

**FINAL DESIGN CONCEPTS**  
Riparian Buffer Planting Species

**TREES**



*Platanus occidentalis*  
Sycamore



*Betula nigra*  
River Birch



*Quercus phellos*  
Willow Oak



*Liriodendron tulipifera*  
Tulip Poplar



*Quercus bicolor*  
Swamp White Oak



*Nyssa sylvatica*  
Black Gum



*Quercus palustris*  
Pin Oak



*Acer rubrum*  
Red Maple



*Carya cordiformis*  
Swamp Hickory



*Carpinus caroliniana*  
American Hornbeam



*Liquidambar styraciflua*  
Sweet Gum

**SMALL TREES & SHRUBS**



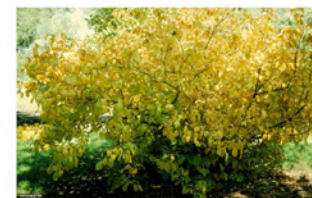
*Cercis canadensis*  
Redbud



*Ilex glabra*  
Inkberry



*Chionanthus virginicus*  
Fringe Tree



*Lindera benzoin*  
Common Spicebush



*Ilex verticillata*  
Winterberry



*Myrica pensylvanica*  
Northern Bayberry



*Viburnum dentatum*  
Arrow-wood Viburnum



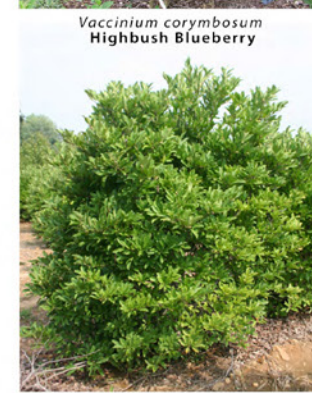
*Spiraea alba*  
Meadowsweet



*Aronia arbutifolia*  
Red Chokeberry



*Vaccinium corymbosum*  
Highbush Blueberry



*Magnolia virginiana*  
Sweetbay Magnolia

**GRASSES**



*Chasmanthium latifolium*  
River Oats



*Panicum virgatum*  
Switch Grass



*Juncus effusus*  
Soft Rush



*Andropogon glomeratus*  
Bushy Bluestem

Richlands Walking Trail Extension

September 24, 2013

Riparian Buffer Planting Species

d.l.c.d. Inc. This drawing is conceptual and was prepared to show approximate location and arrangement of the features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is undertaken. The Community Design Assistance Center is not responsible for the inappropriate use of this drawing.

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center

An Outreach Center of the  
College of Architecture + Urban Studies  
Virginia Polytechnic Institute and State University



**FINAL DESIGN CONCEPTS**

**Sustainable Materials**

**LED Path Lighting**

**Protected Light Structures**

Unshielded      Shielded

**Bridge LED Lighting**

Shielded LED lighting on trailway lights and bridge lights reduces the amount of light pollution and creates an aesthetically pleasing experience along the trail. The use of LED lighting reduces annual costs and had a longer life span than the most common outdoor lighting.

**Riverbank Planting Bed**

**Aesthetically Pleasing Rip Rap**

**Trench Drain**

**Sustainable Riverbank and Trail Erosion Control**

Erosion control methods prevent large amounts of soil loss from wind and water. Options for preserving and maintaining the banks of the Clinch River where a greenway could potentially be close to are to strengthen the soil and reduce runoff with dense vegetation. Having drains, such as a trench drain, run along the edge of the trail collects excess runoff and has the ability to empty out in a less impacted area.

**Fiberglass Boardwalk**

**Sustainable Fiberglass Bridges and Boardwalks**

Fiberglass structures have been known for their light weight, high strength and attractiveness when built within the natural environment. Maintenance on these bridges is generally low due to fiberglass being unaffected by termites and most chemicals allowing it not to rot or rust. Fiberglass boardwalks provide the same advantages as well as give an aesthetically pleasing experience through the environment at a low elevation.

**Sustainable Trail Material and Drainage**

Trail material is vital to its lifespan as well as its impact on the environment. Pervious pavement and similar methods allow for water to infiltrate into the ground and reduce runoff. Such pervious material like concrete allows for infiltration as well as substantially reduces annual cost, as asphalt typically needs repairs on potholes from sitting water and overuse. Recycled rubber pavers are slip-resistant, permeable, and impact absorbing.

**Permeable Concrete**

**Fiberglass Bridge**

**Fiberglass Bridge**

**Gravelpave2**

**Recycled Rubber Pavers**

Eliminating negative environmental impact through sensitive design

Richlands Walking Trail Extension  
September 24, 2013  
Sustainable Greenway Options

community design assistance center

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# Trails Create Value and Generate Economic Activity



**Trails** and green space are important community amenities that help to spur economic development. From home owners choosing to live along a park-like trail to bicycle tourists making their way from small town to small town, trails are important community facilities that attract people and dollars. Trails can be powerful tools for economic development. The New York Times recently noted a National Association of Homebuilders study that found that trails are the number one amenity that potential homeowners cite around the country are building vital, economically stable neighborhoods that are truly sustainable. There are many examples that affirm the positive connection between trails, greenspace and property values. Residential properties will realize a greater gain in value the closer they are located to trails and greenspace. The more people walking and bicycling on trails creates safer environments and connections between local businesses and communities.



**Marketing Examples:** Small businesses and real estate agents understand the benefits of marketing their services along widely used greenways.



## Increased Property Value Examples

- A 2003 study found that the amenity value of trails was associated with over \$140 million in increased property values in Indianapolis.
- In Austin, Texas, increased property values associated with a single greenway were estimated to result in \$13.64 million of new property tax revenue.
- Developers of the Sheperd's Vineyard housing development in Apex, N.C., added \$5,000 to the price of 40 homes adjacent to the regional greenway. Those homes were the first to sell.
- A 1998 study of property values along the Mountain Bay Trail in Brown County, Wisconsin shows that lots adjacent to the trail sold faster and for an average of 9 percent more than similar property not located next to the trail.
- In Salem, Oregon, homes adjacent to a greenway sold for about \$1,200/acre more than homes only 1000 feet away.

## Trail Tourism Examples

- The Mineral Wells to Weatherford Rail-Trail near Dallas, Texas attracts approximately 300,000 people annually and generates local revenues of \$2 million.
- Allegheny Passage, PA: The 2008 Trail Town Economic Impact Study found a solid economic contribution from trail users, with respondents estimating that on average, one-quarter of the business they received in 2007 could be attributed to the existence of the area's biking/hiking trail.
- The Virginia Creeper Trail generates \$1.59 million in annual spending; supporting approximately 27 new full-time jobs.
- In the months following the Mineral Belt Trail in Leadville, CO, the city reported a 19 percent increase in sales tax revenues. Owners of restaurants and lodging facilities report that they are serving customers who come into town specifically to ride the trail.



## Community Impact Example

- The Outer Banks, NC: Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment.



## Community Impact Example

- Damascus, VA: At the Virginia Creeper Trail, a 34 mile trail in southwestern Virginia, locals and non-locals spend approximately \$2.5 million annually related to their recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly in the Washington and Grayson County economies.



## Sources

- <http://www.greenways.com/greenwaybenefits.html>
- <http://www.americantrails.org/resources/economics/NPSeconStudy.html>
- [http://www.railstotrails.org/resources/documents/resource\\_docs/tgc\\_economic.pdf](http://www.railstotrails.org/resources/documents/resource_docs/tgc_economic.pdf)



## CONCLUSION

Richlands' Clinch River Pedestrian Walkway Extension offers a great opportunity to connect downtown Richlands with various amenities, such as Critterville Park and the historic swinging bridge, and to provide increased access to the river for the larger community. In addition, the extended greenway provides opportunities for increased health and education and, through the development of new greenspaces, offers new opportunities for outdoor recreation and events. The master plan is a result of a collaborative effort between the Town of Richlands, its residents, and the CDAC team. It is our hope that this document serves as a catalyst for the future development of the Clinch River Pedestrian Walkway.

## APPENDIX

### **Rail-Trails and Safe Communities: The Experience of 372 Trails**

56

### **Crime, Property Values, Trail Opposition & Liability Issues**

88

### **Promoting Greenway Safety**

99

### **Greenway Makes a Good Neighbor**

105

#### **A. Rail-Trails and Safe Communities: The Experience of 372 Trails**

Tracy, Tammy and Hugh Morris, Rails-to-Trails Conservancy. "Rail-Trails and Safe Communities: The Experience on 372 Trails.," Written in cooperation with the National Park Service Rivers, Trails, and Conservation Assistance Program. January 1998.

55

#### **B. Crime, Property Values, Trail Opposition & Liability Issues**

Powerpoint Presentation: "Crime, Property Values, Trail Opposition & Liability Issues." By Tim Eling. Presented at the Lexington Big Sandy Workshop. April 1st, 2006

#### **C. Promoting Greenway Safety**

Chapter 7: Promoting Greenway Safety. Taken from Connect Buncombe's Draft Plan for Public Review- August 2012. < <http://www.buncombecounty.org/common/parks/MasterPlan/7-Safety.pdf>>  
Accessed Oct. 10, 2013.

#### **D. Greenway Makes a Good Neighbor**

Adams, Mason. "Greenway Makes a Good Neighbor," The Roanoke Times. June 10th, 2010.

**APPENDIX A: RAILS-TRAILS & SAFE COMMUNITIES**

# RAIL-TRAILS AND SAFE COMMUNITIES



THE EXPERIENCE  
ON 372 TRAILS



**APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES**

# RAIL-TRAILS AND SAFE COMMUNITIES

The Experience  
on 372 Trails



57

Written by  
Tammy Tracy & Hugh Morris  
Rails-to-Trails Conservancy

*in cooperation with*

National Park Service  
Rivers, Trails, and Conservation Assistance Program

JANUARY 1998

## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

This report was conducted by Rails-to-Trails Conservancy to document the extent of crime on rail-trails and review such crime in a broader perspective.

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The purpose of  
Rails-to-Trails Conservancy  
is to enrich America's  
communities and countryside  
by creating a nationwide network  
of public trails from former rail lines and connecting  
corridors.

•

### ACKNOWLEDGMENTS

Rails-to-Trails Conservancy is grateful to all the trail managers who responded to our survey. The information provided made this study possible.

Thanks to Andy Clarke, Barbara Richey, and Susan Doherty for their invaluable assistance in getting this report through edits, revisions and production.

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Photos – Front cover: Karen-Lee Ryan (Background), Patrick Kraich (trail patrol); Back cover: R. Leidelmeyer



**APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES**

**CONTENTS**

Introduction ..... 1  
Previous Research ..... 2  
Methodology ..... 3  
Study Findings ..... 4  
    Major Crimes ..... 4  
    Minor Crimes ..... 7  
Recommendations  
    Trail Design ..... 10  
    Trail Patrols ..... 11  
Trail Patrol Case Studies ..... 12  
Rail-Trails as Safe Places ..... 14  
Conclusions ..... 15  
Appendix  
    (A) Letters from Law Enforcement Officials ..... 16  
    (B) Letter from the President of the Pumpkinvine Nature Trail ..... 24

**TABLES**

Table 1: Comparison of Incidence Rate of Major Crimes on Rail-Trails to U.S. Population, 1995–1996 ..... 5  
Table 2: Comparison of Incidence Rate of Minor Crimes on Rail-Trails to U.S. Population, 1995–1996 ..... 8  
Table 3: National Crime Statistics by Location ..... 14

**FIGURES**

Figure 1: Percent of Major Crimes Reported on Trails ..... 7



## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### INTRODUCTION

At it's peak, the U.S. railroad network extended for almost 300,000 miles. More than half of this remarkable system has since become superfluous and in the latter half of the 20th century more than 2,000 miles of track annually have been abandoned or left unused by the railroad companies.

Since the early 1960's, efforts to preserve this part of our national industrial heritage have taken hold in community after community and more than 10,000 miles of former rail line have been opened as multi-use trails. In every state except Hawaii, people are bicycling, walking, running, in-line-skating, snow-mobiling and horseback riding on more than 950 rail-trails and there are plans for an additional 1,200 rail-trails stretching a further 18,000 miles.

...converting an abandoned rail corridor to a trail tends to reduce crime by cleaning up the landscape and attracting people who use the trail for recreation and transportation.



While rail-trails are hugely popular and successful once they are open, during the development phase trail promoters often have to answer a wide range of concerns that local residents may have about the impact of the proposed trail on their community. Stories of trails attracting drug dealers, murderers and rapists are perpetuated by trail opponents with only a handful of newspaper headlines to back up their assertions rather than empirical research. Despite numerous studies that have concluded rail-trails do not generate crime, concerns persist and fear of the unknown continues to provide fertile ground for trail opponents. The research that has been conducted, along with anecdotal evidence, suggests that converting an abandoned rail corridor to a trail actually tends to reduce crime by cleaning up the landscape and attracting people who use the trail for recreation and transportation.

Recognizing the need to address these concerns, Rails-to-Trails Conservancy (RTC) conducted a survey of all rail-trail managers in an effort to document the level of crime on trails and identify the mitigation measures used by trail designers and managers. The objectives of this study were threefold: 1) to document the levels of crime on urban, suburban and rural rail-trails with current statistics and comprehensive data, 2) to examine trail management strategies that can mitigate crime and improve trail safety, and 3) to put crime on trails in perspective. A summary of past studies, our methodology, results, recommendations and several case studies follow.



## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### PREVIOUS RESEARCH

Four separate studies conducted between 1979 and 1997 concluded that rail-trails do not increase crime.<sup>1</sup>

A study of the Burke-Gilman Trail in Seattle, Washington relied on interviews with local police officers and residents adjacent to the 12-mile urban rail-trail. The study found that incidents of vandalism and burglary did not increase as a result of the trail. To the contrary, the rate of vandalism and break-ins to adjacent property was well below the neighborhood average. Police said that they did not anticipate crime being a problem as long as motor vehicle use on the trail was prohibited, citing that the separation of a criminal from his/her escape vehicle as being a primary deterrent.

In the Minnesota study, the Department of Natural Resources interviewed property owners near the proposed Root River Trail in southeastern Minnesota and the proposed Soo Line Trail in eastern Minnesota. The study also interviewed property owners adjacent to the existing Douglas Trail near Rochester and the Heartland Trail in northern Minnesota. The study concluded that residents adjacent to existing rail-trails experienced much less crime than was anticipated by residents near proposed rail-trail projects.

A National Park Service study of the 26-mile Heritage Trail in rural Iowa, the 16-mile St. Marks Trail through small communities in Florida, and the 8-mile Lafayette/Moraga Trail in suburban San Francisco found that property owners experi-

enced relatively few problems resulting from the existence of a rail-trail. Most adjacent property owners reported that rates of vandalism, burglary and trespassing had remained the same or decreased since the opening of the trail. The majority of property owners interviewed in the National Park Service study reported that living near a trail was better than they expected and also better than living near unused rail corridors.

A recent survey of residents near the Mohawk-Hudson Bike-Hike trail in New York asked respondents to comment on twelve potential problems that could arise from the trail. The respondents ranked each potential problem on a scale of one to five, with one being "not a problem" to five being a "major problem." The items that were ranked highest as being a major problem were litter (14% of respondents), illegal motor vehicle use (12%), and disruptive noise from the trail (12%). For these three items the percentage of users who indicated that these were not a problem at all was 41%, 44%, and 45%, respectively.

All four studies found that while some residents were apprehensive about rail-trail projects most did not experience problems after the trail's opening. In fact, many became users of the trail and the majority recognized the trail's economic and health benefits to the community. The Burke-Gilman and the National Park Service studies both found rail-trails to have a slightly positive effect on property values in adjacent neighborhoods, further testimony to the safety and benefit of rail-trails.



## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### METHODOLOGY

RTC used several methods of data collection for this report.

In January 1997, RTC mailed surveys to the managers of all known open rail-trails (861) in the United States based on contacts maintained in RTC's database of rail-trails. This survey asked trail managers to report any crimes against persons or property committed on their trails during the years of 1995 and 1996. The survey listed several types of crime in each category for the respondent to consider. The survey also asked questions regarding the use of such safety features as lights, phones and posted warnings. Finally, the survey asked



A local patroler makes his rounds on the Illinois Prairie Path. (Jean Mooring)

about the existence, mode and frequency of trail patrols. From this effort, RTC received 372 usable responses, a 43% response rate, reflecting a diverse set of trail types, lengths and geographic locations. Trail types included 36 urban, 81 suburban and 255 rural trails.<sup>2</sup> The length of these trails ranged from one-fifth of a mile to 145 miles. Geographic representation was quite broad with 38 of the 49 states that currently have at least one rail-trail responding.

In June 1997, RTC collected supplementary statistical and anecdotal information on the impact of rail-trails upon local crime. Using contact information provided by survey respondents, RTC sent letters to thirty local law enforcement agencies<sup>3</sup> with questions regarding impact of the rail-trail on crime, the presence of trail users as a crime deterrent and comparisons of crime on the trail to the crime in surrounding areas. Twelve of these agencies responded, a 40% return, with letters regarding the safety of rail-trails. Finally, in July 1997, RTC conducted phone interviews with several coordinators of volunteer and professional rail-trail patrols to discuss the operation of their patrols. RTC compiled information on the organization, objectives and success of seven urban, suburban and rural trail patrols.

## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### STUDY FINDINGS

The summarized results appear in the following four sections, major crimes, minor crimes, design strategies and trail patrols.

Major crimes are, defined for the purpose of this report, as those crimes against persons including mugging, assault, rape and murder. Minor crimes are those against property including graffiti, littering, sign damage, motorized trail use, trespassing and break-ins to adjacent property. Quotations from law enforcement letters are included in the text where appropriate. The complete text of the letters appears in Appendix A.

Figures for the actual number of incidents of crimes against persons are reported whereas the incidents of property crimes are expressed by the number of trails reporting any occurrence during the year. This was done because of the difficulty in quantifying some of the types of minor crimes such as litter or graffiti incidents.

Overall, results from the study indicate that rail-trails are safe places for people to be. The study also found that trail managers often employ preventative design strategies and patrols to reduce the possibility of crime and improve the efficient management of the trail.

#### MAJOR CRIMES

Out of 372 trails included in this study, RTC found only eleven rail-trails in 1995 and ten rail-trails in 1996 which had experienced any type of major crime, 3% of responding trails.

*“The trail does not encourage crime, and in fact, probably deters crime since there*

*are many people, tourists and local citizens using the trail for many activities at various hours of the day.”*

— Pat Conlin, Sheriff  
Green County, Wis.

These figures are very low considering the 372 trails surveyed cover nearly 7,000 miles of trail and more than 45 million estimated annual users.<sup>4</sup> Letters from law enforcement agencies support these findings. They consistently report that rail-trails do not encourage crime; rather, several letters cited heavy trail usage as a crime deterrent in areas of former isolation:

*“The trail has not caused any increase in the amount of crimes reported and the few reported incidents are minor in nature...We have found that the trail brings in so many people that it has actually led to a decrease in problems we formerly encountered such as underage drinking along the river banks. The increased presence of people on the trail has contributed to this problem being reduced.”*

— Charles R. Tennant, Chief of Police,  
Elizabeth Township, Buena Vista, Pa.

Following is a summary of major crimes on rail-trails by urban, suburban and rural areas as well as a comparison to national crime figures. Although directly comparable statistics were not available, violent crime rates from the FBI's 1995 Uniform Crime Report provide some comparison by showing the number of crimes per 100,000 inhabitants in urban, suburban and rural areas.<sup>5</sup> When compared to rates of rail-trail crime, these figures provide a sense of how infrequently crimes on rail-trails occur. The results are presented in Table 1 and followed by discussion.



**APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES**

**TABLE 1**

Comparisons of Incidence Rate of Major Crimes on Rail-trails to U.S. Crime Rates.

CRIME	URBAN		SUBURBAN		RURAL	
	1995 National <sup>1</sup>	Rail-Trails <sup>2</sup>	1995 National <sup>1</sup>	Rail-Trails <sup>2</sup>	1995 National <sup>1</sup>	Rail-Trails <sup>2</sup>
Mugging	335	0.53 (1995) 0.30 (1996)	102	0.00 (1995) 0.01 (1996)	19	0.00 (1995) 0.01 (1996)
Assault	531	0.58 (1995) 0.34 (1996)	293	0.02 (1995) 0.01 (1996)	203	0.01 (1995) 0.01 (1996)
Forcible Rape	43	0.04 (1995) 0.00 (1996)	29	0.00 (1995) 0.00 (1996)	26	0.01 (1995) 0.01 (1996)
Murder	11	0.04 (1995) 0.01 (1996)	4	0.01 (1995) 0.01 (1996)	5	0.01 (1995) 0.01 (1996)

1. Note: Rates per 100,000 population; FBI Uniform Crime Reports for 1995.  
2. Note: rates per 100,000 users; RTC survey results.

**MAJOR CRIMES ON RAIL-TRAILS**

**URBAN RAIL-TRAILS**

RTC found the crime rates on urban rail-trails to be very low compared to the national crime rate for urban areas. Note that one urban trail located in South Boston, Massachusetts is where the majority of personal crimes were experienced:

- ▼ Each year, an estimated 5 million people use the 36 urban rail-trails surveyed, covering 332 miles.
- ▼ The national rate of urban muggings is 335 per 100,000 inhabitants<sup>6</sup>; two urban rail-trails reported muggings (26 incidents) in 1995 and only one trail reported muggings (15 incidents) in 1996.
- ▼ The national rate of urban assaults is 531 per 100,000 inhabitants; only three urban rail-trails reported assaults in 1995 (29 incidents) and 1996 (17 incidents).
- ▼ The national rate of forcible rape in urban areas is 43 per 100,000; one urban rail-trail reported two rapes in 1995 and no rapes were reported in 1996.
- ▼ The national urban murder rate is 11 per 100,000 urban inhabitants; one urban rail-trail reported two murders in 1995. None of the urban rail-trails reported murders for 1996.

## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### SUBURBAN RAIL-TRAILS

RTC found crime rates on suburban trails to be even lower than on urban rail-trails. The rate of crime on rail-trails was also low compared to national statistics of overall suburban crime.

- ▼ An estimated 14 million people use more than 1,100 miles of trail on the 82 suburban trails surveyed.
- ▼ The national rate of suburban muggings is 102 per 100,000 inhabitants; none of the suburban rail-trails reported muggings for the year of 1995 and only one mugging was reported in 1996.
- ▼ The national rate of suburban aggravated assaults is 293 per 100,000 inhabitants; three assaults occurred on three suburban rail-trails in 1995 and only two assaults occurred on suburban rail-trails in 1996.
- ▼ The national rate of suburban rape is 29 per 100,000 persons; none of the suburban rail-trails reported a rape in 1995 or 1996.
- ▼ Nationally, four murders per 100,000 inhabitants occur in suburban areas; there were no reports of murder on suburban rail-trails in 1995 or 1996.

### RURAL RAIL-TRAILS

Major crimes occurred with even less frequency on rural rail-trails than on urban or suburban ones. These rates are also low compared to overall rural crime rates.

- ▼ There are an estimated 26 million annual users on the 254 surveyed rural trails covering 5,282 miles.
- ▼ The national rate of mugging in rural areas is 19 per 100,000 inhabitants; none of the rural rail-trails reported muggings in 1995 and only one reported an incident in 1996.
- ▼ The national rural rate of aggravated assault is 203 incidents per 100,000 persons; only three rural rail-trails reported three assaults in 1995 and the same number in 1996.
- ▼ Nationally, there were 26 forcible rapes per 100,000 rural inhabitants; two rural rail-trails reported rapes in 1995 and one trail reported a rape in 1996.
- ▼ The national murder rate for rural areas is 5 per 100,000; none of the rural rail-trails reported a murder over the two year period.





## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### MINOR CRIMES

According to our survey findings, only one-fourth of the rail-trail managers reported any type of minor crime, such as graffiti or littering and these problems were quickly corrected as part of routine trail management. The data indicates the occurrence of each infraction rather than the actual number of incidents.

Letters from law enforcement officials attest that the actual volume of incidents such as graffiti, littering, sign damage and motorized use were minimal. In fact, one letter noted that litter was virtually nonexistent on a section of converted rail, but was overwhelming on portions which had not been converted to trail, again highlighting the benefits of converting an abandoned rail corridor to a trail:

*“My family and I took part in a community clean-up day. ...By the end of the mile and a half, we had found ONE piece of litter almost too small to have noticed. ...once you leave the path and continue where the railway line had been, the trash and graffiti are overwhelming.”*

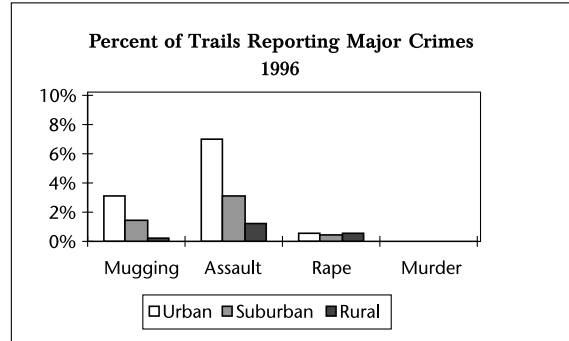
— Ross L. Riggs, Chief of Police  
Louisville, Ohio

Moreover, RTC found that the majority of the property crimes committed on rail-trails had only a



Many trails close at dark and patrols help to clear them. (Karen Stewart)

FIGURE 1



minor effect on the trail and usually did not harm adjacent private property. The following letter indicates that trails make good neighbors.

*“Since the trail was constructed and opened for use we have found that the trail has not caused any inconvenience to property owners along the trail. The residents seem to enjoy having the trail near their homes.”*

— Charles R. Tennant Chief of Police,  
Elizabeth Township, Buena Vista, Pa.

A breakdown of the property crimes committed on rail-trails in urban, suburban and rural areas in 1996 and some comparisons to national averages follow.<sup>7</sup> The results are presented in Table 2 and followed by a discussion.

## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

**TABLE 2**

Comparison of Incidence Rate of Minor Crimes on Rail-trails to U.S. Crime Rates & Percentage of Trails Reporting Types of Crime in 1995.

CRIME	URBAN		SUBURBAN		RURAL	
	National <sup>1</sup>	Rail-Trails <sup>2</sup>	National <sup>1</sup>	Rail-Trails <sup>2</sup>	National <sup>1</sup>	Rail-Trails <sup>2</sup>
BURGLARY	1,117	0.00%	820	0.01%	687	0.01%
TRESPASSING	N/A	5%	N/A	3%	N/A	4%
GRAFFITI	N/A	26%	N/A	17%	N/A	12%
LITTERING	N/A	24%	N/A	24%	N/A	25%
SIGN DAMAGE	N/A	22%	N/A	22%	N/A	23%
MOTORIZED USE	N/A	18%	N/A	14%	N/A	23%

1. Note: Rates per 100,000 population; FBI Uniform Crime Reports for 1995 for burglary.  
 2. Note: rates per 100,000 users; RTC survey results for burglary. Results for other crime types reported as percentage of trails experiencing that type of crime.

### URBAN RAIL-TRAILS

Very few incidents directly affecting urban property owners occurred.

- ▼ The national rate of burglary in urban areas is 1,117 incidents per 100,000 inhabitants; none of the urban rail-trails reported burglary to adjacent homes in 1996.
- ▼ Only 5% of urban rail-trails reported trespassing
- ▼ 26% of the urban rail-trails reported graffiti.
- ▼ 24% of the urban rail-trails reported littering.
- ▼ 22% of the urban rail-trails reported sign damage.
- ▼ 18% of urban rail-trails reported unauthorized motorized use.



## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

**TABLE 2**

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CRIME	URBAN		SUBURBAN		RURAL	
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BURGLARY	1,117	0.00%	820	0.01%	687	0.01%
TRESPASSING	N/A	5%	N/A	3%	N/A	4%
GRAFFITI	N/A	26%	N/A	17%	N/A	12%
LITTERING	N/A	24%	N/A	24%	N/A	25%
SIGN DAMAGE	N/A	22%	N/A	22%	N/A	23%
MOTORIZED USE	N/A	18%	N/A	14%	N/A	23%

1. Note: Rates per 100,000 population; FBI Uniform Crime Reports for 1995 for burglary.  
 2. Note: rates per 100,000 users; RTC survey results for burglary. Results for other crime types reported as percentage of trails experiencing that type of crime.

### URBAN RAIL-TRAILS

Very few incidents directly affecting urban property owners occurred.

- ▼ The national rate of burglary in urban areas is 1,117 incidents per 100,000 inhabitants; none of the urban rail-trails reported burglary to adjacent homes in 1996.
- ▼ Only 5% of urban rail-trails reported trespassing
- ▼ 26% of the urban rail-trails reported graffiti.
- ▼ 24% of the urban rail-trails reported littering.
- ▼ 22% of the urban rail-trails reported sign damage.
- ▼ 18% of urban rail-trails reported unauthorized motorized use.

## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

### SUBURBAN RAIL-TRAILS

Incidents of graffiti and unauthorized motorized usage occurred less frequently on suburban rail-trails than on urban ones. The number of suburban trails reporting crimes directly affecting adjacent property owners was significantly lower than the rates of trail vandalism.

- ▼ The national rate of suburban burglary is 820 incidents per 100,000 inhabitants; only one suburban trail reported a break-in to adjacent property in 1996.
- ▼ 3% of suburban trails reported trespassing.
- ▼ 17% of the suburban trails reported graffiti.
- ▼ 24% of the trails reported littering.
- ▼ 22% of the trails reported sign damage.
- ▼ 14% of the suburban trails reported unauthorized motorized usage.

### RURAL RAIL-TRAILS

Rural rail-trails reported fewer incidents of graffiti than both urban and suburban trails. Other incidents occurred at about the same rate. Again, crimes directly affecting adjacent property were rare.

- ▼ The national burglary rate in rural areas is 687 incidents per 100,000 inhabitants; only three of the rural trails reported a break-in to adjacent property in 1995 and three in 1996.
- ▼ 4% of rural trails reported trespassing.
- ▼ 12% of rural trails reported graffiti.
- ▼ 25% of the rural trails reported littering.
- ▼ 23% of the rural trails reported sign-damage.
- ▼ 23% of the rural trails reported unauthorized motor use.





## APPENDIX: RAILS-TRAILS & SAFE COMMUNITIES

# RECOMMENDATIONS

Although this study shows that rail-trail crime is rare, it is nonetheless a legitimate concern for residents and trail users and should be treated accordingly. There are several methods for addressing such concerns and minimizing the potential for crime.

Encouraging trail use is one way to help ensure trail safety, as the presence of other users helps to minimize undesirable behavior. In addition, trail users should exercise common sense when using trails after dark and remain aware of their surroundings at all times. Several other mitigation strategies help suppress criminal behavior and lessen the impact of incidents that do occur. In particular, trail design features and trail patrols are useful to keep in mind and recommendations for their implementation are included in this section. However since every rail-trail environment is unique, trail managers should assess the need for these strategies on an individual basis.

## TRAIL DESIGN

Good trail design is an effective way of promoting trail safety. In most cases, the design of the trail should eliminate overgrown vegetation and tall shrubs in order to minimize hiding places along the trail and maintain long sight lines for users. Trail managers may also choose to place security lighting at trail heads and in parking lots to improve trail safety. Emergency phones or call boxes and emergency vehicle access are also important safety features for some trails. Additionally, keeping all trail corridors clean and well-maintained increases the feeling of community ownership of the trail and reduces the incidents of minor crime such as litter, graffiti and vandalism. Prohibiting motorized use of the trail deters property crime.

RTC found that several trails utilized the above design strategies in order to improve safety. The survey found that at the trail head 18% of the trails installed lights, 12% installed phones, and

From *Trails for the Twenty-First Century*, edited by Karen-Lee Ryan. page 132.

