people are retracing Lee's Retreat route every year.¹⁶ If all the individuals that retrace Lee's retreat visit High Bridge, then they will add a 25% lift in addition to the 67,941 estimated above. CEA conservatively assumes that only 90% or 14,850 of the people that retrace the route will visit High Bridge. The "Civil War" factor should be more pronounced in the first few years of the trail opening as some of the visitors to Lee's Retreat will want to come back just to visit High Bridge.

The reenactment of the Civil War Battle of Sailor's Creek, which is only three miles east of High Bridge, is another event that draws tens of thousand of visitors to the region. The most recent reenactment drew over 1,600 visitors.¹⁷ This reenactment occurs once every 5 years, but a visitor center is under construction to enable the reenactment to be held every year. It is likely that a majority of those visitors will extend their visit to see the nearby High Bridge if it is accessible to the public. A conservative estimate put over 60% of them at 1,000 visits.

In addition to Civil War travelers, Farmville also attracts tens of thousands of leisure travelers per year that could increase the attendance to High Bridge Rail-Trail. One unique attraction of the Farmville area is Green Front Furniture store, located in the heart of Farmville. It is the second largest furniture store in the United States and attracts visitors all over the eastern United States. Specifically, the furniture store is expected to draw over 30,000 visitors to the Farmville area per year.¹⁸ In addition, Longwood University and Hampden-Sydney College also bring in 54,000 visitors a year to the Farmville area. To gauge their impact, CEA uses a

¹⁶ Source: Virginia Civil War Trails.

¹⁷ Source: Sailor's Creek Battlefield State Park.

¹⁸ Source: Financial Viability Report for Poplar Hill Golf Club.

conservative estimate that 10% choose to visit the trail that is within walking distance from town. That amounts to 8,400 additional visitors per year.

With the completion of the trail, community leaders are likely to consider other events to lure visitors to the region, such as trail-related events and festivals. The number of visitors brought by those economic development events will be analyzed in section 4. Itemized results are listed in Table 8.

4. Economic Impact of High Bridge Rail-Trail

4.1. Direct Spending by Rail-Trail Visitors

The economic impact of the High Bridge Rail-Trail will come mostly from visitor spending, as the admission fees for the trails are probably negligible.¹⁹ The major activities in a trail will be walking, biking, jogging, and potentially horseback riding. This study will classify visitors into three categories, based on their spending volume: 1) local users, 2) non-local day users, and 3) non-local overnight users.

Some studies do not consider the economic impact of local users,²⁰ however, as local people visit trails nearby, they spend money on things such as beverages and gas. Those expenses should be counted as trail induced because they would not occur had the trail not existed. As a result, estimated spending by local users is included in the economic impact. For non-local day users, the major items of spending will be bike rental, food, and transportation. For overnight users, the biggest expenditure item is lodging, followed by food, transportation, and bike rental. Table 2 presents the assumptions regarding the expenses by three groups of trail users as well as the estimates of the number of visitors in each category.

¹⁹ The High Bridge Rail Trail is modeled after New River Trail, which does not charge admission fee.

²⁰ One of these studies is "The Economic Impacts and Benefits from Three Trails in Virginia" by Bowker, Bergstrom and Gill, September 28, 2004.

Table 3: Assumptions on Expenses Per Visitor in the Study Area²¹			
	Local Users	Non-local Users	
		Day Trip	Overnight Stay
Food/Restaurants	\$3.50	\$7	\$30
Gas/Transportation	\$3.50	\$3.50	\$8.50
Bike Rental		\$3.50	\$3.50
Lodging			\$33
Other Expenses			\$9
Total	\$7.00	\$14.00	\$84.00

The annual spending brought to the 4-county region by High Bridge Rail-Trail is estimated to be \$707,000. The biggest spending item will be food, amounting to \$330,000. Spending on transportation, primarily on gas stations, reaches \$234,000. Due to the relatively small number of outside overnight users this trail can attract, the area hotel businesses can expect only about \$60,000 extra spending.

Table 4: Estimated Annual Total Spending				
	Local	Non Local		Total
		Overnight Users	Day Users	
Number of Visits	49,597	1,834	16,510	67,941
Food/Restaurants	\$160,895	\$55,020	\$115,570	\$331,485
Gas/Transportation	\$160,895	\$15,589	\$57,785	\$234,269
Bike Rental		\$6,419	\$57,785	\$64,204
Lodging		\$60,522		\$60,522
Other Spending		\$16,506		\$16,506
Total	\$321,790	\$154,056	\$231,140	\$706,986

4.2. Ripple Effects of Spending by Rail-Trail Visitors

While the spending by High Bridge Rail-Trail visitors can contribute sizable amounts to local economies, the spending also has ripple effects throughout the entire region. These ripple effects are summarized as indirect and induced effects. Indirect effects are generated because there are many industries supporting restaurants, gas stations, and other visitor-service businesses. Monies spent by rail-trail visitors in restaurants and hotels increase the sales of the suppliers for these

²¹ Expense assumptions are based on surveys by Bowker, Bergstrom and Gill on the Virginia Creeper Trail with adjustments made by CEA.

industries. This effect is called the indirect effect. Induced effect is caused by increased income of workers employed by industries serving rail-trail visitors. More visitors will result in more workers being hired. These newly hired workers will in turn increase their consumption, thus injecting more money into the regional economy.

The overall annual economic impacts of the Rail-Trail industry in the four-county region are estimated to be \$945,000. Among those, \$706,000 is direct spending on food, lodging, and transportation. Over \$236,000 is derived from indirect and induced economic impacts. This effect indicates that for every \$1 spent by rail-trail visitors, the overall economic impacts can reach \$1.34.

Table 5: Estimated Total Economic Impact of High Bridge Rail-Trail				
	Direct Spending	Indirect Effect	Induced Effect	Total Effect
Food/Restaurants	\$331,485	\$49,419	\$55,610	\$436,514
Gas/Transportation	\$234,269	\$44,283	\$44,726	\$323,278
Bike Rental	\$64,204	\$2,531	\$16,507	\$83,241
Lodging	\$60,522	\$5,917	\$12,086	\$78,525
Other Spending	\$16,506	\$3,713	\$2,789	\$23,009
Total	\$706,986	\$105,864	\$131,717	\$944,567

In terms of job creation, the proposed High Bridge Rail-Trail can potentially bring 24 new jobs to the region. Twenty jobs are created by the direct spending of rail-trail visitors, while 4 of them are created by the ripple spending effects. Overall, food service is the biggest benefactor, with half these new jobs coming to the food services industry. The lodging industry is only expected to add two jobs. The job creation figures indicate that the High Bridge Rail-Trail cannot support new hotels or motels in the region, but it may support a new fast food restaurant or a new gas station. The trail may also be able to support a couple of bed and breakfast inns.

Table 6: Estimated Employment Effect of High Bridge Rail-Trail				
	Direct Spending	Indirect Effect	Induced Effect	Total Effect
Food/Restaurants	10.5	0.7	0.8	12.0
Gas/Transportation	5.3	0.7	0.7	6.6
Bike Rental	1.6	0.0	0.2	1.9
Lodging	1.8	0.1	0.2	2.1
Other Spending	0.4	0.1	0.0	0.5
Total	20	2	2	24



4.3. Additional Impact by Civil War and Leisure Travelers

In 3.3, CEA estimated that current visitors of Lee's Retreat from Petersburg to Appomattox can bring about 15,000 visitors to High Bridge each year. Observers to the Reenactment of the Battle of Sailor's Creek nearby can contribute another 10,000 visitors. Even though these visitors are from out-of-town and many will stay overnight in the region, CEA treats them as day trips in assessing the impact of the visits to rail-trail, because the primary purpose of the visits are not the trail itself. A side trip to High Bridge Rail-Trail is highly likely, but can hardly induce the visitors to spend one more night in the region. As a result, a spending assumption of \$14 per visit is applied.

Travelers retracing Lee's Retreat are expected to directly spend an additional \$207,900 per year in this area, with a total economic impact of \$276,507 when they visit High Bridge. Participants to the Civil War Reenactment will contribute an additional \$14,000 in direct spending, with an estimated total economic impact of \$18,620. Table 8 lists the itemized economic impact of these events.

For leisure travelers, since their primary purposes are either to visit family and friends attending colleges or to shop at Green Front Furniture, CEA continues to use the day-trip spending assumption, rather than the overnight spending assumption. It is estimated that trail-related spending by these visitors will reach \$117,600 per year, with a total economic impact of \$156,408.

5. Economic Development Opportunities and their Impact²²

Although the base-line scenario for the High Bridge Rail-Trail predicts nearly a \$1,000,000 annual economic impact to the local economy, it appears that the vision of community leaders is to use the High Bridge Rail-Trail as a vehicle for economic development. Based on the Civil War and Civil Rights heritage of the region, it is possible to build on its current strengths in cultural and heritage tourism.

For the purpose of estimating an economic impact, CEA assumes the region will take a two-stage approach. At the initial stage of opening the rail-trail, some small trail-related events can build the awareness of the park with the eventual goal of building the synergy of High Bridge staged with festivals modeled after the Virginia Highlands Festival in Abington. With more people

²² The economic spending and impact discussed in this section do not include registration fees for the events.

and money flowing into the region, the trail may potentially bring life back to towns such as Pamplin or Burkeville.

5.1. Trail-Related Events

As one would expect, the economic impacts from non-local visitors are higher than those for local visitors. To increase the economic contribution of the proposed High Bridge Rail-Trail to the region, varied strategies may be considered to raise the percentages of non-local visits. These related events increase the awareness and recognition of the trail while also creating brand recognition for additional high-profile events with full-fledged cultural tourism.

Trail walking and trail races, which have been popular around the country, are the easiest events to stage. For example, in 2002 alone, Chattanooga, Tennessee hosted several trail-race events²³ with each of these events bringing in around \$10,000 to the city.²⁴ Central Virginia possesses many running clubs that are potential partners with High Bridge Rail-Trail for co-sponsorships. Some near-by clubs are Bedford Women in Motion; Charlottesville Track Club; Lynchburg Roadrunners; Richmond Roadrunners; and Petersburg Tri-Cities Road Runners. Partnerships can help lead to increases in visibility and guarantees for desired levels of participation.

Another way to build the local trail brand is to host charity—walk events, such as the American Heart Walk, America’s Walk for Diabetes, and the Race for the Cure (fund raising event for breast cancer). Once again, partnerships with local running clubs can provide volunteers for these charity walk events and reduce hosting costs.

The economic impacts of the trail-related events depend on the number of participants. At the initial stage of the rail-trail, participants will be drawn mostly from the surrounding areas, so their spending impacts will most likely resemble that of day users of the trail—somewhere around \$10 per person. CEA estimates the trail will likely attract on average 180 visitors a day. A study of the Virginia Creeper Trail shows that weekend visits are more than twice the weekday visits, and

²³ Source: <http://chattanoogasports.org/02impact.html>.

²⁴ This number does not include registration fees. Rather, it is the estimate of local spending.

summer visitors' volume is 5 times of that in winter.²⁵ Staged on a warm weekend, a walk or race event can easily bring more than 500 participants. A single event can translate into \$5,000 of direct spending and a \$6,700 overall economic impact.

5.2. Cultural/Heritage Tourism

Though trail-related events are good for brand recognition, they serve as springboards to higher profile, multi-day campaigns. For High Bridge Rail-Trail to be a substantial economic driver for the area, it will need capabilities for hosting multi-day events that support the related cultural/heritage tourism sector.

Cultural tourism is defined by the tourism industry as travel directed toward experiencing the arts, heritage, and special characteristics of a given location. Cultural tourism is the dimension of tourism which purposes to discover heritage sites and cultural monuments.²⁶ One key focus in developing cultural tourism is through hosting festivals. Annual festivals are used to attract visitors and create cultural images in the host communities. Festivals provide an opportunity for locals to share their culture and heritage, and create a communication venue for values and beliefs. Festivals also allow visitors to interact with the host community. Moreover, festivals can bring in significant economic impacts for hosting communities.

Many communities around the country recognize the significance of festivals on rural economies as well as the fiscal benefits to local governments. A 2000 study of the economic impacts of the *Waterfowl Festival in Eaton, Maryland Eastern Shore* found that event attracted 19,000 visitors during a three-day weekend with direct spending of \$3.7 million. The total economic impacts of this festival exceeded \$5 million.²⁷ The 4-day *Grandfather Mountain Highland Games* in western North Carolina attracted 17,100 non-local visitors in 1997, with direct spending

²⁵ Bowker, Bergstrom and Gill, *Virginia Creeper Trail: An analysis of Use, Economic Impacts, Visitors Characteristics, and Preferences*, April 2004.

²⁶ Razaq Raj, "The Impact of Festivals on Cultural Tourism."

²⁷ Maryland Business Research Partnership "Economic Impact and Visitor Profile Study for 30th Annual Waterfowl Festival."

of \$1.7 million and total economic impacts of \$2.47 million.²⁸ Close to Farmville, several festivals have been consistently successful in drawing large crowds. Appomattox Rail Road festival, for example, had over 40,000 visitors in 2004. Those are significant numbers for rural communities that are plagued by the loss of manufacturing jobs and were left behind in the high-tech booms of the 1990s.

Farmville and surrounding areas possess a unique position to develop cultural tourism and stage a multi-day festival or event. As mentioned above, this area is significant in both the Civil War and Civil Rights movement. Farmville is also a center for fine furniture shopping and antiquing. The region possesses a significant amount of synergy that could support a successful multi-day event such as a charity walk, a Civil War heritage tour from High Bridge to Appomattox courthouse, antique furniture show, and a Civil Rights heritage tour. It is conceivable that this multi-day event would attract a diversified group of visitors to the region.

Based on the spending assumptions listed in Table 2,²⁹ a multi-day festival with 20,000 visitors can bring in over \$378,000 in direct spending and a \$501,900 total economic impact for one weekend.³⁰ Moreover, it can increase the awareness to the region, which would likely lead to more visitors to the region even during the non-event months.

5.3. Other Economic Development Opportunities

Along with the success of trail-related events or festivals, the area could attract more visitors or even residents. As a result, land around the sections of the trail adjacent to towns such as Farmville, Pamplin, or Burkeville can be developed for homes or commercial properties. The story of Damascus mentioned before is a good example. Studies on trails in other part of the country have seen similar effects. A study of Little Miami Scenic Trail in southwest Ohio found that

²⁸ Chhabra, Sills and Cabbage, "The Significance of Festivals to Rural Economies: estimating the economic Impacts of Scottish Highland Games in North Carolina."

²⁹ The afore-mentioned study on North Carolina Highland Festivals estimate expenditure per person to be \$77 in 1997.

³⁰ This calculation assumes that half of visitors to this festival stay over night. The spending assumption is conservative, as visitors to a festival will also spend on area retail establishments, which is not included in this calculation.

close proximity to the trail is considered by real estate agents to be an asset. Many horse owners express great interest in acquiring properties. Commercial properties close to trail also, on average, resulted in a higher selling price. These studies suggest the potential for the development of residential communities, vacation homes for horse enthusiasts, and the overall re-vitalization of small towns in south central Virginia due to the construction of High Bridge Rail-Trail. However, it is difficult to have a realistic estimate of this potential at this preliminary stage.

5.4. Cost of Trail Construction

The Park Service of Virginia currently estimates the total cost of construction for High Bridge Rail-Trail at \$16.5 million.³¹ Excluding the \$3.3 million donation of railroad corridor, the actual cost is expected to be \$13.2 million.

The High Bridge Rail-Trail is expected to be constructed in three phases. Phase I is primarily preparation work, including surveys and designs. Phase II involves construction of the trail from Farmville to Burkeville, while Phase III will complete the trail construction from Farmville to Pamplin. The estimate shows that the investment in High Bridge Rail-Trail is expected to be 'repaid' by its contribution to the local community after 6 years in the favorable scenarios. In the most conservative case, the return will exceed costs in 13 years.

Table 7: Cost Estimate			
		Cost	Return
Cost (Total)	Phase I	\$200,000	
	Phase II	\$6,052,500	
	Phase III	\$6,950,000	
Economic Impact (Annual)	Base Line		\$944,567
	Base & Civil War		\$1,239,694
	Base & Civil War & Leisure		\$1,396,102
	Base & Civil War & Leisure & Events		\$1,931,502

³¹ This preliminary estimate is not based on a pre-engineering study of the corridor. Rather, it is based on the costs to construct the New River Trail.

6. Summary and Conclusion

In the most conservative scenario, the proposed High Bridge Rail-Trail could generate 68,000 visits a year, with 27% originating outside the 4-county area. This trail could bring an annual economic impact of \$945,000, to Prince Edward, Cumberland, Nottoway, and Appomattox Counties. Over \$700,000 is direct spending on area restaurants, gas stations, and hotels. This project will also help create 24 new jobs in the area, mostly in restaurants and gas stations.

Taking into account of robust civil war tourism and re-enactment in the region, and proposed trail race and festivals, the total visits can double this estimate, with an economic impact of more than double because those special events will attract many outside visitors to the region. In the favorable scenario, the volume of visits can reach 115,000 with a total annual economic impact of \$1.9 million. Table 8 summarizes the visits and economic impact under those events.

Table 8: Summary Estimate of Visit Volume and Economic Impact			
	Number of Visit	Direct Spending	Total Economic Impact
Base Line Scenario	67,941	\$706,986	\$944,567
Civil War Trail Visitors	14,850	\$207,900	\$276,507
Civil War Re-enactment	1,000	\$14,000	\$18,620
College/Green Front Visitors	8,400	\$117,600	\$156,408
5 Trail Walk/Race Events	2,500	\$25,000	\$33,500
Multi-Day Festival	20,000	\$378,000	\$501,900
Favorable Scenario	114,691	\$1,449,486	\$1,931,502

Most importantly, combined with other historic sites in this region, High Bridge Rail-Trail can help create a synergy to develop cultural, heritage, and eco-tourism. This synergy lays the foundation for a successful multi-day festival that can bring families with diverse interest to the area. In addition, this trail also increases the potential of re-development of several towns on the trail to support users of the trail.

There are also other non-economic benefits that cannot easily be quantified. The trail will create an open and safe space for residents. By doing so, it encourages physical activities and healthy lifestyles, and can potentially lower health care costs for the region. The events associated with the trail can also increase the image of region as a good place to live and visit. Studies have shown that for rural communities struggling to offset job losses from farming, mining, and manufacturing, capitalizing on the recreational appeal of an area fosters economic development

and attracts new resident.³² Increased standards of living will also help bring in other projects of economic development other than tourism.

³² See Ken Johnson and Calvin Beale, "Nonmento Recreation Counties: Their Identification and Rapid Growth", *Rural America*, Winter 2002.



Appendix 1: Description of Model Dependent and Independent Variables

Dependent Variables

Historical *visitor attendance* at 33 state parks in Virginia is used as the independent variable in the regression analysis. Attendance is the variable that the analysis aims to predict so we try to determine the factors that affect attendance at other parks in order to estimate the volume of visitors that can be expected at the High Bridge Trail. Data for the analysis were obtained from the Virginia Department of Conservation and Recreation.

Independent Variables

A variety of variables are used to explain the expected attendance at a state park in Virginia. Some of the variables such as population, income, and the presence of an interstate highway, relate to the external environment in the area surrounding the park. Other variables, such as admission fees, boating access, and camping availability, are direct measures of the amenities offered by the parks in the sample. The following list itemizes each of the independent variables used in the analysis, states the rationale for choosing the variable, and cites the source of the data used to measure the variable. The results of the analysis are presented after reviewing the inputs to the statistical analysis.

Population: This variable refers to the population of the county in which each state park is located. If a park crosses county lines, then all counties are used. The population variable is used because it represents the potential pool of local visitors and it is expected that areas with higher population would also have higher attendance at nearby state parks. Source: Bureau of Economic Analysis.

Per capita income: Per capita income is measured for the county in which each state park is located. If a park crosses county lines, then a weighted average of per capita income is used. This variable was chosen to test whether the income of a region's residents has an effect (positive or negative) on state park visitor attendance. Source: Bureau of Economic Analysis.

Interstate Indicator: The presence of an interstate is used as a dummy variable in the analysis. In other words, a simple "yes" or "no" is recorded in order to describe whether any portion of an

interstate crosses the county in which a state park is located. This variable is incorporated because interstate highways make landmarks and parks accessible to a wider pool of the population.

Source: Virginia Department of Transportation and Virginia Economic Development Partnership.

College Indicator: The college variable describes whether a college is located in the county in which each state park is located. This is a “yes” or “no” variable. If no college is present in that county, 0 is assigned; otherwise, 1 is assigned. The presence of a college is expected to draw more visitors to a given region for general purpose visits and graduations etc. The rationale behind using the variable to determine park attendance is that some of the outside visitors may also visit the local state park and its amenities. Source: Virginia Economic Development Partnership.

Area: The area variable represents the acreage of each state park used in the sample. It is expected that a larger park would have a greater capacity for visitors and, as a result, have higher attendance figures. Source: Virginia Department of Conservation and Recreation.

Fee: The fee variable represents whether a state park charges an admission fee to enter or use the park. The fee variable is used to test whether charging a fee has an impact on park visitor attendance. Source: Virginia Department of Conservation and Recreation.

Boat Indicator: The boat variable describes whether motor boats are permitted at a particular state park. As a key amenity, the presence of recreational boating opportunities is expected to have a positive effect on park attendance. Source: Virginia Department of Conservation and Recreation.

Camp Indicator: The camp variable refers to the availability of any type of camping at a state park. Similar to the boating variable, camping is an amenity that is expected to positively benefit a state park in terms of attendance figures. Source: Virginia Department of Conservation and Recreation.

Compete Indicator: Compete variables refers to whether there is another state park nearby that could draw visitors away. If there is another state park in the county of interest or the contiguous counties, then competition exists. It is expected that if competition exists, the park attendance for the given park will be lower than it otherwise would be.

Appendix 2: Model Estimates

Model Estimate	
Independent Variables	Coefficient Estimate
Intercept**	11.1949
Population**	0.27528
College Indicator	-0.2269
Per Capita Income**	-0.48738
Highway Indicator**	0.338995
Acreage of the Park**	0.22138
Boat Indicator*	0.21219
Camp Indicator**	0.51365
Fee Indicator**	0.60883
Competition Indicator	0.03986

** : Significant at 95% level
* : Significant at 90% level
A log-log specification is used for non-dummy variables