

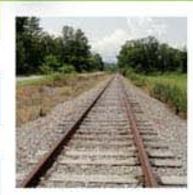


U.S. Department of Transportation
**Federal Highway
Administration**



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Ecusta Rail Trail Planning Study & Economic Impact Analysis



March 2012

**ECONSULT
CORPORATION®**
Member of the Econsult/Fairmount Group



A topographic map of the Hendersonville, North Carolina area, showing terrain, roads, and water bodies. The map is overlaid with text acknowledging various organizations. The text is arranged in three main sections, each listing the Mayor and City Council, followed by the respective planning department. The map includes labels for 'Mills River', 'Hendersonville', 'Laurel Park', and 'Flat Rock'. Road markers for 25, 26, 74, and 64 are visible. County boundaries for 'Sylvania County' and 'Henderson County' are also indicated.

ACKNOWLEDGEMENTS

Mayor and City Council, City of Hendersonville
City of Hendersonville Staff
City of Hendersonville Planning Department

Mayor and City Council, City of Brevard
City of Brevard Planning Department

Mayor and Commissioners, Town of Laurel Park
Town of Laurel Park Staff
Park and Greenways Board



ACKNOWLEDGEMENTS

Henderson County Travel & Tourism

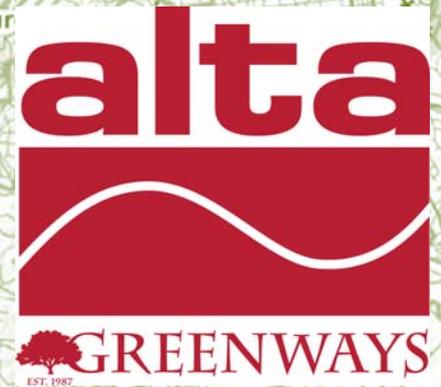
Friends of the Ecusta Trail

**North Carolina Department of
Transportation**

**French Broad River Metropolitan Planning
Organization**

PROJECT CONSULTANT TEAM

- **Alta/Greenways, Durham, NC**
Feasibility studies, master plans, cost benefit analysis, and construction documents for a combined 40 rails-to-trails projects across the nation
- Authored several publications on greenway planning and design and rails-with-trails design guidelines
- Atlantic-Yadkin Greenway - Greensboro
- American Tobacco Trail - Triangle Area
- Silver Comet Trail - Georgia



PROJECT CONSULTANT TEAM



Seamon Whiteside
+ ASSOCIATES

leave
your
mark+

- **Master Planning**
- **Landscape Architecture**
- **Civil Engineering**
- **Recreation + Parks Planning**
- **Urban Design**



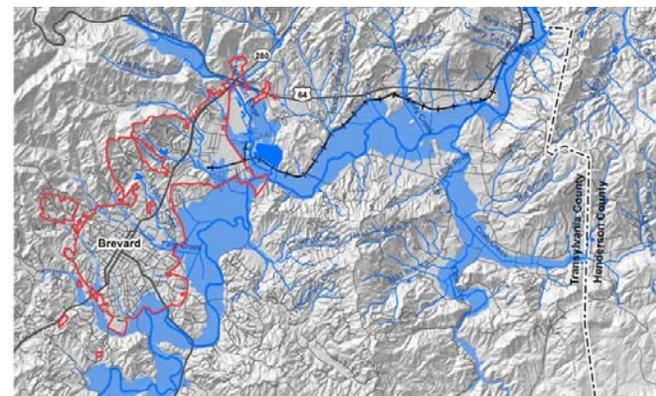
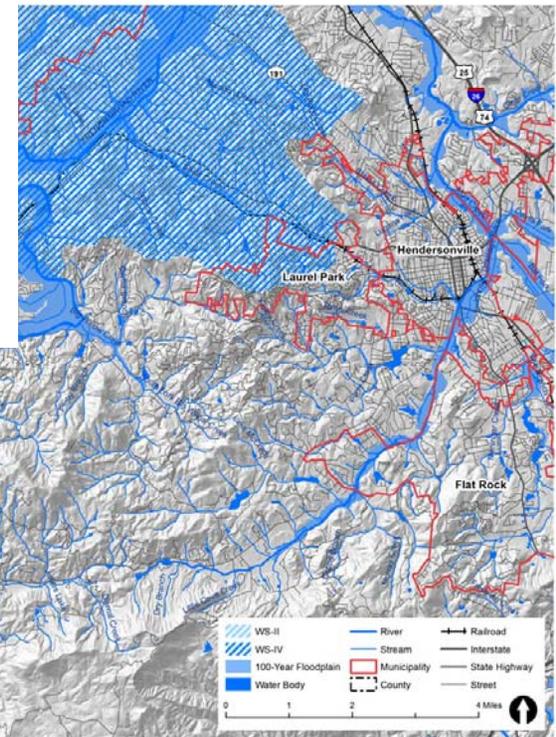
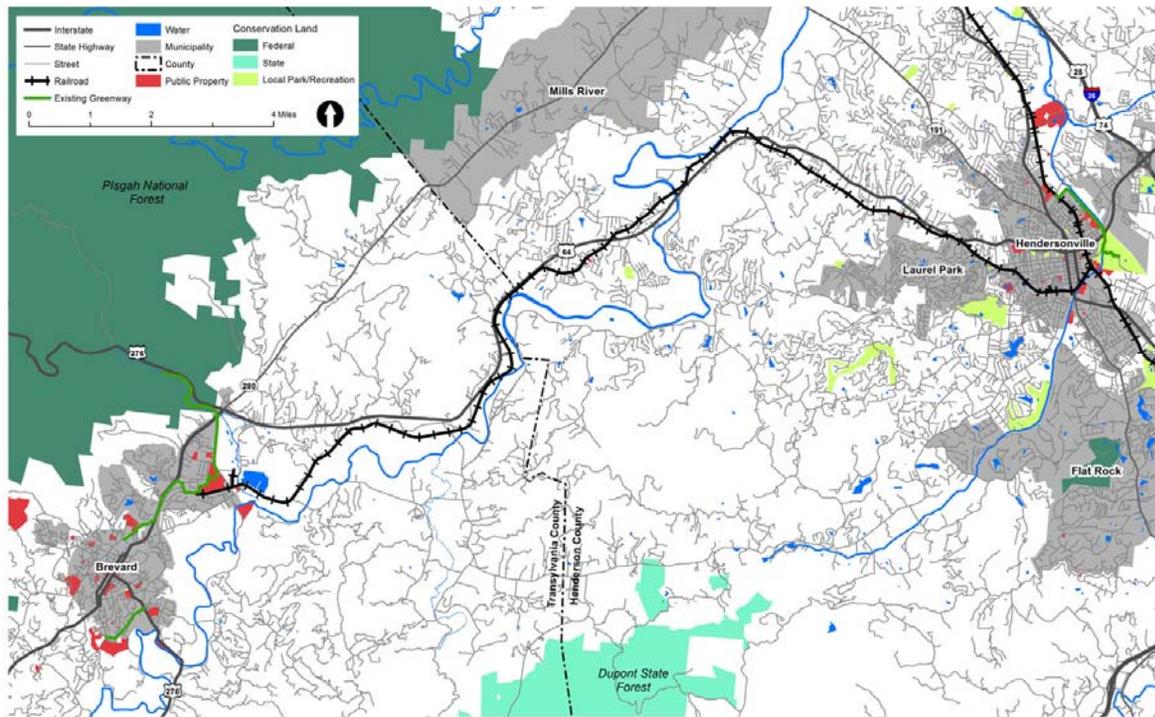
ECUSTA RAIL TO TRAIL

PLANNING STUDY OVERVIEW

PLANNING STUDY GOALS:

1. Evaluate the existing rail corridor
2. Determine project feasibility
3. Establish steps necessary to convert the inactive corridor into a shared-use trail
4. Identify partnerships needed to facilitate corridor conversion
5. Prepare an operational and management structure

EVALUATE THE EXISTING RAILROAD CORRIDOR



EVALUATE THE EXISTING RAILROAD CORRIDOR



35 Opportunity - The railroad ROW offers expansive, beautiful views when it passes through more rural areas.

36 Opportunity and Constraint - Drivers turn quickly at the intersection of Old Hendersonville Highway and Everett Rd. Adequate pedestrian crossing markings would have to be installed at locations such as this one. This is also one of several points where the railroad ROW intersects state designated bike routes.



37 Constraint - Due to poor environmental practices in the past, there may be potential health and environmental issues where the railroad runs behind the paper mill reservoir, dam, and spillway near Brevard.



38 Opportunity - While the railroad trestle crossing the Davidson River is in substantial disrepair, there may be an opportunity to bypass it with a trail alongside Old Highway 64. However, repairing the bridge and retrofitting it for pedestrian crossing would surely add interest to a potential trail.

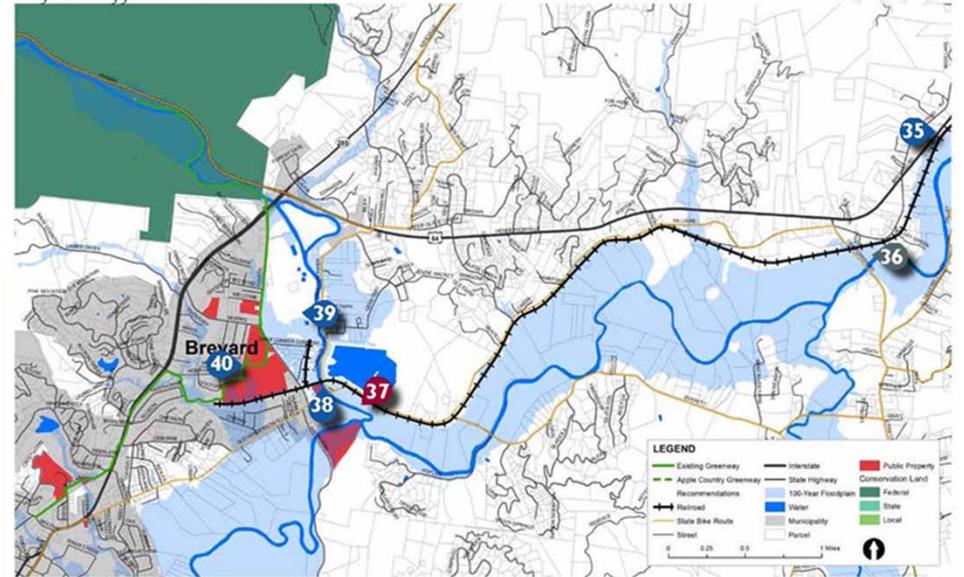


39 Opportunity - A trail on the railroad ROW could provide a connection to the residents of a large, planned residential development proposed on the old Paper Mill site in Brevard. The old rail spurs to the paper mill site could be converted into connector trails.



40 Opportunity - A trail on the railroad ROW could connect to the existing greenway trail in Brevard. This would allow for connection to downtown Brevard, area schools, recreation facilities, retail along highway 64, and Popham National Forest.

Map 3.5 - Opportunities and Constraints Brevard Area



Identified 40 Opportunities and Constraints

EVALUATE THE EXISTING RAILROAD CORRIDOR

Overall View South



Bridge Number: 10

County: Henderson County

Inspection Date: July 26, 2011

Inspection Type: Visual

Year Built: Unknown

Number of Ties: 565

Percent Deteriorated: 10%

Tie Span: Varies (18"-24" O.C. Typical)

Ties Secured: Yes

The overall length of the forty-four-span bridge is approximately 734' with variable span lengths. The superstructure consists of steel girders; two on each side approximately 8" wide by 13" high. The timber railroad ties are supported by the girders or stringers. The substructure consists of a combination of concrete and timber caps and timber piles and sway braces. (See typical cross-section)

of deflecting. Metal sheathing showing signs of oxidation, resulting in severe corrosion. Wood shims show signs of severe deterioration. Substructure shows no signs of debris collection or vegetation growth. Sway braces show signs of minimal weathering and deterioration. Stone pile supports of river span show no signs of deflection and minimal erosion. Metal bridge span shows surface rust, but no severe corrosion present.

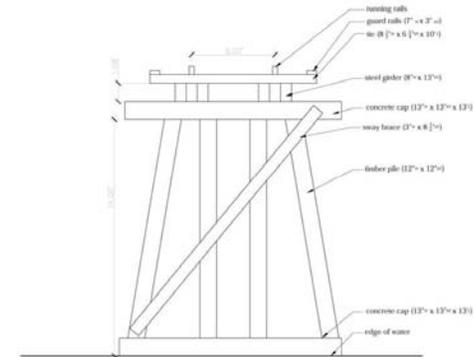
Deck and Superstructure –Ties are deteriorating and causing debris along the girders and metal sheathing. Ties are also deflecting, causing shift in overall alignment of superstructure. Girders are in satisfactory condition, with few areas of deterioration and minor weathering. Guard and running rails are deflecting, causing shift and detachment of decking.

Substructure – Both back walls are in poor condition, with signs of decay, deterioration and severe weathering. There is minor undermining and detaching of wing walls. Timber caps are in satisfactory condition, with top 1/2" deteriorated. Timber piles show no signs of deterioration and only minor weathering, but do show signs

North Back Wall



Typical Bent Section



Identified 16 Bridge Locations

Bent View North



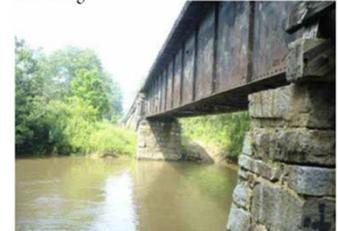
South Superstructure



Steel Bridge Foundation



Steel Bridge

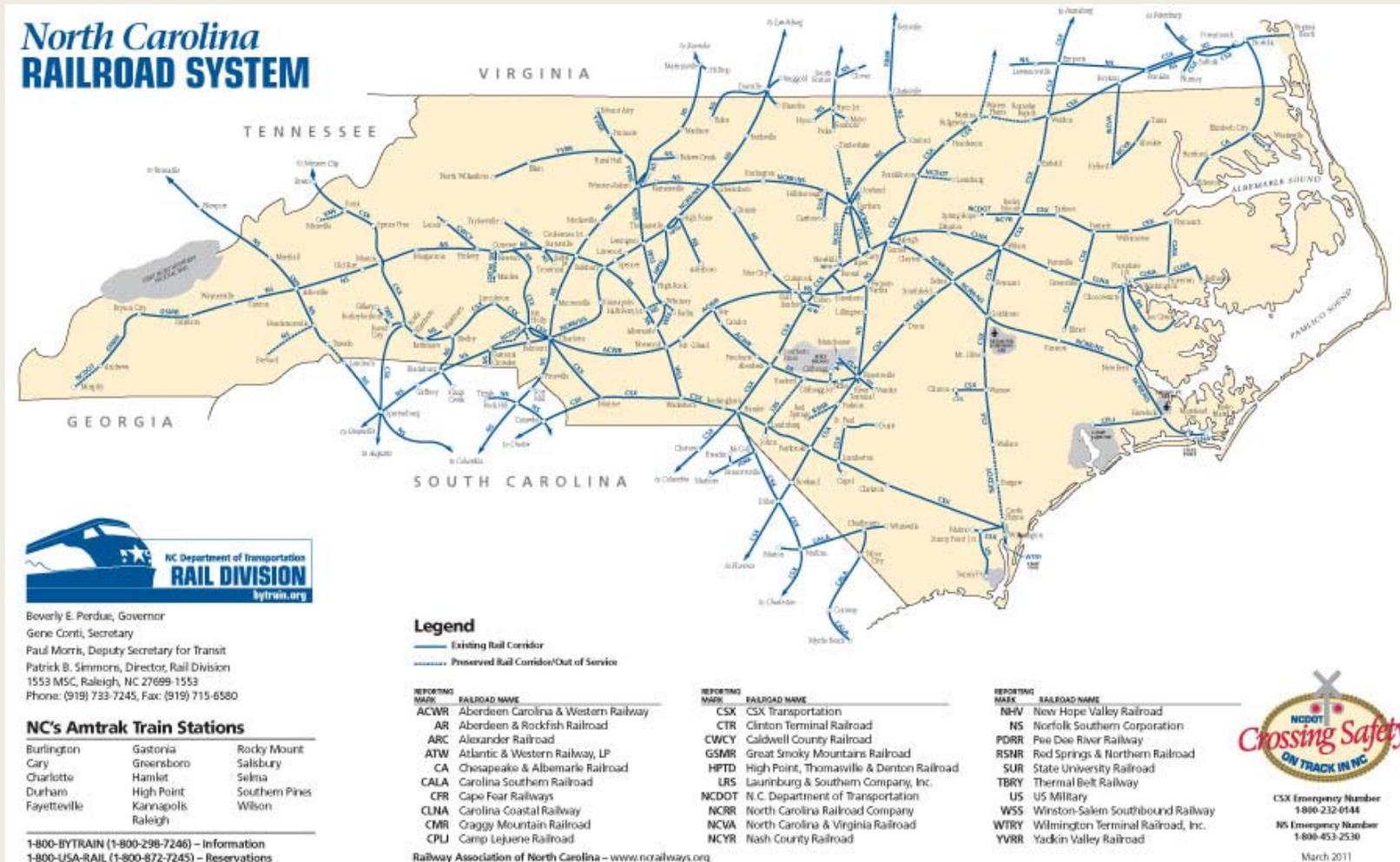


DETERMINING PROJECT FEASIBILITY: WHAT ARE THE BENEFITS?

- Offers a safe route for pedestrian, bicycle, and disabled travel as a transportation alternative
- Revitalizes communities along the corridor and enhances local pride
- Improves quality of life through healthy and active living
- Enhances local natural and cultural resources



RAILROAD OWNERSHIP ANALYSIS



- Ecusta railroad corridor is considered inactive, **not** abandoned
- “Out of service” since 2002
- No record of N/S intention to abandon

RAILBANKING

The Interstate Commerce Commission Termination Act and the National Trails System Act, along with the Surface Transportation Board's regulations, give interested parties the opportunity to negotiate voluntary agreements to use a railroad right-of-way that otherwise would be abandoned, for recreational trail or other public use.

“Abandonments and Alternatives to Abandonment” – STB 2007

Because a railbanked corridor is not considered abandoned, it can be sold, leased or donated to a trail manager organization.

PURPOSE OF RAILBANKING

To allow the interim use of any established railroad rights-of-way in furtherance of the national policy to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use.

BACKGROUND ON RAILBANKING

- **1980:** Congress passes Staggers Rail Act allowing rail companies to abandon unprofitable lines with ease. Rail companies begin abandoning lines at what is considered an alarming rate.
- **1983:** Congress amends Section 8(d) of the National Trails System Act to create a program to preserve rail corridors for future transportation.
- **1996:** Congress gives the Surface Transportation Board (STB) the administrative role in assisting rail carriers who wish to railbank the corridor with trail agencies for public use.
- 20,409 total miles of rail have been converted to trails in the United States



STEPS TO RAILBANKING THE ECUSTA CORRIDOR



DECIDES TO
ABANDON RAIL

NS INFORMS NCDOT RAIL DIVISION AND BOTH
COUNTIES AT LEAST 60 DAYS BEFORE
ABANDONMENT APPLICATION IS FILED



REVIEWS NOTICE
OF INTENT TO
ABANDON

INTERESTED TRAIL AGENCY FILES
TRAIL USE REQUEST LETTER WITHIN
45 DAYS OF NS ABANDONMENT



APPROVES ABANDONMENT
APPLICATION & ISSUES
NOTICE OF INTERIM TRAIL
USE (NITU)



RAILROAD CONSENTS
MUST NOTIFY STB
WITHIN 15 DAYS

TRAIL AGENCY & NS HAVE
180 DAYS TO NEGOTIATE
CORRIDOR PURCHASE

SIMILAR RAIL-TRAIL PROJECTS



- Swamp Rabbit Tram Trail** Travelers Rest/Greenville, SC
- 13 miles
 - Purchased by Greenville County Economic Development Corporation
 - Managed by GCEDC and Greenville County Recreation District



- American Tobacco Trail**
- Durham/Wake/Chatham Counties, NC
- 22 miles
 - Purchased by NCDOT Rail Division
 - Managed by Durham/Wake/Chatham Counties



- Silver Comet Trail** Smyrna, GA/AL state line
- 36 miles (in GA)
 - Purchased by GDOT
 - Managed by Cobb County

ACQUIRING THE ECUSTA CORRIDOR

- Negotiations with Norfolk Southern will ultimately determine cost
- Railbanking sufficiently and legally transfers ownership rights
- Current market value can be estimated at approximately \$3.7 million
- Consider potential acquisition partners such as NCDOT Rail Division

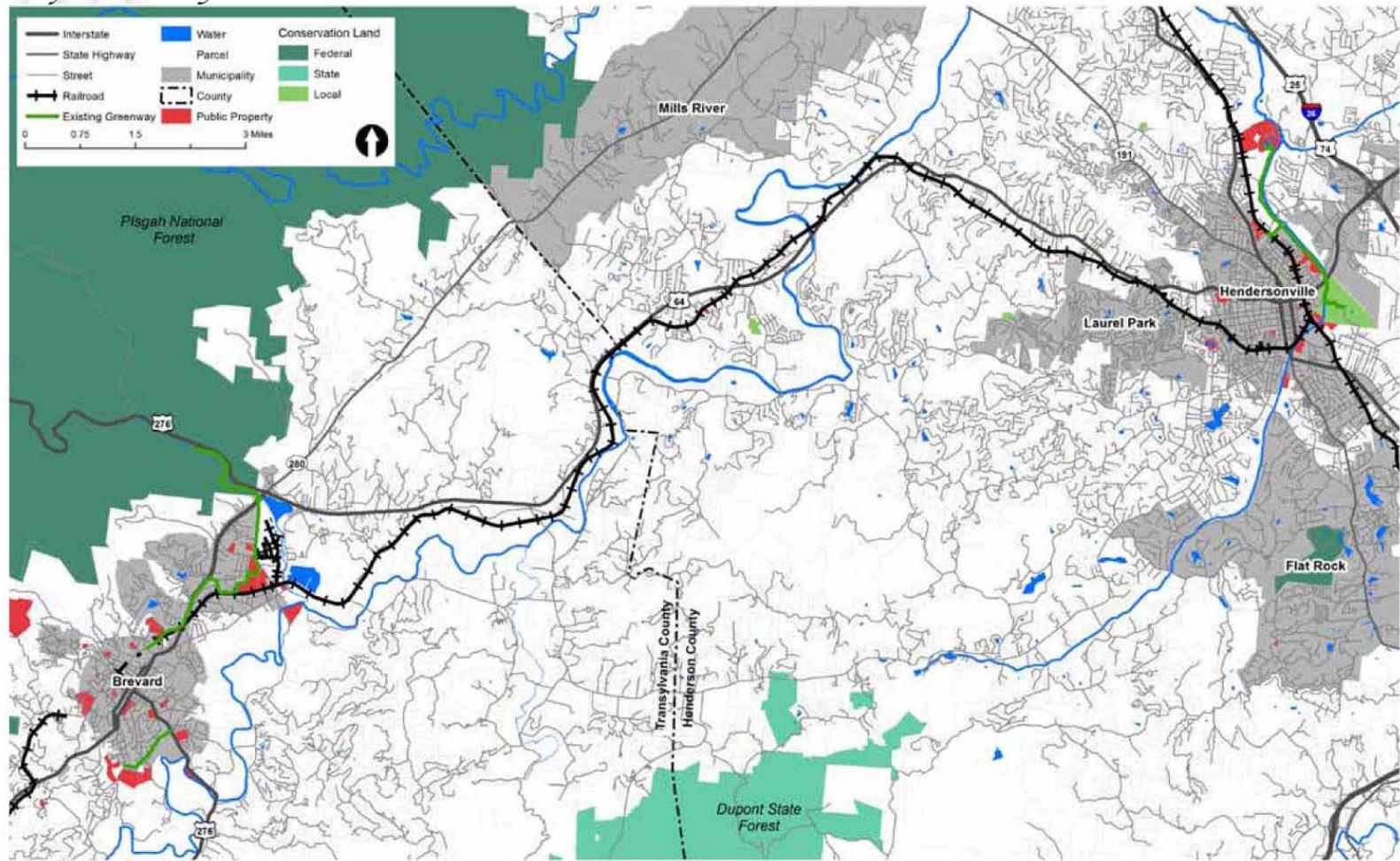
Table 4.4 – Acquisition Costs of Comparable Rail Trails

TRAIL NAME	LOCATION	LENGTH ACQUIRED	YEAR ACQUIRED	ACQUISITION COST (2011\$)	COST PER FOOT (2011\$)
American Tobacco Trail	Durham, NC	22	1995/1998	4,856,400	42
Battleground Rail Trail	Greensboro, NC	1	2009	1,694,752	321
Silver Comet Trail	Smyrna, GA	36	1992	11,284,000	59
Meadow River Rail Trail	Russellville, WV	17	2008	134,948	2
Tweetsie Line	Johnson City, TN	10	2011	600,000	11

REGIONAL COOPERATION

- Ecusta corridor traverses two counties, three jurisdictions

Map 1.3 - Study Corridor Overview

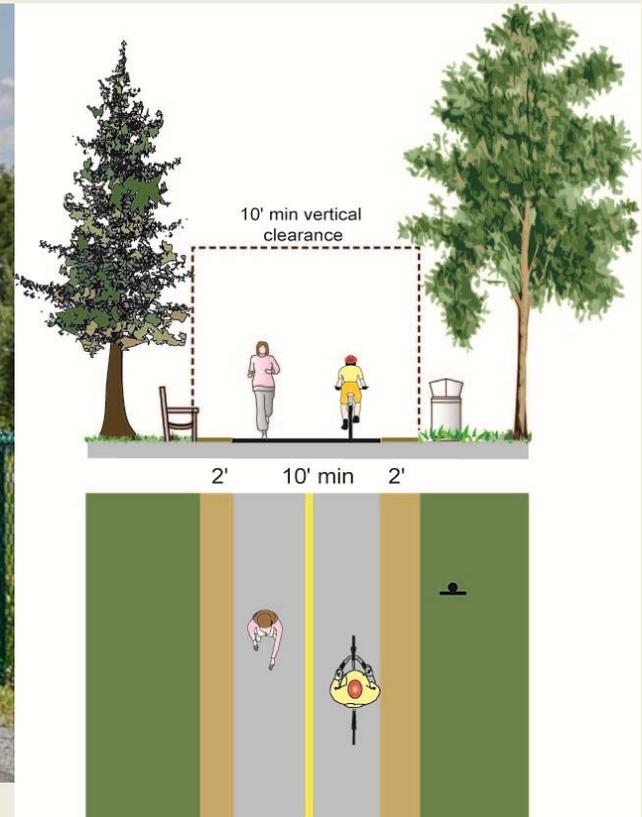


SHARED-USE TRAIL DESIGN



DESIGN GUIDELINES: TRAIL TREAD

- Ideal surface is asphalt with centerline striping
- 10-foot wide minimum, 12-foot preferred
- 2-foot wide cleared shoulder, can be gravel or bare earth



DESIGN GUIDELINES: ROADWAY CROSSINGS



Figure 9B-7. Examples of Signing and Markings for a Shared-Use Path Crossing

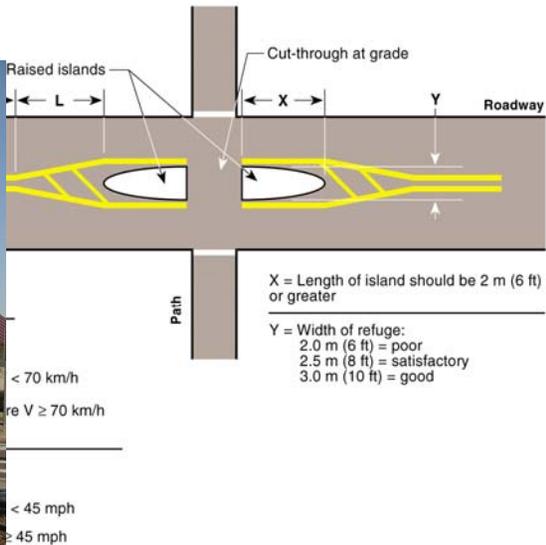
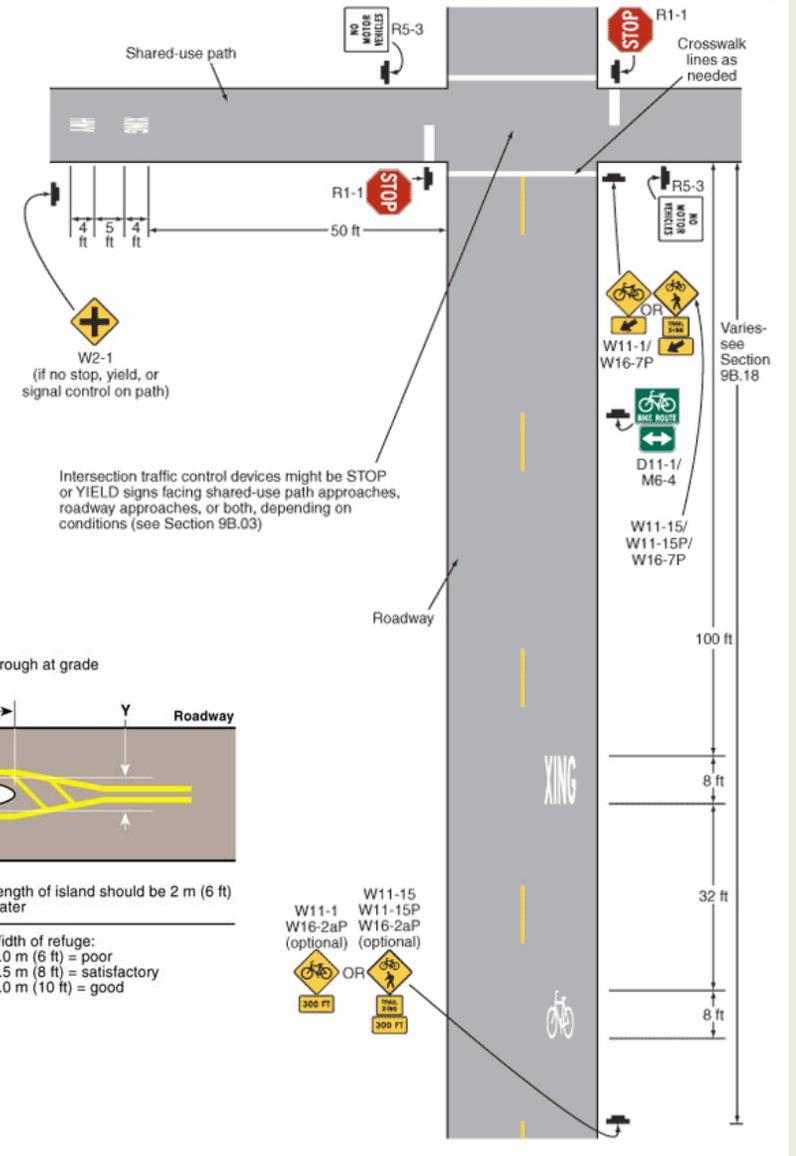


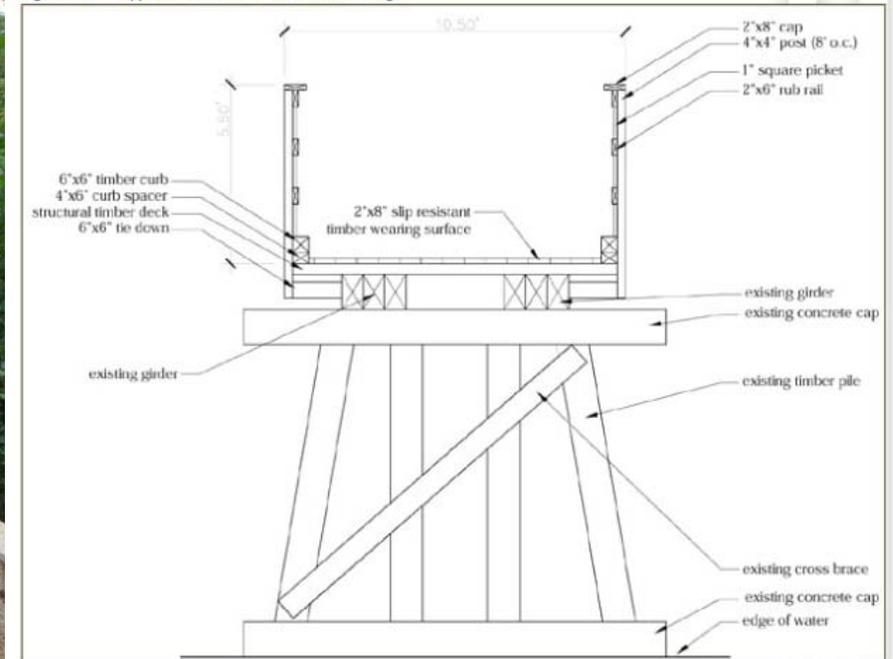
Figure 23. Specification for a Created Refuge Area

DESIGN GUIDELINES:TRESTLES & BRIDGES

- Existing trestles must be structurally improved for pedestrian, bicyclist, and equestrian access and safety
- 14-foot width
- Timber or concrete decking
- Railing must be at least 5'-6" high



Figure 6.1 – Typical Trail Cross-Section at Bridge



ESTIMATED DEVELOPMENT COSTS

- **20 total miles** of proposed shared-use trail – 8 miles in Transylvania County; 12 miles in Henderson County
- Construction costs can be conservatively estimated between **\$9.9 million to \$13.4 million total**, depending on associated amenities such as trailheads and interpretative areas (\$495,000 – \$670,000 per mile)
- Acquisition costs can be estimated conservatively at **\$3.7 million total**
- Total estimated cost to complete the proposed Ecusta Rail Trail: **\$13.6 - \$17.1 million**

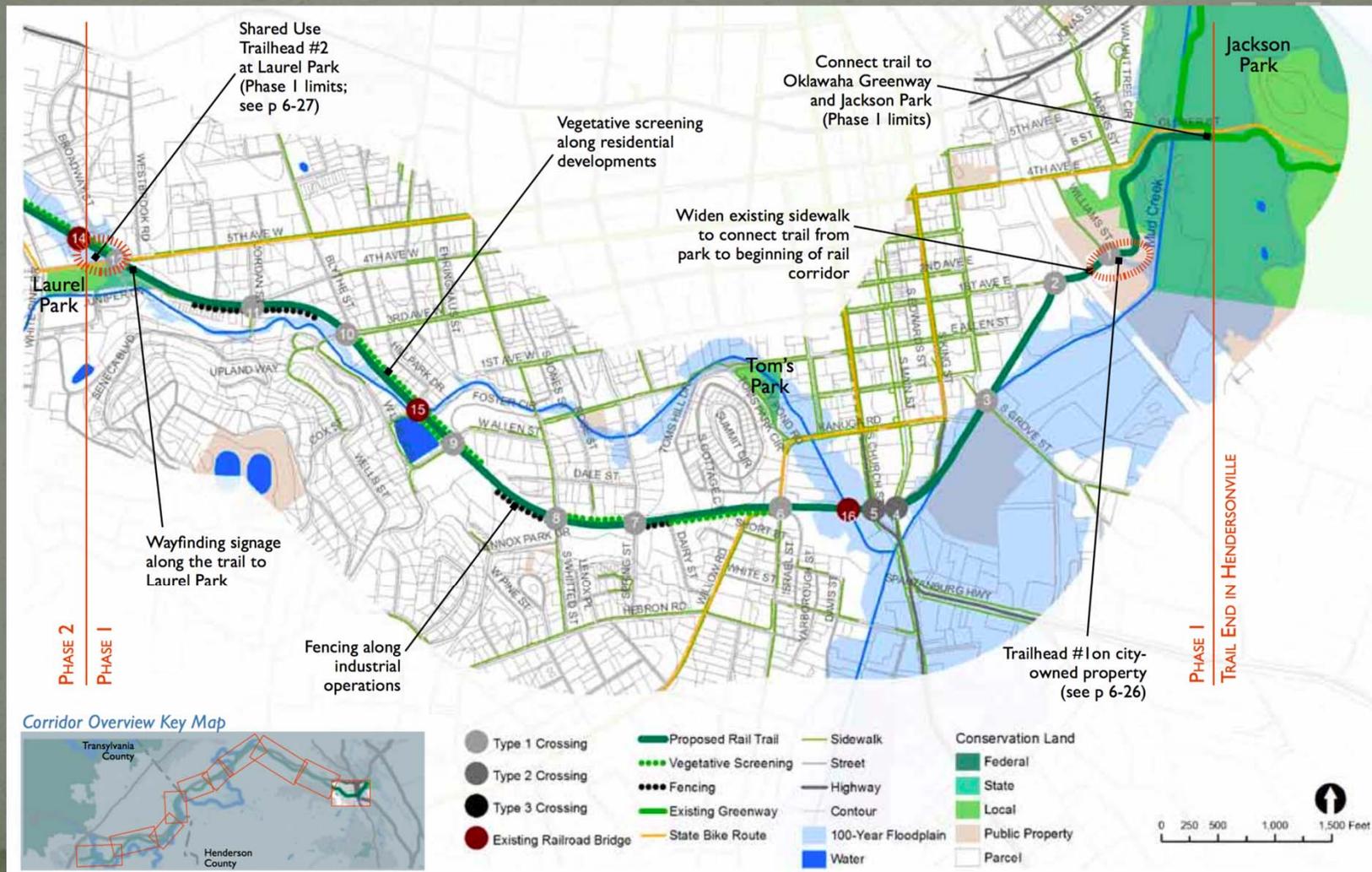
PROPOSED PHASING STRATEGY

- Phasing strategies help prioritize design development and construction
- Phases were broken out by number of logical connections, cost, service areas, and development opportunities



PROPOSED PHASING STRATEGY

- Phasing plan should be periodically revisited throughout design development



ECONOMIC IMPACTS & RETURN ON INVESTMENT



UPFRONT CONSTRUCTION IMPACTS

- Construction employment opportunities and tax revenues will be generated as a result of the Ecusta Rail Trail project.
- An estimated *\$17 million in expenditures and 180 jobs* will be created in Henderson and Transylvania counties.



Source: multiplier data taken from the US Department of Commerce's Regional Input-Output Modeling Systems (RIMS II)



PROPERTY VALUE IMPACTS

- Greenways attract home buyers
- The Ecusta Rail Trail will be a recreational resource, increasing demand to live in proximity to the trail
- Demand will increase house values and population, which in turn generates additional tax revenues for local jurisdictions



PROPERTY VALUE IMPACTS

- Gains in household wealth are anticipated to result in a one-time four percent increase in property values and an annual \$160,000 in local property tax revenues for properties located within a quarter mile of the proposed Ecusta Rail Trail.

Source: US Census Bureau, NC Dept. of Revenue, Henderson and Transylvania County Assessor's Office, Econsult Corporation



GREENWAYS ATTRACT NEW BUSINESSES

Cafés, coffee shops, bicycle shops are a draw along greenways

Employers offering incentives to employees to commute by bicycle to work



GREENWAYS ATTRACT NEW BUSINESSES

“Investing in our greenway system has made us more competitive in the world market place, and in fact is one reason that companies choose to locate in the Park.”

- Elizabeth Rooks, Executive Vice President for Development, Research Triangle Foundation of North Carolina



*“The beer culture, **water quality, and quality of life** are excellent. We feel lucky to be part of this community.”*

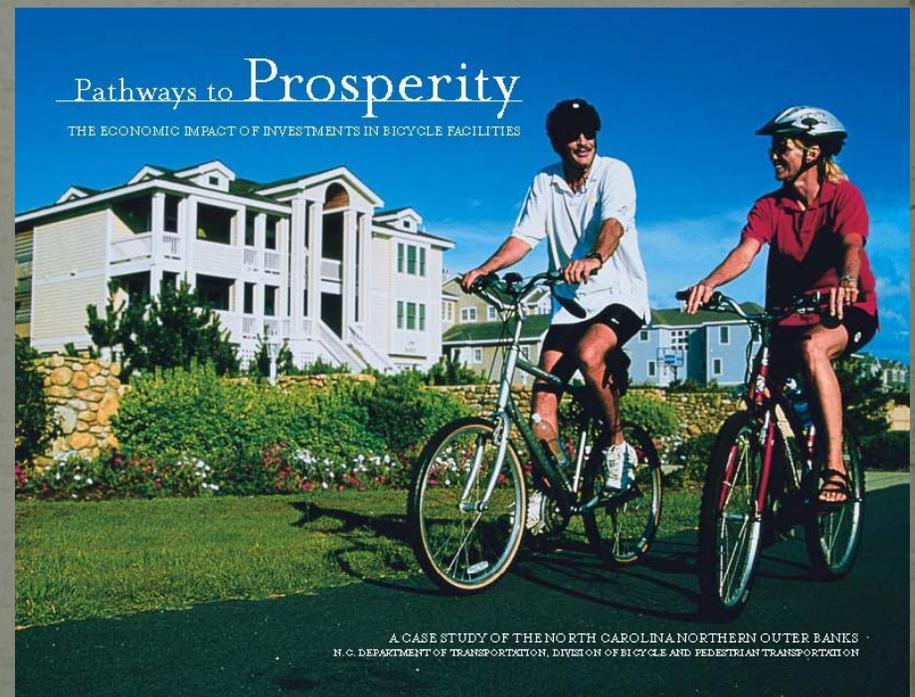
– Ken Grossman, founder of Sierra Nevada



TOURISM IMPACTS

Tourism is the 1st, 2nd, or 3rd largest economic engine in *every state in the nation*. (source: Civic Tourism, 2010)

- The proposed Ecusta Rail Trail will become a regional attraction drawing visitors to the area
- Visitors spend money on local goods and services, which supports local business and government



Source: NCDOT 2003 Report - *Pathways to Progress*

TOURISM IMPACTS

- Conservative estimates can be made that suggest the rail trail will draw about *20,000* visitors annually with a *\$2 million* increase in visitor spending and the creation of *27* jobs.

Source: NC Division of Tourism, US Department of Commerce, Econsult Corporation



DIRECT USE IMPACTS

- Direct use impacts place a value on the desire to use a recreational resource such as the Ecusta Rail Trail
- By measuring what users are “willing to pay” to use a public amenity, estimates can be quantified that translate to a monetary value as a result of trail use
- It is estimated that the Ecusta Rail Trail will result in a *direct use benefit of \$2.2 million in value to users* who choose from a variety of recreational resources or other options that cost money

Source: NC
Division of Parks
and Recreation,
Econsult
Corporation, US
Army Corps of
Engineers



ROCHESTER CYCLING SUMMIT

Saturday October 24, 2009
RIT Center for Student Innovation
Building 87, First Floor

Purpose: To celebrate and discuss some exciting bicycle and alternative transportation initiatives, and to make connections between the Rochester cycling community, city planners, and environmentalists.

Schedule:
11:00 Ride from Downtown
12:00 Climate Action Rally
1:00 Slow Food Lunch
2-4:00 Rochester Cycling Summit

Featuring:

- exhibits on pedal power and bicycles as energy-conservation solutions
- free rides on electric bikes and recumbents
- see experimental bikes and trikes
- local bicycle clubs, organizations, and advocacy groups
- exhibits describing Rochester area bicycling initiatives
- discussion of possible futures for Rochester Cycling

and Much More!!!

RIT

Center for Student Innovation
Building 87
Free Car Parking
in Lot "D" - Bike

Web: <http://RochesterGreenway.org>
Email: Jon.Schuh@rit.edu
Phone: 585-738-6696

BIKE THE GREEN WAY

INTERNATIONAL DAY OF CLIMATE ACTION!

350

Oct 24th, 2009

10am leave RIT Sentinel for downtown or Library.

11am leave from Downtown Rochester Library.

12pm arrive at RIT Student Center for Innovation w/ Rally from RIT President Bill Dessler.

2pm The Rochester Bike Summit, discuss the future of bicycling in Rochester.

- stations for bike bicycle maintenance
- exhibits on pedal power
- presents and exhibits describing innovative bike initiatives
- a short film describing the potential for making Rochester a world class center for the recycling and functional transport
- free rides on electric bikes and recumbents

for more info visit rochestergreenway.org or www.350.org

Assess us along the Greenway!

10AM

12PM

COME ONE
COME ALL

HEALTH CARE COST REDUCTION IMPACTS

- Studies consistently demonstrate that daily physical activity improves health outcomes and reduces health care costs, increases worker productivity, and reduces chronic illness and short-term health care needs



Source: Centers for Disease Control, 2009

HEALTH CARE COST REDUCTION IMPACTS

- Making exercising options more accessible to a variety of users on the Ecusta Rail Trail will encourage new physical activity among some 1,600 users per year and yield an estimated health care cost reduction impact of about \$5 million per year

Source: US Census Bureau, Econsult Corporation

Trails for Health

PROMOTING HEALTHY
LIFESTYLES & ENVIRONMENTS



ESTIMATED DEVELOPMENT COSTS

Summary of Estimated Costs and Benefits

COSTS

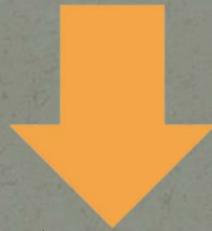
Acquisition	\$4,000,000
Design and Engineering	\$1,343,903
Construction	
Earthwork, Demolition, Clearing, & Erosion Control	\$2,407,804
General Construction	\$3,116,250
Bridges	\$2,089,800
Additional Construction	\$635,335
Trailhead Construction	\$2,950,000
Cost Factor	\$2,239,838
TOTAL COSTS (ONE-TIME)	\$18,782,929

BENEFITS

Economic Impact of Upfront Construction (one-time)	\$18,000,000
Property Value Impact	
Property Value Increases (one-time)	\$22,000,000
Additional Tax Revenues (annual)	\$160,000
Economic Impact of Additional Tourism Activity (annual)	\$2,000,000
Direct Use Value Impact (annual)	\$2,000,000
Health Care Cost Reduction Impact (annual)	\$5,000,000
Environmental Impact (annual)	Minimal
TOTAL BENEFITS (ONE-TIME)	\$40,000,000
TOTAL BENEFITS (ANNUAL)	\$9,160,000

SUMMARY OF RETURN ON INVESTMENT

Upfront investment of **\$13.6 - \$17.1 million**
for acquisition and trail construction



\$40 million one-time return resulting from direct and indirect expenditures for materials and labor costs during construction, and initial property value increases

\$9.2 million return annually can be estimated on tax revenues, visitor spending, health care cost savings, property value increases, and direct use value

CONCLUSION

- It is feasible to convert the existing 20-mile rail corridor into a shared-use trail for walking, bicycling, and other recreational uses
- The conversion can be accomplished sufficiently and legally through the process of railbanking which will preserve the corridor for public use
- The project will require regional cooperation and commitment by local leaders, businesses, and citizens
- Converting the rail corridor into a shared-use trail will transform the community, providing outdoor recreation and health benefits, economic benefits, additional transportation options, reduce automobile dependency, and improve overall quality of life

VIEW STUDY

- **Henderson County Library – Main Branch**
- **Henderson County Library – Etowah Branch**
- **Transylvania County Library – Brevard**
- **City of Hendersonville Planning Department**
- **Town of Laurel Park**
- **City of Brevard**
- **Henderson County Planning Department**
- **Transylvania County Planning & Economic Development Department**

VIEW STUDY

www.cityofhendersonville.org

www.cityofbrevard.com

www.ecustatrail.org



ADDITIONAL RESOURCES

www.americantrails.org

www.railstotrails.org



A topographic map of the Hendersonville, North Carolina area, showing terrain contours, roads, and water bodies. The map is overlaid with text providing contact information. Key locations labeled include Mills River, Hendersonville, Laurel Park, and Flat Rock. Major roads like US-25, US-74, and US-26 are also visible.

Contact Information

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