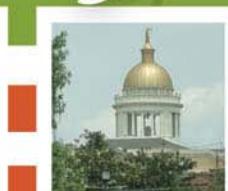




# Facuta Rail Trail Planning Study & Economic Impact Analysis

*Johnson's Map of routes across the continent*

March 2012



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CORPORATION®  
*Member of the Econsult/Fairmount Group*

**SWA** **alta**  
GREENWAYS

# **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**

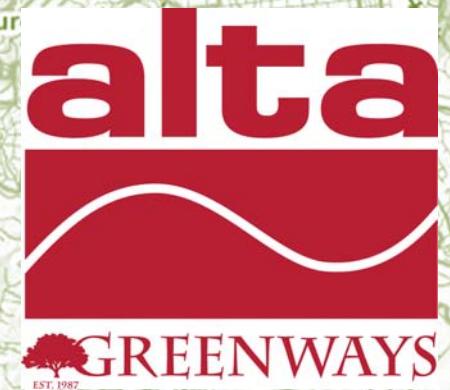
**North Carolina Department of  
Transportation**

**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



**SeamonWhiteside**  
+ ASSOCIATES

leave  
your  
mark+

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



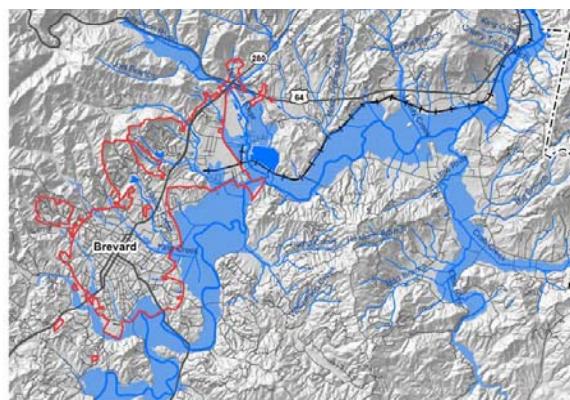
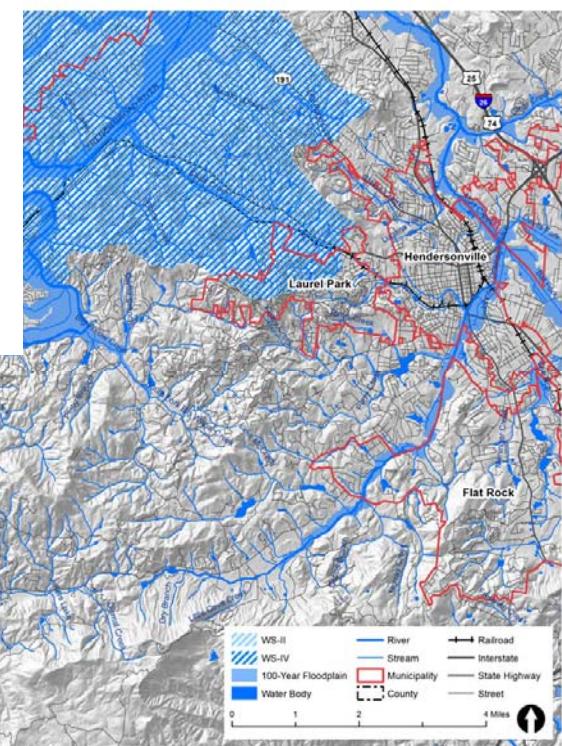
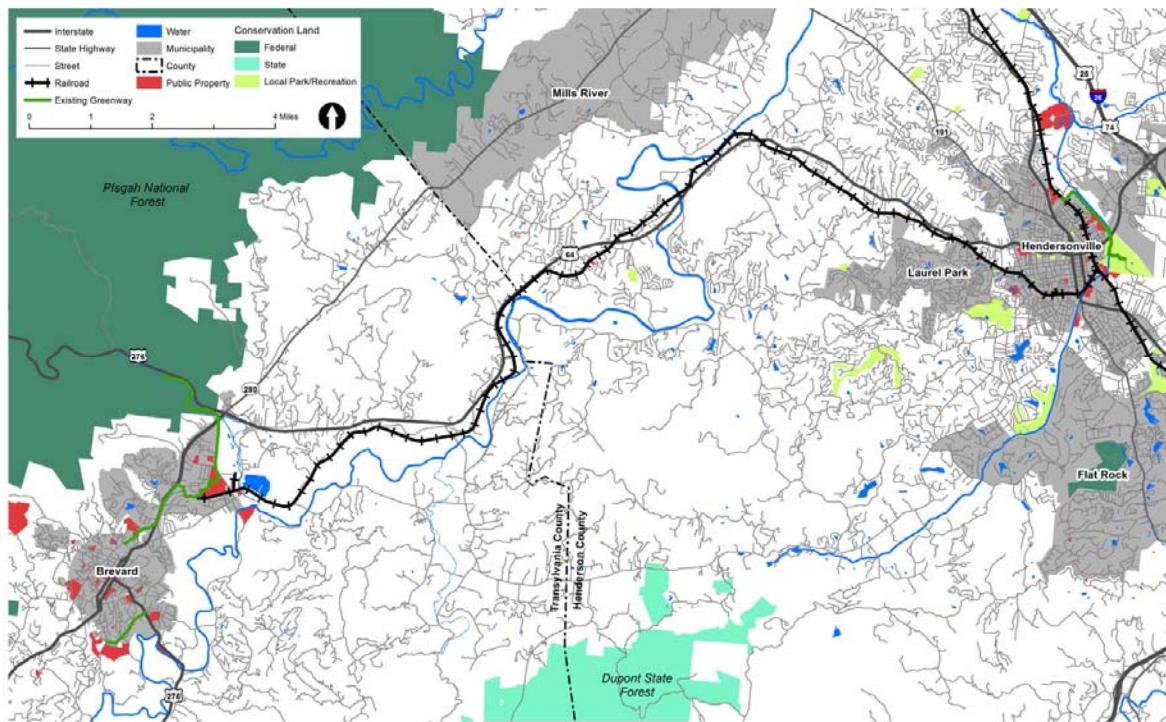
# **ECUSTA RAIL TO TRAIL**

## **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.

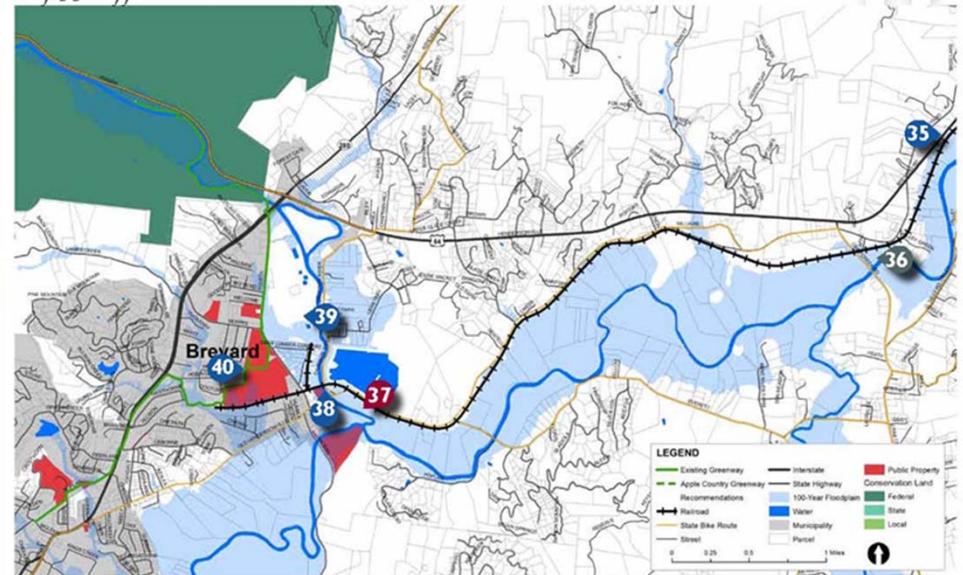
**37** Constraint – Due to poor environmental practices in the past, there may be potential health and environmental issues where the railroad runs behind the paper mill reservoir, dam, and spillway near Brevard.

**38** Opportunity – While the railroad tracks 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 Pisgah National Forest.

Map 3.5 – Opportunities and Constraints Brevard Area



Identified 40 Opportunities  
and Constraints

# EVALUATE THE EXISTING RAILROAD CORRIDOR

**Overall View South**



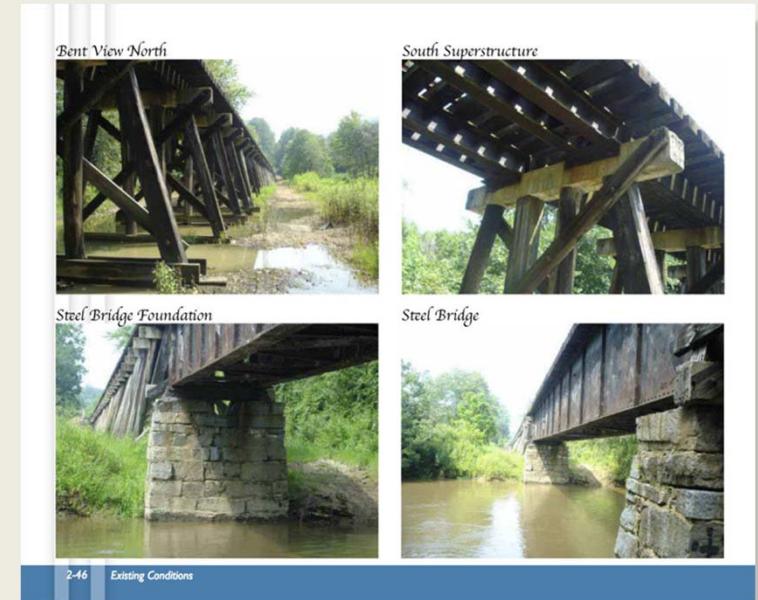
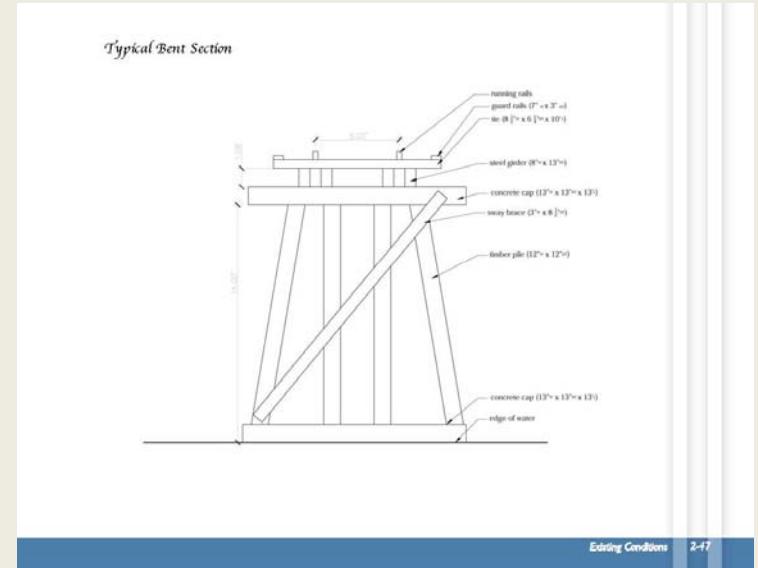
**Bridge Number:** 10  
**County:** Henderson County  
**Inspection Date:** July 26, 2011  
**Inspection Type:** Visual  
**Year Built:** Unknown  
**Number of Ties:** 565  
**Percent Deteriorated:** 10%  
**Tie Span:** Varies (18"-24" O.C. Typical)  
**Ties Secured:** Yes

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 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)

**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  $\frac{1}{2}$ " deteriorated. Timber piles show no signs of deterioration and only minor weathering, but do show signs

**2-44 Existing Conditions**



Identified 16 Bridge Locations

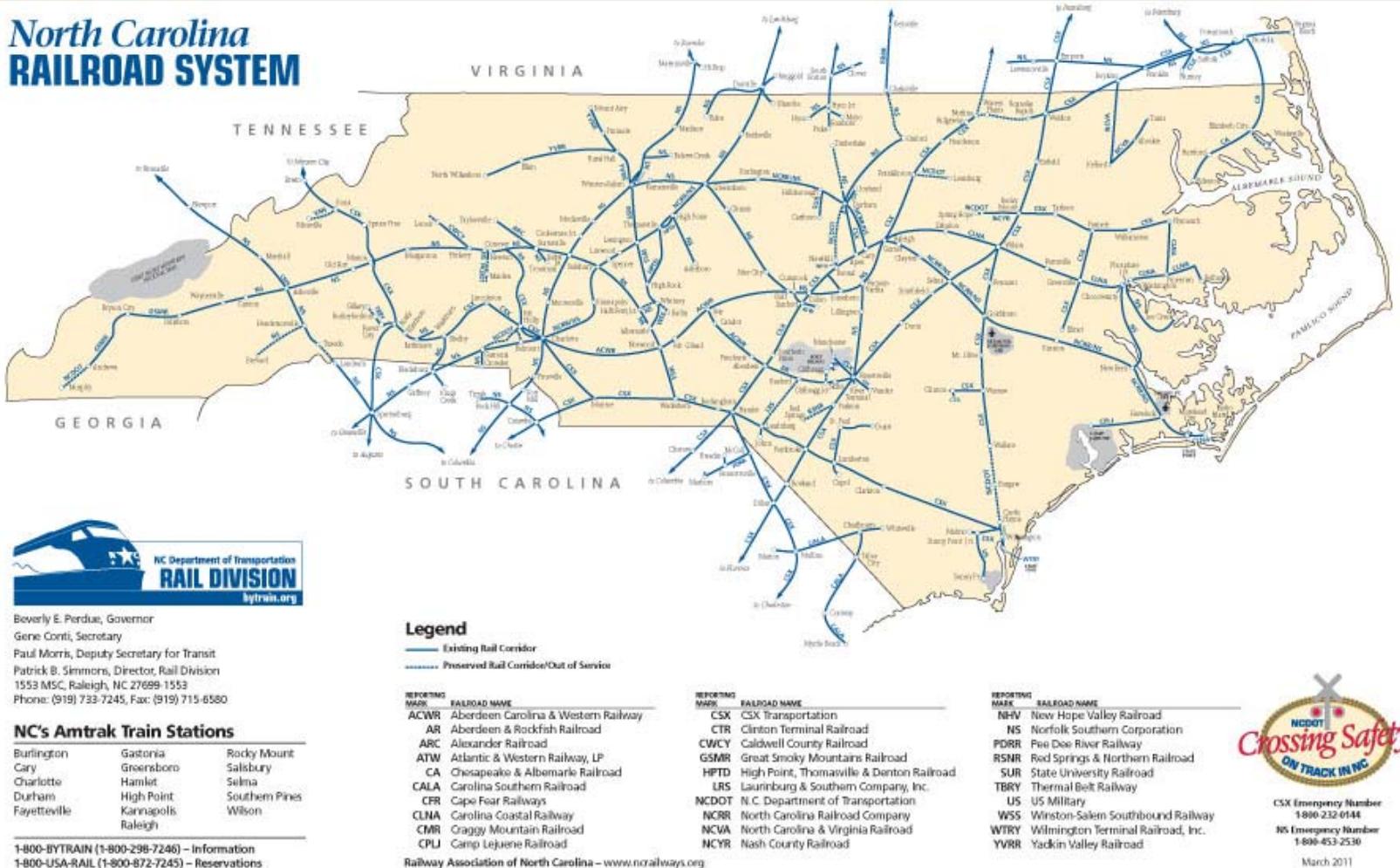
# DETERMINING PROJECT FEASIBILITY: WHAT ARE THE BENEFITS?

- 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

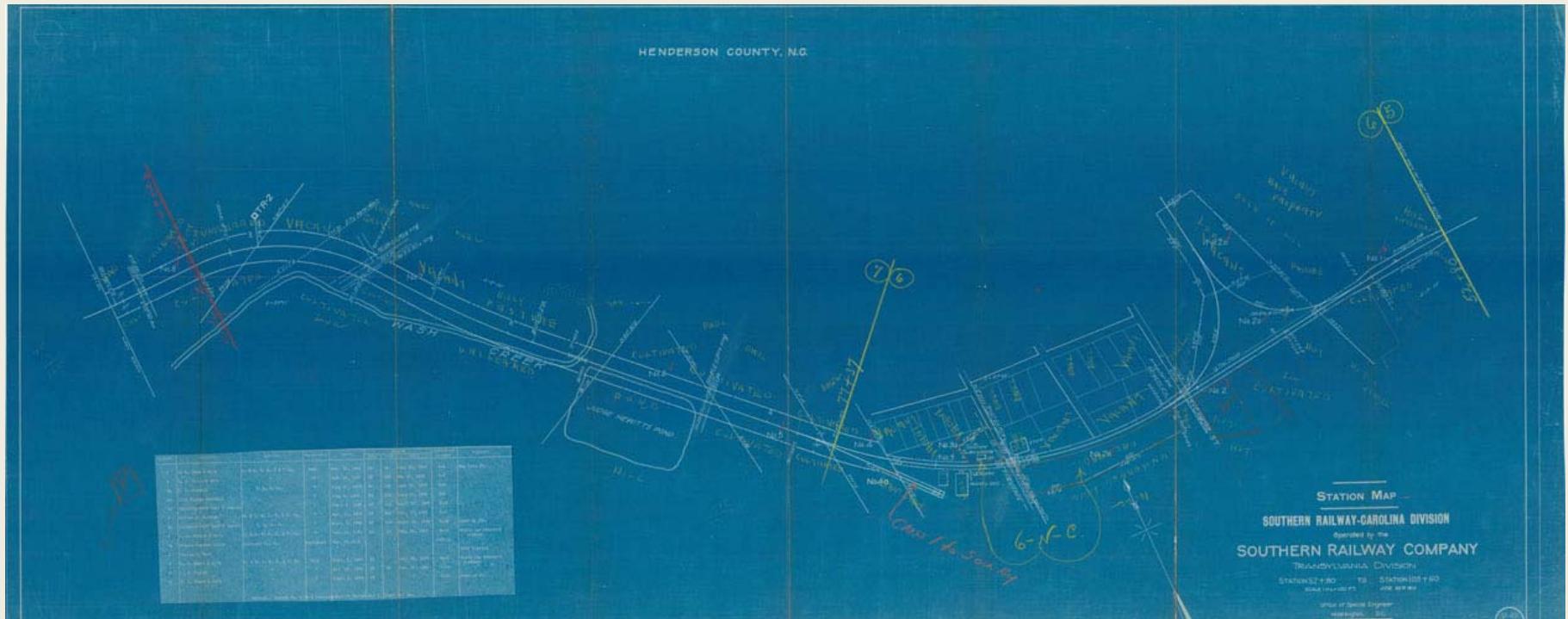
## North Carolina RAILROAD SYSTEM



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

# RAILROAD OWNERSHIP ANALYSIS

- Valuation maps reveal 95% of corridor owned in fee simple by Norfolk Southern
  - Remaining 5% easements encumbered by Norfolk Southern



## 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

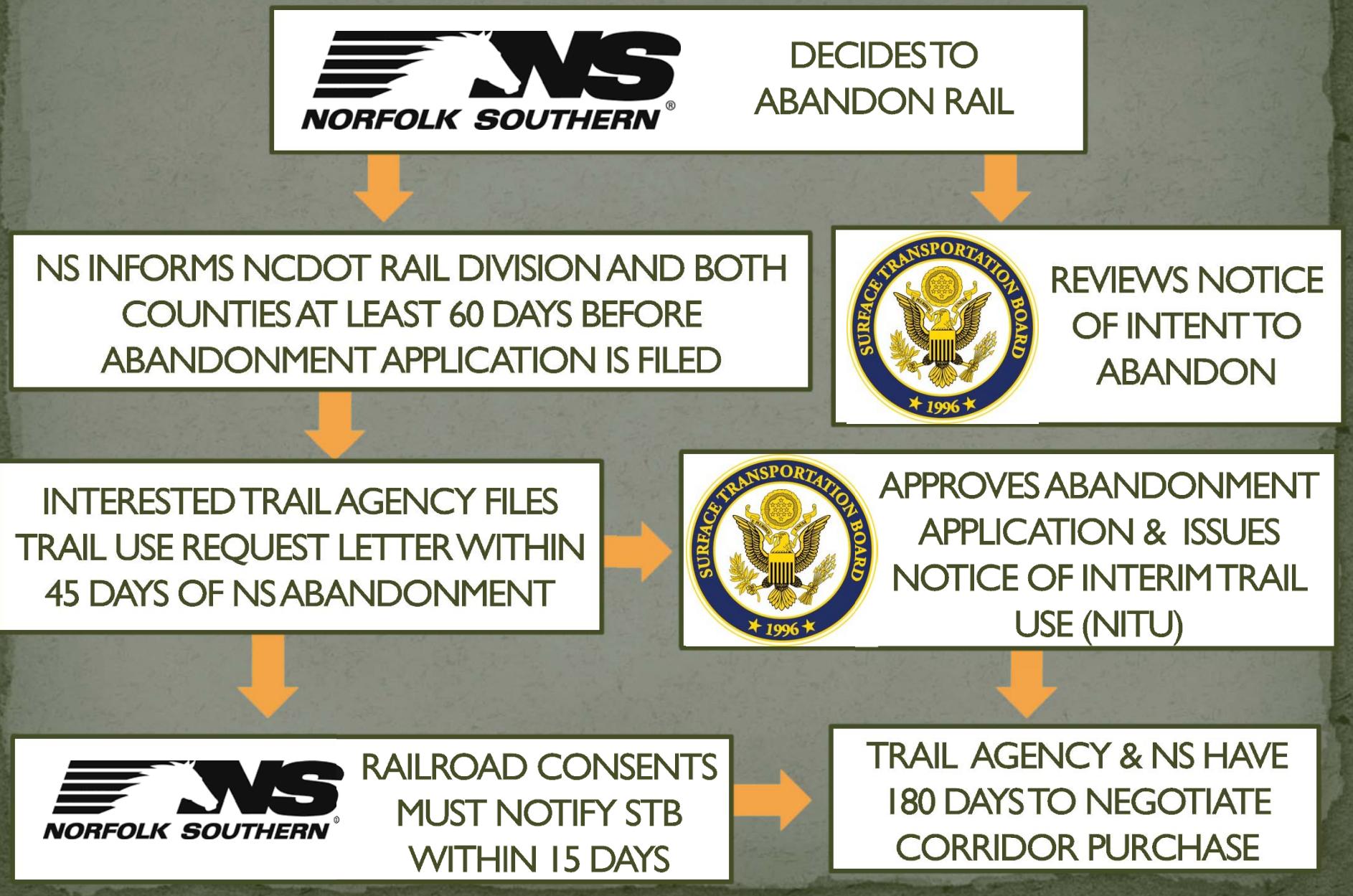
To allow the interim use of any established railroad rights-of-way in furtherance of the national policy to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use.

# 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



# 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

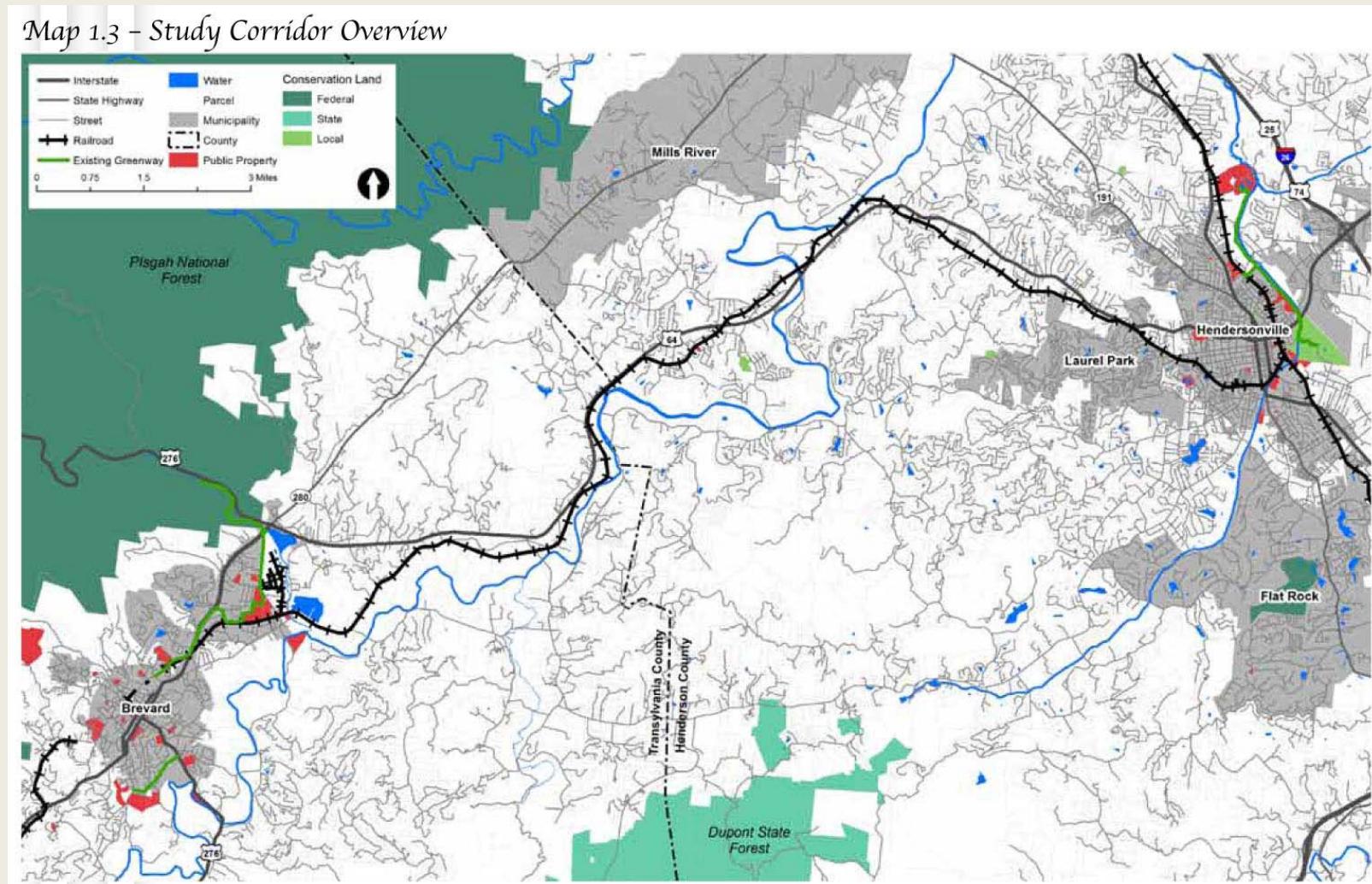
- Negotiations with Norfolk Southern will ultimately determine cost
- Railbanking sufficiently and legally transfers ownership rights
- Current market value can be estimated at approximately \$3.7 million
- Consider potential acquisition partners such as NCDOT Rail Division

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

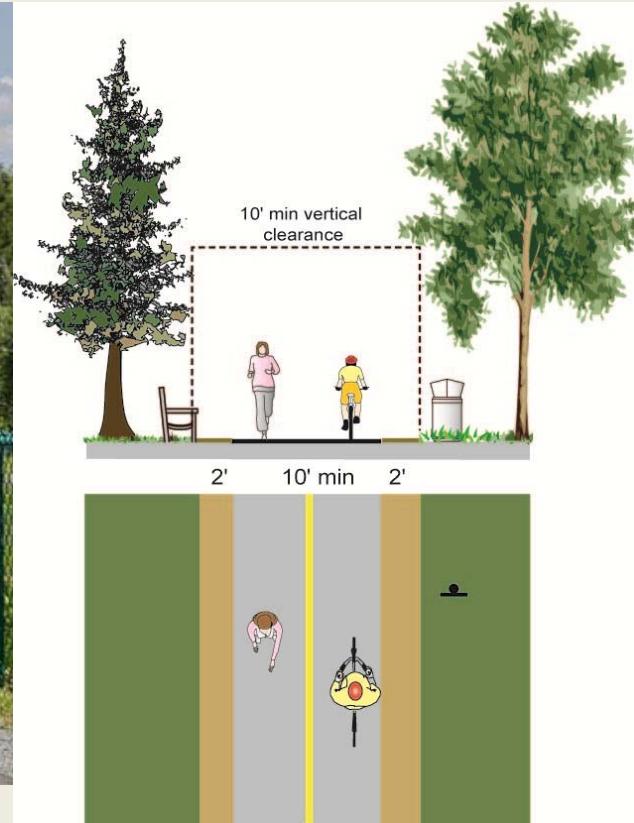


# SHARED-USE TRAIL DESIGN



# 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

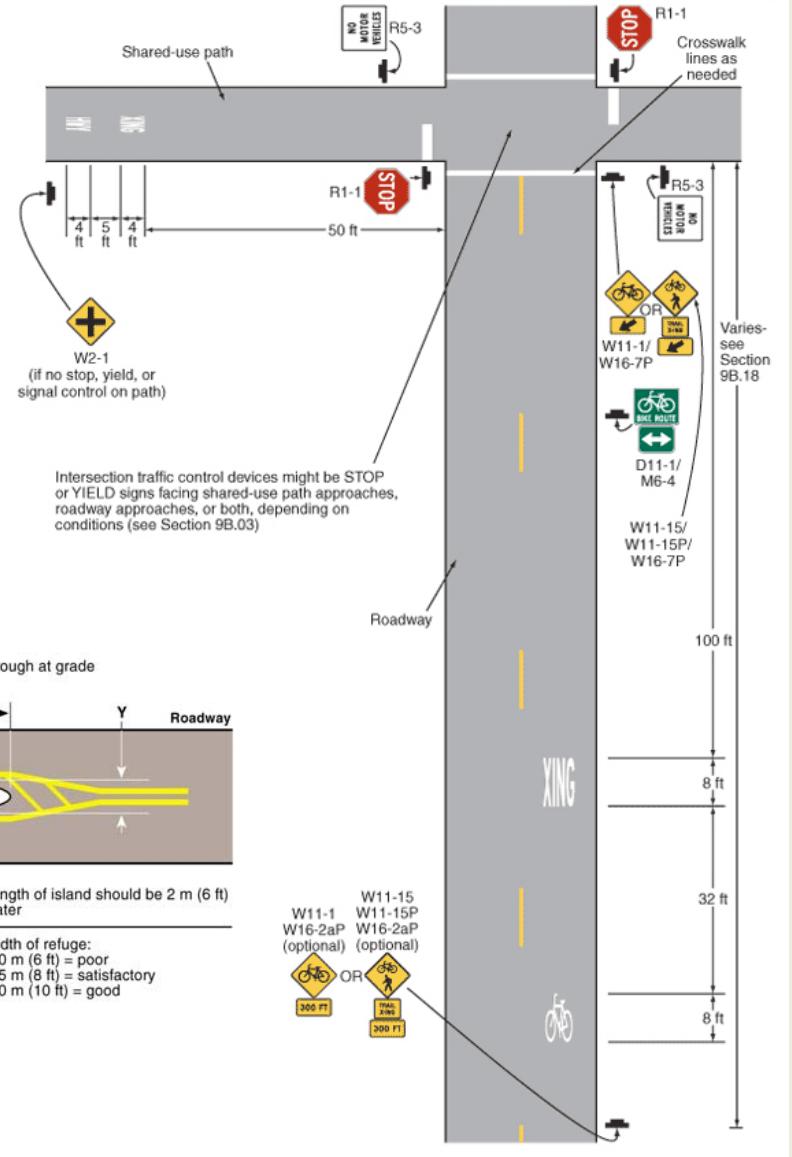


# DESIGN GUIDELINES: ROADWAY CROSSINGS



Figure 23. Specification for a Created Refuge Area

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

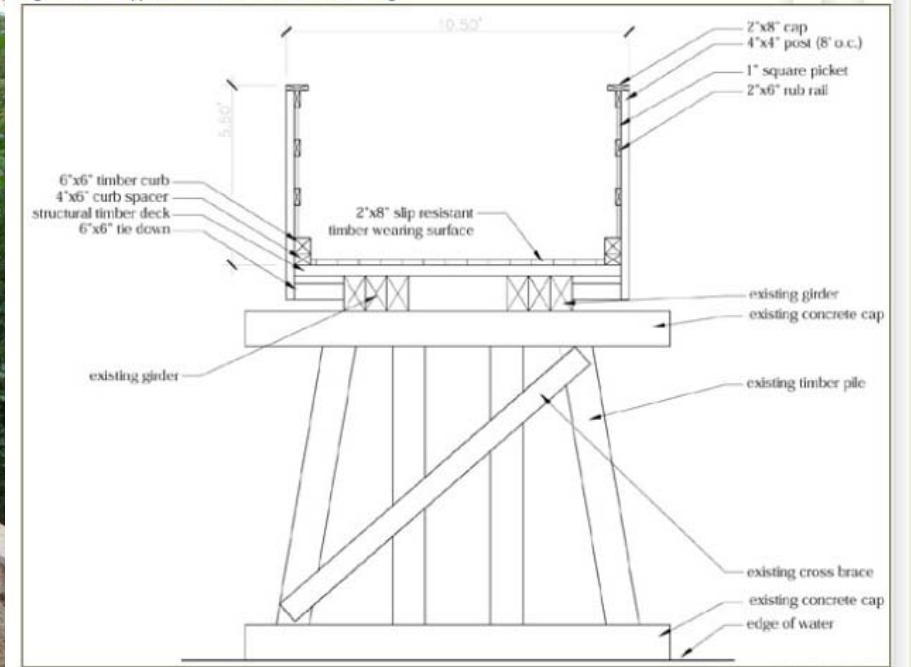


# DESIGN GUIDELINES:TRESTLES & BRIDGES

- 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

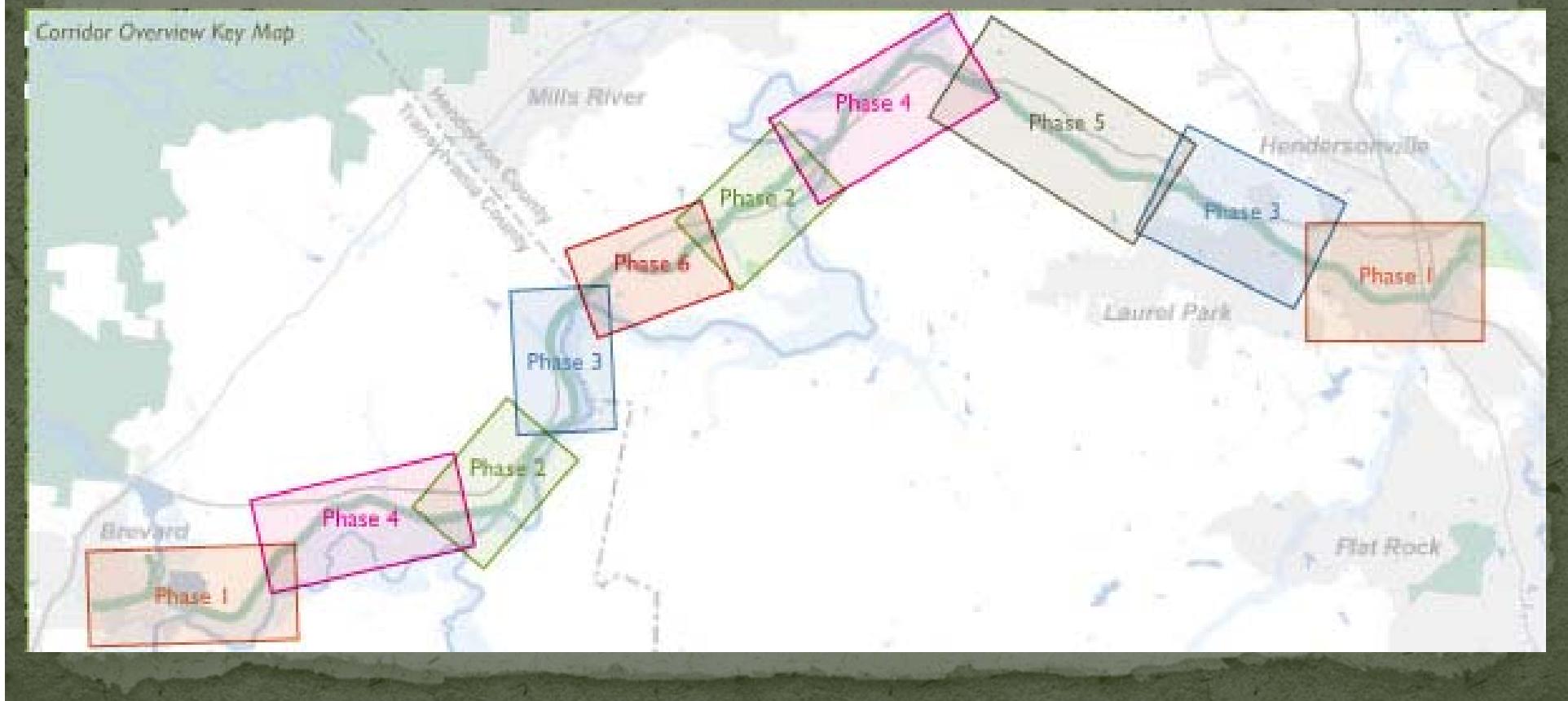


## ESTIMATED DEVELOPMENT COSTS

- **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**

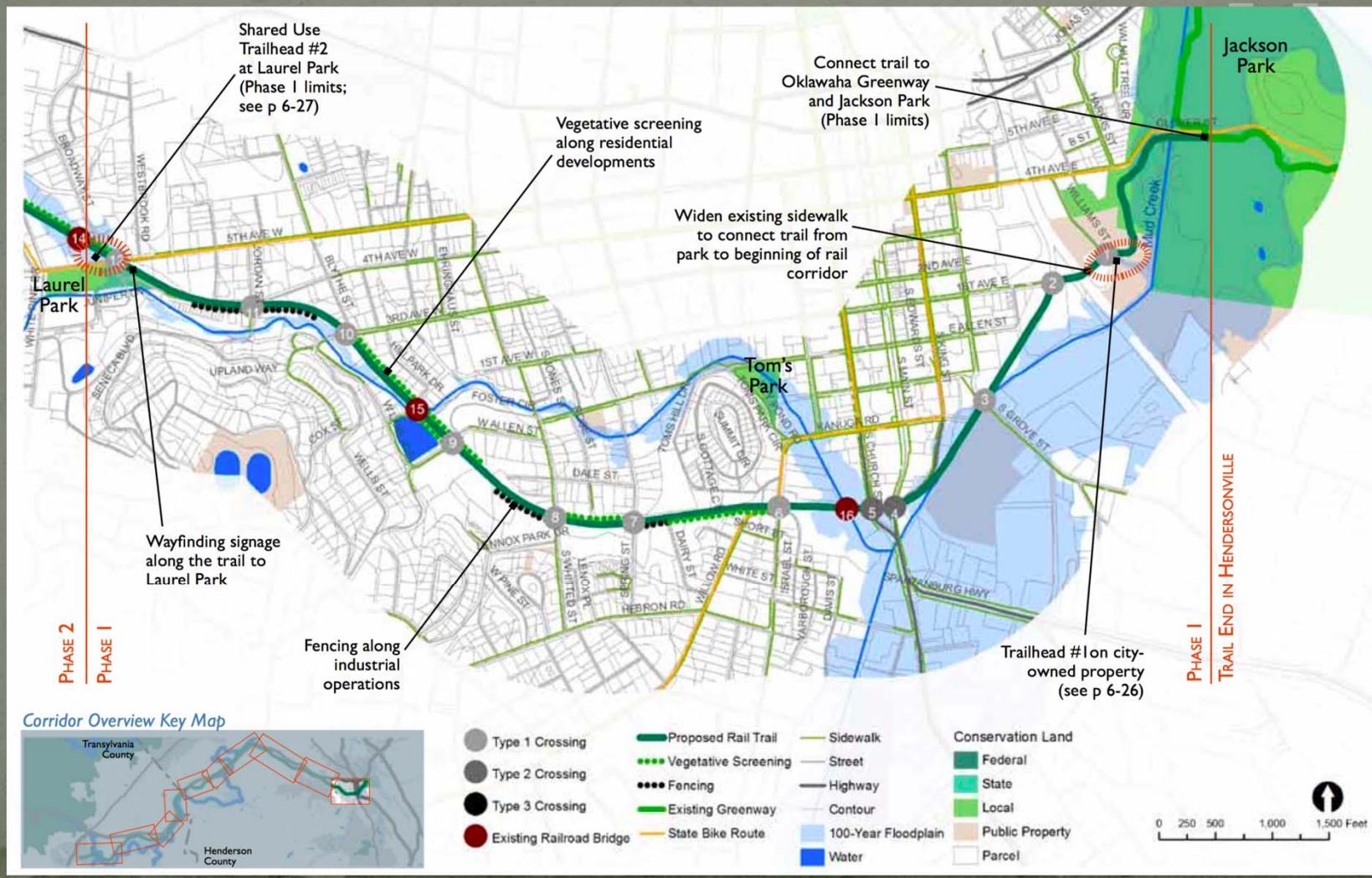
# PROPOSED PHASING STRATEGY

- 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

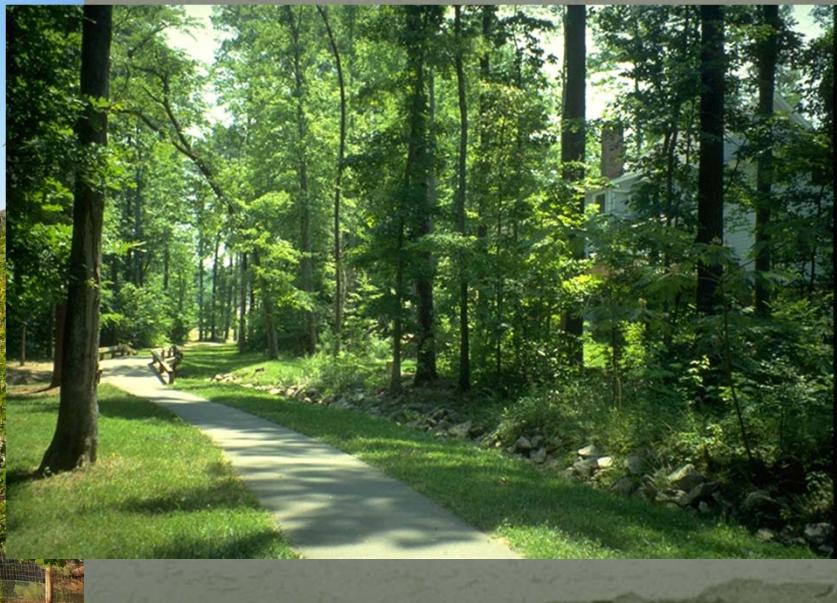
- Construction employment opportunities and tax revenues will be generated as a result of the Ecusta Rail Trail project.
- An estimated *\$17 million in expenditures and 180 jobs* will be created in Henderson and Transylvania counties.



*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.

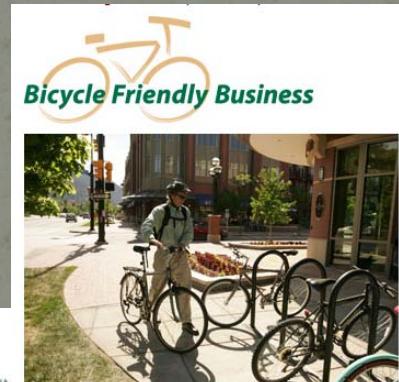
Source: US Census Bureau, NC Dept. of Revenue, Henderson and Transylvania County Assessor's Office, Econsult Corporation



# 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.”*

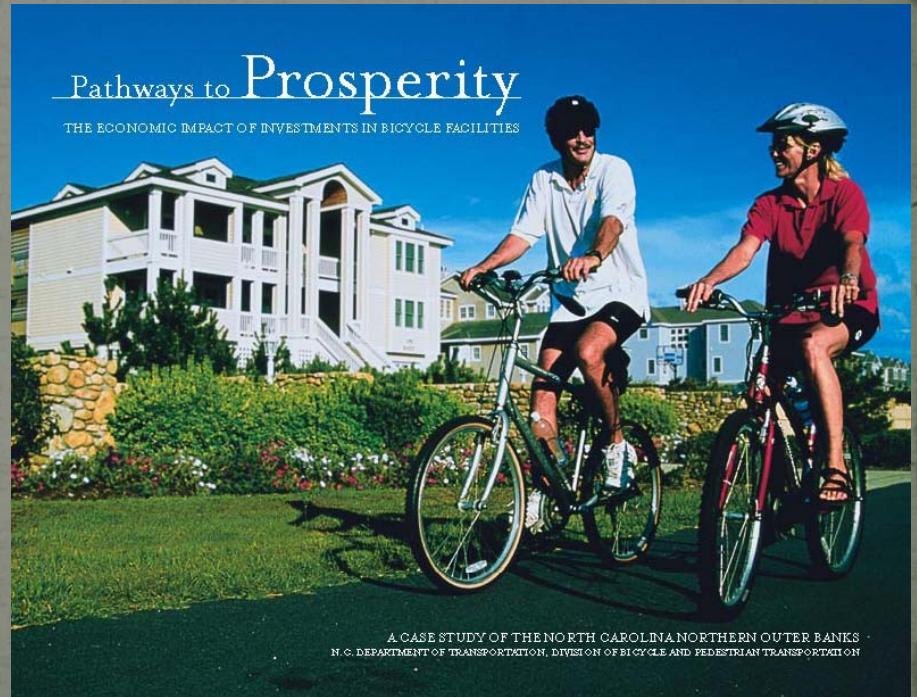
*— Ken Grossman, founder of Sierra Nevada*



# 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 bicycling community, city planners, and environmentalists.

**Schedule:**  
11:00 Ride from Downtown  
12 pm 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  
Free Car Parking  
in Lot "S". Bike

Web: <http://RochesterGreenway.org>  
Email: [Jon.Schulz@rit.edu](mailto:Jon.Schulz@rit.edu)  
Phone: 585-738-6696

**BIKE THE GREEN WAY**  
Oct 24th, 2009  
10am leave RIT Sentinel for downtown or  
11am leave from Downtown Rochester Library.  
12 pm arrive at RIT Student Center for Innovation w/ Rally from RIT President Bill DeSisto.  
2pm The Rochester Bike Summit, discuss the future of bicycling in Rochester.

\* exhibits for free bicycle maintenance  
\* posters and exhibit displays from various bike initiatives  
\* discussion of possible futures for making Rochester a world class center for recreational and functional transportation  
\* free rides on electric bikes and recumbents

for more info visit [rochestergreenway.org](http://rochestergreenway.org) or  
[www.350.org](http://www.350.org)

**COME ONE COME ALL**

An illustration of three stylized human figures riding bicycles. One figure is in the foreground, and two others are slightly behind and to the sides.

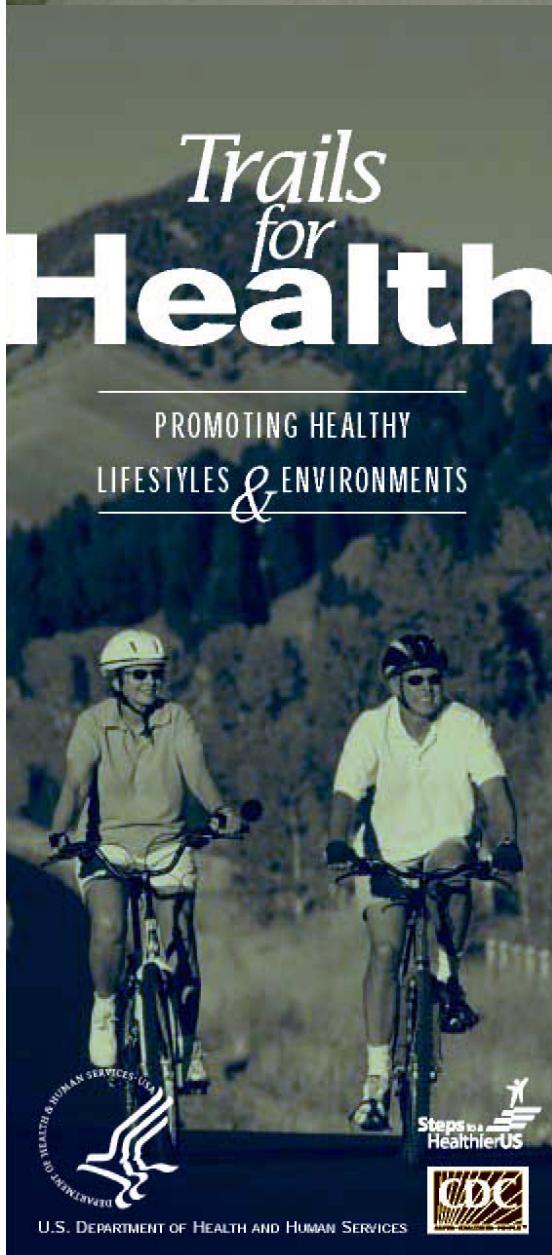
# HEALTH CARE COST REDUCTION IMPACTS

- 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, 2004

# 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



# 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
<b>TOTAL COSTS (ONE-TIME)</b>	<b>\$18,782,929</b>

### 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
<b>TOTAL BENEFITS (ONE-TIME)</b>	<b>\$40,000,000</b>
<b>TOTAL BENEFITS (ANNUAL)</b>	<b>\$9,160,000</b>

## 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

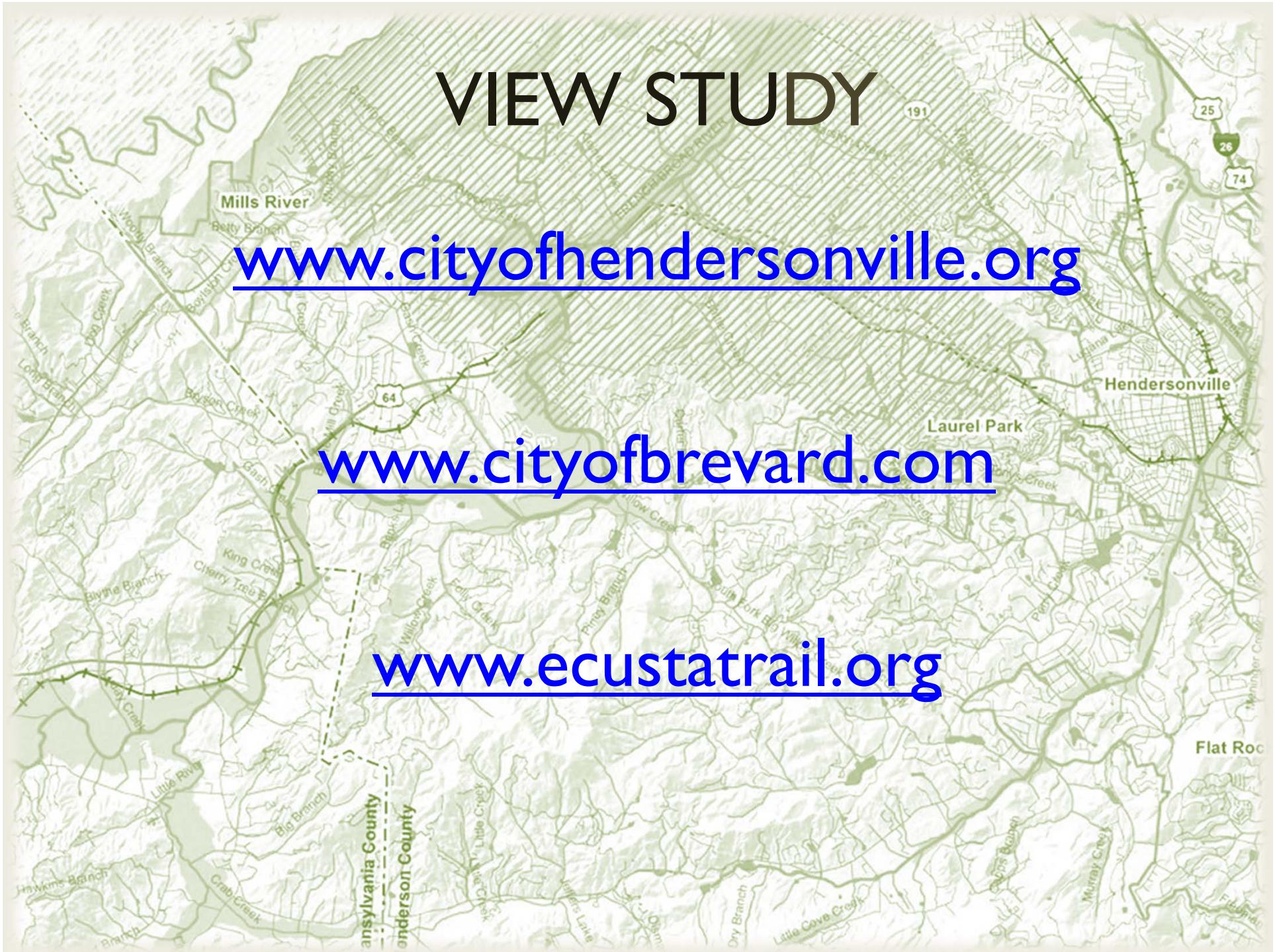
- **Henderson County Library – Main Branch**
- **Henderson County Library – Etowah Branch**
- **Transylvania County Library – Brevard**
- **City of Hendersonville Planning Department**
- **Town of Laurel Park**
- **City of Brevard**
- **Henderson County Planning Department**
- **Transylvania County Planning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

**VIEW STUDY**

**[www.cityofhendersonville.org](http://www.cityofhendersonville.org)**

**[www.cityofbrevard.com](http://www.cityofbrevard.com)**

**[www.ecustatrail.org](http://www.ecustatrail.org)**



# ADDITIONAL RESOURCES

[www.americantrails.org](http://www.americantrails.org)

[www.railstotrails.org](http://www.railstotrails.org)



# Contact Information

Sue Anderson, Planning Director  
Hendersonville City Hall  
145 5<sup>th</sup> Avenue East  
(828) 697-3088  
[sanderson@cityofhendersonville.org](mailto:sanderson@cityofhendersonville.org)

