

Waynesboro Ridgeview Park, Greenway, and Trailhead Conceptual Design



Prepared for the City of Waynesboro, VA

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PROJECT TEAM

Elizabeth Gilboy

Director

Lara Browning

Landscape Architecture Project Coordinator

Matthew Browning

PhD Candidate, Forestry

Matthew Dunn

Undergraduate Student, Landscape Architecture

Harley Walker

Landscape Architecture Intern

ACKNOWLEDGEMENTS

Mike Hamp
City Manager

C. Dwayne Jones
Director of Parks and Recreation

Jeff Nicholson
Aqua Blaze

Parks & Recreation Commission

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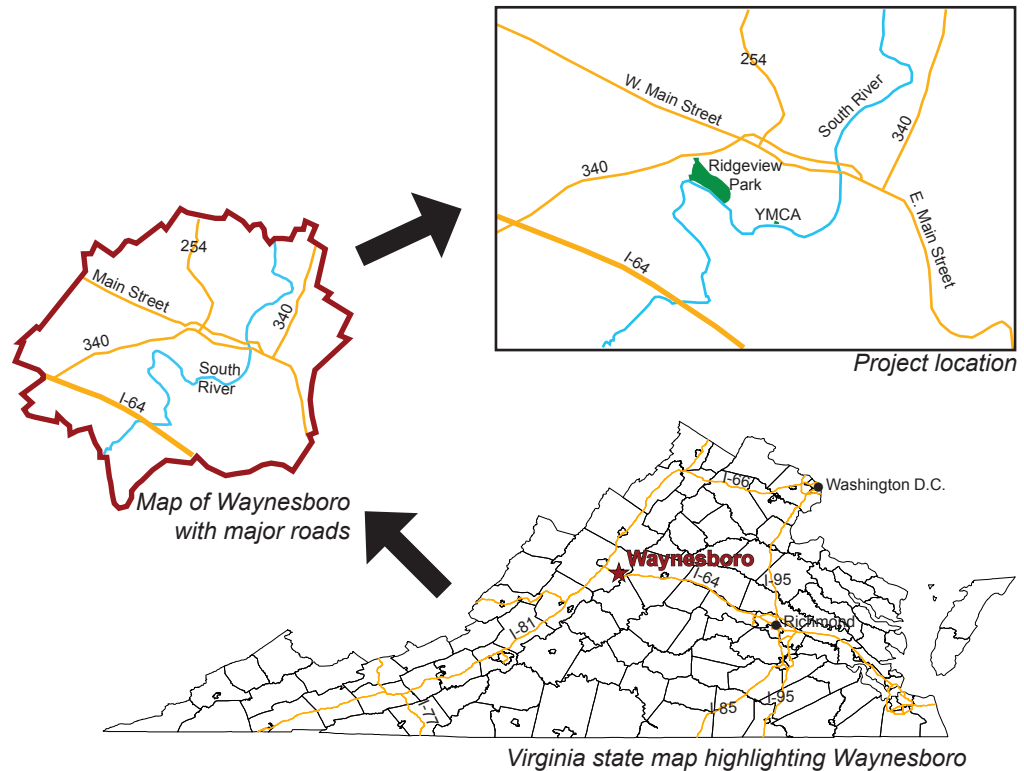
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PROJECT DESCRIPTION



Waynesboro, located three miles from the junction of Skyline Drive, Shenandoah National Park, the Blue Ridge Parkway, and the Appalachian Trail, is a hub for outdoor recreation. In recent years, the City has made efforts to expand its outdoor appeal by creating a greenway connecting all of its major parks. The first phase of this multi-year project has been completed and is already a popular destination for residents and visitors. The second phase of design work is underway which will connect downtown to North Park.

The Community Design Assistance Center (CDAC) was tasked with exploring the potential for another phase of the greenway, which would connect the first phase to Ridgeview Park, a popular destination for local residents. In addition, CDAC was asked to redesign the ball fields and parking lot at Ridgeview Park and pay particular attention to stormwater mitigation, pedestrian circulation, and tree evaluation and protection. Lastly, it was requested that CDAC explore ways of addressing a potentially dangerous intersection for greenway users at Lyndhurst Road and Arch Avenue.

DESIGN PROCESS

The design process began with an initial site visit to Waynesboro in May 2013. The CDAC team met with project stakeholders and toured the existing South River greenway, the historic tree street neighborhood, and Ridgeview Park to assess possible route options and focal areas. By gathering on-site data and documenting the site, the team was better able to understand the opportunities and constraints for the greenway extension. This analysis would later influence the design concepts.

In early July, the CDAC team, in conjunction with the Department of Parks and Recreation, held an informational meeting regarding phase three of the greenway. This meeting provided residents the opportunity to learn about the project and to contribute their ideas regarding potential routes. Prior to this meeting, the primary focus of the greenway extension had been to analyze how the greenway would best connect to Ridgeview Park via surface roads and alleys due to private property issues. During this meeting, however, a number of citizens expressed the desire for the greenway to continue along the river instead of entering the tree streets. This section of the river was previously dammed and had not been assessed as a potential greenway route since the dam's removal.

In response to the community's expressed desire for the CDAC team to explore connecting the current greenway to Ridgeview Park via the river, the team canoed the river along the project area in late July. Utilizing the data collected from that analysis, the team worked on developing an alternative greenway route.

After careful consideration of all the factors, a set of preliminary design alternatives for the greenway, park, and intersection were developed and presented to the community in September, 2013. During this meeting, the CDAC team listened closely to community members' ideas and concerns. It was decided that the route options for the greenway presented at this meeting provided the City with substantial information on possible routes and issues related to each of the options, and therefore the CDAC team, had completed this portion of the project. The design alternatives for Ridgeview Park and the YMCA intersection were also discussed, and based on community feedback, were then revised into final conceptual master plans.

The final master plans were presented to the Waynesboro Youth Baseball/Softball Board in October 2013.

CASE STUDY



CDAC team members Lara Browning and Matthew Dunn discuss the potential greenway with community members at the information meeting.

At the beginning of the project, the CDAC team decided to do a case study on the impact of greenways on residential properties. In general, studies showed that greenways increase the property values of adjacent homes and have a positive economic impact on communities (see information on following page). During the preliminary presentation, community members asked CDAC to also look at greenways and safety. Studies and information on greenway safety, including an article which describes Crime Prevention Through Environmental Design (CPTED), can be found in the Appendix.



Example of a greenway within a neighborhood setting.

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

INVENTORY & ANALYSIS

During the site visits to Waynesboro, the team inventoried existing site elements and analyzed site conditions. The inventory was predominantly based on topography, property ownership, vehicular circulation, open space areas, views, and surrounding landscape character.

To objectively analyze the potential greenway route options along the historic tree streets, the CDAC team utilized a geographic information system (GIS) program. As part of this analysis, streets were rated according to their environmental quality and street quality. Environmental quality was determined by two variables: slope along the roads and distance from non-public buildings. Street quality was determined by three variables:

street safety, street width, and aesthetics, such as the amount of shade, vegetation, and condition of the street. Street safety was determined utilizing crash and traffic data provided by the City. Street width and aesthetics were measured in the field. Environmental quality and street quality were added together to create a street rating. This street rating was then plugged into a mathematical formula that combined the street rating with a distance factor (in this case the shorter the distance the better) to create a preferred path.

The analysis was completed for both pedestrians and cyclists. In the pedestrian study, street aesthetics were given more weight than in the cycling study because the character of a street is more important when traveling at slower rates. In the cycling study, street safety and street width were given more weight than in the pedestrian study because street safety is a larger concern for cyclists than pedestrians, who are removed from the vehicular lanes, and more width is needed to have both a bike lane and sidewalk. An illustrative description of this process is found on the following pages, and a step-by-step explanation can be found in the Appendix.

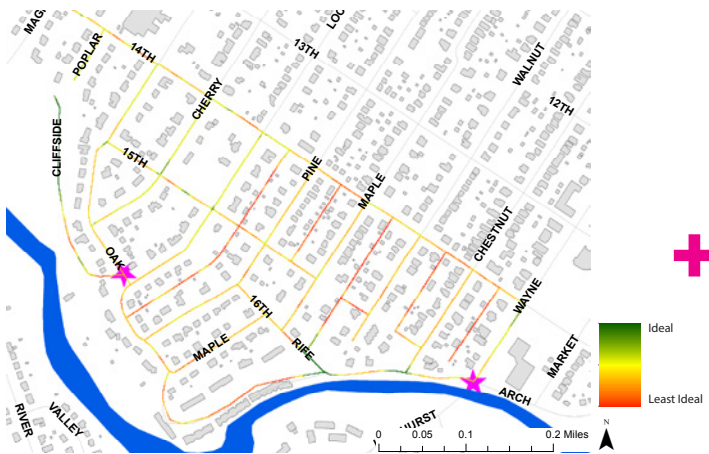
An analysis was also done for Ridgeview Park. This analysis focused on topography, stormwater flow and accumulation, pedestrian connections and other site conditions. In addition, soil samples were taken throughout the site and later analyzed at the Virginia Tech soil laboratory. Results of the soil tests would later become a major factor in the tree selection process and can be found in the Appendix of this report.

Site analysis information can be found on the following pages.

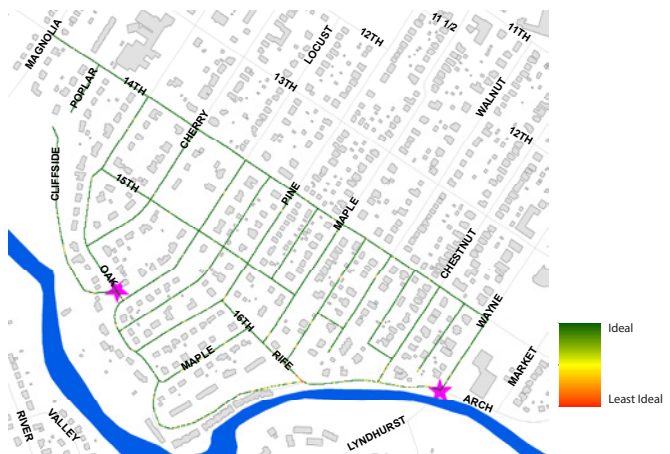


Dwayne Jones describes intersection problems to the project team.

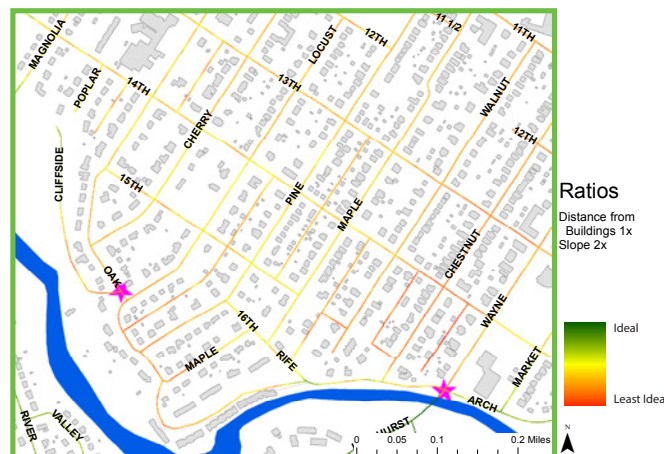
INVENTORY & ANALYSIS
South River Greenway Street Analysis: Cyclist



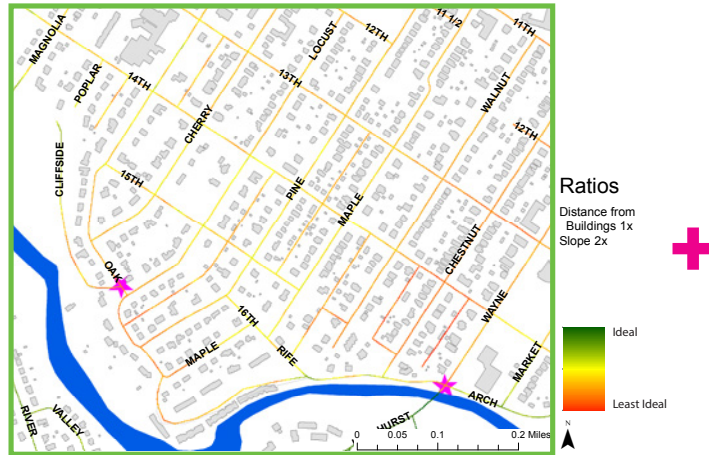
Distance from Non-Public Buildings Along Roads



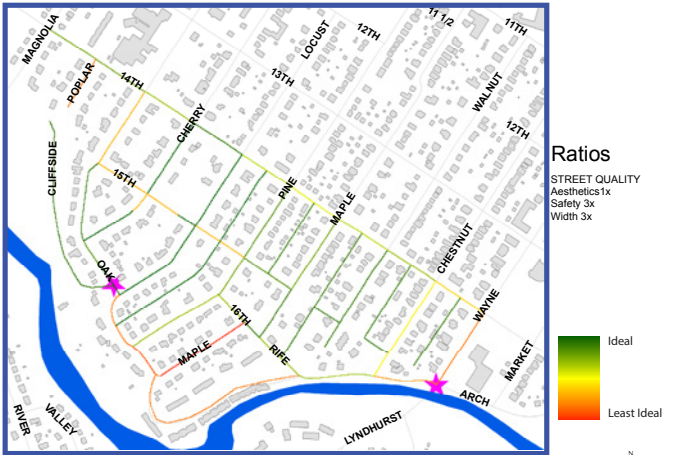
Slope Along Roads



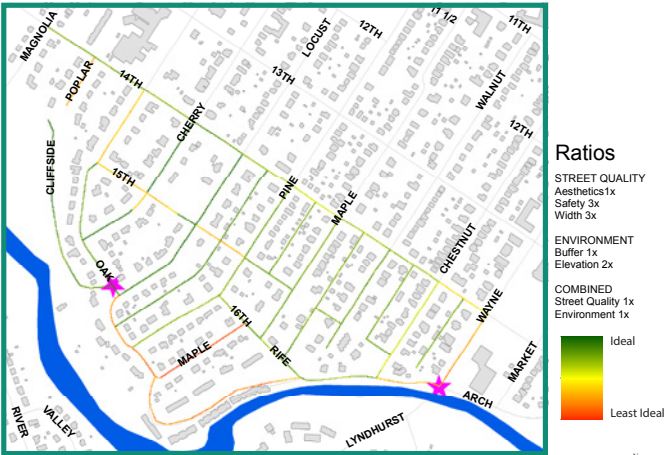
Environmental Quality for Pedestrian/Cycling Paths
 Slopes along roads and the distances of roads from private residences were first analyzed.



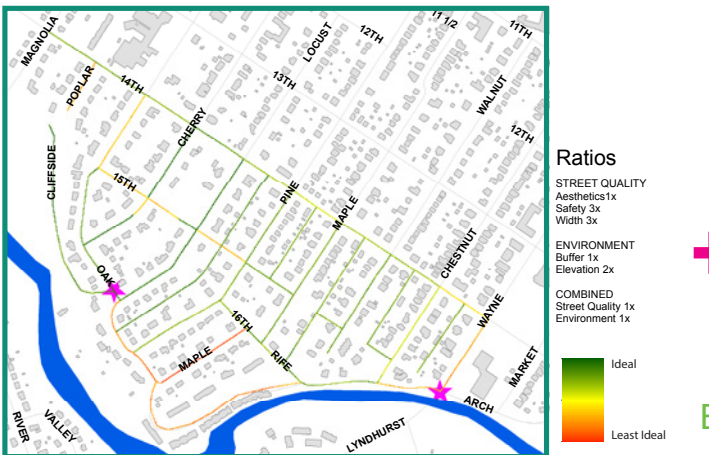
Environmental Quality for Pedestrian/Cycling Paths



Street Quality for Cycling Path
 Street safety, width and aesthetics such as the amount of shade, condition of street and care of surrounding yards were analyzed and combined into a street quality study.



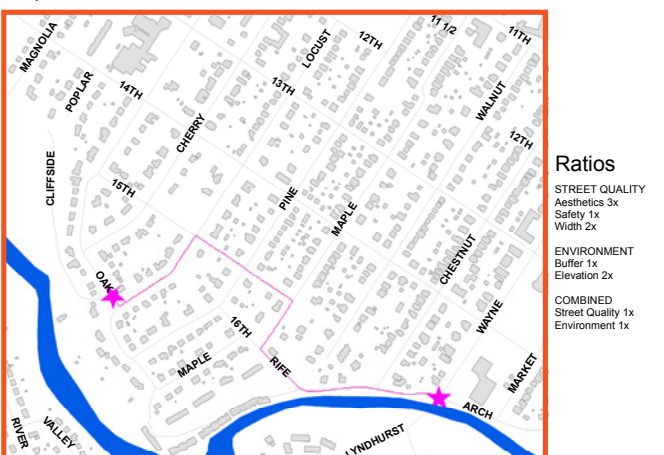
Street Rating
 The environmental factors were combined and weighted with the quality factors in a street preference study. This resulted in an ideal route for cyclists.



Street Rating

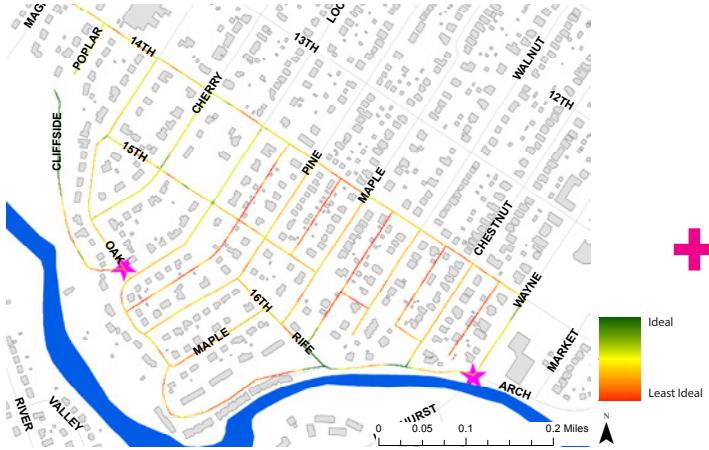
Distance Factor

Environment Quality + Street Quality = Street Rating
 Street Rating + Distance Factor = Preferred Path



Preferred Cycling Path

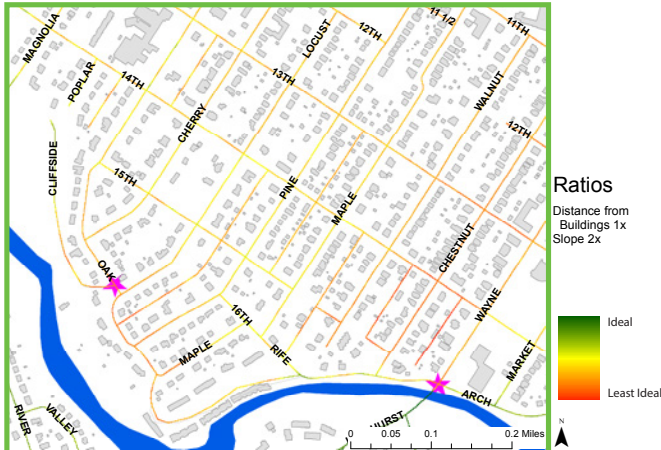
INVENTORY & ANALYSIS
South River Greenway Street Analysis: Pedestrian



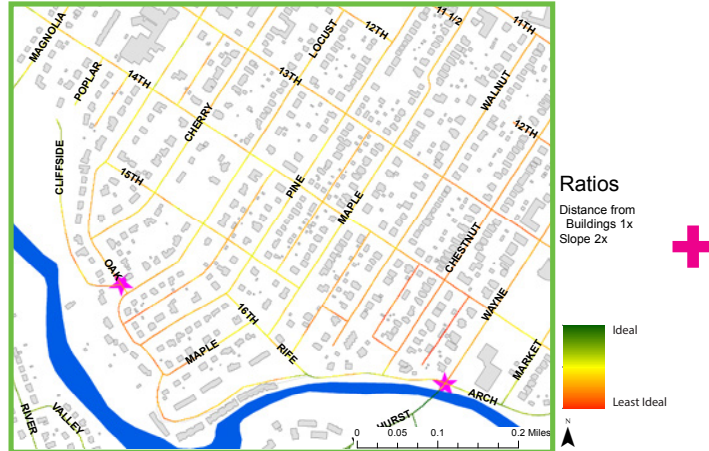
Distance from Non-Public Buildings Along Roads



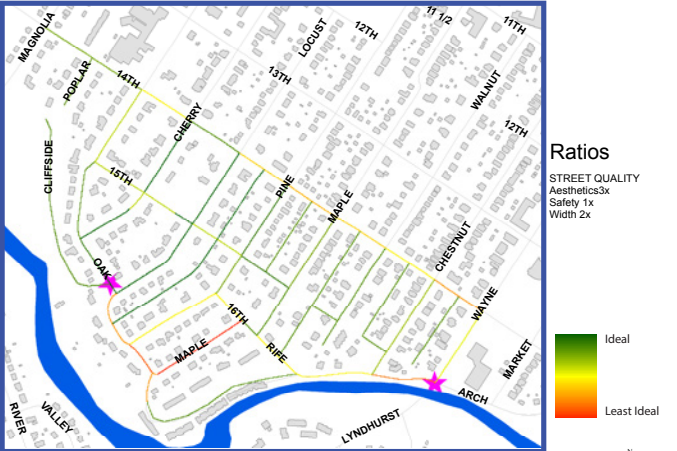
Slope Along Roads



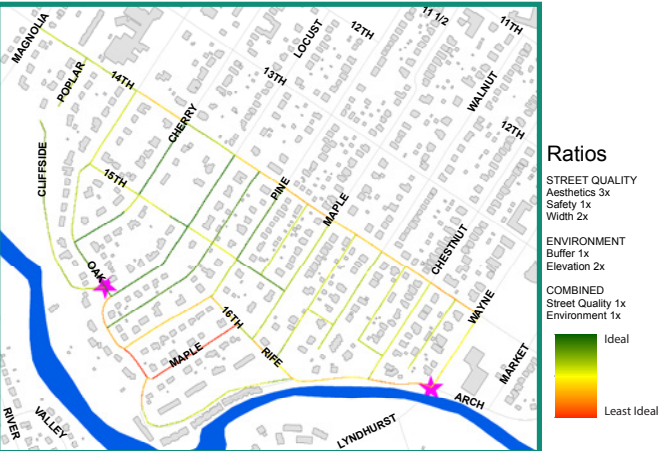
Environmental Quality for Pedestrian/Cycling Paths
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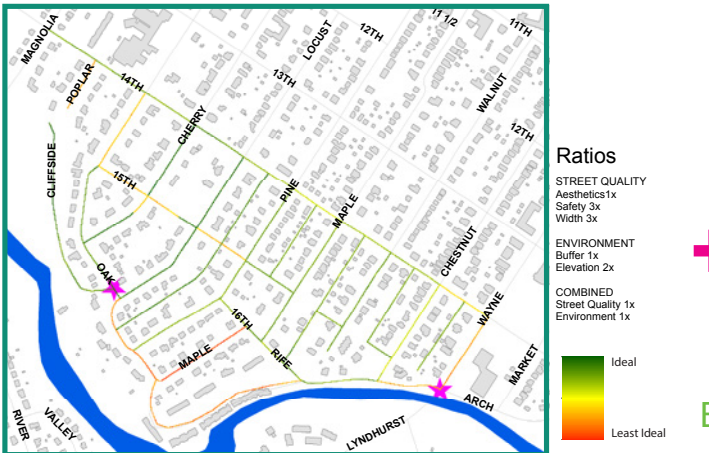
Environmental Quality for Pedestrian/Cycling Paths



Street Quality for Pedestrian Path
 Street safety, width and aesthetics such as the amount of shade, condition of street and care of surrounding yards were analyzed and combined into a street quality study.



Street Rating
 The environmental factors were combined and weighted with the quality factors in a street preference study. This resulted in an ideal route for pedestrians.



Street Rating

Distance
 Factor

Environment Quality + Street Quality = Street Rating
 Street Rating + Distance Factor = Preferred Path

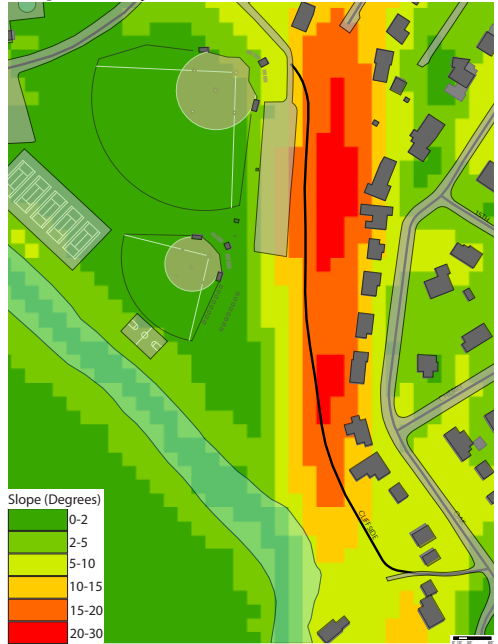


Preferred Pedestrian Path

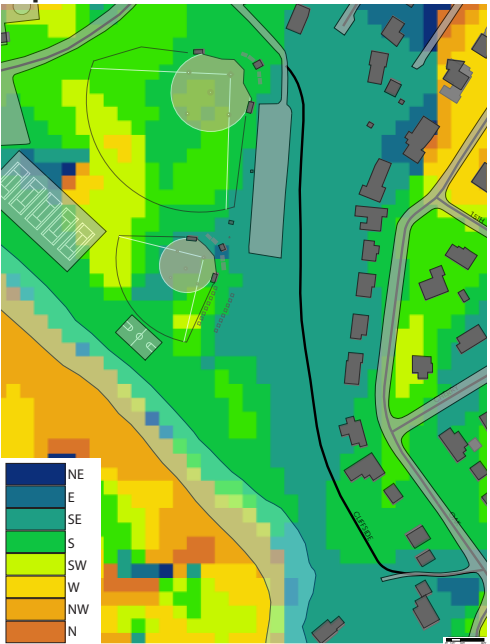
INVENTORY & ANALYSIS
Ridgeview Park



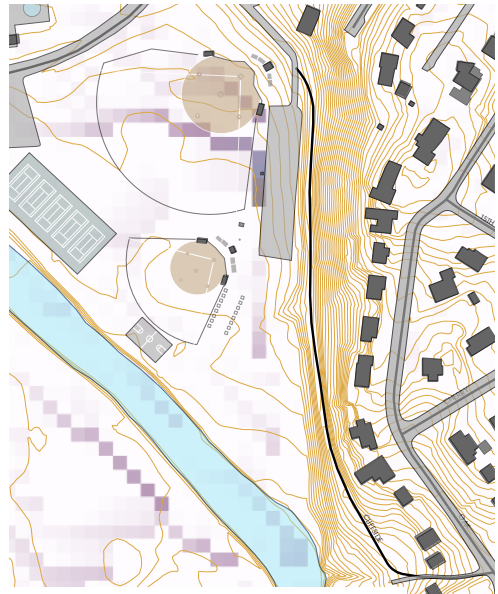
Slope Analysis



Aspect



Flow Accumulation



This flow accumulation map illustrates where rain water accumulates and puddles.

PRELIMINARY DESIGN CONCEPTS

After completing the site analysis, the design team created preliminary concepts for the greenway, Ridgeview Park, and the YMCA intersection. Each of these concepts are discussed below.

Greenway Route Options

The site analysis resulted in two greenway route options: one along the surface streets in the historic tree street neighborhood and one along the river. Both options propose the greenway extend from the Loth Springs trailhead along Arch Avenue across Lyndhurst Avenue and along Rife Road. In the street concept (Concept A), bikes and pedestrians continue up Rife Avenue, turn on Maple Avenue for a brief period of time and then connect to Pine Avenue via 15th Street. Here cyclists turn right on Pine Avenue and connect to 14th Street where they remain until they turn on Magnolia Avenue to enter Ridgeview Park. The pedestrian greenway splits from the cyclists at Pine Avenue and continues along 15th Street until it reaches Locust Avenue. Pedestrians turn left on Locust Avenue until they reach Cliffside Alley, which they take into the park.

For the greenway option (Concept B) along the river, cyclists and pedestrians enter the Ram Works property from Rife Road, where the trail hugs the edge of the parking lot most distant from the residences as it travels through the property. Here the trail width is reduced from eight feet to four feet wide, so that it does not interfere with the parking lot and still allows Ram Works residents ample distance to back out of their parking spaces. Near the terminus of the parking lot, the greenway cuts through a wide gap between two buildings and reaches the river. The greenway continues along the river on the back edge of private properties until the geography makes it necessary to cross. A bridge connects to the other side of the river and continues into Ridgeview Park.

There are pros and cons to each of the greenway route options. Concept A (the street concept) is more affordable and uses the existing right-of-way, thereby avoiding the difficulty of crossing private property. On the other hand, Concept A traverses more difficult grades and steep slopes, runs close to private single-family homes, and separates cyclists from pedestrians with different routes for each. The benefits of Concept B are that the majority of the path is off of the street, it follows along a scenic river, and it allows cyclists and pedestrians to follow a single corridor. On the other hand, Concept B is much more expensive in that it would require a bridge crossing, and it also runs through private property.

During the preliminary conceptual design meeting, there were community members that were both for and against extending the greenway to Ridgeview

PRELIMINARY DESIGN CONCEPTS

Park. Some residents from both the historic tree street neighborhood and Ram Works expressed clear opposition to a greenway trail going through their neighborhood and property. It was also clear that a cooperative approach between the Ram Works Unit Owners Association Inc. and the City in creating a greenway route along the river was not achievable at that time. Therefore, the City decided not to include the Ram Works Property, and thus Concept B, in future planning exercises related to connecting Loth Springs to Ridgeview Park.

This greenway study was an initial step in Waynesboro's process for planning the third phase of the greenway. Preliminary concepts can be found on the following pages.



CDAC team members Matthew Dunn (l) and Harley Walker (r) discuss greenway route options with Waynesboro Parks and Recreation Director, Dwayne Jones (c).

PRELIMINARY DESIGN CONCEPTS

Greenway Route Options: A & B

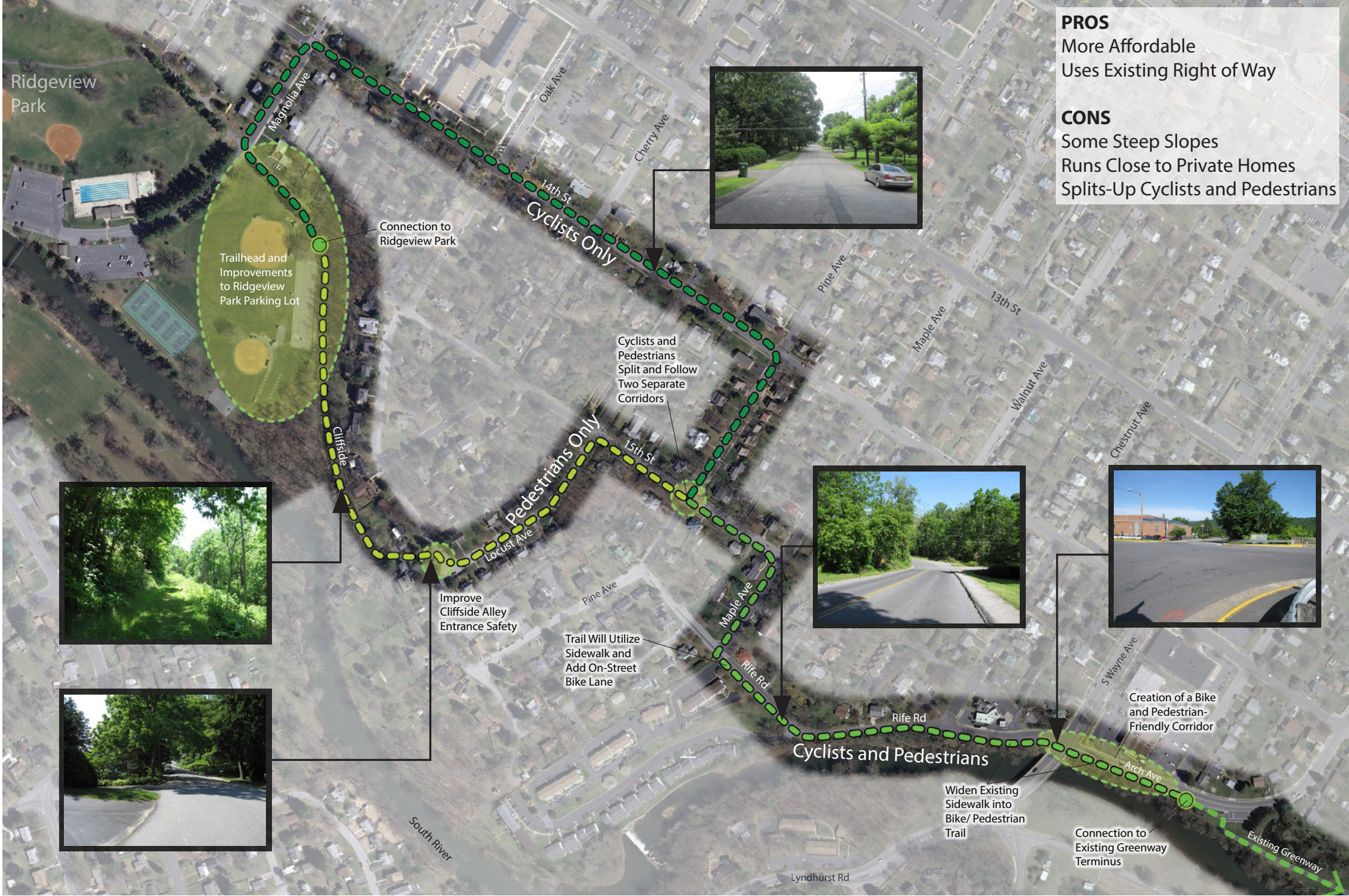


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PRELIMINARY DESIGN CONCEPTS

Greenway Route A: Existing



PROS
 More Affordable
 Uses Existing Right of Way

CONS
 Some Steep Slopes
 Runs Close to Private Homes
 Splits-Up Cyclists and Pedestrians

- Conceptual Greenway Route Bikes and Pedestrians
- Conceptual Greenway Route Pedestrians Only
- Conceptual Greenway Route Cyclists Only
- Existing Greenway Route
- Design Focus Area

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PRELIMINARY DESIGN CONCEPTS

Greenway Route A: Proposed



- Conceptual Greenway Route Bikes and Pedestrians
- Conceptual Greenway Route Pedestrians Only
- Conceptual Greenway Route Cyclists Only
- Existing Greenway Route
- Design Focus Area

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PRELIMINARY DESIGN CONCEPTS

Greenway Route B: Existing



PROS
 Provides an Off-Street Path
 Follows the Scenic River
 Cyclists and Pedestrians Follow 1 Corridor

CONS
 More Expensive
 Requires a River Crossing
 Runs through Private Property

Conceptual Greenway Route
 Existing Greenway Route
 Design Focus Area

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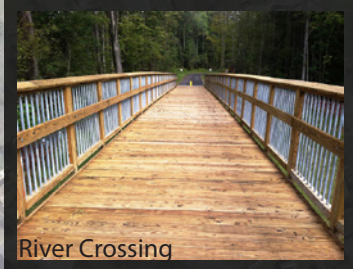


PRELIMINARY DESIGN CONCEPTS

Greenway Route B: Proposed



Trail Travels through Ram Works to Reach the River



- Conceptual Greenway Route
- Existing Greenway Route
- Design Focus Area

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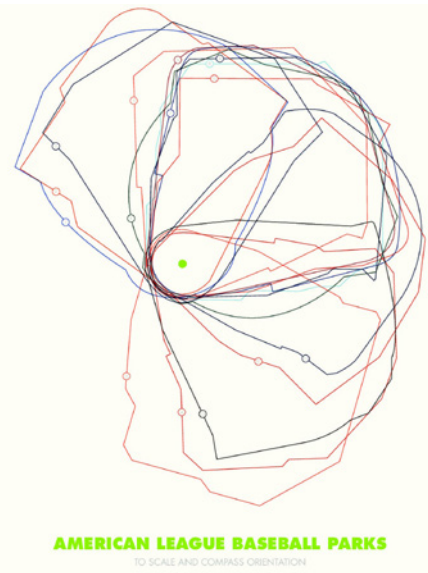


Ridgeview Park

Two preliminary concepts were developed for Ridgeview Park. Both concepts, however, rotated the larger Little League ball field to create a central hub of activity behind the two fields' home plates and to remove the sun from the batter's eyes on the more frequented field. Research on the best orientation for a baseball field indicates that the home plate in the southwest corner with the batter facing northeast is generally the optimal angle to orient a field and that the home plate in the northeast orientation with the batter's eyes facing southwest is the least optimal orientation. Both fields at Ridgeview Park were currently oriented in the least optimal direction. Although the constraints of the property did not allow for a southwest homeplate orientation, shifting the home plate to the southeast corner of the field with the batter facing northwest improves the orientation of the field. To the right is a diagram of Major League fields in the U.S.. The orientation of the new field in Ridgeview Park would be similar to the Rogers Centre in Toronto, Canada and Minute Made Park in Houston, Texas.

Although both concepts are similar in orientation, there are some key differences. Concept A takes a more linear approach to its parking lot design. This allows a substantial grass buffer between the parking lot and the field. Stormwater is collected in a bioswale along the northwest edge of the parking lot, and a retaining wall is added to the eastern edge of the parking lot to create additional parallel parking. The retaining wall also creates space for a shaded seating area off of Cliffside Alley where trail users can take a break or spectators can watch a baseball game from above. This parking lot has a total of 99 parking spaces and includes bus parking and some parallel spaces along the entry lane. Concept B takes a wider approach to the parking lot allowing it to maximize the number of parking spaces in a small area. Stormwater is collected in bioswales along the center and edge of the parking lot. This concept also includes a retaining wall and bus parking, but does not add parallel parking to the entry lane. This parking lot has a total of 102 parking spaces.

Concepts A and B also approach the management of a shingle oak on the northern edge parking lot differently. Concept A creates a gathering space underneath the tree that is slightly raised on a wooden platform to protect the



AMERICAN LEAGUE BASEBALL PARKS TO SCALE AND COMPASS ORIENTATION
The Orientation of Major League Baseball Parks.
Taken from <http://visual.ly/baseball-parks-scale>.
Accessed 12/10/2013

PRELIMINARY DESIGN CONCEPTS

tree roots, yet still allow for air circulation. Water traveling across the entry lane from the surrounding hillside and into the park is converted into sheet flow by a level spreader to prevent erosion around the tree roots. Concept B takes a more minimalistic approach. Foot traffic and stormwater are slowed beneath the tree by planting a dense swath of ornamental grass along the entry lane and parking lot.

Both concepts A and B have an activity hub based on the Waynesboro Parks and Recreation standard design for concession buildings. Concept A's design has more curvilinear circulation and walking paths and includes a grass seating area behind the home plate. Table seating is beneath overhangs on the concession stand. Concept B's design, on the other hand, has a more rectilinear form. Table and lounge seating is provided in between the bleachers behind home plate.

Lastly, concepts A and B differ in their circulation patterns. Concept A has a walking path that connects the activity hub to the parking lot across from the War Memorial Pool, but does not have any paths in the grass area around the baseball fields. Concept B, on the other hand, provides a more intricate path network providing walking and seating opportunities in the outfields and connecting to the South River.

During the preliminary conceptual design meeting, community members and members of the Waynesboro Youth Baseball/Softball Board chose elements of each concept to combine the concepts into a single design. The activity hub, parking lot (without the parallel spaces along the entry way), and gathering space under the tree from Concept A were selected, while the trail network and pavilion were selected from Concept B.

The preliminary design concepts for Ridgeview Park can be found on the following pages.

PRELIMINARY DESIGN CONCEPTS

Ridgeview Park: Concept A



Concept A
 Parallel Parking Along Entry
 Small Gathering Space Beneath Old Oak
 Grass Seating Area by Home Plate
 Shaded Tables Beneath Snack Bar Overhang



Grass Seating Area



Bioswale



Tree Gathering Area/Protection



Retaining Wall

PRELIMINARY DESIGN CONCEPTS

Ridgeview Park: Concept B



Concept B
 Walking Path Around Ball Fields
 Minimal Design Beneath Old Oak
 Alternative Seating by Home Plate
 Picnic Shelter by Pool Parking Lot



Table Seating



Lounge Seating



Bioswale



Snack Bar & Restrooms

PRELIMINARY DESIGN CONCEPTS

YMCA Intersection

During the preliminary presentation, two concepts were proposed for managing the potentially dangerous intersection at Lyndhurst Road/S. Wayne Avenue and Arch Avenue. Both concepts utilize a pedestrian crossing island with flashing pedestrian crossing signs. The crossing island is large enough for bikes to fit comfortably on it. This not only provides a safe refuge for pedestrians and cyclists, but it also narrows the currently wide lanes, thereby slowing traffic. In addition, transverse rumble strips are placed on either side of the crossing. These rumble strips were placed in a series where the strips become progressively closer to one another as a vehicle approaches the intersection. The increase in the frequency of rumble strips instinctively gives drivers the impression that they are going faster and reduces their speed. Lastly, both concepts recommend that the first two arrows for the left-hand turn lane on S. Wayne Avenue in front of the YMCA be removed to prevent drivers from rushing to change lanes near the intersection. Even with these arrows removed, drivers would have more than half of a block to switch lanes before reaching 14th Street.

Concept A for the YMCA intersection, narrows Arch Avenue to 24' feet. This removes parallel parking, but slows traffic along Arch Avenue and provides a more pleasant greenway experience by allowing for a more curvilinear path and tree plantings.

Concept B completely removes the section of Arch Avenue in front of the YMCA and instead has traffic flow from Arch Avenue to Market Avenue. This concept greatly reduces the risk of traffic hazards at the intersection of Lyndhurst Avenue. In addition, the concept strengthens the amenities of the YMCA with a pavilion, chalk wall, lawn area, reflecting pool and water plaza, and outdoor seating.



CDAC team member, Harley Walker, presents preliminary concepts to community members.

During the preliminary presentation, community members requested that the design team show three options for the YMCA area: one that leaves Arch Avenue in its current condition, one that narrows Arch Avenue, such as Concept A, and another that completely removes the section of Arch Avenue, such as Concept B, but with a more passive park and that incorporates additional parking for the YMCA.

The following pages include the preliminary design concepts.

PRELIMINARY DESIGN CONCEPTS

YMCA Intersection: Concept A



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PRELIMINARY DESIGN CONCEPTS

YMCA Intersection: Concept B



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PRELIMINARY DESIGN CONCEPTS

YMCA Intersection: Concept B Images



Chalk Wall



Reflecting Pool



Curved Bench



Water Plaza



Table Seating

FINAL DESIGN CONCEPTS

Greenway

During the preliminary conceptual design presentation, significant opposition to Route B along the greenway was expressed. Due to this opposition and private property issues, Route A was selected as the preferred route option at this time. If the existing conditions change, other route options may become more desirable.

Ridgeview Park

The final conceptual design for Ridgeview Park is a combination of concepts A and B. A linear parking lot with bioswales increases the parking from 51 to 86 spaces (including one bus parking space) available for the baseball fields, improves the flow of vehicular traffic, better protects the existing oak at the entry drive, and manages stormwater in an environmentally sensitive manner. Additional seating for baseball games is created by a retaining wall on Cliffside Alley, and a new centrally-located activity hub provides restrooms, a snack bar, and outdoor table seating. The baseball field is rotated to orient the field more optimally for afternoon games. Bleacher seating is provided near the dugout, and sitting walls and table seating create supplementary seating by the home plate. Lights are provided around the field for night games. A picnic shelter, located in the outfield offers non-traditional views of the game and a place for larger gatherings and family reunions. A trail network connects the amenities in the space and provides further connections to the South River. Lastly, an elevated platform provides additional seating under the shingle oak, while protecting the tree roots from soil compaction and erosion.

YMCA Intersection

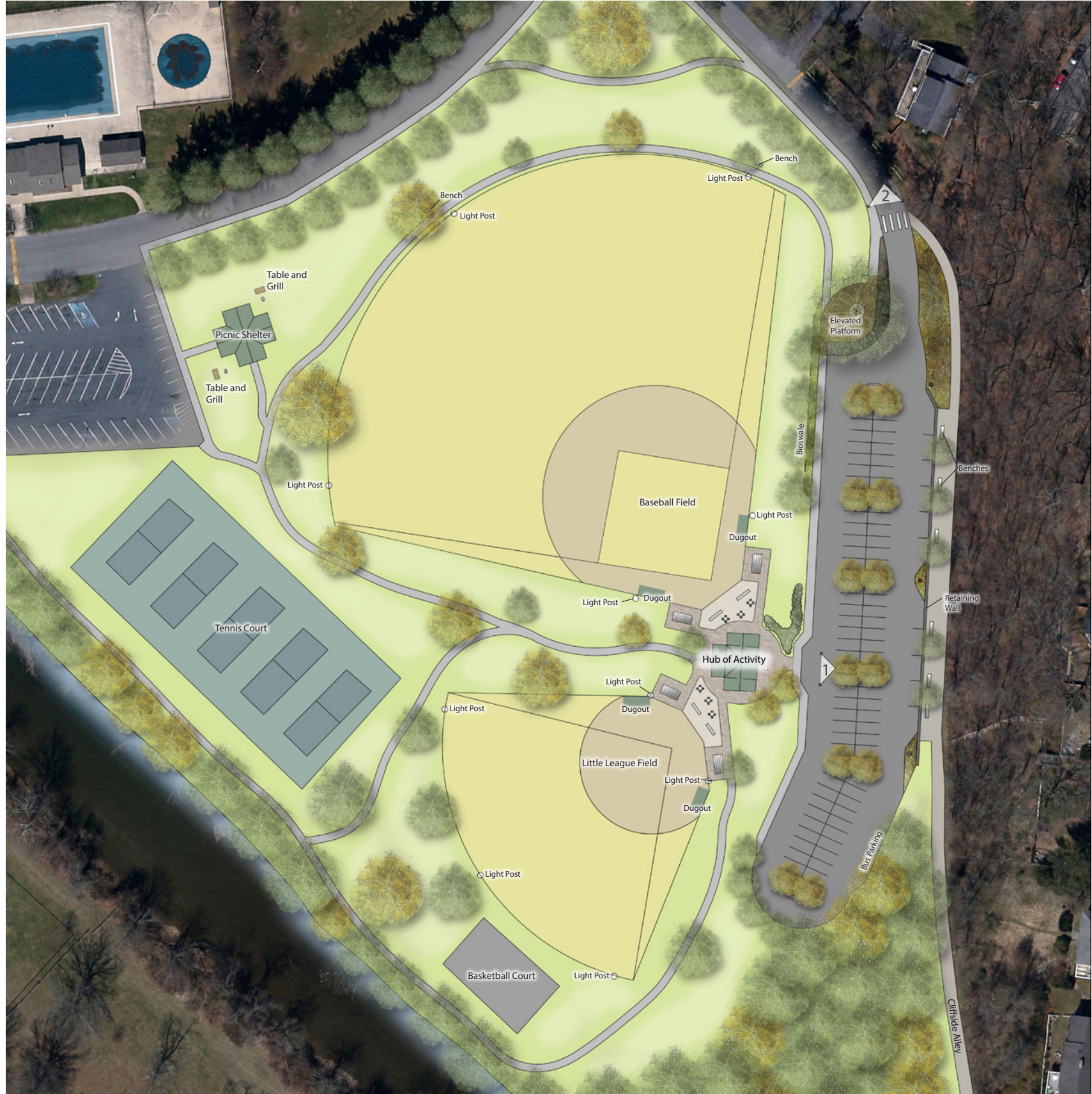
Three concepts were presented for the YMCA intersection at the final presentation: one that maintains the existing conditions of Arch Avenue; one that removes the parallel parking from Arch Avenue; and one that completely removes the section of Arch Avenue between Market Avenue and Lyndhurst Road and creates a passive park and seating area and provides additional parking for the YMCA. The last-mentioned concept was the concept preferred by the City. This concept provides an outdoor seating area, chalk wall/outdoor classroom for the YMCA and creates a passive park for residents to enjoy.

The final concepts are found on the following pages.



- Conceptual Greenway Route Bikes and Pedestrians
- Conceptual Greenway Route Pedestrians Only
- Conceptual Greenway Route Cyclists Only
- Existing Greenway Route
- Design Focus Area

Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site 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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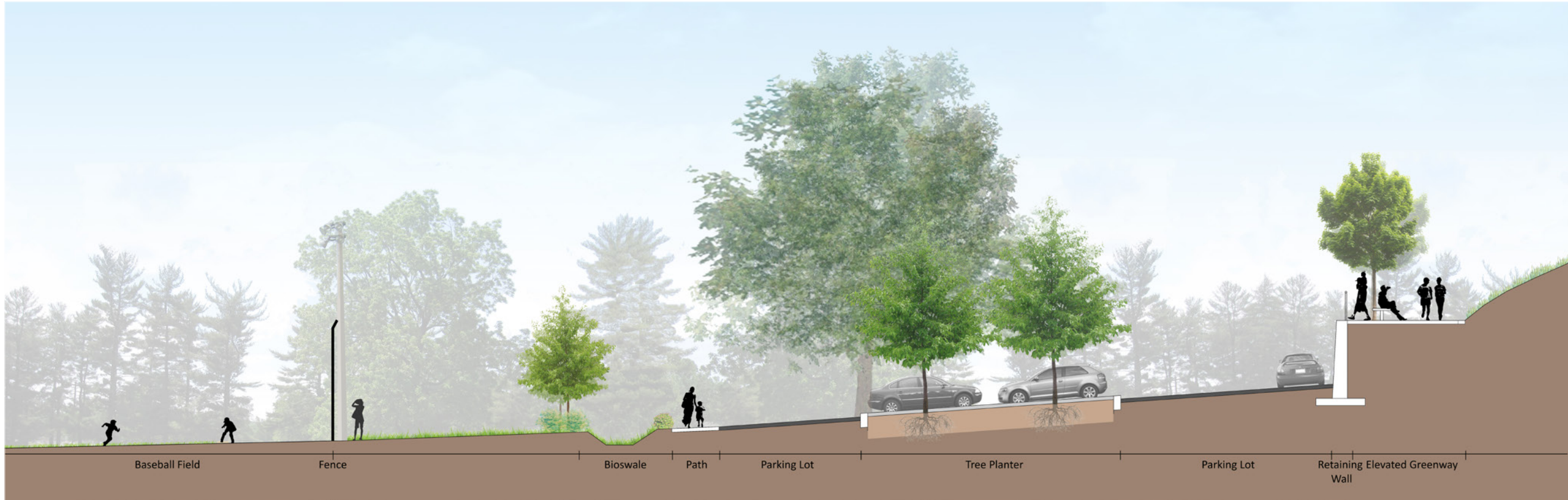
FINAL DESIGN CONCEPTS

Ridgeview Park: Greenway Terminus & Elevated Platform Beneath Oak



FINAL DESIGN CONCEPTS

Ridgeview Park: Section A-A through parking lot and retaining wall

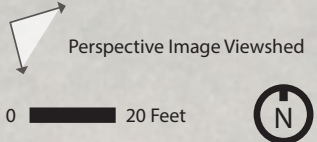


Concept A : Close Arch Avenue at the YMCA



PROS
 Creates More Green Space
 Provides Passive Recreation
 3-Way Intersection is Safer than 4-Way
 Gains More Parking in Lot

CONS
 Most Expensive
 Traffic is Redirected down Market Ave.
 Loses Parallel Parking on Arch Ave.

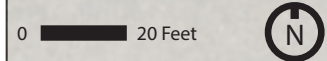


Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is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

Concept B : Narrow Arch Avenue



- PROS**
 Creates Green Space
 Trail Corridor is More Exciting than a Straight Line
 Arch Ave. is Left Open
 Narrower Street Width Slows Traffic
- CONS**
 Loses Parallel Parking on Arch Ave.
 Doesn't Address Safety at Intersection



Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site 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.

Concept C : Widen Sidewalk to 8 Feet



PROS
Keeps Parallel Parking on Arch Ave.
Arch Ave. is Left Open
Cheapest

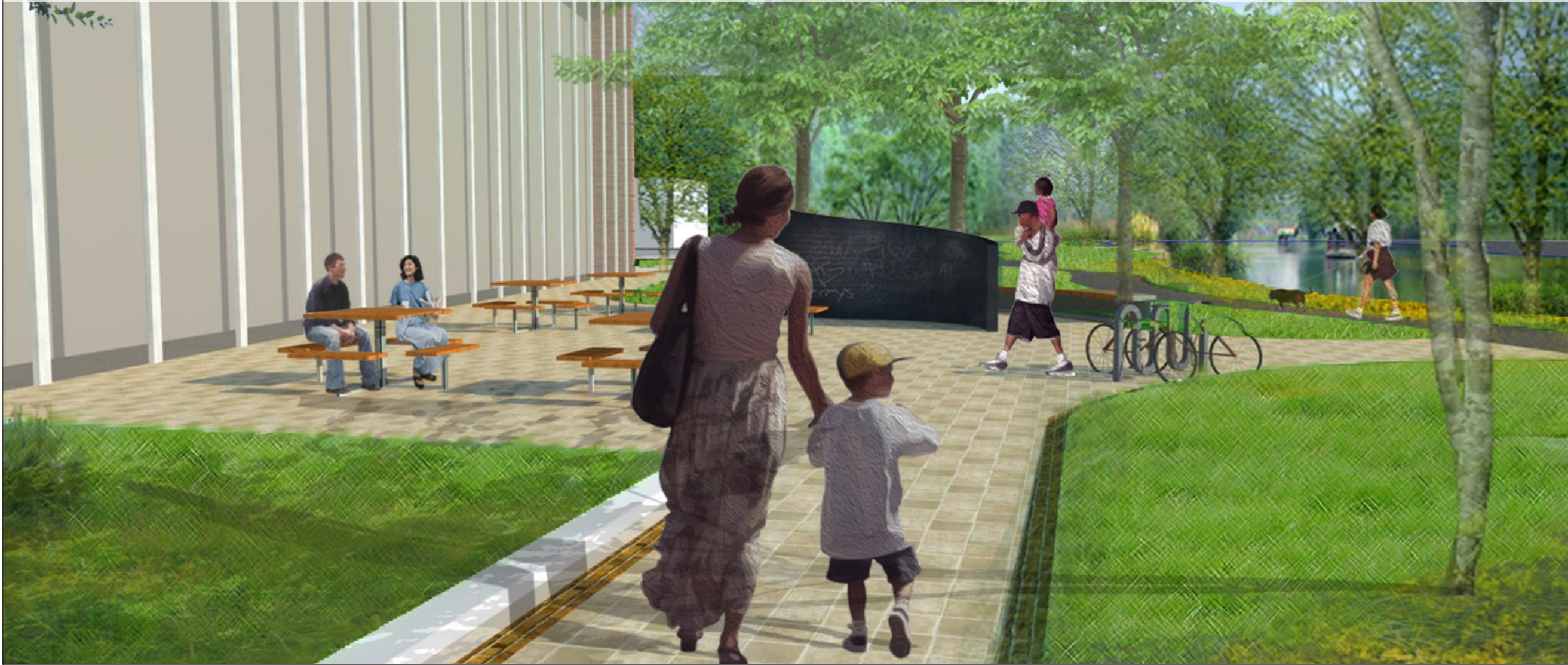
CONS
Doesn't Create New Green Space
Trail Corridor is a Straight Line
Doesn't Address Safety at Intersection

0 — 20 Feet

N

Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site 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.

Perspective 1 : Seating Area



Perspective 2 : Chalk Wall & Outdoor Classroom



Perspective 3 : Pedestrian Crosswalk

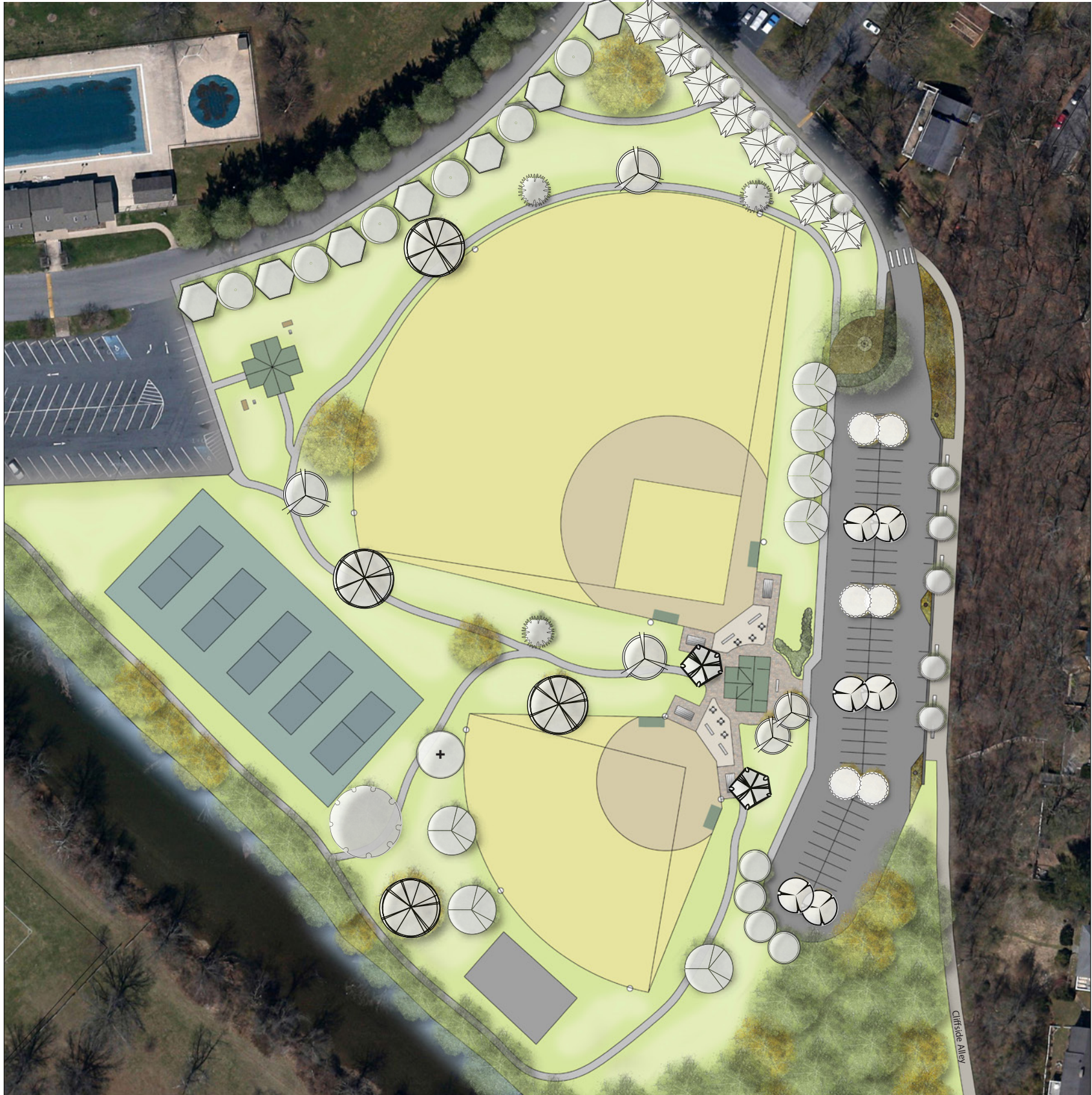


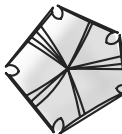

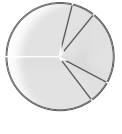
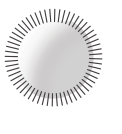
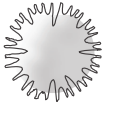

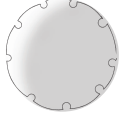
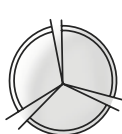

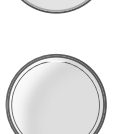




PLANTING PLANS

Planting plans were created for Ridgeview Park and the YMCA intersection (Concept A). Species in Ridgeview Park were selected for their ability to withstand flooding and thrive in acidic soils, and for their aesthetic value. Particular attention was paid to how the trees would appear during the height of baseball season (April- October). Although serviceberry and redbud provide spring flowers, more emphasis was placed on fall color. In addition, the design team felt like it was particularly important to provide a visual screen along the entrance drive where residents border the park. The combination of American arborvitae and forest pansy redbud provide a screen with seasonal interest.

The planting plan at the YMCA intersection focuses more on year-around interest and plants that can withstand urban environments. Fastigate species are located near roadways and parking lots to avoid the need for extensive tree pruning.

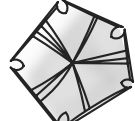
Planting Plans
Planting Plan: Ridgeview Park





-  2 *Acer buergerianum*
-  6 *Acer rubrum* 'Armstrong'
-  7 *Betula nigra*
-  12 *Cercis canadensis* 'Forest Pansy'
-  3 *Chiananthus virginicus*
-  6 *Gleditsia triacanthos* var. *inermis*
-  1 *Liquidambar styraciflua* 'Rotundifolia'
-  5 *Nyssa sylvatica*
-  1 *Ostrya virginiana*
-  4 *Parrotia persica*
-  4 *Quercus bicolor*
-  7 *Quercus palustris*
-  8 *Thuja occidentalis* 'Douglas pyramidalis'
-  6 *Ulmus* 'Homestead'


Planting Plans
Planting Plan: YMCA Intersection





- 


5 *Acer buergerianum*
- 


8 *Acer rubrum* 'Armstrong'
- 


3 *Cercis canadensis* 'Forest Pansy'
- 

3 *Cladrastis lutea*
- 

8 *Ginkgo biloba* 'Fastigiata'
- 

2 *Gleditsia triacanthos* var. *inermis*
- 

5 *Liquidambar styraciflua* 'Rotundifolia'
- 

4 *Prunus* 'Kwanzan'
- 

5 *Nyssa sylvatica*

CONCLUSION

The Phase III extension of the South River Greenway offers a great opportunity to connect the City's residents to the much-loved Ridgeview Park. The analysis of potential route options provided a preliminary step for the City to explore options and receive input from the general public and property owners impacted by the potential trail.

The redesign of the baseball fields at Ridgeview Park expands the current parking, provides more optimal field conditions for the players, creates a central location for a concession stand and seating, manages stormwater in an environmentally sensitive manner, protects significant trees, and better connects the ball fields to the rest of the park and river.

Lastly, the conceptual design for the YMCA intersection at Lyndhurst Road/ S. Wayne Avenue and Arch Avenue reduces the potential for accidents at this crossing, while expanding the parking of the YMCA and providing additional amenities to the greenway.

It is our hope that this document serves as a catalyst for the future development of Ridgeview Park and the South River Greenway.

APPENDIX

A. South River Greenway Phase III GIS Study: Step-by-Step

46

B. CDAC's Preliminary Conceptual Design Powerpoint Presentation

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C. Soil Results

70

D. Rail-Trails and Safe Communities: The Experience of 372 Trails

74

E. Crime, Property Values, Trail Opposition & Liability Issues

106

F. Promoting Greenway Safety

117

G. Greenway Makes a Good Neighbor

123

H. Benefits of Greenways

126

APPENDIX CITATIONS

D. 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.

E. 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

F. 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.

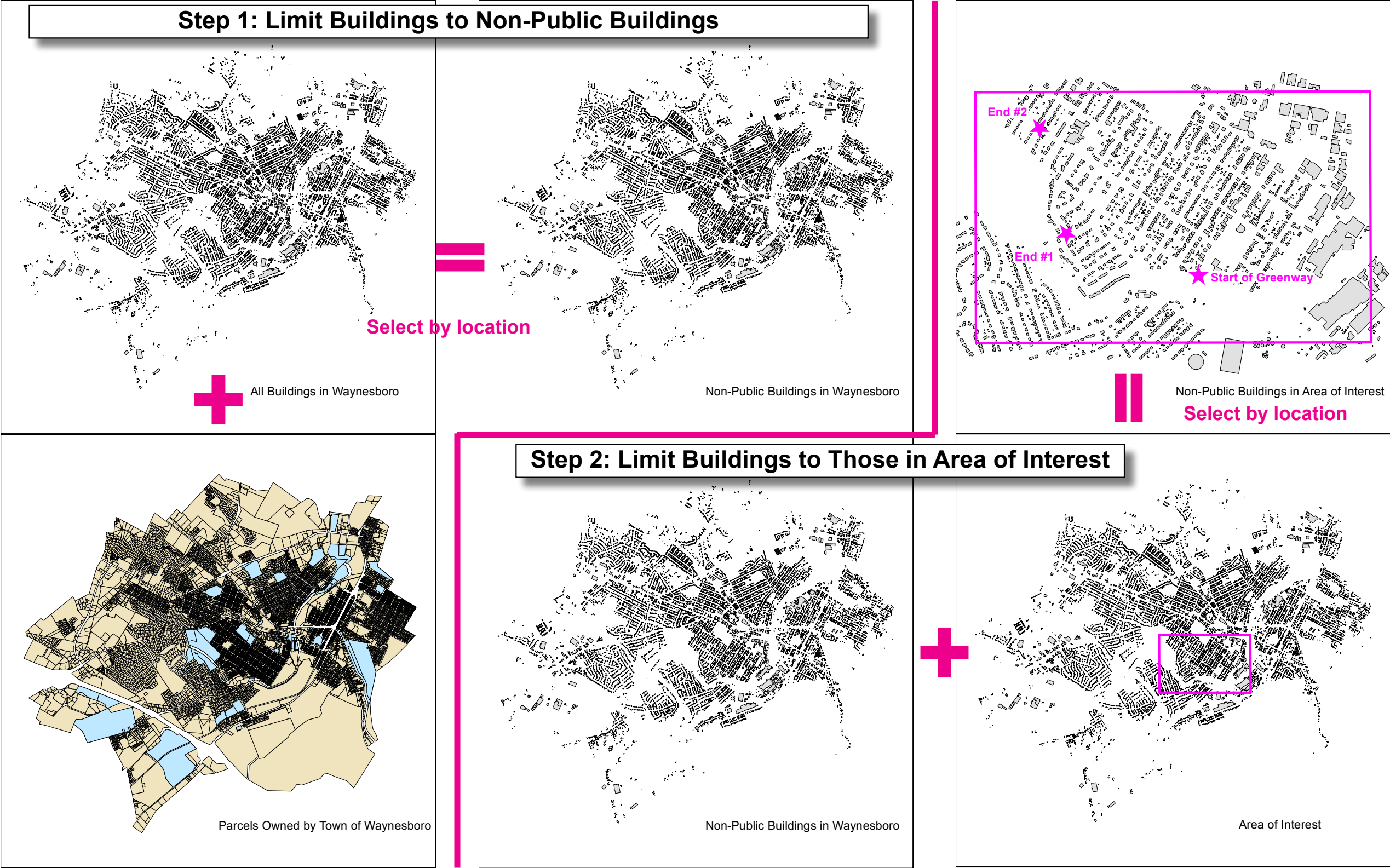
G. Greenway Makes a Good Neighbor

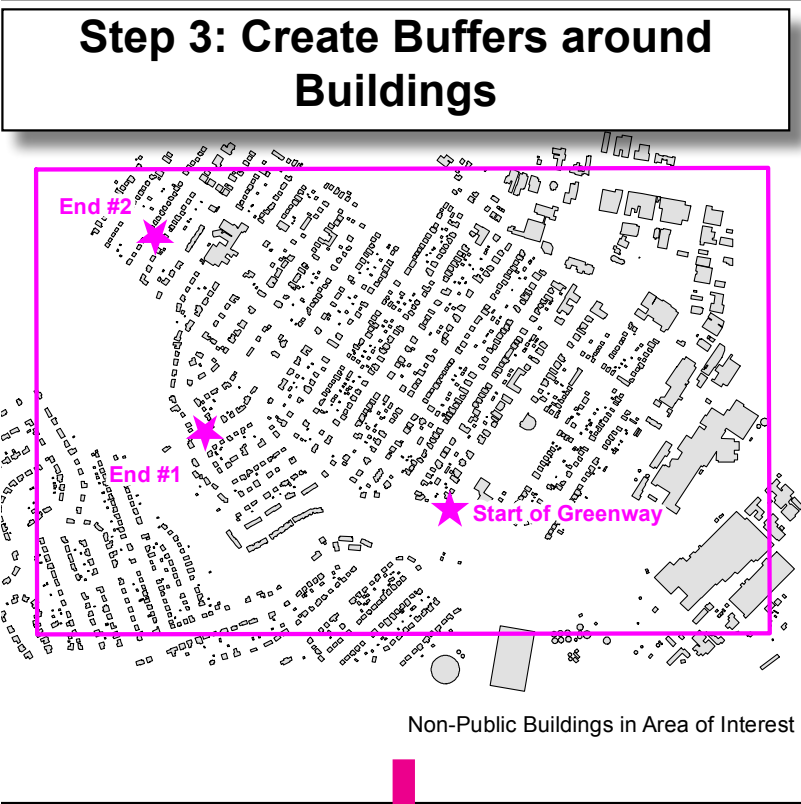
Adams, Mason. "Greenway Makes a Good Neighbor," The Roanoke Times. June 10th, 2010.

H. Benefits of Greenways

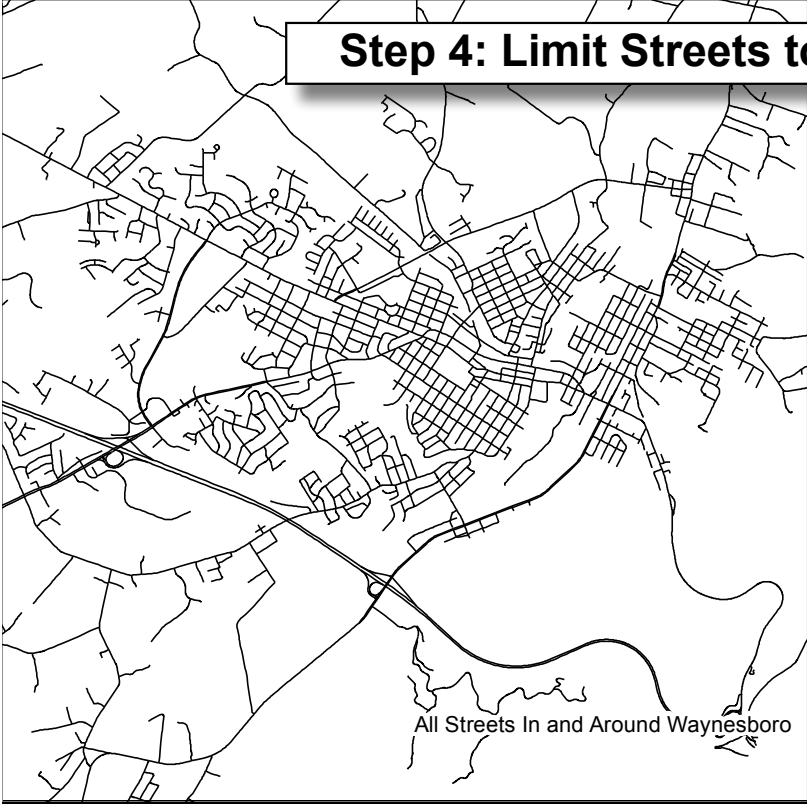
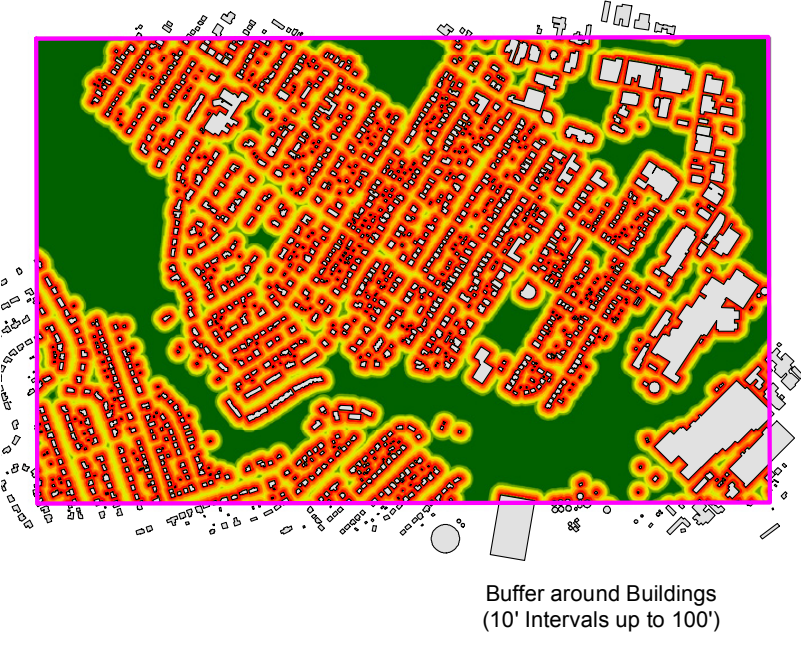
Chapter 1: Benefits of Greenways. Taken from Mecklenburg County Greenway Master Plan (1999-2009). < <http://charmeck.org/mecklenburg/county/ParkandRec/Greenways/Documents/FinalReport.pdf> > Accessed Dec. 12, 2013.

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

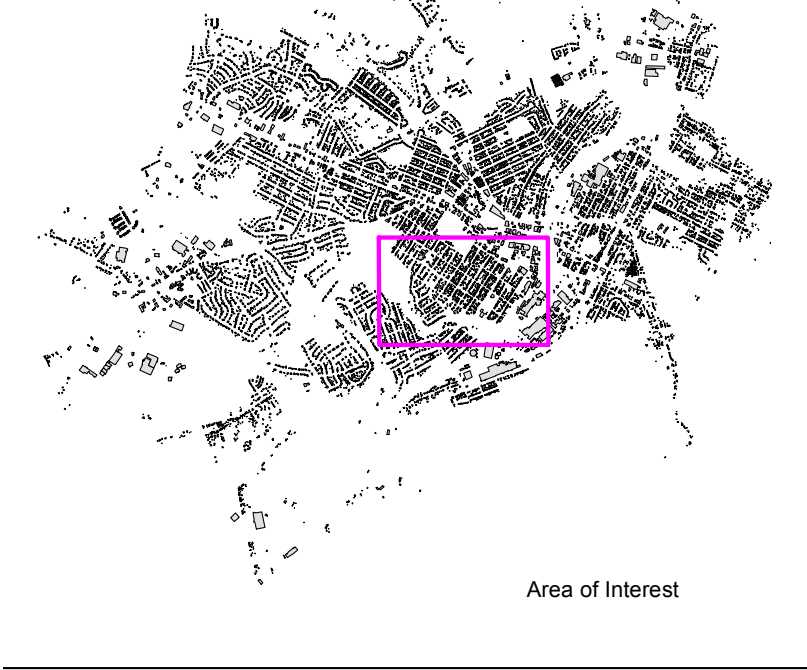




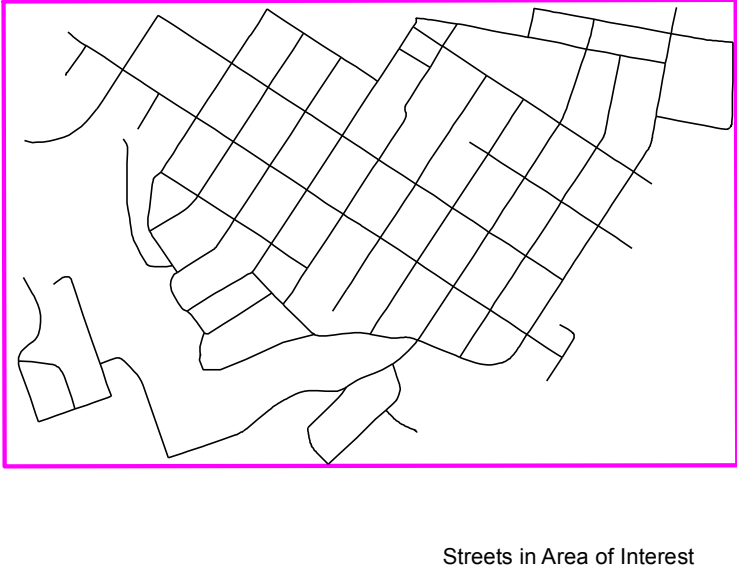
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Buffer Wizard



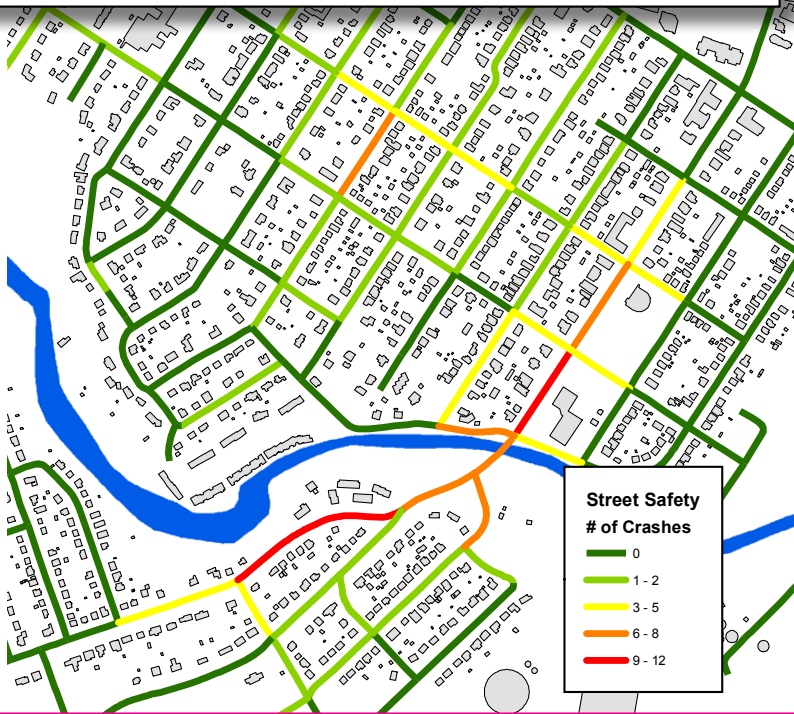
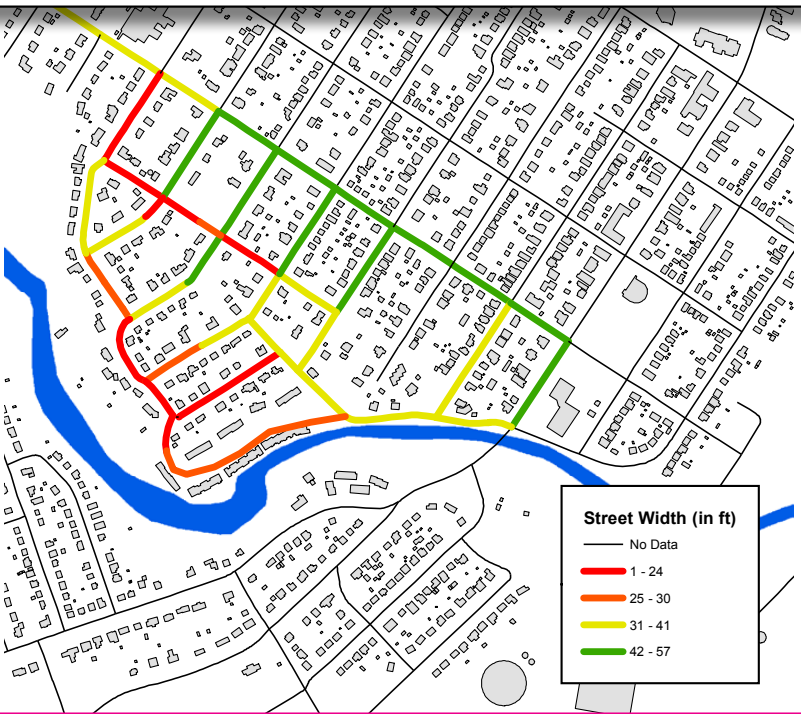
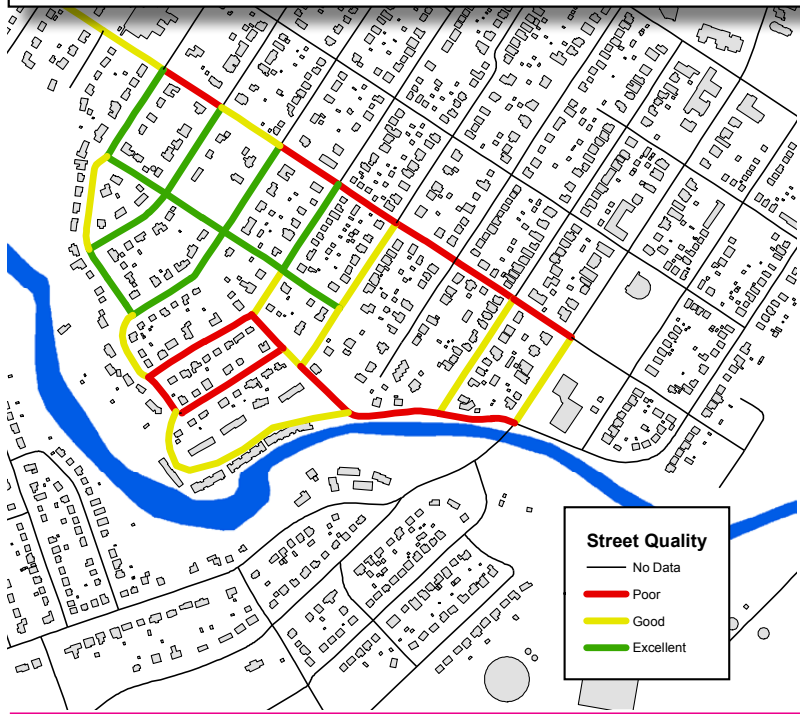
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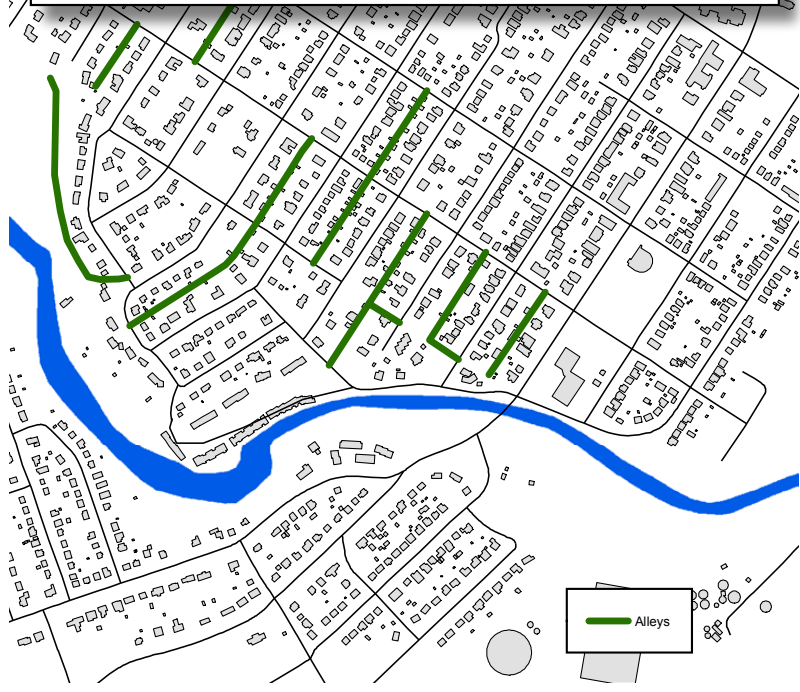
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Select by Location



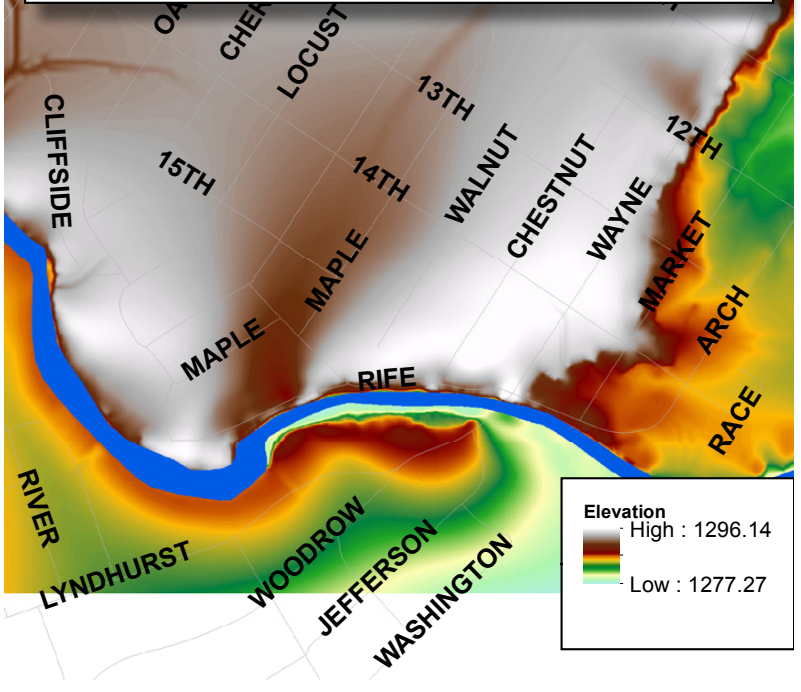
Step 5: Code Streets by Quality, Width and Crashes



Step 6: Draw Alleys

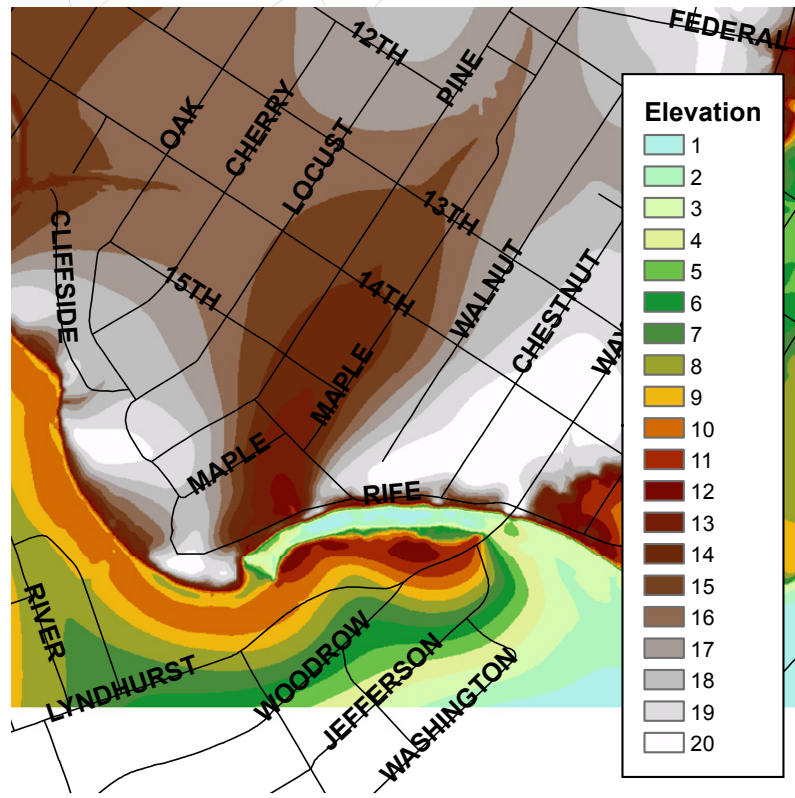
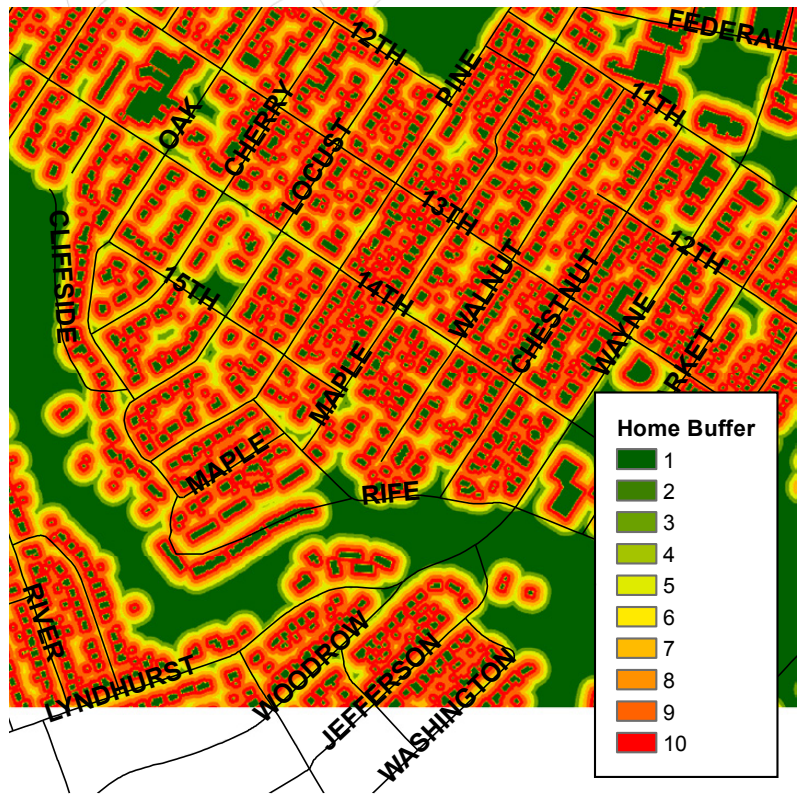
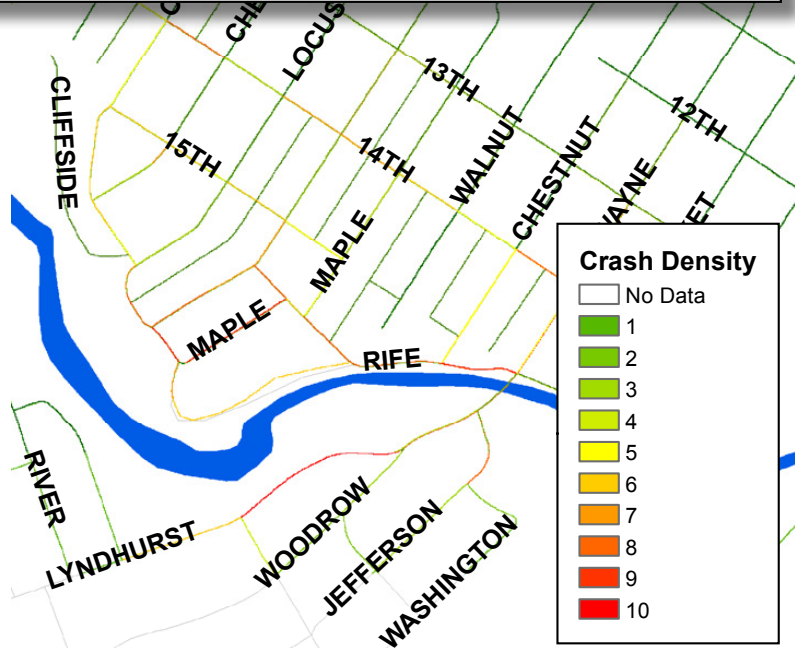
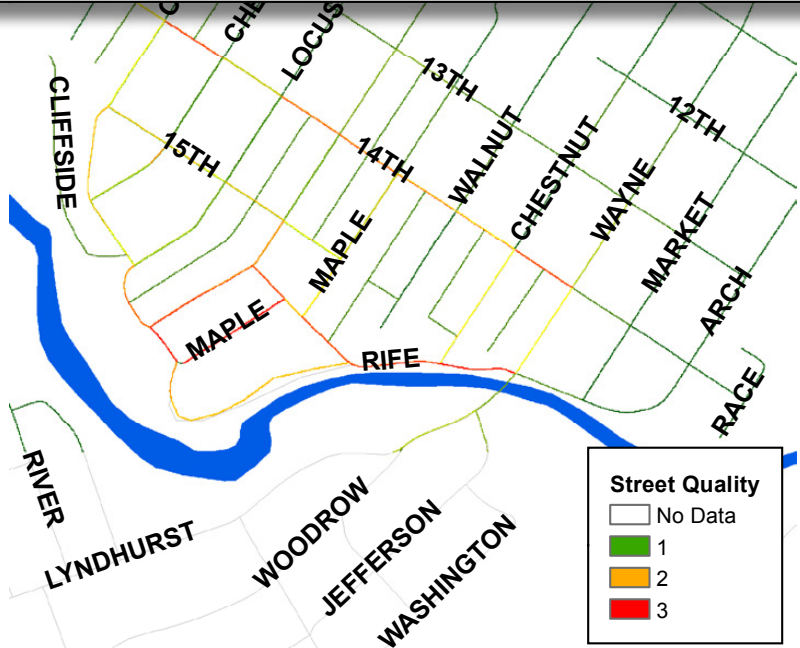
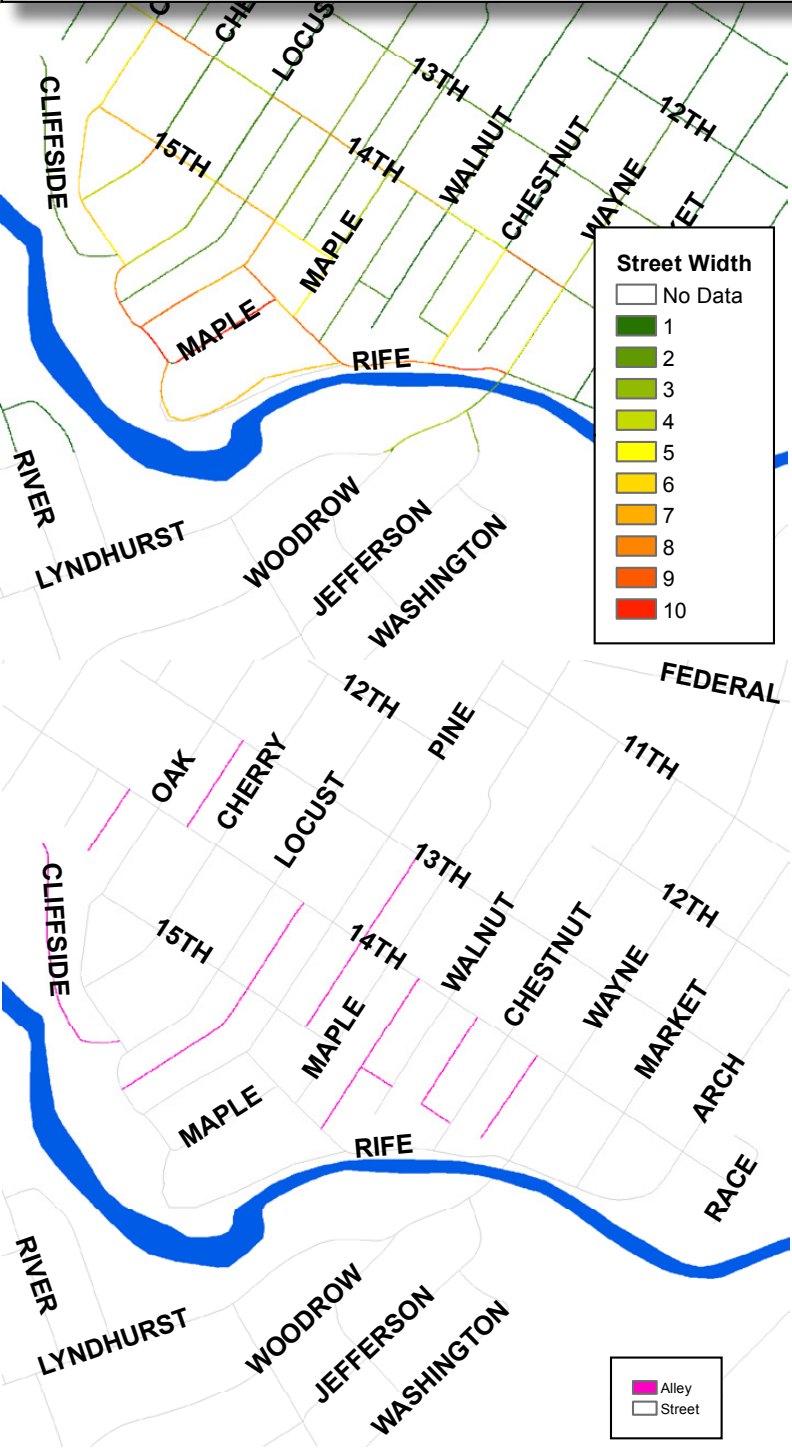


Step 7: Download Elevation Data



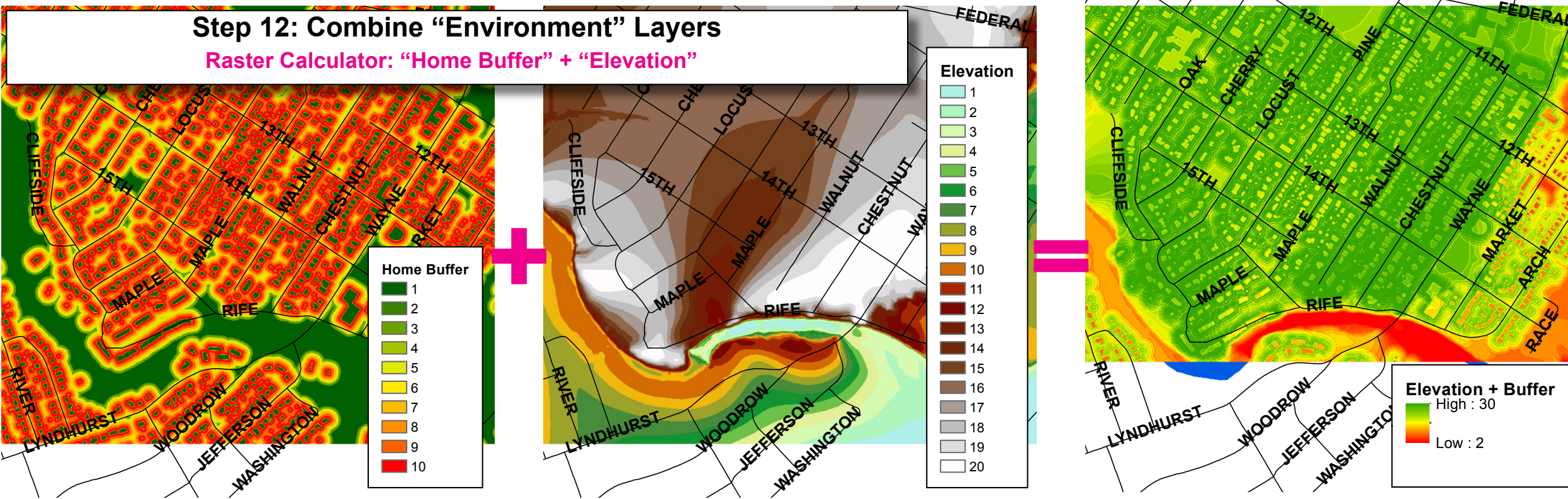
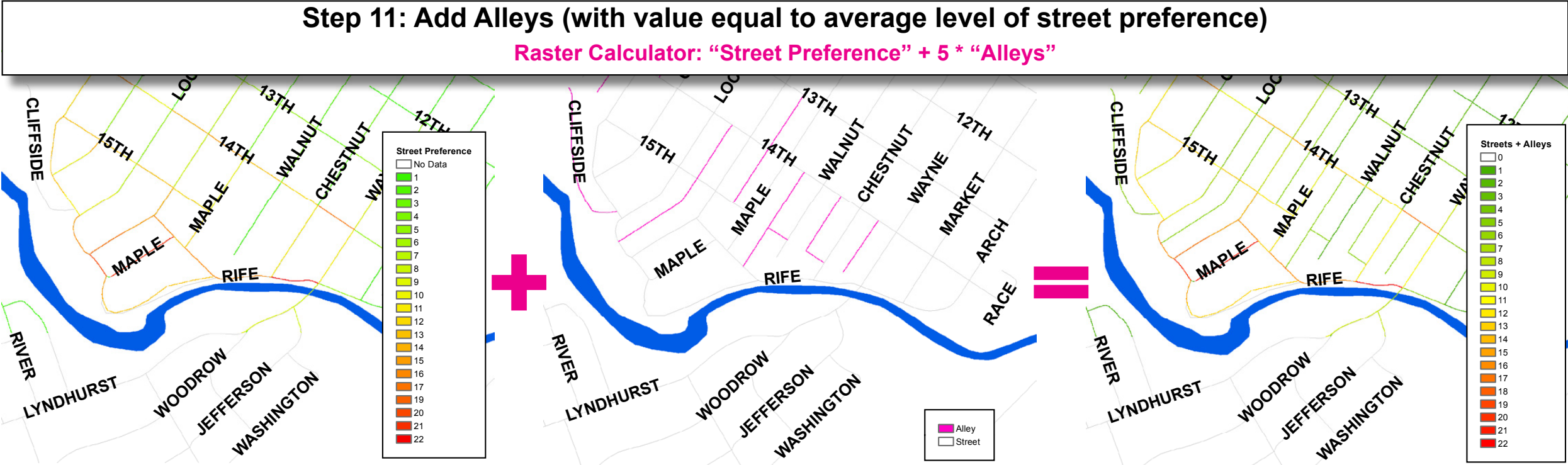
Skip 8: Take a Break from GIS!

Step 9: Convert all Vector Layers to Raster Layers
To Raster and Reclassify

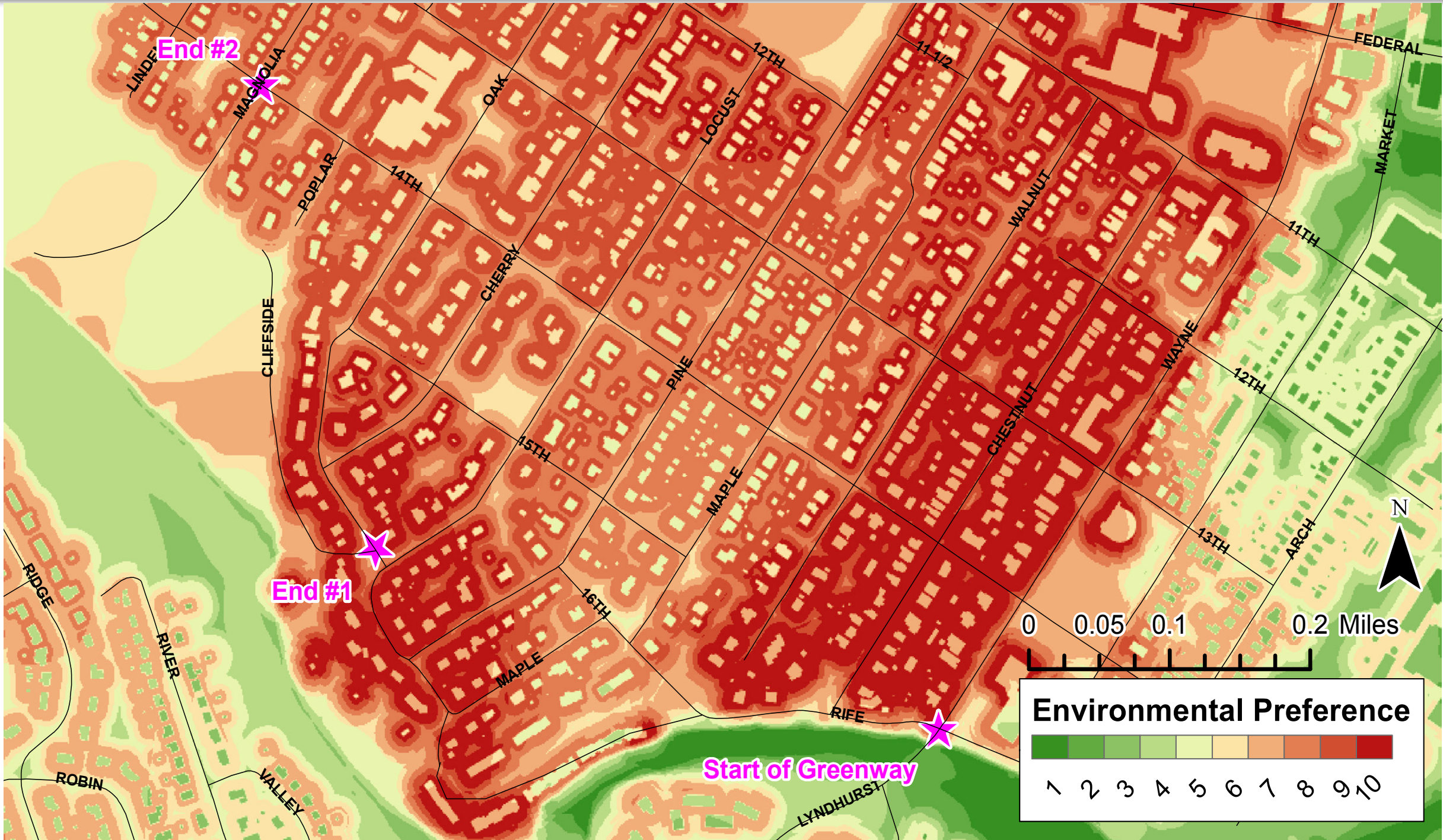


Step 10: Combine all Street Layers
Raster Calculator: "Street Width" + 3 * "Street Quality" + "Crash Density"

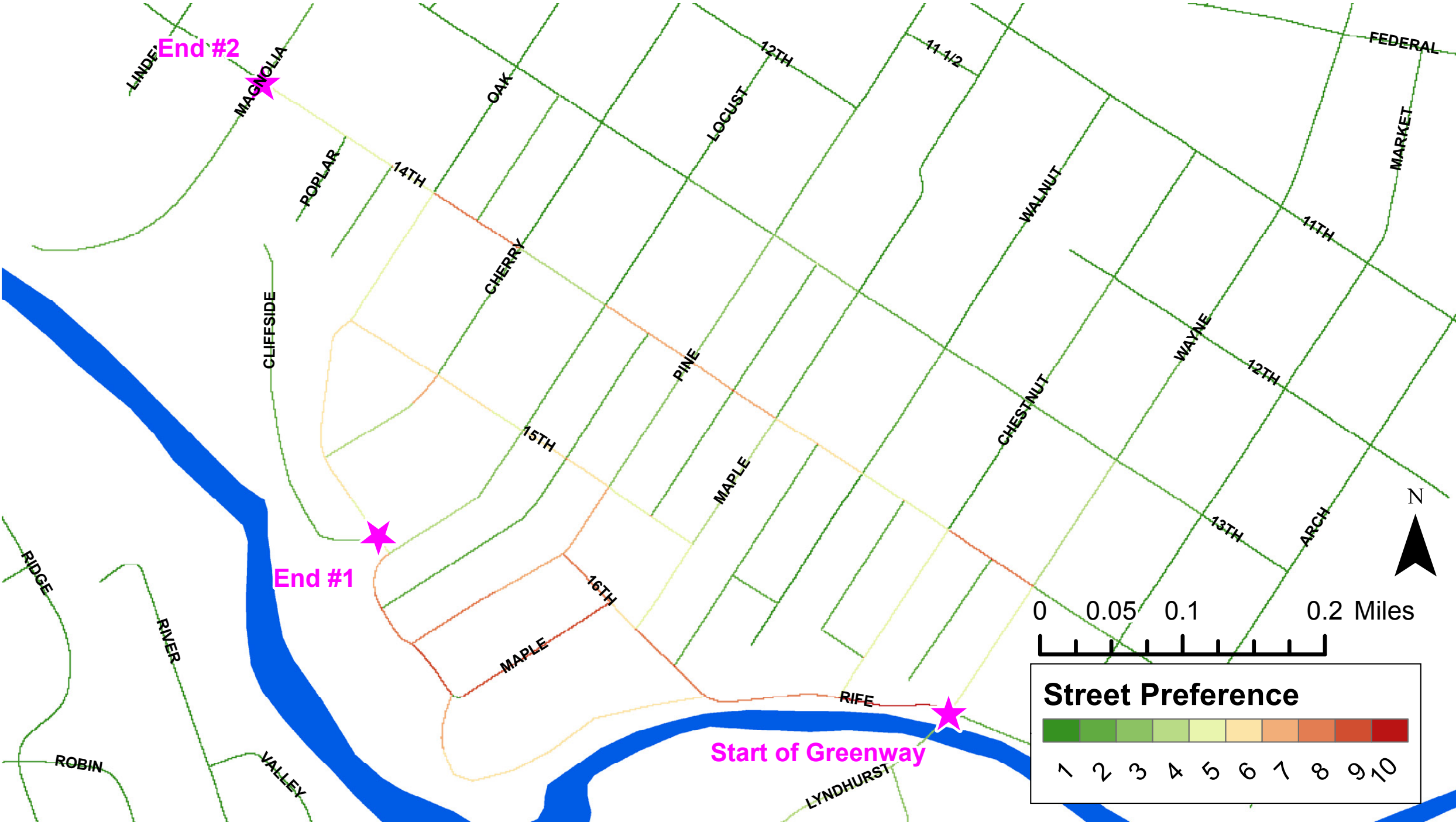




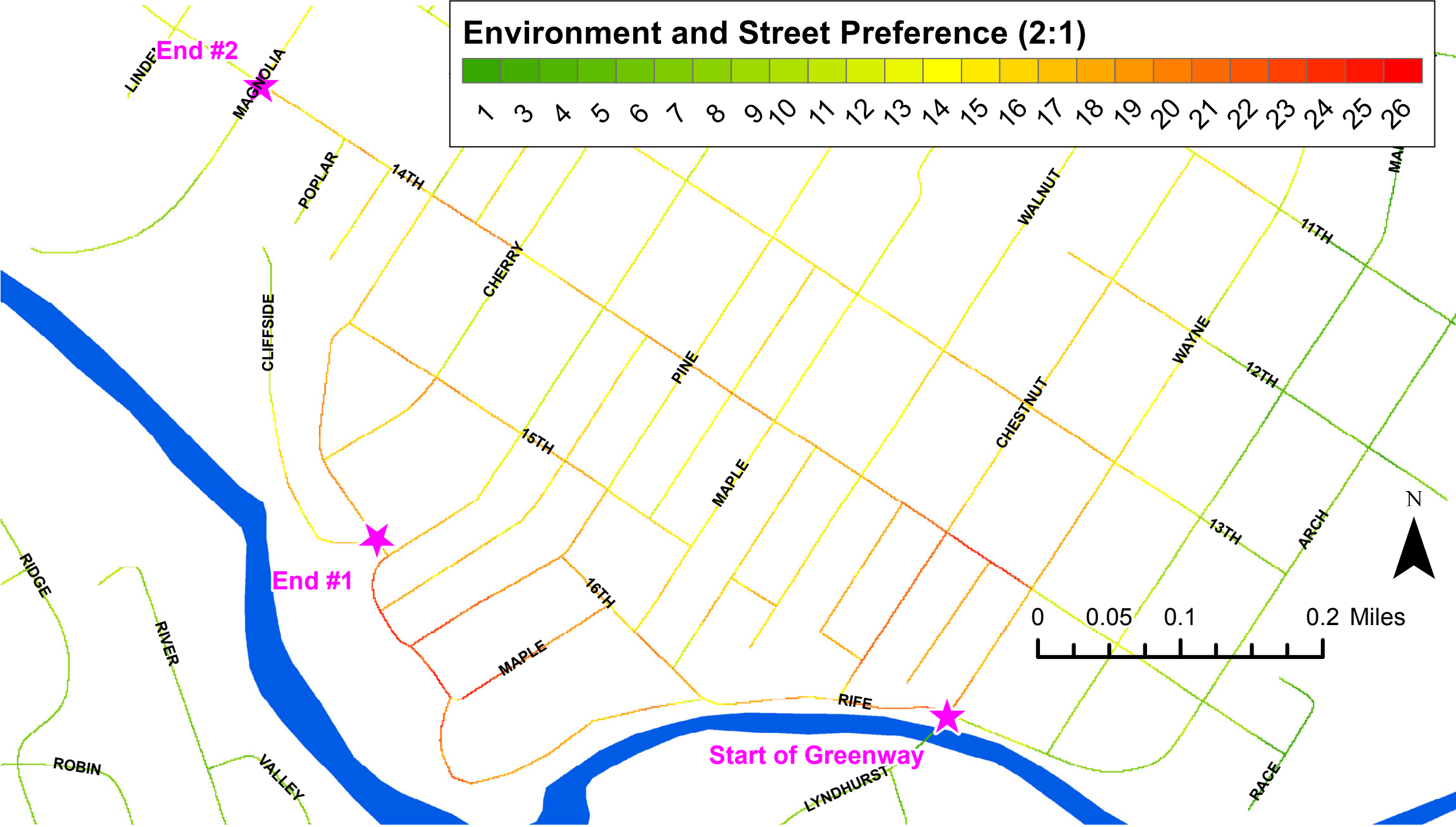
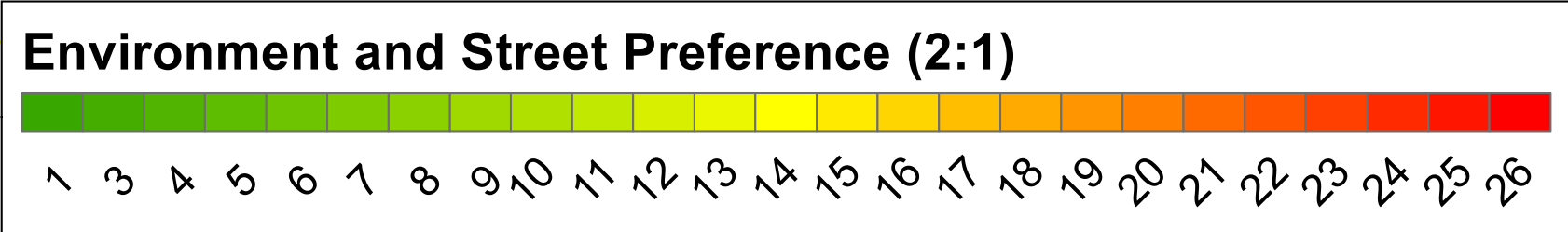
Step 13: Normalize Street and Environmental Layers (both 1-10)
Reclassify



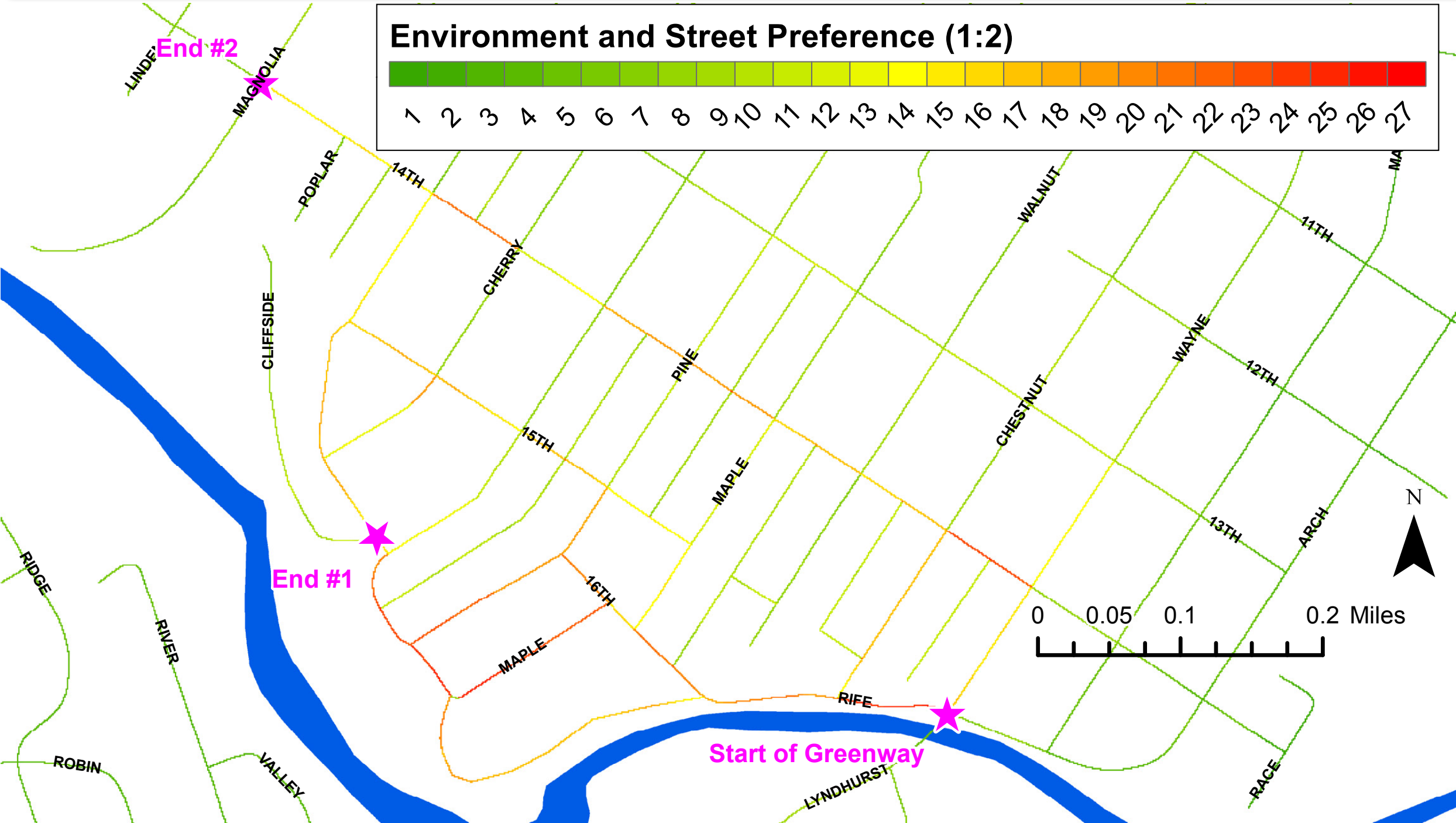
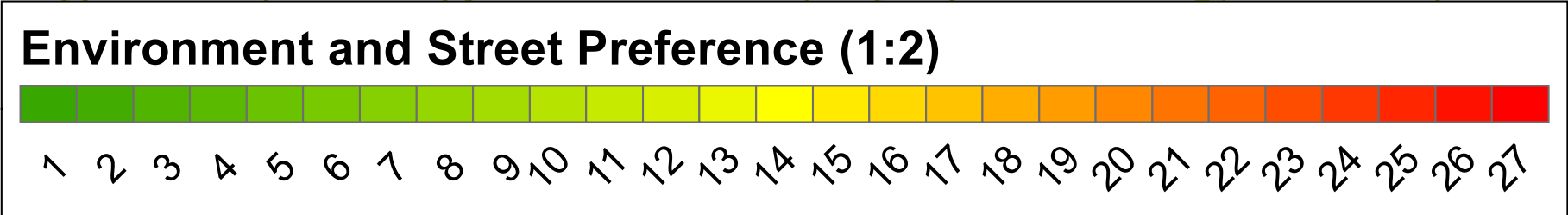
Step 13: Normalize Street and Environmental Layers (both 1-10) CONTINUED
Reclassify



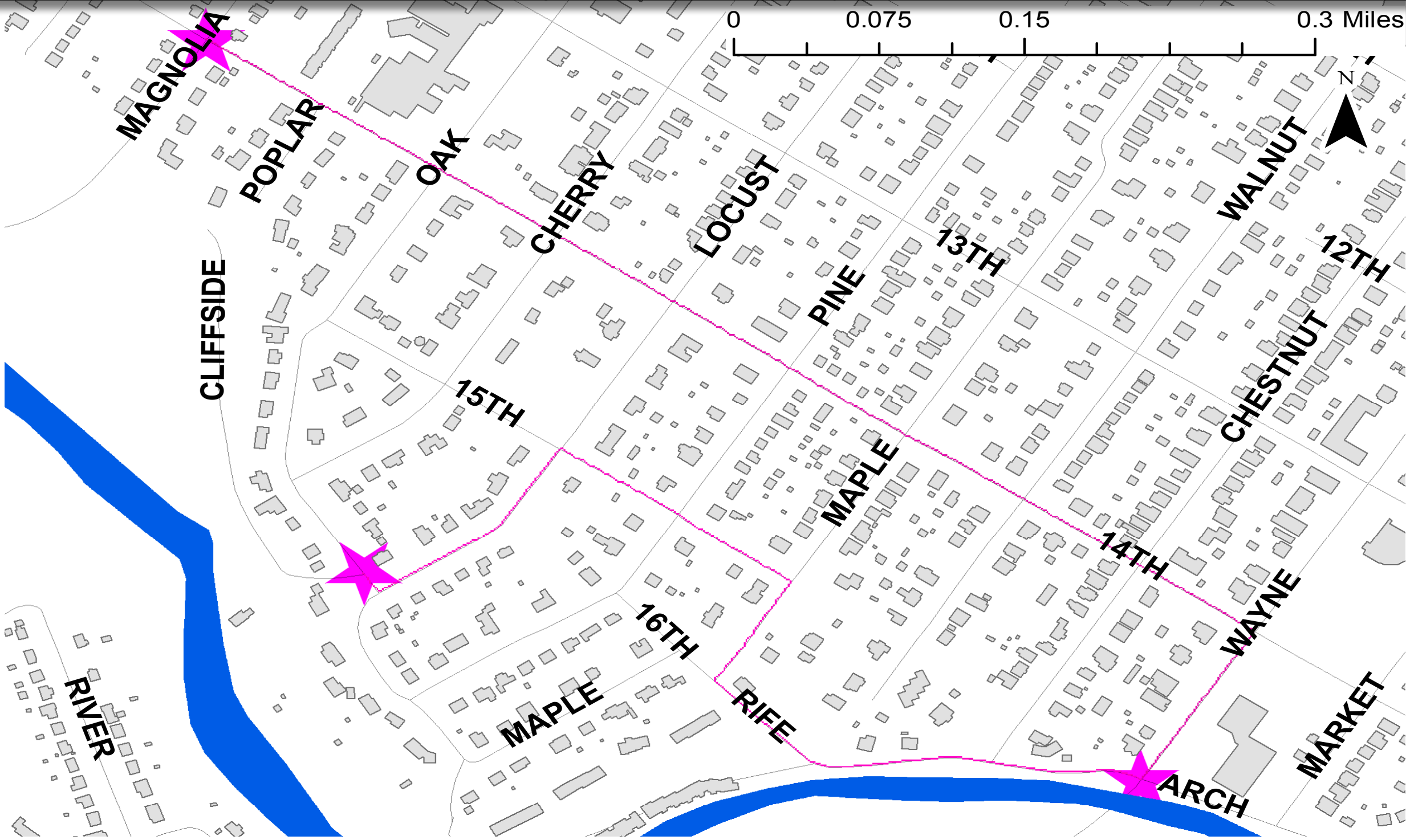
Step 14: Combine Environment and Street Preference Layers in 2:1 Ratio
Raster Calculator: "Environmental Preference" * 2 + "Street Preference"



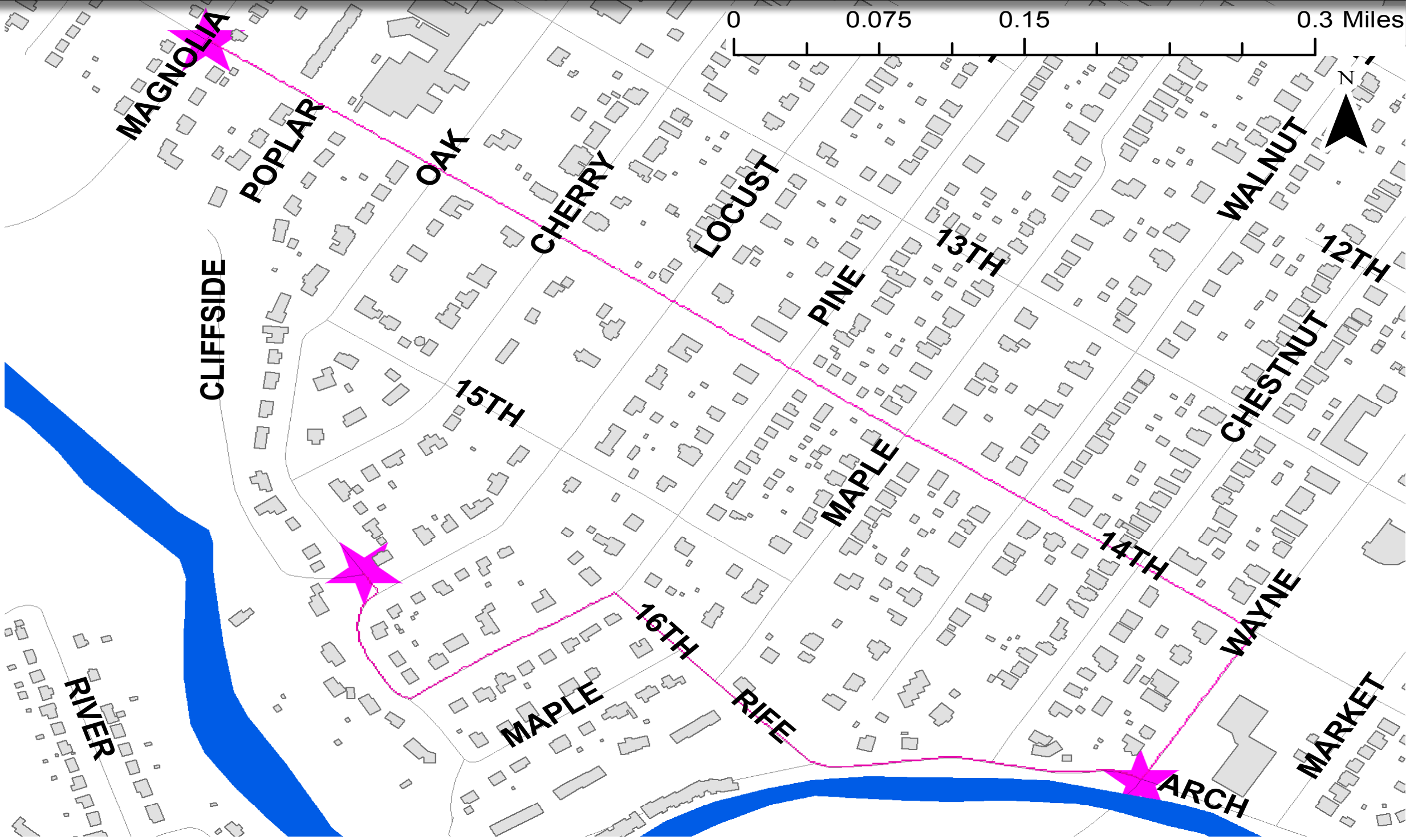
Step 14: Combine Environment and Street Preference Layers in 1:2 Ratio
Raster Calculator: "Environmental Preference" + "Street Preference" * 2



Step 15: Calculate Least Cost Path from Start to Finish for 2:1 "Friction" Grid
Cost Distance and Cost Path

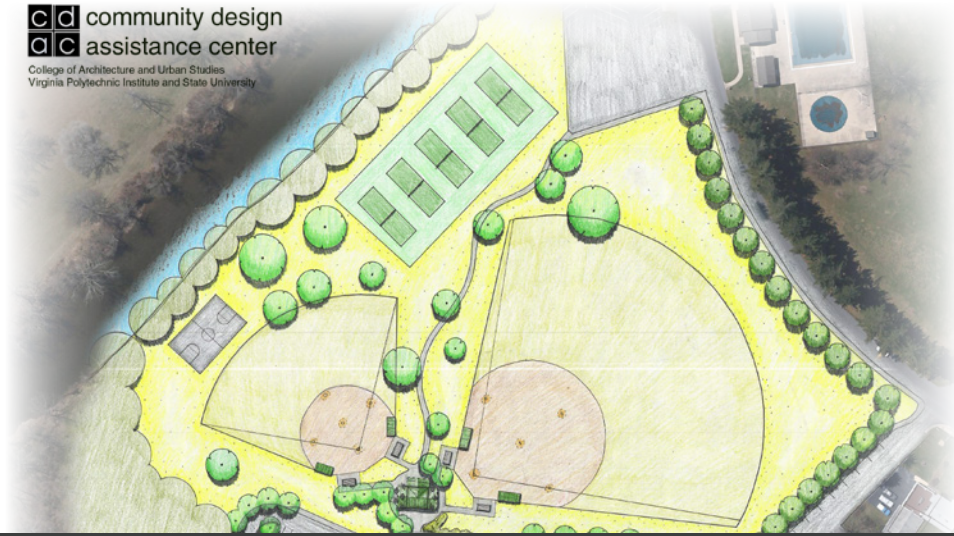


Step 16: Calculate Least Cost Path from Start to Finish for 1:2 "Friction" Grid
Cost Distance and Cost Path



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

cd community design
dc assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



Waynesboro Ridgeview Park Greenway and Trailhead Conceptual Design

Introduction

Greenways Increase Property Value!



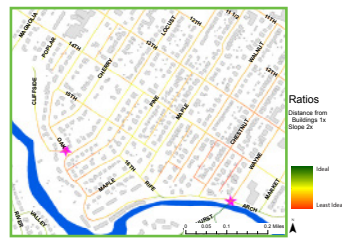
- Developers of the Sheperd's Vineyard housing development in Apex, N.C. added \$5,000 to the price of 40 homes adjacent to the regional greenway. Those homes were the first to sell.
- In Salem, Oregon, homes adjacent to a greenway sold for about \$1,200/acre more than homes only 1000 feet away.
- A 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% more than similar property not located next to the trail.

APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Environment Quality + Street Quality = Street Rating
 Street Rating + Distance Factor = Preferred Path

Street Analysis

Environmental Quality



Environmental Quality for Pedestrian/Cycling Paths
 Slopes along roads and the distances of roads from private residences were first analyzed.

Environment Quality + Street Quality = Street Rating
 Street Rating + Distance Factor = Preferred Path

Street Analysis

Street Rating



Street Quality for Cycling Path
 Street safety, width and aesthetics such as the amount of shade, condition of street and care of surrounding yards were analyzed and combined into a street quality study.



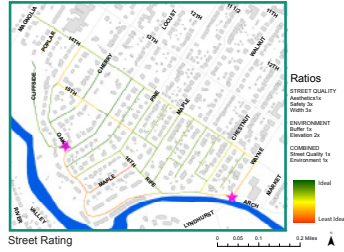
Street Rating
 The environmental factors were combined and weighted with the quality factors in a street preference study. This resulted in an ideal route for cyclists.

APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

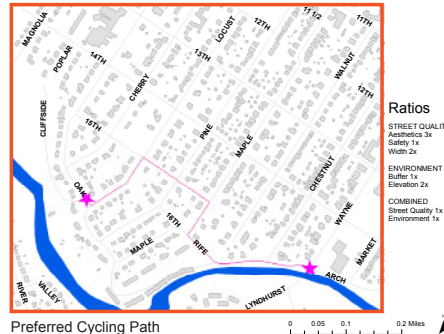
Environment Quality + Street Quality = Street Rating
 Street Rating + Distance Factor = Preferred Path

Street Analysis

Preferred Path



+ Distance Factor =



Route Options



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

YMCA

Concept A



YMCA

Concept B



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

YMCA

Concept B: Images



Chalk Wall



Reflecting Pool

Water Plaza



Curved Bench



Table Seating

Greenway Corridor A

Existing Conditions



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Greenway Corridor A

Proposed



Greenway Corridor A

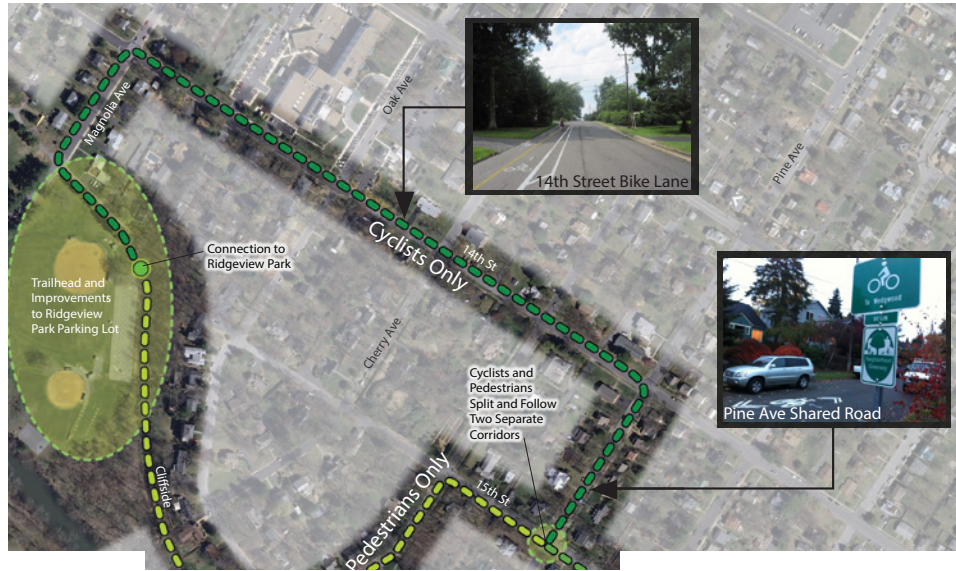
Proposed



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Greenway Corridor A

Proposed



Greenway Corridor A

Proposed



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Greenway Corridor B

Existing Conditions



Greenway Corridor B

Proposed



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

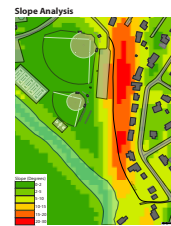
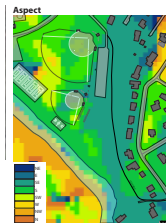
Greenway Corridor B

Proposed



Ridgeview Park

Analysis



APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Ridgeview Park

Concept A



Concept A

- Parallel Parking Along Entry
- Small Gathering Space Beneath Old Oak
- Grass Seating Area by Home Plate
- Shaded Tables Beneath Snack Bar Overhang

Ridgeview Park

Concept A: Images



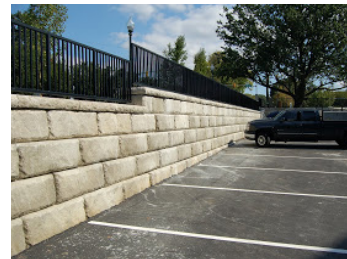
Grass Seating Area



Bioswale



Tree Gathering Area/Protection

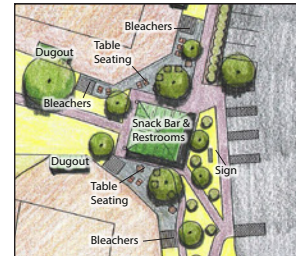


Retaining Wall

APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

Ridgeview Park

Concept B



Concept B

- Walking Path Around Ball Fields
- Minimal Design Beneath Old Oak
- Alternative Seating by Home Plate
- Picnic Shelter by Pool Parking Lot

Ridgeview Park

Concept B: Images



Table Seating



Lounge Seating



Bioswale



Snack Bar & Restrooms

APPENDIX B: CDAC'S PRELIMINARY CONCEPTUAL DESIGN POWERPOINT PRESENTATION

THANK YOU!!



Questions or Comments?

APPENDIX C
Soil Results



sample_id	labid	ph	bph	p	k	ca	mg	zn	mn	cu	fe	b	cec	pctacidity	pctbasesat	pctcasat	pctmgsat	pctksat	p_rating	k_rating	ca_rating	mg_rating
WAY1	28749	6.63	6.43	13	109	1169	138	2.3	8.8	1.2	10.1	0.5	7.3	0.7	99.3	80	15.5	3.8	M	H	VH	VH
WAY2	28750	5.68	6.23	5	97	746	85	1.2	5.9	1.2	12.5	0.4	5.7	17.8	82.2	65.6	12.3	4.4	L+	H-	H-	H
WAY3	28751	6.82	6.49	10	29	1235	118	2.1	9.8	1.1	15.6	0.5	7.2	0.4	99.6	85.1	13.4	1	M-	L+	VH	VH
WAY4	28752	6.61	6.42	14	77	1089	115	1.9	9	1	6.6	0.4	6.6	0.8	99.2	82	14.2	3	M	M+	VH	VH
WAY5	28753	6.05	6.37	5	78	685	78	1.5	6.3	1.1	9.3	0.4	4.4	4.0	96	77.1	14.4	4.5	L+	M+	M+	H-
WAY6	28754	7.77	N/A	11	61	3613	349	3	19.4	0.3	2.7	1.2	21	N/A	100	85.6	13.6	0.7	M	M	VH	VH
WAY7	28755	5.85	6.27	23	104	818	90	3.1	8.8	1.5	7.4	0.4	5.9	13.2	86.8	69.6	12.7	4.5	H-	H-	H-	H

APPENDIX C: SOIL RESULTS

Soil Test Note #1

Virginia Cooperative Extension

PUBLICATION 452-701

Explanation of Soil Tests

Rory Maguire, *Extension Nutrient Management Specialist, Virginia Tech*
Steve Heckendorn, *Soil Test Laboratory Manager, Virginia Tech*

The accompanying Soil Test Report (and supplemental Soil Test Notes, when provided) will help you assess your plant's need for fertilizer and lime.

The "History of Sampled Area" section restates the information you filled in on the Soil Sample Information Sheet you submitted with the soil sample.

The "Lab Test Results" section shows the relative availability of nutrients numerically and if appropriate, as a rating. The rating may be interpreted as follows: L=Low, M=Medium, H=High, VH=Very High, EH=Excessively High (soluble salt test only), DEF=Deficient, or SUFF=Sufficient, and sometimes a "+" or "-" When soils test Low, plants almost always respond to fertilizer. When soils test Medium, plants sometimes respond to fertilizer and a moderate amount of fertilizer is typically recommended to maintain fertility. When soils test High to Very High, plants usually do not respond to fertilizer. If there is no rating for a nutrient, the adequacy of that nutrient in the soil for the plant you specified has not been determined.

The following is an explanation of the symbols and abbreviation used in the report:

Report Symbols and Abbreviations

P = phosphorus	K = potassium
Ca = calcium	Mg = magnesium
Zn = zinc	Mn = manganese
Cu = copper	Fe = iron
B = boron	SS = soluble salts
lb/A = pounds per acre	ppm = parts per million
meq = milliequivalent	g = gram
pH = acidity	Sat. = saturation
N = nitrogen	P ₂ O ₅ = phosphate
K ₂ O = potash	% = percent
Est-CEC = estimated cation exchange capacity	
AG = agricultural limestone (dolomitic or calcitic)	

Fertilizer Recommendation

The fertilizer recommendations may be used for the same crop for two to three years. After this time, it is advisable to retest the soil to determine if significant changes have occurred in nutrient levels. When the soil tests Very High for phosphorus or potassium and no fertilizer for these nutrients is recommended, you should retest the following year to determine if fertilizer will be needed. Due to the variability associated with sampling, fertilizer application rates may be varied by a plus or minus 10 percent.

No soil test is performed for **nitrogen** because this element is too mobile in the soil for laboratory results to be useful. Nitrogen fertilizer recommendations are based on the crop/plant to be grown, the previous crop, and when applicable, the soil's yield potential. Comments on the report and other enclosed Notes, if any, will have further information regarding nitrogen.

Lime Recommendation

If needed, a lime recommendation is given to neutralize soil acidity and should last two to three years. After that time, you should have the soil retested. The measured soil test levels of calcium and magnesium are used to determine the appropriate type of limestone to apply. If neither dolomitic nor calcitic lime is mentioned, or "Ag" type or "agricultural" limestone is stated on the report, then it does not matter which type is used. When no information on the Soil Sample Information Sheet was provided regarding the last lime application, the lab assumed you have not applied lime in the past 18 months. If this is not correct, contact your Extension agent for advice on adjusting the lime recommendation to take into consideration recent lime applications. Do not over lime! Too much lime can be as harmful as too little. For best results, apply lime, when possible, several months ahead of the crop/plant to be planted to allow time for more complete soil reaction.

www.ext.vt.edu



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College of Architecture + Urban Studies
Virginia Polytechnic Institute and State University

APPENDIX C: SOIL RESULTS

Methods and Meanings

For more detail on the lab procedures used, visit www.soiltest.vt.edu and click on “Laboratory Procedures.”

Soil pH (or soil reaction) measures the “active” acidity in the soil’s water (or hydrogen ion activity in the soil solution), which affects the availability of nutrients to plants. It is determined on a mixed suspension of 1:1, volume to volume ratio of soil material to distilled water.

Virginia soils naturally become acidic, and limestone periodically needs to be applied to neutralize some of this acidity. A slightly acid soil is where the majority of nutrients become the most available to plants, and where soil organisms that decompose organic matter and contribute to the “overall health” of soils are the most active. When a soil is strongly acidic (< 5.0-5.5), many herbicides lose effectiveness and plant growth is limited by aluminum toxicity. When soils are over-limed and become alkaline (> 7.0), micronutrients, such as manganese and zinc, become less available to plants.

For most agronomic crops and landscaping plants, lime recommendations are provided to raise the soil pH to a slightly acid level of between 5.8 and 6.8. Blueberries and acid-loving ornamentals generally prefer a 4.5 to 5.5 pH, and an application of liming material is suggested when the soil pH drops below 5.0. For the majority of other plants, lime may be suggested before the pH gets below 6.0. This is to keep the soil pH from dropping below the ideal range, since lime is slow to react and affects only a fraction of an inch of soil per year when the lime is not incorporated into the soil. If the soil pH is above the plant’s target pH, then no lime is recommended. If the pH is well above the ideal range, then sometimes an application of sulfur is recommended to help lower the pH faster; however, most of the time, one can just let the soil pH drop on its own.

A Mehlich buffer solution is used to determine the **Buffer Index** to provide an indication of the soil’s total (active + reserve) acidity and ability to resist a change in pH. This buffer measurement is the major factor in determining the amount of lime to apply. The Buffer Index starts at 6.60 and goes lower as the soil’s total acidity increases and more lime is needed to raise the soil pH. A sandy soil and a clayey soil can have the same soil pH; however, the clayey soil will have greater reserve acidity (and a lower Buffer Index) as compared to the sandy soil, and the clayey soil will require a greater quantity of lime to be applied in order to raise the soil pH the same amount as the sandy soil. A reported

Buffer Index of “N/A” means that it was not measured since the soil (water) pH was either neutral or alkaline and not acidic (soil pH \geq 7.0) and therefore requires no lime.

Nutrients that are available for plant uptake are extracted from the soil with a Mehlich 1 solution using a 1:5 vol:vol soil to extractant ratio, and are then analyzed on an ICP-AES instrument. An extractable Mehlich 1 level of phosphorus from 12 to 35 pounds per acre (lb/A) is rated as medium or optimum. A medium level of potassium is from 76 to 175 lb/A. Medium levels of calcium and magnesium are 721 to 1440 and 73 to 144 lb/A, respectively. Calcium and magnesium are normally added to the soil through the application of limestone. It is rare for very high fertility levels of P, K, Ca and Mg to cause a reduction in crop yield or plant growth. Levels of micronutrients (Zn, Mn, Cu, Fe and B) are typically present in the soil at adequate levels for plants if the soil pH is in its proper range. See Soil Test Note 4, at www.soiltest.vt.edu/stnotes, for documented micronutrient deficiencies in Virginia.

Soluble Salts (**S.Salts**) or fertilizer salts are estimated by measuring the electrical conductivity of a 1:2, vol:vol ratio of soil material to distilled water. Injury to plants may start at a soluble salts level above 844 ppm when grown in natural soil, especially under dry conditions and to germinating seeds and seedlings. Established plants will begin to look wilted and show signs related to drought. This test is used primarily for greenhouse, nursery and home garden soils where very high application rates of fertilizer may have led to an excessive buildup of soluble salts.

Soil **Organic Matter** (SOM) is the percentage by weight of the soil that consist of decomposed plant and animal residues, and is estimated by using either the weight Loss-On-Ignition (LOI method) from 150° to 360°C, or a modified Walkley-Black method. Generally, the greater the organic matter level, the better the overall soil tilth or soil quality, as nutrient and water holding capacities are greater, and improved aeration and soil structure enhance root growth. The percent of organic matter in a soil can affect the application rate of some herbicides. Soil organic matter levels from 0.5% to 2.5% are ordinary for natural, well-drained Virginia soils. A soil organic matter greater than 3% would be considered very high for a cultivated field on a farm, but can be beneficial. Due to relatively large amounts of organic materials being commonly added to gardens, the soil organic matter in garden soils can be raised into the range of 5% to 10%.

APPENDIX C: SOIL RESULTS

The remaining values that are reported under the “Lab Test Results” section are calculated from the previous measured values and are of little use to most growers.

Estimated Cation Exchange Capacity (**Est-CEC**) gives an indication of a soil’s ability to hold some nutrients against leaching. Natural soils in Virginia usually range in CEC from 1 to 12 meq/100g. A very sandy soil will normally have a CEC of 1 to 3 meq/100g. The CEC value will increase as the amount of clay and organic matter in the soil increases. This reported CEC is an estimation because it is calculated by summing the Mehlich 1 extractable cations (Ca + Mg + K), and the acidity estimated from the Buffer Index and converting to units commonly used for CEC. This is also an Effective CEC since it is the CEC at the current soil pH. This value can be erroneously high when the soil pH or soluble salts level is high.

The percent **Acidity** is a ratio of the amount of acid-generating cations (as measured by the Buffer Index) that occupy soil cation exchange sites to the total CEC sites. The higher this percentage, the higher the amount

of reserve acidity in the soil, and the higher the amount of acidity there will be in the soil solution and the lower the soil pH will be. A reported Acidity% of “N/A” means that a buffer index was not determined, and the acidity is probably less than 1 meq/100g and/or 5%, and the soil pH is alkaline (greater than 7.0).

The percent **Base Saturation** is the ratio of the quantity of non-acid generating cations (i.e., the exchangeable bases, Ca, Mg, and K) that occupy the cation exchange (CEC) sites.

The percent **Ca, Mg, or K Saturation** refers to the relative number of CEC sites that are occupied by that particular nutrient and is a way of evaluating for any gross nutrient imbalance.

Additional Information

For questions and more information, contact your local Virginia Cooperative Extension (VCE) office or go to www.ext.vt.edu. Contact information for your local Extension office appears on the upper left of your soil test report.

Conversion Factors

(Some Values are Approximate)

1 acre = 43,560 square feet

1 pound of 5-10-5, 5-10-10 or 10-10-10 fertilizer = 2 cups

1 pound of ground limestone or ground dolomitic limestone = 1.5 cups

1 pound of aluminum sulfate or magnesium sulfate = 2.5 cups

1 pound of sulfur = 3.3 cups

1 quart = 2 pints = 4 cups

1 pint = 2 cups = 32 tablespoons

1 tablespoon = 3 teaspoons

1 bushel = 35.24 liters = 1.25 cubic feet

Pounds per 100 square feet x 0.54 = lbs per cubic yard

100 square feet = 5 feet x 20 feet, 10 feet x 10 feet, or 2 feet x 50 feet

1,000 square feet = 50 feet x 20 feet, 10 feet x 100 feet, or 25 feet x 40 feet

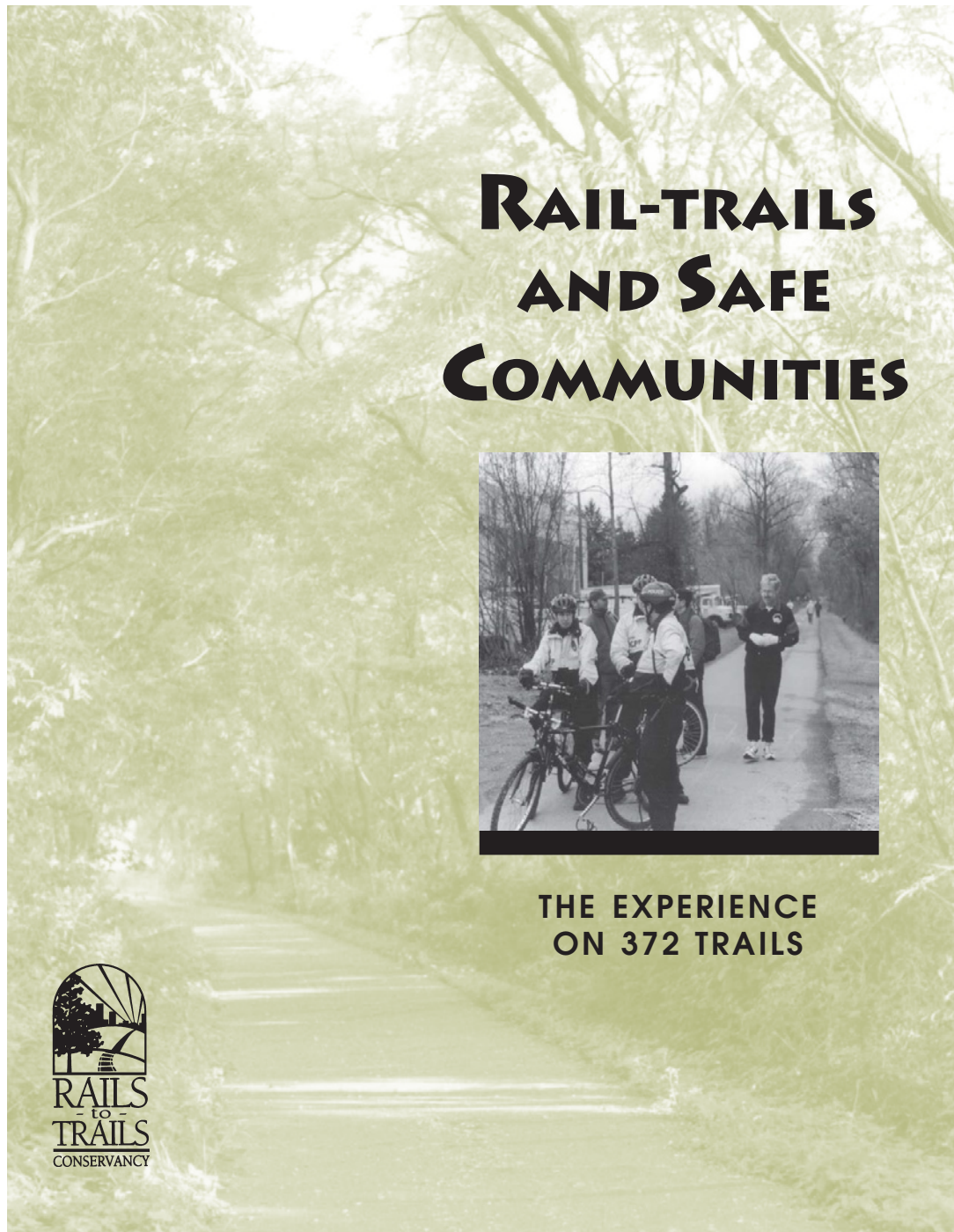
Pounds per 100 square feet x 436 = pounds per acre

Pounds per 1,000 square feet x 43.6 = pounds per acre

Pounds per acre x 0.0023 = pounds per 100 square feet

Pounds per acre x 0.023 = pounds per 1,000 square feet

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

RAIL-TRAILS AND SAFE COMMUNITIES

The Experience
on 372 Trails



75

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 D: 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.

•

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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1100 Seventeenth Street, NW, Washington, DC 20036, (202) 331-9696.

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

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

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APPENDIX D: 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 D: RAILS-TRAILS & SAFE COMMUNITIES

PREVIOUS RESEARCH

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

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 D: 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.² 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 agencies³ 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 D: 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.⁴ 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.⁵ 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 D: 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 ¹	Rail-Trails ²	1995 National ¹	Rail-Trails ²	1995 National ¹	Rail-Trails ²
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 inhabitants⁶; 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 D: 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 D: 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.”

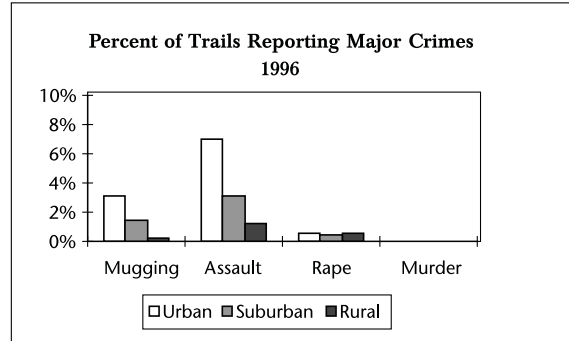
— Ross L. Riggs, Chief of Police
Louisville, Ohio

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.⁷ The results are presented in Table 2 and followed by a discussion.

APPENDIX D: 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 ¹	Rail-Trails ²	National ¹	Rail-Trails ²	National ¹	Rail-Trails ²
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 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 D: RAILS-TRAILS & SAFE COMMUNITIES**TABLE 2**

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- ▼ 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 D: 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 D: 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.

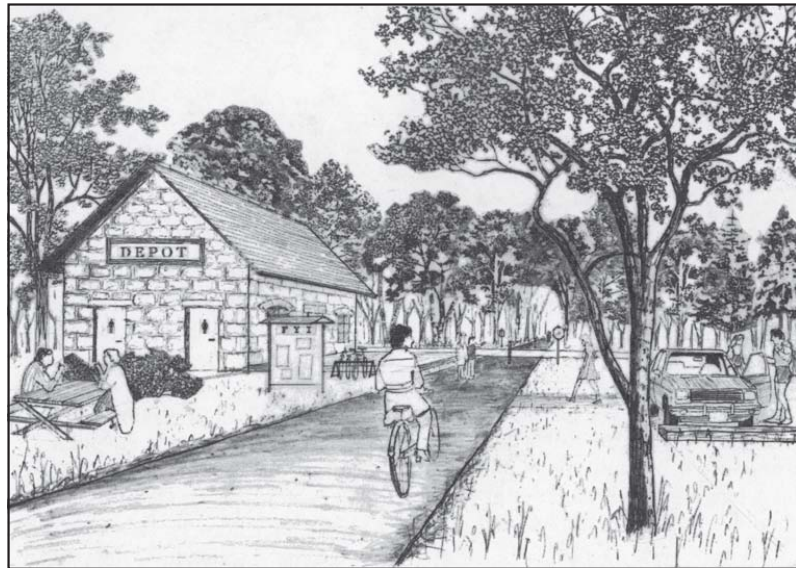
Encouraging trail use is one way to help ensure trail safety, as the presence of other users helps to minimize undesirable behavior. In addition, trail users should exercise common sense when using trails after dark and remain aware of their surroundings at all times. Several other mitigation strategies 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.



APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

51% posted warnings or rules for trail users. Along the trail, 8% of the trails installed phones, 8% had lights and 45% posted warnings or trail rules. Unfortunately, the data collected in this survey was too limited to explore the correlation between the existence of design features and crime rates.

TRAIL PATROLS

Volunteer or professional trail patrols are also beneficial in improving trail safety. These patrols range from informal monthly clean-up and maintenance crews to daily patrols that provide maps, information and emergency assistance. The primary function of these patrols should be to educate trail users and to provide assistance when necessary. They should also be equipped to alert emergency services quickly if needed. Above all, the presence of a patrol deters crime and improves users' enjoyment of the trail.



Trail patrol members are on hand at an evening event in Gainesville, Florida. (Karen Stewart.)



Bike patrol police on the Capital Crescent Trail, Maryland. (Patrick Kraich)

According to survey results, the majority of trails have some type of trail patrol. The survey found that 69% of the urban rail-trails, 67% of suburban rail-trails and 63% of rural rail-trails are patrolled in some way. Local, county, and state entities, park rangers and volunteers provide these patrol services either alone or in combination. RTC found that 20% of the trails have local law enforcement patrols, 16% of the trails have county patrols, 4% of the trails have state patrols, 9% of the trails have park ranger patrols and 3% of the trails have volunteer patrols. The dominant modes of trail patrol are bike (26%) and car or truck (33%). The study found that 82% of the trails have access for emergency vehicles.

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

TRAIL PATROL CASE STUDIES

There are many methods of organizing an effective trail patrol. Depending on a trail's needs and available resources, a daily, weekly or monthly patrol may be appropriate.

Below are several examples of volunteer and professional patrols and contact information for their coordinators. These examples are only a few ways to promote safety and improve users' enjoyment of rail-trails. Trail managers should be creative in using "friends of the trail" groups, local community organizations and law enforcement to maintain and monitor local rail-trails.

MINUTEMAN TRAIL MASSACHUSETTS

Several years ago as part of a public relations effort, the Bedford Police began riding bikes along the Bedford to Lexington portion of the Minute-man Trail. Approximately a year and a half later, they initiated a unique youth patrol, the Bedford Police Explorers to assist them. After completing first aid and CPR certification, the Explorers began conducting daily patrols of the trail wearing police t-shirts and carrying radios and first aid kits. Both the police and Explorer programs have been well received by the community. After seeing an officer and several Explorers clearing debris from the trail, one trail user wrote to the Bedford Police: "I was so taken by this... by clearing the bike path, now even more women, men, children of all ages and people in wheelchairs can enjoy nature in the path." Contact Officer Jeff Wardwell at the Bedford Public Safety Department for more information on the Explorer program, (617) 275-1212, ext. 125.

NORTH AUGUSTA GREENEWAY SOUTH CAROLINA

Approximately twenty professionally trained police officers voluntarily patrol the three-mile North Augusta Greenway in rural South Carolina. The effort began as part of a community policing and physical fitness program of the North Augusta Public Safety Department. Three to four times each week, officers patrol the trail as they perform walking, jogging or biking workouts. Captain Lee Wetherington, coordinator of the patrol effort, explained their objectives, "We try to show a presence, deter illegal activity and provide first aid or other assistance to trail users." The patrol is a creative way of keeping officers in condition for duty while promoting trail safety at the same time. For additional information about the patrol, contact Capt. Wetherington at (803) 441-4254.

PINELLAS TRAIL FLORIDA

The 35-mile Pinellas Trail is patrolled daily by one of the most extensive volunteer patrols, the Pinellas Auxiliary Rangers. The Auxiliary Rangers serve as uniformed ambassadors for the Pinellas Trail, providing trail information, directions and bicycle safety tips. More than 25 volunteers, 18 years and older, comprise the patrol and are required to under-go background checks and extensive training on trail history, public relations, trail-riding, first aid and nutrition. The majority of the volunteers patrol by bike and use cell phones to communicate. Because the trail has not encountered many problems, an Auxiliary Ranger's primary role is one of educator rather than enforcer. For more information, contact Jerry Cumings or Tim Closterman at the Pinellas County Park Department, (813) 393-8909.

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

YOUGHIOGHENY RIVER TRAIL-NORTH PENNSYLVANIA

Three local trail councils, headed by the Regional Trail Corporation, coordinate monitoring teams for the 23-mile Youghiogheny River Trail-North in southwestern Pennsylvania. Each of the trail councils oversees a team of approximately twenty monitors patrolling primarily on bikes, but also by foot and by horse. Easily recognizable in their gold and black uniforms, monitors carry first aid kits and, frequently, cellular phones to report trail damage or injuries. Joe Honick, who instituted this model monitoring program, explained their usefulness, “The monitors serve as the eyes and ears of the Regional Trail Corporation. They assist trail users, explain trail rules and relay users’ suggestions and comments.”

Bob McKinley, Trail Manager of the Regional Trail Corporation reported very few incidents of trail damage or graffiti along the trail. “There is so little vandalism, every piece seems like a major item,” he said. The patrol program has been successful in deterring such incidents. McKinley commended the patrol efforts, “The patrols are doing a great job. Their monitoring really does make a difference.” For more information on the trail’s monitoring program, contact Joe Honick of the Mon/Yough Trail Council at (412) 829-0467.

GREAT RIVER TRAIL ILLINOIS

The Great River Trail Council uses several groups to patrol its 28-mile trail passing through urban, suburban and rural areas. The council coordinates local bicycle and service clubs which have an interest in assisting with trail patrol. Clubs provide trail users with directions and look for maintenance problems. In the summer months, at least one group patrols during daylight hours and police patrol the trail after dusk. For more information, contact Patrick Marsh at the Great River Trail Council, (309) 793-6300.

BALTIMORE AND ANNAPOLIS TRAIL PARK MARYLAND

Approximately thirty volunteer Trailblazers, ranging from age eleven to 78, patrol the 13-mile Baltimore and Annapolis Trail. After receiving three weekends of first aid, CPR, patrol technique and park operations training from park rangers, they take to the trail by in-line skates, bike or foot. Trailblazers supplement park rangers’ daily patrols by providing information to trail users, correcting unsafe trail behavior and reporting their findings to the park rangers. Trailblazers are able to quickly identify and repair problem areas of litter or graffiti helping to prevent further incidents from occurring. For more information on the organization or training of the Baltimore and Annapolis Trailblazers, contact David Dionne, Park Superintendent at the Anne Arundel County Department of Recreation and Parks, (410) 222-6245.

LAFAYETTE/MORAGA TRAIL CALIFORNIA

Several entities monitor the 8-mile Lafayette/Moraga Trail in the San Francisco Bay Area, including a maintenance team, the East Bay Regional Park District Public Safety Department and several volunteer patrols. More than 150 equestrians, bicyclists and hikers comprise volunteer groups who patrol the Lafayette/Moraga Trail and other parks in the area. An officer from the Park District provides each group with training and organizes monthly meetings and speakers. In 1996, volunteers provided over 40,000 hours of service to the East Bay parks. For more information on these patrols, contact Steve Fiala at the East Bay Regional Park District, (510) 635-0135.

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

RAIL-TRAILS AS SAFE PLACES

Rail Trails are not crime-free. No place on earth can make that claim. However, when compared to the communities in which they exist, compared to highways and parking lots, and compared to many other public and private places, rail-trails have an excellent public safety record.

Compared to the abandoned and forgotten corridors they recycle and replace, trails are a positive community development and a crime-prevention strategy of proven value. By generating lawful activities such as walking, running, bicycling and in-line-skating, rail-trails are also bringing communities together and reintroducing neighbors to each other.

Trails are actually one of the safest places to be and the incidence rate of crime on trails is

minor in comparison to other locations. Table 3 lists the percentage of rapes, robberies, and assaults that occur in four locations. As these data show, a park is actually one of the safest places to be. Two to three times safer than being in a parking facility or in your own home and many more times safer than walking down the street. These data help to provide some perspective of personal safety in several types of locations in the context of overall crime rates in the U.S. The result being that parks are undeniably one of the safest places to be.

In an attempt to add perspective to crime on trails, John Yoder, President of the Friends of the Pumpkinvine Nature Trail, Inc. in Indiana has compiled crime and injury statistics for a variety of circumstances to make the point that no human activity is risk free. The entire contents of his list can be found in Appendix B.

TABLE 3
National Crime Statistics by Location

CRIME		LOCATION (% OF TOTAL)			
		PARK/FIELD/ PLAYGROUND	PARKING GARAGE/LOT	INSIDE YOUR HOME	ON STREET
RAPE	(1988)	6.6	7.9	25.0	23.3
	(1990)	0.5	3.4	35.0	30.2
	(1991)	1.1	4.2	26.8	10.4
	(1992)	8.5	6.5	16.3	38.3
ROBBERY	(1988)	3.0	11.6	14.0	48.3
	(1990)	3.0	12.7	9.4	48.6
	(1991)	3.6	11.9	9.5	51.2
	(1992)	6.4	13.6	10.1	20.7
ASSAULT	(1988)	3.6	0.3	15.1	30.5
	(1990)	4.0	7.9	13.4	31.9
	(1991)	4.0	10.7	10.7	29.7
	(1992)	4.4	7.3	7.3	32.3

Note: Percentages do not add to 100 because not all location categories are listed.
Source: Statistical Abstract of the United States, various years

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

Yoder concludes by asking “Does this mean we should outlaw, eliminate, or ban any of these places or activities?” Of course not! But as these statistics demonstrate, every form of human activity has some level of risk associated with it. The question in judging any activity is understanding the level of risk associated with that activity and doing everything possible to minimize those risks. Our society accepts approximately 40,000 highway deaths every year because we believe the convenience of highway travel is worth the risk. Similarly, in 1992 there were 30 murders, 1,000 rapes,

and 1,800 robberies on college campuses however, most people believe that the rewards associated with a college education are worth the risks involved.

It is important not to trivialize or deny that bad things can happen on trails, however it is equally important to keep in mind that the amount of crime that occurs on trails as demonstrated by the survey results as well as the data in Table 3 shows that crime on trails is minimal. As with any activity, appropriate safety precautions should be taken to minimize risk.

CONCLUSION

With nearly 27,000 miles of open and project rail-trail, Rails-to-Trails Conservancy recognizes that addressing trail users safety and trail neighbors concerns about crime are critical to the creation of a successful trail. This report has shown that crime on rail-trails is not a common occurrence.

Past studies, our survey results, letters from law enforcement officials, and comparisons to national crime figures all indicate that rail-trails are safe places for local residents and visitors to enjoy. While common sense and preventative measures should be used on rail-trails to ensure the lowest possible levels of crime, rail-trails remain much safer than many other environments. The findings of this report should reassure those with apprehensions about trail projects that converting a former

rail corridor into a trail will have a positive rather than negative effect on their community.

As the data in this report show, crime on rail-trails is minimal. This becomes all-the-more apparent when put in perspective with risks associated with other activities. The way to minimize crime on trails is to ensure that users exercise proper safety precautions, keep the trail well maintained, and boost trail use. Crime generally does not occur in places where there are lots of people and few hiding places. Positive-looking places tend to encourage positive behavior.

Crime occurs on roads, parking lots, in shopping malls, office buildings, airports, and at zoos. However, no one would rationally argue that we shouldn't build any of the above because crime will occur there. The same should be true for trails.

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

APPENDIX A: LETTERS FROM LOCAL LAW ENFORCEMENT AGENCIES



ELIZABETH TOWNSHIP POLICE DEPARTMENT
 522 ROCK RUN ROAD • BUENA VISTA, PA 15018
 (412) 751-7325 • (412) 751-3399 • FAX (412) 751-7329

CHARLES R. TOMANT, Chief of Police

May 15, 1997

Mr. Hugh Morris
 Rails to Trails Conservancy
 1100 Seventeenth Street
 10th Floor
 Washington, DC 20036

Dear Mr. Morris,

The Elizabeth Township Police Department is responsible for patrolling and enforcing the laws on the Youghiogheny River Trail, which traverses 13.6 miles through Elizabeth Township.

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.

The trail has not caused any increase in the amount of crimes reported and the few reported incidents are minor in nature. There are no reports of any property damage or theft. There were several reports of bicycles being stolen but for the number of people that utilize the trail the numbers are insignificant.

We have found that the trail brings in so many people that it has actually lead to a decrease in problems we face along the Youghiogheny River banks. The increased presence of people on the trail has contributed to this problem being reduced.

The trail has also spawned new businesses along the trail. We now have several bike sales and repair shops, new restaurants, convenience stores, and ice cream stands that have been opened.

The trail brings in thousands of users each year and has lead to several organized rides by various organizations such as the Girl Scouts of America and by the local Council of Governments.

The Elizabeth Township Police have started a patrol plan for the trail that is Community Oriented Policing by utilizing the services of the local Council of Governments and this leads to good community relations. Officers actually look forward to their tour of duty on the trail.

Based on our experience with the trail we see no reason for any municipality to fear having a trail established. The Yough River Trail is a success that can only lead to better things for our community.

Very truly yours,

Charles R. Tomant
 Charles R. Tomant
 Chief of Police



CITY OF NORTH AUGUSTA

P. O. BOX 6400 NORTH AUGUSTA, SC 29841-0400
 General Information - 803 / 441-4399 FAX - Administration 441-4323 / Public Safety 441-4322

May 7, 1997

Mr. Hugh Morris, Research Coordinator
 Rails to Trails Conservancy
 1100 Seventeenth Street, N.W., 10th Floor
 Washington, DC 20036

Dear Mr. Morris,

In response to your letter of May 1, 1997 I would offer the following information:

The North Augusta Greenway project has been a tremendous success for the City of North Augusta and its citizens. You might imagine that any project such as this which attracts the public to its use will generate activity for the police department.

While we have had a few instances of unauthorized four wheelers and a few bicycle mishaps which caused a police action we have had no crime to speak of occurring on the Greenway or that we could attribute to the Greenway.

The area in which this trail runs through is a compromise of upper middle level neighborhoods, wooded secluded areas, older established neighborhoods and existing city parks.

The police department has had no significant increase or decrease in the amount of crime in any of these areas.

In response to the question, "Was the development of the trail a good idea?" I would, from a police point of view and a citizen's point of view, reply emphatically that it was a great idea. The trail use grows continuously and we have implemented a part-time bike patrol to ride the Greenway as a part of our community policing initiatives.

The only suggestion I could make would be to provide some type of emergency call stations along the trail to summon police or medical help when needed.

I hope this information provides what you need.

Sincerely,

DEPARTMENT OF PUBLIC SAFETY

T. Lee Wetherington

T. Lee Wetherington, Captain

441-4202 Administration 441-4203 Captain 441-4257 Public Safety 441-4258 Public Safety




community design
 assistance center

College of Architecture + Urban Studies
 Virginia Polytechnic Institute and State University

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

**OFFICE OF
DODGE COUNTY SHERIFF**



JEROLD L. WHITE
Chief Deputy

STEPHEN G. FITZGERALD
Sheriff

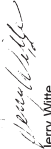
May 19, 1997

Mr. Hugh Morris
Research Coordinator
110 Seventeenth Street, NW
10th Floor
Washington, DC 20036

Dear Mr. Morris:

This letter is in response to your request for information on the impact of the Wild Goose State Trail and the crime/complaint rate. Please be advised the Trail has had virtually no impact on the crime rate in Dodge County.

Sincerely,



Jerry White,
Chief Deputy

JW:dd

141 North Main Street • Juneau, WI 53039-1072 • Phone (414)386-3726 • FAX (414)386-3742

**CITY OF
LOUISVILLE**
DIVISION OF PARKS, RECREATION & TOURISM
DEPARTMENT OF SAFETY
330/825-1607

May 13, 1997

Hugh Morris
Rails to Trails Conservancy
1100 Connecticut Avenue, NW
Washington, DC 20036

Dear Mr. Morris,

I came to Louisville in August of 1991 as the Chief of Police. One of my first tasks was to complete plans for the conversion of an old railway line to a walking path. I was concerned for the safety of citizens due, in part, to the remote area that was traversed by the line. I strongly encouraged the placement of emergency call boxes along the walkway. The call boxes were never installed.

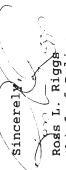
I am very pleased to report that crime incidents along the walkway are almost nonexistent. I attribute this to several factors. Primarily, the high volume of use by families along this walking path has created a community ownership of the path. Police also regularly patrol the path. Unlike other areas, the path is patrolled for more than a quarter of a mile without coming into contact with other path users.

The incidents of vandalism over five years has been only two small areas of the asphalt that were spray painted. None were immediately cleaned up by city crews. It should be noted that the path is patrolled by city crews that is a frequent loitering area for juveniles that have little supervision. Still, the criminal complaints along the path are almost zero.

Two weeks ago, my family and I took part in a community clean-up day. My wife, one daughter, and I started at the path and to pick up litter. We started out with a large trash bag and by the time we had finished, we had a bag full of trash. By the end of the mile and a half, we had found one piece of litter almost too small to have noticed. We did encounter, however, several families walking and a police patrol car. I can only attribute the cleanliness to the ownership that exists along the path. It is a shame that the ownership that exists along the path and to the time where the railway line had been, the trash and graffiti area overwhelming.

I hope that you will find this information useful. If I can be of further assistance, please do not hesitate to call upon me.

Sincerely,



Roderic L. Riggs
Chief of Police

215 South Mill Street • Louisville, Ohio 44641 • Fax 330/875-1820

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

"Service to OUR Communities" TWIN CITIES Police Authority



250 Doherty Drive, Lakewood, CA 94830
CORTE MADERA/LAKESIDE Phone: (415) 927-5150 Fax: (415) 927-5187

PHILIP D. GREEN
Chief of Police

May 13, 1997

Mr. Hugh Morris
Research Coordinator
1100 Seventeenth Street, NW
10th Floor
Washington, DC 20036

Re: Railroad Corridors

Dear Mr. Morris:

In your letter to Chief Phil Green dated May 1, 1997, you requested information regarding our calls for service, and type of crimes occurring in and around trails and adjacent properties.

I don't have specific numbers for you, however, I can state that a majority of calls we receive about incidents occurring along bike trails are about transient types living and or sleeping in bushes inside makeshift shelters. Occasionally, residents will report youth gatherings or suspicious subjects loitering and or drinking in a certain area.

We had a continual problem and received many complaints about an abandoned train station where transients would seek shelter. They would build fires causing concern from local residents that accidental fires may start and travel onto the hillside. This building would also entice children and other individuals who were playing nearby. However, since the entrance and windows have been boarded up and secured by a surrounding fence, we have had no problems.

Our crime experience along these trails are isolated. We have not experienced an increase in crime since the trail was developed. The trails are remote, great dense with shrubs and bushes, isolated from the general public and not heavily travelled.

MISSION: To protect the communities of Corte Madera and Lakewood with the highest quality of police services and services that meet present and future community expectations.

Railroad Corridors Continued
May 13, 1997
Page 2

We believe the development of the trail was a good idea. We do not feel that the trail encourages more crime than existed before the trail went in.
I hope I have addressed all your questions. Please don't hesitate to contact me should you need additional information.

Sincerely yours,


Andre Horn
Captain



community design
assistance center

College of Architecture + Urban Studies
Virginia Polytechnic Institute and State University

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



City of Johnstown, Pennsylvania
Police Department
 Public Safety Building
 1000 Walnut Street
 Johnstown, PA 15901
 814-533-2075
 814-533-2076 (fax)

May 5, 1997

Hugh Morris
 Research Coordinator
 Rails to Trails
 1100 Seventeenth St. NW
 10th Floor
 Washington, DC 20036

Dear Mr. Morris,


I am writing in response to your request for crime information on the Jim Mayer Riverwalk.

This is somewhat an unusual situation. Because there was no use for the area before it became a trail, there were no reported incidents of crime. There was no use by the public and no property to have crimes committed against. Since it has become a trail, there is basically still no property there, except as you noted, signs, etc. And we have had no incidents of crimes being committed against users of the trail. We have had incidents of underage drinking and some drug abuse occur on the trail. But, these incidents are extremely rare and are not creating a problem/concern.

A check of our records does not indicate any reports of crimes against users or property in the vicinity.

Since the trail has been there, the only comments we have heard have been all positive. From our perspective, the trail has been an asset to the community.

Very truly yours,



Robert H. Humtley
 Chief of Police



OFFICE OF THE SHERIFF



515 W. Mendota Blvd.
 Box 1488
 Waukesha, WI 53187

Waukesha County Huber
 1400 Northview Road
 Waukesha, WI 53186

May 14, 1997

Mr. Hugh Morris
 Research Coordinator
 Rails to Trails Conservancy
 1100 17th St., NW
 Washington, D.C. 20036

Dear Mr. Morris:

I have reviewed your inquiry relative to incidents of crime along and adjacent to the Greenway Trail. I am sorry that we do not have the information you that we do not record incident information in a manner that would allow us to extract specific data for incidents of crime for the location in question.

However, I can tell you that based upon our general experience, since the creation of the trail, that we have not experienced any significant problems that would infer that the bicycle trail is either a direct or indirect contributor to crime. To the best of my knowledge, the trail has not resulted in a significant increase in calls for service.

Although I can not support it with specific data, my impression is that the bicycle trail may be of benefit to law enforcement as the use of the trail is increasing. The trail is well maintained, well lit, and is immediately accessible by law enforcement officers. Subsequently community residents are in the position of reporting incidents to us that may have otherwise remain unreported.

For your information, as a part of our rural community policing initiative, we are introducing bicycle patrol service not only on the trail but in our county parks as well. Our intent is to increase our police presence in these areas as well as attempt to enlist the support of users in reporting crime. Should you require any additional information, please do not hesitate to contact me at (414) 548-7126. Thank you.

Sincerely,

Waukesha County Sheriff's Department



William Kruziki, Sheriff

Gary H. Paluszczak, Inspector

Administration: 548-7126 Records: 548-7156 Precinct: 548-7151 Jail: 548-7120 Huber: 548-7191 Fax: No. 548-5987

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



South Burlington Police Department

575 Dorset Street
South Burlington, Vermont 05403

Brian R. Swartz, Chief



July 23, 1991

Herb Durfee, Staff Planner
Chittenden County Regional Planning Commission
P. O. Box 108
Essex Junction, VT 05452

Dear Mr. Durfee:

In preparation for the July 15, 1991 South Burlington City Council meeting, which included a discussion and vote on Phase II of the Recreation Path, I looked at some data and their implications for the police in Burlington and Stowe about their interactions with their bike paths. A summary of what I found is listed below:

Burlington -

1. According to official records of the Burlington Police Department there were 71 police messages to the Burlington Bike Path during the 27 months ending June 30, 1991. Adjusting those numbers for winter months (removing the 10 months when there were no complaints) the average for the 17 remaining months was of over 3,200 per month compared to a citywide average of 1,500 per month. The most common call is "over the last two years, making it one of the safest places in Burlington, according to Chief Kevin Scully.
2. The 71 complaints themselves need further analysis. Some of these appear not to be related to the bike path. I looked at two specific categories. First, one title of complaint listed by the computer is "Unlawful Use of Firearms or Explosives". The second is "Unlawfully". One South Burlington Bike Path opponent shortened the category title to

H. Durfee
July 23, 1991
Page 2

"Discharging Firearms" for the purposes of a letter to the City Council. The original complaint was a report of a loud noise from a residence on the path and the investigation concluded that kids had set off a firecracker at a nearby beach.

Second, there are fourteen responses to reports of inappropriate conduct, including "Public Complaints", "Noise", etc., and seem to have alcohol or other drugs as a common theme. A cursory look at those cases reveals a strong likelihood that they are at social events (concerts, festivals, etc.) held adjacent to the path on beaches and in parks.

3. I reviewed the patrol strategy of the Burlington Police Department and found that most of the patrol is done on bikes. I reviewed the patrol work in a summer program that existed before the current program is not an expensive proposition. These patrols are primarily a communication link to regular officers who also occasionally do bike patrol themselves.

The Burlington Police Department is fully supportive of the path and I have attached a letter I received from them attesting to the minor nature of crime problems.

Stowe - STOWE RECREATION PATH

1. The Stowe Path has been in operation for more than four years and during that time only 44 complaints, 25 of which have been larcenies from vehicles, have been reported. This is an amazingly low number for such a popular path, but the number of larcenies from vehicles is a concern. I recently visited the path a couple of days before a major theft. I learned that the thefts occurred in a couple of fairly remote parking lots just off the path. The police explained that groups of thieves have been victimizing tourists' cars in parking lots for many years. It happens primarily at ski areas and local

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

H. Durfee
July 23, 1991
Page 3

restaurants and metals, but the thefts in the lots near the path are just an extension of that activity. I think that this phenomenon is not important to Chittenden County paths as they will generally be used by residents and not tourists. There is no evidence of a significant problem like this in Burlington.

2. The other numbers are so low that they need not be analyzed but I did look at one entitled "Untimely Death" and learned that a gentleman did suffer a heart attack while using the Stowe path.

3. The Stowe Police do no routine patrolling of the Stowe Bike Path. The police department says that the path has made Stowe safer as pedestrians and cyclists do not have to be on Route 108 with the heavy traffic.

People from South Burlington have called me and expressed concerns and many of them have mentioned the potential for the crime of rape to occur on the proposed bikeway.

I looked specifically for reports of rape or sexual assault on the paths in Stowe and Burlington and was relieved to learn that there have been no reports in either place.

There has been no increase in crime in Burlington or Stowe which is attributable to the bike paths.

My position is that bike paths proposed for Chittenden County communities provide a healthy way of linking neighborhoods and are likely to have a positive affect on the overall safety of the public.

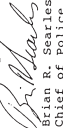
Crime and the fear of crime do not flourish in an environment of high energy and healthy interaction among law abiding community members. Thus, the quality of life is enhanced in several ways including an enhancement of individual physical fitness, a safer mode of transportation

H. Durfee
Page 4
July 23, 1991

for cyclists and pedestrians and the potential for less crime overall in the communities.

In terms of public safety a system of bike paths for the county is a great idea.

Sincerely,



Brian R. Searles
Chief of Police

BRS:mc4



APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



CITY OF BLOOMINGTON

Timothy M. Linskey
Chief of Police

Richard A. Ryan
Assistant Chief

Deanna O'Brien
Captain

May 8, 1997

Mr. Hugh Morris
Research Coordinator
Rails to Trails Conservancy
1717 Severn Road, Suite 201, NW, 10th Floor
Washington, DC 20036

Dear Mr. Morris:

I am writing in response to your letter of May 1, 1997 and your questions regarding local law enforcement involvement in vacated rail lines being used for bike, hiking and walking trails.

As you are well aware, Bloomington and its sister city have a well-constructed trail called Constitution Trail. It runs through both business, residential and rural areas. It is highly used by a cross section of the populace of both cities for bike riding, roller blading, running, and walking.

This trail is not visible from city streets for over half of the layout and much of it cannot be patrolled by an officer using conventional methods. However, we do periodically put our Bike Patrol officers on Constitution Trail. This is done primarily as a public relations maneuver, because there is very little crime created on or near the trail due to its construction.

Our citizens use this trail twenty-four hours a day and have met with very little crime on this trail. We have seen some of the neighboring residents have improved the development of their properties adjacent to the trail.

When the trail was first constructed, the administration of this department had a concern the trail would invite crime and would add to the crime rate of this city. However, in fact, it has had no impact on the crime rate.

PROGRESS THROUGH PROFESSIONALISM

1001 EASTERN BLVD. SUITE 1000 BLOOMINGTON, ILLINOIS 62502-1000 TEL: 314-399-2000 FAX: 314-399-2002
POLICE MAIL ADDRESS: 1001 EASTERN BLVD. SUITE 1000 BLOOMINGTON, ILLINOIS 62502

The development of Constitution Trail was an outstanding idea supported by the both the City of Bloomington and Town of Normal. There have been minimal negative remarks regarding the development of this trail. There are plans for future development.

Constitution Trail can be considered a resource which is enjoyed by the populace of both Bloomington and Normal.

Sincerely,

Timothy M. Linskey
Chief of Police


TML:mjm



community design
assistance center

College of Architecture + Urban Studies
Virginia Polytechnic Institute and State University

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



MIDLAND COUNTY
OFFICE OF THE SHERIFF

JOHN S. REDER, SHERIFF
2727 700D STREET • MIDLAND, MICHIGAN 48840 • TELEPHONE: (517) 834-6500
FAX: (517) 831-9490

May 8, 1997

Rails to Trails Conservancy
1100 Seventeenth Street, NW
10th Floor
Washington, DC 20036

Dear Mr. Morris:

I am responding to your letter of May 1, 1997.

When the Rails to Trails project was first being developed in Midland County, the concerns you described were brought up here also.


Happily, I can report to you that we have no major problems on our Rail Trails. The development of this park has been a very positive experience for the entire community. The park receives a lot of use from the public.

The incidents that we have had are for the most part misuse of the Trail. Items such as a go-cart or motorcycle being driven on the Trail.


In 1995, the Midland Sheriff's Office responded to eight calls on the Rail Trail. None of these responses required a formal report. In 1996, the Sheriff's Office responded to eight calls, five of them were for a ticket for minor possession of tobacco products. In 1997 through the first of May, we have had no calls for service on the Rail Trail.

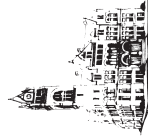
In conclusion, I would say that crime has NOT been a factor on or near the Rail Trail. The development of this park has been a very positive experience for Midland County and its residents.

I hope this letter meets your needs, and please do not hesitate to contact me if I can be of further assistance.

Sincerely,

John S. Reder

JSR/sb





CITY OF BAY CITY
POLICE DEPARTMENT
BAY ENFORCEMENT CENTER
301 THIRD STREET
BAY CITY, MICHIGAN 49708

AREA CODE 517
TELEPHONE 922-8571
FAX 924-0577

Gary G. Hect, Deputy Chief
Bay City Police Department
501 Third St.
Bay City, MI 48708

May 12, 1997

Rails to Trails Conservancy
1100 Seventeenth Street, NW
10th Floor
Washington, DC 20036

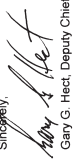
Dear Sir/Madam:

This is in regards to your request for information on our Bay Hampton Rail-Trail.

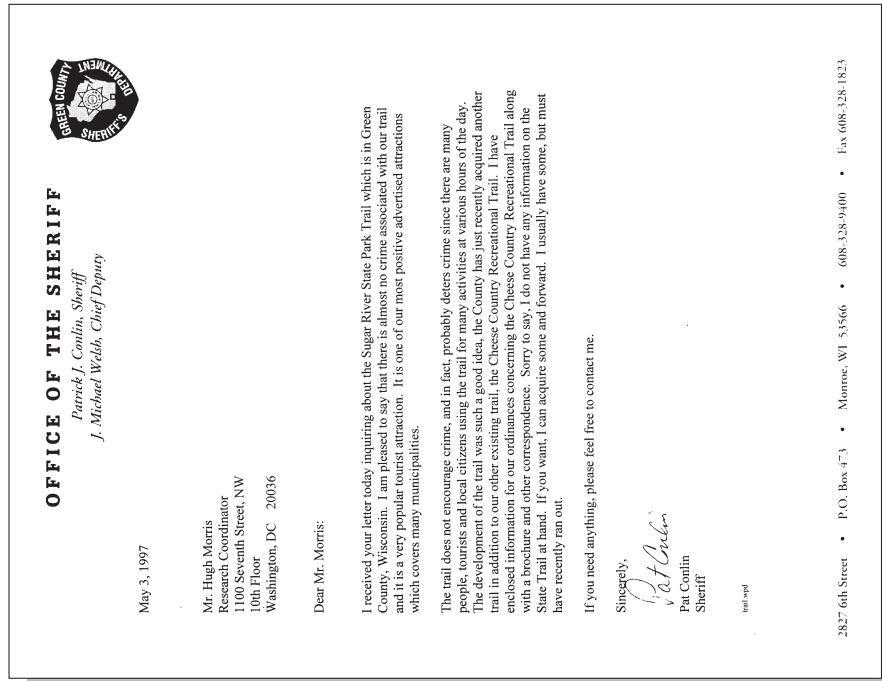
Upon checking our criminal file we could only find one complainant associated with the Rail Trail. The complainant is listed as an "assault and attempted larceny," see attached CR#7-02216.

Due to the limitations on our complaint tracking system any complaints generated refer to the Rail Trail would be extremely difficult to identify. But as a frequent walker of the Rail Trail I can provide some personal observations. I have observed some minor graffiti on the park benches and the Rail Trail walkway. There is the occasional broken bottle on the walkway. I have not observed any peripheral damage to adjacent property. Criminal activity on the Rail Trail is extremely minor and infrequent.

If I can be of any further assistance please feel free to contact me.

Sincerely,

Gary G. Hect, Deputy Chief
Support Services Division

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES



APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

APPENDIX B:

A LOOK AT EVERYDAY RISKS BY THE PRESIDENT OF THE PUMPKINVINE NATURE TRAIL.

Many rail-trail opponents claim that these trails are unsafe for the users and the adjacent landowners. As “proof,” they gather anecdotes about crime on trails. Second, they assert that these crimes prove all trails are unsafe. Third, they draw the conclusion that your trail will also be crime ridden and should not be built.

I believe this line of argument employs a double standard of safety and risk. Those who attack the safety of trails would never think of applying the same type of risk analysis to other forms of transportation, recreation or life in general. It’s a neat logical trick: by demanding perfect safety (i.e., no risks) in an imperfect and risky world, they create an artificial and impossibly high standard of safety that trail makers can never meet.

Trail opponents don’t require promises of perfect safety in other areas of life, or they wouldn’t get out of bed in the morning. They ignore all the risks involved in walking, riding in a car or crossing the supermarket parking lot while waving a few anecdotes about crimes on trails.

I’ve gathered some statistics over the years on risks and safety that might help make the point.

Dogs, sometimes called man’s best friend, provide companionship to millions. Yet in 1995, 3.5 million dog bites were reported to American insurance carriers, with the companies spending \$1 billion on the claims (South Bend Tribune, Oct. 6, 1996). Should we, therefore, outlaw dogs?

Escalators carry millions of people safely each year. Yet in Boston, 300 people require emergency room treatment every year from injuries received while riding on escalators (NBC Dateline, Nov. 29, 1995). Should we, therefore, eliminate escalators?

A trip to the grocery store is a usually routine. Yet in one recent year, shopping cart accidents resulted in 25,000 trips to the emergency room (68 per day), including two deaths. Two thousand children were hospitalized (NBC Today Show, March 20, 1996; data from a study by Dr. Gary Smith, Children’s Hospital, Columbus, Ohio). Should we, therefore, ban shopping carts?

Regular exercise can significantly reduce the chances of dying prematurely from heart disease and other ailments. Yet in 1992 many forms of recreation resulted the following number of emergency room trips: table tennis-1,455; horseshoes-4,423; billiards-5,835; bowling-24,361; golf-37,556; in-line skates-83,000; volleyball-90,125; swing sets-102,232; football-229,689; baseball-285,593; bicycles-649,536 (Newsweek, June 21, 1994, data from U.S. Consumer Product Safety Commission). No question: let’s definitely ban that dangerous table tennis game.

Farmers use the latest equipment to produce our food. Yet in Indiana, 28 people die in an average year in farm accidents. Farmers die at more than four times the average rate of all other workers from work-related accidents, according to the National Safety Council. (AP story in the Goshen News. I did not record the date.) Explain that, Farm Bureau.

Government sources estimate that air bags in motor vehicles have saved 2,700 lives. Yet at the same time they have killed 87 people-48 adults and 39 children (NBC Nightly News, Nov. 17, 1997).

Trains are one of the most efficient ways to move freight. Yet a vehicle-train crash occurs about once every 90 minutes in the U.S. Two motorists are killed daily in these crashes. (Goshen News, July 13, 1994; data from Indiana Operation Lifesaver.)

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

We send our sons and daughters to college for higher education. Yet colleges are awash in criminal behavior. About 2,400 U.S. colleges reported their statistics on campus crime to the Chronicle of Higher Education in response to the 1990 federal law, the Student Right-to-Know and Campus Security Act of 1990. The report states that in the reporting academic year (1991-1992) there were 7,500 incidents of violent crime on their campuses. That includes 30 murders, 1,000 rapes and more than 1,800 robberies.

However, they also reported that these violent crimes, thank goodness, were the exception when compared to property crimes, e.g., there were 32,127 burglaries and 8,981 motor vehicle thefts in the same period. (I know I feel better with that qualification.) (From the Chronicle of Higher Education, Jan. 20, 1993, p. A32.)

And, of course, the most glaring source of risky behavior—the highways. In 1993, 53,717 motor vehicles were involved in 35,747 fatal crashes, resulting in 40,115 deaths (Insurance Institute for Highway Safety). Does this statistic mean we should, therefore, ban motor vehicles or highways or both?

Every form of human activity involves risks. The question is whether the risks are acceptable in light of the rewards. Our society, with some bizarre logic, rationalizes away or accepts 40,000 deaths each year from motor vehicles because it believes the rewards are acceptable. Most people believe the rewards of college are worth the risk of occasional criminal behavior, and most people believe the risk of going up the escalator is worth the risk of getting your foot caught in the mechanism. Once established, trails have proven to be as safe as the surrounding community through which they pass. The rewards of recreation and nonmotorized transportation they provide far outweigh the risks.

While it is important not to trivialize or deny that bad things can happen on trails, it is equally important to examine the logic behind the anecdotes. Are trail opponents willing to apply their let's-close-the-trails logic to other activities, e.g., close all highways because 40,000 people are killed each year; close all colleges because there were 1,000 rapes? If not, then they are using a double standard to analyze risks—a selective use of statistics to discredit what is a relatively safe activity.

Two final points. First, we need to educate trail users about elementary safety precautions. We should caution people about jogging alone on an isolated trail, just as we would caution against jogging alone on an isolated country road or the mall parking lot for that matter.

Second, if there are safety problems on trails, we need to fix them. That's what we do with highways. If there's a dangerous highway curve, we straighten it. If a certain highway intersection has frequent accidents, we redesign it or put up stoplights. But, we don't close the road when we discover a problem, and we don't stop building more of them. Instead, we improve them.

Why would it be any different for trails?

John D. Yoder, President
Friends of the Pumpkinvine Nature Trail, Inc.

APPENDIX D: RAILS-TRAILS & SAFE COMMUNITIES

ENDNOTES:

¹ Minnesota Department of Natural Resources. *Living Along Trails: What People Expect and Find*. Saint Paul, MN, 1980.

Moore, Roger L., et al. *The Impacts of Rail-Trails: A Study of Users and Nearby Property Owners from Three Trails*. Washington, DC: National Park Service, 1992.

Seattle Engineering Department and Office for Planning. *Evaluation of the Burke-Gilman Trail's Effects on Property Values and Crime*. Seattle, WA: Seattle Engineering Department, May, 1987.

Schenectady County Department of Planning. *The Mohawk-Hudson Bike-Hike Trail: Its Impact on Adjoining Residential Properties*. Schenectady, New York, 1997.

²These numbers reflect condensed data. Some survey respondents indicated two or more trail location types or omitted the answer to this question altogether. Thus the original results fell into seven categories: urban, suburban, rural, urban/suburban, suburban/rural, urban/suburban/rural and blank. To facilitate data analysis, we placed crimes from the latter four categories into urban, suburban and rural categories using weighted distributions.

³ All law enforcement agencies for which contact information was provided in primary survey were contacted.

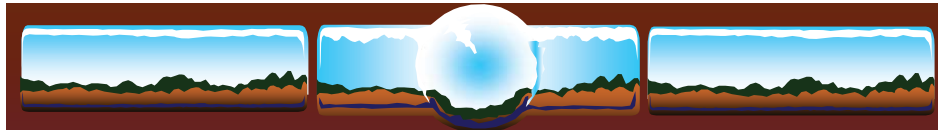
⁴ Estimate of annual users based on extrapolation of trails reporting number of users by areatype on a users per mile basis.

⁵ At the time of the rail-trail crime study, the FBI had only released the preliminary Uniform Crime Report for 1996, therefore the 1995 Uniform Crime Report was used as a comparison for both the 1995 and 1996 rail-trail crime rates.

⁶ The Uniform Crime Report refers to mugging as robbery, "the taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear."

⁷ The Uniform Crime Report measures vandalism by arrest rather than known incidents. Thus only comparisons to burglary were used.


APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Crime, Property Values, Trail Opposition & Liability Issues

Tim Eling
Presented at the
Lexington Big Sandy Workshop, 4/1/06


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3 Common Concerns of Trail Opposition

- 1) Crime will go up
- 2) Property values will go down
- 3) Liability and lawsuits

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Crime

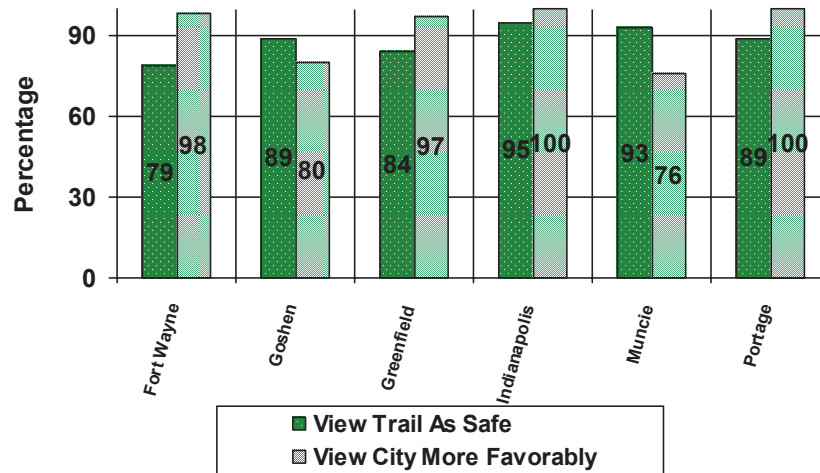
- ❖ Many adjacent landowners assume crime will go up if a rail trail is built
- ❖ In fact, those fears are unfounded

Indiana Trails Study - 2000 Survey of Trail Users along six trails in Indiana



APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES

Chart 14: Percentage of Trail Users Viewing Trail As Safe and City As More Favorable Due to Trail



Law Enforcement Patrol can ease fears



- Washington County, VA deputy prepares to patrol VA Creeper Trail

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES

Retirement Community built in 2005 right on VA Creeper Trail



- ❖ Elderspirit Community wanted to build right on the trail.
- ❖ They advertised that they were right on the trail.
- ❖ Emphasized how safe the area was for residents.

Many Law Enforcement Officials support Rail-Trails

“...The trail has not caused any increase in the amount of crimes reported...We have found that the trail brings in so many people that it has actually led to a decrease in problems we formally encountered such as underage drinking...”

Chief Charles Tennant on Youghioghney River Trail in PA

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Chainlink security fence removed after residences realized it was not needed

Town Agrees To Remove Bike Trail Fence

By STEPHANIE REITZ

From the Hartford Courant

AVON, Connecticut- The town council has agreed to remove 11,700 feet of chain-link fencing along the Rails-to-Trails path in town. Residents whose homes abut the path had requested the move. The fencing, which was installed years ago to ease the security and privacy concerns of some homeowners, is not needed after all and is unattractive, other neighbors told the town council recently.

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Property Values

- ❖ Many adjacent landowners assume property values will go down if a rail trail is built
- ❖ In fact, the exact opposite is true

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Home Sales near Two Massachusetts Rail-Trails

- ❖ Study of sales in 2005 showed that homes near trails sold at 99.3% of list price and homes away from trails sold at 98.1% of list price
- ❖ Study showed that homes near trails sold in 29.3 days while homes away from trails sold in 50.4 days


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Study of Property Values near Trails in Boulder, CO

- ❖ Study showed that home prices declined \$4.20 for each one foot away from a trail.
- ❖ Avg value of property adjacent to trails was 32% higher than those 3,200' away

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Omaha NE Survey of Residents Living Within 1 block of Trails

- ❖ 65% felt trail would make it easier to sell their home, while only 2% felt it would be harder
- ❖ 42% felt trail would increase value of their home, while only 2% felt trail would decrease value

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Realtors Often Advertise that a House is Near a Trail

Realtor advertisement in Massachusetts:

Craig Della Penna, Realtor
<http://www.craigdp.com>
Specializing in historic/antique homes and homes near to rail-trails and other linear parks

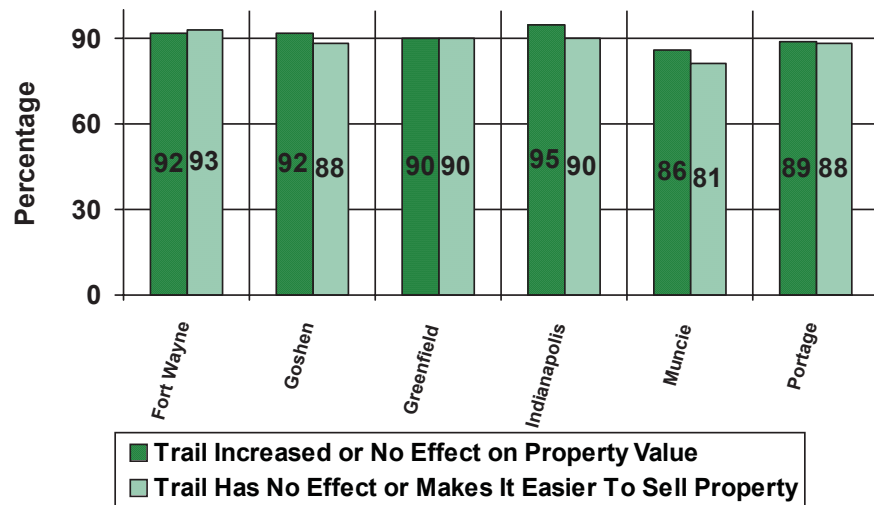
APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES

Indiana Trails Study - 2000

Survey of Trail Neighbors along six trails in Indiana

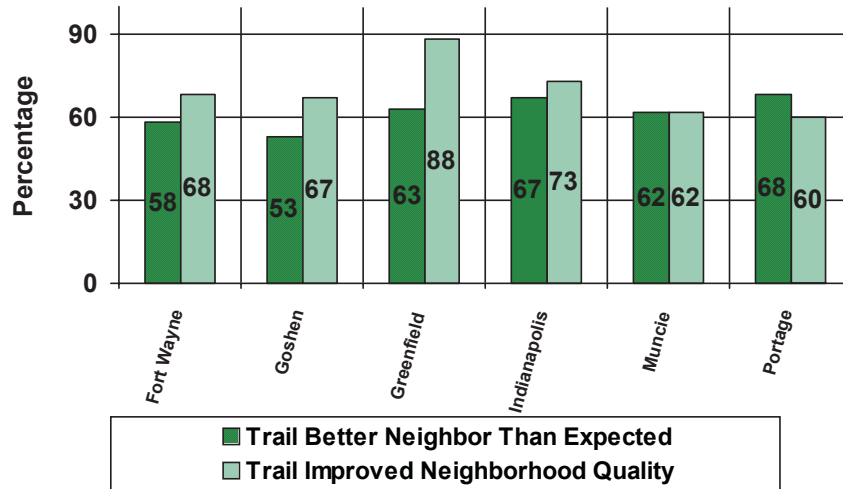


Chart 16: Percentage of Trail Neighbors Viewing Trail As Having Increased or Positive Effect on Property



APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES


Chart 17: Percentage of Trail Neighbors Viewing Trail As Improving Neighborhood or As Better Neighbor



Other Summary Findings on Indiana Trail Neighbors

- Trail neighbors are residential uses
- Trail neighbors are either satisfied or neutral in their level of satisfaction with the trail
- Trail neighbors found the trail had no negative effect on purchase & property appeal
- Trail neighbors purchasing property after trail opened are largely supportive of the trail


APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



Opposition

- ❖ Nearly every proposed Rail-Trail encounters intense opposition from adjacent landowners
- ❖ In most cases, landowners see the value of rail-trails after they are established
- ❖ You must educate landowners on the benefits of rail-trails

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Recent Article about Proposed Rail-Trail in SW VA

Plans for Washington, Smyth trail finds foes
Dan Kegley/ Media General News Service
Smyth County, VA News
Thursday, January 19, 2006

“The speakers Tuesday were all concerned about the proximity of the proposed trail to homes. They agreed that proximity would compromise privacy at best and security at worst, leaving homeowners' activities in view of passing walkers, property susceptible to theft, and children in danger of kidnapping or worse. One suggested the trail would depress property values.”

APPENDIX E: CRIME, PROPERTY VALUES, TRAIL OPPOSITION & LIABILITY ISSUES



News Article about Proposed Rail-Trail in SW VA

Plans for Washington, Smyth trail finds foes

Dan Kegley/ Media General News Service

Smyth County News

Thursday, January 19, 2006

"Who's going to be responsible for treating snake bites?" he asked. "I kill three or four copperheads every year." Pafford said widows living along the spur do not want the trail and cited murders and rapes on the popular Virginia Creeper Trail that follows an old railroad bed from Abingdon to Whitetop. "I'm going to fight this tooth and nail," Pafford said. "If I have to sell everything I've got, I'll keep this tied up in court. I'm a Vietnam vet, and I can get mean when I have to."

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Survey of landowners located along the Mohawk-Hudson Trail in Upstate NY 1997

- ❖ 86.3% of landowners use the trail
- ❖ 87.8% felt indifferent or expressed satisfaction with having trail as a neighbor

APPENDIX F: PROMOTING GREENWAY SAFETY



Draft Plan for Public Review—August 2012

Chapter 7: Promoting Greenway Safety

People who are unfamiliar with greenways often fear they will attract crime and lower adjacent property values. Numerous studies have refuted this; in fact, greenways are generally safer than the communities surrounding them. There are many efforts communities can undertake to ensure greenways are safe.

Careful attention to the site planning and design of particular areas such as parking lots, trailheads, and restrooms is critical in reducing safety concerns, real or perceived. There is a balance between retaining or creating a natural setting that is safe while also preserving the naturalness of an area. Design strategies include allowing clear visual access, having appropriate lighting in key areas, providing multiple access and egress points, and organizing activities to increase the number of users and “eyes on the path”.

Encouraging ownership of the greenway by involving the public in the planning process and educating them on the benefits of greenways, as well as presenting data illustrating the lack of crime and other problems is essential in gaining public support. Such public processes can often lead to an effective neighborhood watch program to monitor the greenway.

Buncombe County is establishing a non-profit entity—Connect Buncombe, which is part of the Buncombe County Service Foundation—to perform volunteer services related to promoting safe use of greenways.

Greenway Safety Studies from Other Communities

A survey done in Cary, NC, in 1995 of residents living near three greenways gauged their satisfaction with the greenways and about any problems. There was a 75% response rate and most residents felt satisfied

with the greenways and stated that problems were minimal. Studies in Mecklenburg County, NC; Denver; Seattle; Tampa; and other cities reported similar results showing less crime on greenways than the communities as a whole.

Two studies of crime statistics in Mecklenburg County show greenways have lower crime rates than the surrounding community. They found that most greenways provide a safer alternative than roads and attract local residents using the trails frequently. The first study was done in 1997 along the Mallard Creek Greenway comparing the incidence of crime with the surrounding police district and the city as a whole. The incidence of crime along the Mallard Creek Greenway and adjacent properties was nearly half that of the surrounding police district and only 12.7% of the countywide crime rate. Later, an extended study explored recent crime rates along all 14 greenways within Mecklenburg County between 2001 and 2003. The data suggest that greenway-adjacent properties do not incur greater risk of crime than other properties within the same neighborhood statistical area. On the contrary greenway-adjacent properties had lower crime rates 75% of the time.

Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) was authored in 1971 by C. Ray Jeffery, a criminologist at Florida State University, as he studied the relationship between the physical environment and the incidence of crime. His work was based on previous research studying how the built environment influences the rate of crime, including Jane Jacobs seminal The Death and Life of Great American Cities in 1961 and Oscar Newman's Defensible



For the safety of users, greenways that are constructed in constrained areas may necessitate the diversion of some users to connecting roadways or other trails, such as the connection to Carrier Park in West Asheville.

Photo Credit: Don Kostelec



APPENDIX F: PROMOTING GREENWAY SAFETY



Space in 1973.

Designing greenways using CPTED principles has the potential to reduce crime by focusing on three interrelated principles that comprise CPTED concepts and strategies: Natural Surveillance; Natural Access Control; and Territoriality (Exhibit 4-1).



Planned greenway corridors are oftentimes overgrown with weeds, trees and other foliage and need to be cleared not only for trail establishment but to promote safety and visibility along a route.

Photo Credit: Friends of Hominy Creek Greenway

Implementing CPTED

It is recommended that a systematic review of CPTED principles occur during the design and review of any greenway project. In *Safety by Design: Creating a Safer Environment in Virginia*, the Virginia Crime Prevention Association grouped questions in the following categories:

- ◆ **Designation:** What is the intended use of the area? What behavior is allowed?
- ◆ **Definition:** Are there physical limitations to the area or site? Are borders between the area and public spaces defined? Is it clear which activities are allowed where?
- ◆ **Design:** Does the physical environment safety and efficiently support the intended use? The City of Tampa, Florida Greenways and Trails Master Plan recommends that each greenway and trail section, whether it is being newly built or enhanced, receive a CPTED review from Police Department staff trained in the principles of CPTED. The CPTED Review consists of the following five steps:

1. **Crime Analysis Review:** This information assists the police department in determining the type of crimes that are occurring on and around the trail.
2. **Demographics:** This information describes the nature of the population around the future trail.
3. **Land Use:** City planning departments, zoning boards, traffic engineers, and local neighborhood groups have information that describes and depicts the physical allocation and use of land in and around existing or proposed trail.
4. **Observations:** Officers conduct an actual review of the physical space that has been designated as a trail segment.
5. **Resident or User Interviews:** Officers conduct interviews with persons living near the proposed trail to determine their perspective on safety.

Activity Support & Maintenance

Activity support encourages increased greenway use by programming activities for users of all ages and interests. This encourages legitimate uses of the park, and is especially effective when planned for time periods of lower usage. The more people there are on a trail, the safer it will be. Chapter 6: Programs provides more details on these options.

Consistent maintenance, just like with any park setting, will help keep the greenway safer by eliminating potential hiding places through the use of regular landscape clearing and pruning. Good maintenance of the trails and facilities demonstrates that the community cares about the space and will not easily tolerate criminal behavior. See Chapter 8 on Maintenance for further information.

Buncombe County Greenways & Trails Master Plan

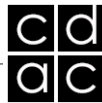
APPENDIX F: PROMOTING GREENWAY SAFETY



Draft Plan for Public Review—August 2012

Exhibit 7-1: CPTED Concepts & Strategies

Natural Surveillance	Natural Access Control	Territoriality
<p>Placement of physical features, activities, and people in a way that maximizes visibility and minimizes hidden and isolated areas. This allows users of a space to have views of their surroundings and of potential threats to their safety, making it more difficult for someone to perform a criminal act.</p> <p>Natural Surveillance design strategies include:</p> <ul style="list-style-type: none"> • Locate parking lots, picnic areas, trailheads, play areas, and restroom facilities near streets and other activity centers so they are easily observable; • When possible, locate trails near areas of park activity or at places where parks meet commercial or residential uses, or align them with active streets to make users more observable by others; • Cluster compatible activities to avoid conflict and to increase social observation; • Parking areas are more prone to crime. Incorporate lighting and do not erect solid fences which block visibility and hamper escape. Limit lighting only to parking areas and trailheads rather than along the entire trail unless greenway use at night is encouraged; • Provide an emergency telephone system at parking areas and along the trails such as those near UNC Asheville on the Reed Creek Greenway; • Position benches in areas where users have good views of surrounding areas; and • Maintain landscaping at least 5-feet from the edge of trail with a mowed strip or groundcover bordering the trail. Keep trees limbed up to 10-foot high and avoid using large and dense shrub masses. 	<p>Methods to decrease the opportunity for criminal activity by creating a perception of risk for potential offenders and controlling access into and throughout a space. People can be physically guided through a space by strategic placement of entrances and exits, signage, fencing and other barriers, landscaping and lighting.</p> <p>Natural Access Control design strategies include:</p> <ul style="list-style-type: none"> • Restrict access to parking areas with gates when parks are closed; • Provide clearly visible and lighted entries to park buildings such as restrooms and locate them in areas close to other activity areas. Clearly define paths between parking lots and other facilities. • Maintain at least 10-feet between greenways and wooded areas to offer long sight lines and distance from potential attacks; • Establish a clear separation between regional public trails and adjacent private property with landscaping, fencing or other screening treatments; • Throughout a trail system, and especially in isolated areas, provide clearly marked paths or exits that gives users egress options; • Through clearly marked and placed signage and gates, note the hours that the greenway is open to the public. 	<p>Use of physical features that express ownership and neighborhood context. People who feel a sense of ownership tend to use the trails more and monitor them for inappropriate behavior and maintenance problems. Potential offenders are discouraged when they feel inappropriate actions would be viewed and reported.</p> <p>Territoriality design strategies include:</p> <ul style="list-style-type: none"> • Incorporating certain facilities into a greenway provides cues about appropriate uses. For example, providing children's play areas encourages family use. • Clearly delineate between public and private property along the trail with the use of fencing, landscaping, paving, and other design features. • Reflect environmental and cultural context with elements such as gateways, signage, seating, art, paving patterns, and other features. • Provide clear directional and informational signage to orient users to the greenway layout as well as facilities along the greenway. Signs should clearly identify trail names, especially at intersections, as well as trail length and distances to facilities, location of emergency phones, and the characteristics of trails, such as wide paved trails or smaller isolated walking trails. Mile markers should be installed as well as indications of the trails intended use. • Post park rules at all access or gathering points in the park. Rules should clearly convey the acceptable uses and discourage unacceptable uses of the park.



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Upon completion of the review, officers recommend CPTED and security procedures that will minimize potential criminal activity on the trail and in the surrounding neighborhoods. These recommendations cover issues such as lighting, location of benches and rest stops, access to trails from roadways, and landscaping. These recommendations are incorporated into the final design of each segment. Buncombe County staff could follow a similar process in the review of greenways.

Law Enforcement & Patrols

In addition to the above CPTED principles, it is essential that either law enforcement or designated enforcement volunteers patrol greenway parking lots and trails. Bicycle patrols are particularly effective because they have more flexibility to monitor the entire greenway systems and their presence is a good crime deterrent.

Community Watch Programs

Many cities with a greenways system have groups and individuals who volunteer to patrol the trail and do special projects such as litter cleanups and tree plantings. In Boulder, Colorado, there are Greenways Walkers who frequent the greenways and are encouraged to pick up trash and report maintenance problems to the Street and Bikeway Maintenance hotline. The Midtown Greenway Coalition in Minneapolis has an organized Trail Watch with riders scheduled for two-hour evening shifts to ride the greenways to provide a friendly presence and report any incidents. Incentives are offered by local bicycle shops and restaurants to encourage people to volunteer. They also have an "Adopt a Greenway" Program with over fifty groups volunteering to help with litter cleanups and landscape planting and maintenance. Buncombe County could advocate and provide support for the formation of community watch

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groups that will monitor the greenways. In some communities, social media is becoming an effective tool as a grassroots community relations vehicle for fighting crime. This was recently demonstrated in West Asheville where a string of home invasions inspired local residents to organize the West Asheville Watch using social media to communicate information on crimes that have occurred and how to stay safe. Having an online forum for greenway users to post safety information as well as to advertise events would be beneficial.

Safe Routes to Schools

Healthy Buncombe and the County's Parks, Greenways and Recreation Services are managing programs to create safer ways for children to walk or ride to school to minimize risk, combat obesity, and decrease traffic congestion and pollution. The first Safe Routes to Schools program in the United States was adopted in the Bronx, NY in 1997 and has since spread throughout the country. A Safe Routes to School (SRTS) program is a school-based effort that involves young students, teachers, law enforcement officers and parents in the development of school safety and encouragement initiatives such as Walk to School Day, Walking Wednesdays, pedestrian safety assemblies, and bicycle rodeos.

While these programs can help engage children in safe walking behaviors and encourage more walking and healthier lifestyles, parents may have non-infrastructure concerns over the safety of their children particularly along greenway corridors where there may not be as many "eyes on the street". Therefore, the principles of CPTED should be considered as SRTS programs are implemented and greenways constructed adjacent to school properties.



Bicycle patrols provide flexibility in monitoring greenway activities. They can also be conducted through volunteer groups as a method of passive enforcement whereby volunteers are instructed to contact local authorities when they observe or think there is potential for criminal activity.

Photo Credit: Minnesota Public Radio



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Black Mountain is one of six communities in North Carolina selected to complete a SRTS action plan. The action plan team is conducting analysis of existing conditions and prioritizing engineering solutions surrounding the study schools. The plan will guide the community and school system in the development of facilities and programs to encourage more children to walk or bike to school in a safer environment. This model should be expanded in Buncombe County so all schools can be studied and improved through the SRTS methodology and funding. Any schools near planned greenways should be prioritized for SRTS funding and coordinated with local SRTS action plans, with consideration of CPTED principles.

Sharing the Greenway

Physical safety of users is also a concern on greenways and trails due to a wide variety of user types, persons traveling at different rates of speed, and inexperienced users. Many users will perceive riding on designated bicycle paths as a safer alternative to riding on unmarked streets and roads; however, their skills in operating a bicycle and how other users respond to them can create safety concerns.

Offering instruction on how to safely bicycle on the greenway is important for people to learn proper riding techniques, greenway etiquette, safety awareness, and how to avoid collisions, especially at street or other trail intersections. Learning to navigate to the greenway along streets is important to help people feel confident and encouraged to use the greenways. Bicycle rodeos can be held to teach children how to safely ride a bicycle and learn the rules of the road. Campaigns advocating the use of helmets for all users should be a critical part of any bicycle safety program.

Buncombe County and its partners have been in-

involved in various bicycle training courses, particularly through the League of American Bicyclists. The focus on road-riding skills within the training modules leaves a gap in the community in teaching proper skills and etiquette of bicycle riders and other users along greenway trails. It is recommended that the county work with its partners to develop a greenway-specific training module for users to be deployed through schools, scheduled training sessions and public awareness campaigns.

The interface of greenways with the street and highway system can also generate safety concerns among users if not designed properly. Even at the most well-designed locations, high volumes of vehicular traffic can become a deterrent for young users. It is important to consider how signage and markings help encourage safe use of all users, particularly at locations where greenways intersect with other greenways, trails or streets.

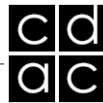
Community groups can be encouraged to help as crossing guards at the greenways. In the Brightmoor neighborhood of Detroit, citizens have effectively organized to act as crossing guards at busy intersections. As greenways develop in Buncombe County, neighborhood volunteers could be recruited to volunteer as crossing guards. At intersections deemed to be “busy” or potentially problematic for pedestrians or bicyclists, there is already a precedence for this as many schools place crossing guards at busy intersections.

Buncombe County and its partners should work to develop greenways-specific training modules to promote safe usage and consideration of other users.

Organize a Training Program

Buncombe County and its partners could develop a training program for new volunteers, design and

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develop a standardized greenway curriculum to present background information to new volunteers, homeowners adjacent to new or proposed greenways, schoolchildren, designers and contractors, and other interested partners. Such a curriculum would include the definition and benefits of greenways and the vision for the Buncombe County Greenways Master Plan. Specific workshops related to construction, maintenance, and safety could be offered periodically. Buncombe County could develop an information clearinghouse that relates specifically to local greenway management topics. An assessment checklist could be developed for volunteers and others for ongoing greenway evaluation and maintenance.

An example of a greenways training program is the Georgia Trails and Greenways Program which focuses on unpaved trails. The Georgia Trails and Greenways office coordinates trainings on trail construction, trail maintenance and trail education.

Safe Routes for Seniors

As Safe Routes for Schools has been very successful in creating a safer pedestrian environment for children, another group that is more susceptible to pedestrian-related conflicts with cars is senior citizens. They tend to have more mobility difficulties and sensory changes as they age. By constructing greenways and connecting them to neighborhoods, we can provide increased opportunities for senior citizens to safely and comfortably experience the health benefits of walking and bicycling. The idea for Safe Routes for Seniors originated in New York City where they found senior pedestrians were killed at a disproportionate rate to other age groups.

They developed a Safe Routes for Seniors program which has dramatically reduced the number of deaths and injuries among senior pedestrians.

planning professionals, contractors, and other partners who wish to design and construct trail facilities, work on maintaining trails, and conduct programs along the greenways. This promotes consistent design and management skills; ensures volunteers, designers and contractors are up to date on the latest rules, regulations and design standards; and promotes discussion of new design, maintenance and program ideas. The training program would provide educational opportunities and resources to educate people about greenways and make sure trails are constructed and maintained to a high standard of safety and accessibility. Since there is an increased reliance on volunteers, such a training program would help keep the volunteers safe as well as improve safety for trail users.

A model for a comprehensive program is the National Trails Training Program (NTP) which is a forum of diverse trail organizations and federal agencies whose mission is to improve opportunities for training for the nationwide trails community. They provide an internet-based clearinghouse of information and resources and offer an array of courses ranging from trail construction to safety practices, and compliance with the Americans with Disabilities Act (ADA).

Within NTP's website, there are specific forums addressing safety and accessibility. The Safe Trails Forum helps promote safety for users by offering education on improving the user experience through improved trail design and maintenance, understanding legal concerns and reducing liability, decreasing shared-use path conflicts, and reporting crime and accidents.

The Buncombe County greenways training could incorporate elements of the NTP program and provide a link to their website on the Connect Buncombe and Buncombe County websites. Buncombe County could

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Safe Routes for Seniors recognizes that older adults have physical and cognitive challenges when trying to walk or ride a bike. Greenways provide opportunities for physical activity and a place to conduct training programs to make seniors comfortable in using trails.

Photo Credit: Streetfilms.org

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APPENDIX G: GREENWAY MAKES A GOOD NEIGHBOR

Greenway makes a good neighbor - Roanoke.com

<http://www.roanoke.com/news/roanoke/wb/249793>

Thursday, June 10, 2010

Greenway makes a good neighbor

Construction of the Mountain View and Norwich parts of the greenway begins soon. Most residents in other areas say the route was a welcome addition.

By Mason Adams | 981-3253

A mixture of hope, concern and curiosity usually greets the arrival of an outsider into a tightly knit neighborhood.

The impending expansion of the Roanoke River Greenway into the city's Mountain View and Norwich communities over the next two years is no exception. With the construction of bridges and more than two miles of new trail set for completion by the end of 2012, residents there aren't sure what to expect.

They're hoping that an influx of bicyclists, runners and walkers will bring new blood and revitalization, but at the same time they harbor concerns about providing a new route for outsiders into the community.

"We see some new development coming in there, but we don't know when," said James "Ronnie" Stanley of the Norwich Neighborhood Alliance. "You can see the handwriting on the wall, but you don't know what it's going to be."

The long-term effects remain to be seen, but based on interviews with those who live along the extended area of the greenway in Southeast Roanoke, there already have been positive changes. The stretch of greenway from Ninth Street to the east bears some similarities to the proposed route through Norwich, as it generally runs along industrial areas while occasionally bearing near houses.

The greenway's stretch through the center of the city at Wasena Park, Smith Park and the River's Edge Sports Complex remains its heart and most popular piece, but with a recent influx of federal money, city officials are working to expand the paved path at both ends. To the east, a mixture of stimulus money and other government funding will help pay for a bridge and path around the wastewater treatment plant to connect the Tinker Creek Greenway with the Roanoke River Greenway where it currently ends at 13th Street.

To the west, construction already is under way on a bridge to link Wasena Park with the newly opened Vic Thomas Park (the former Hannah Court trailer park), and officials received bids this week to extend the greenway west to Bridge Street.

And even though the bridge to Vic Thomas Park won't be complete until later this summer, Gregg Ervin, president of the Mountain View Neighborhood Association, said he's noticed some changes.

"We've already seen an increase in bike riders in this neighborhood," Ervin said. "It is drawing new people into the neighborhood."

Certainly, that's what city officials would like to see. They've spun the emerging greenway system not only as a source of recreation and alternative transportation, but also as an asset that can assist long-stagnant neighborhoods with revitalization.

Roanokers appear to have embraced the concept: Greenway construction is one of the few capital projects that most seem to agree is worth the cost, and an ever-increasing number of users make a habit of visiting them regularly.

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Ron McCorkle and Mark Petersen are both Southeast Roanoke activists who bought houses near the new extended stretch of the greenway. Cycling enthusiast McCorkle said he noticed a significant increase in people on bicycles even before the stretch of greenway along Bennington Street opened in early 2007. He said that he expects the greenway to slowly change attitudes about Southeast Roanoke.

"Most of the people who use it live in another part of the city. They have an opinion of Southeast, but now they're getting to ride through and see it's a really great neighborhood," McCorkle said. "What happens is that people will see it's a great neighborhood with great value and houses that are affordable. And they'll start to move in. I've already seen it start to happen."

Others said the neighborhood hasn't changed substantially, but blamed that largely on the slumping housing market. Some said it's still too early to expect large-scale results.

"I think we would look for those improvements to stabilize neighborhoods first," said Assistant City Manager Brian Townsend. "Then over time, once that stabilization happens, you see investment and improvement."

What folks do agree upon is that more people than ever are out using the greenway, and many of them live nearby.

On Wednesday evening last week, Doug and Kathy King, who live a short drive from the 13th Street trail head in Southeast, said they've made walking the greenway a near-daily routine since Kathy was diagnosed with diabetes several weeks ago. Others from nearby Garden City and Vinton rode bikes along the paved path.

"As far as neighborhood use, we have a lot of kids who are going down and using the greenway," Petersen said. "I've seen pedestrian traffic on the greenway pick up just in the last six months. Every Saturday afternoon, if it's a nice day, you can't find parking on the 13th Street trail head."

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Those crowds have brought activity and a new atmosphere -- and they've created some inconveniences for the greenway's neighbors, too, some say.

Richard Artutis owns 3 acres of land that sit along the greenway by Deaton Road, which serves as an access point for some users. The problem is there's no place to park, which has at times led to conflicts between greenway users and tenants in Artutis' houses.

"I've had to fight the traffic of people wanting to get here," Artutis said. "I've had people park in my yard, drive through at a high rate of speed."

Artutis said he considers the greenway a city resource "for all the different walks of life to get out and say hello to each other." But he said he's also heard groups of "wanna-be thugs" passing by at 2 a.m. or later.

"Too much havoc could happen on that greenway," Artutis said. "It would make an excellent getaway for a thug. I guess it just depends on how your mind works."

Artutis said he wondered, too, if the city's homeless population might be using the greenway as an open-air shelter, but Petersen said he hasn't seen it.

"The biggest thing we anticipated when they opened the greenway was the loitering of homeless people under the bridges, but that's not happened," Petersen said.

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Greenway makes a good neighbor - Roanoke.com

<http://www.roanoke.com/news/roanoke/wb/249793>

In fact, most of those interviewed along the greenway in Southeast said they hadn't noticed an uptick in loitering or crime in general. Aside from some burglaries here and there, crime appears to have gone down since the greenway opened.

"Having more people use public space increases security," Townsend said. "Show me an area that's got a lot of activity, I'll show you a safe area. Show me an area that doesn't have a lot of activity -- that's where bad things are going to happen."

Still, it's not entirely clear that it's all because of the greenway.

David Ten-Eyck, who lives in a house just across the street from an exposed stretch of greenway, said he's noticed a drop in suspicious-looking people passing by. He attributes that not to the greenway, however, but to the increasingly sporadic hours of a nearby convenience store. The store's owner and an employee were both killed in unrelated incidents less than a month apart in 2005, and managers since then haven't kept regular hours, Ten-Eyck said.

For all of its benefits, the greenway has also brought some disappointments, too.

Ten-Eyck noted that it was built as part of the Army Corps of Engineers flood reduction project, and city officials have crowed after recent flood events that the project is working. But Ten-Eyck complained that he still pays flood insurance.

Petersen said he is disappointed that the city hasn't maintained the greenway's trees and landscaping since 2007. Many of those trees have died but have not been replaced.

Artutis grumbled that the concrete at the end of Deaton Road had crumbled since the greenway was put in.

Still, Artutis said he has enjoyed the greenway since it was opened, and he is hoping to see some financial benefit. He is trying to sell his 3 acres -- which sit next to an electrical substation at a point with easy access to both the greenway and the Mill Mountain Star Trail -- for \$2.5 million.

THE ROANOKE TIMES
roanoke.com

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APPENDIX H: BENEFITS OF GREENWAYS

Mecklenburg County Greenway Master Plan

(1999 - 2009)

Adopted by the
Board of County Commissioners
May 18, 1999



Prepared for:

Mecklenburg County Park and Recreation Department
Mecklenburg County Park and Recreation Commission
Mecklenburg County Greenway and Trails Advisory Council
Mecklenburg County Greenway Steering Committee
Mecklenburg County Board of County Commissioners

Prepared By:

Haden•Stanziale

GREENWAYS

INCORPORATED

Bicycle and Pedestrian Planning

Environmental Design

Landscape Architecture



community design

assistance center

APPENDIX H: BENEFITS OF GREENWAYS

Mecklenburg County Greenway Master Plan

Benefits of Greenways

A multi-objective greenway system for Mecklenburg County can address and resolve many community issues that affect the future environmental and economic health of the County. Greenways have been implemented by other communities to control flooding, improve water quality, protect wetlands, conserve habitat for wildlife, and buffer adjacent land uses. Greenways typically incorporate varying types and intensity of human use, including trails for recreation and alternative transportation, and passive and active park facilities, including open play fields. Greenways have also been shown to increase the value of adjacent private properties as an amenity to residential and commercial developments.

Flood Control Benefits

Greenways preserve wooded open spaces along creeks and streams which absorb flood waters and filter pollutants from storm water. Flooding has historically been a significant problem in many parts of Mecklenburg County. In some areas, buildings and land uses have encroached into flood prone areas. By designating floodplains as greenways, the encroachments can be better managed, and in some cases, replaced with linear open spaces that serve as an amenity to local residents and businesses as well as providing important flood water storage capacity.

As a flood control measure, greenway corridors serve as a primary storage zone during periods of heavy rainfall. The protected floodplain can also be used during non-flood periods for other activities, including recreation and alternative transportation. In conjunction with existing Charlotte-Mecklenburg floodplain management policies, recommendations, and programs, greenway lands can be established as development occurs.

The expense associated with the establishment of the greenway system can be offset by the savings realized in reduced flood damage claims. Additionally, for those residents who are required to purchase flood insurance, implementation of a community-wide greenway system in Mecklenburg County is likely to result in reduced flood insurance rates.

Water Quality Benefits

Greenway corridors also serve to improve the surface water quality of local rivers and creeks. The floodplain forests and wetlands contained within greenway corridors filter pollutants from storm water. These pollutants are not removed if storm water is collected

Figure 1: Protecting stream side vegetation is one of the goals of Greenways.



Figure 2: Flooding has caused significant property damage throughout Mecklenburg County. In this photo, a CSX railroad engine is pulled from Little Sugar Creek after floodwaters washed out the railroad bridge supports.



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in pipes and discharged directly into local streams. Improving surface water quality in streams and creeks not only benefits local residents, but also numerous forms of wildlife that depend on creeks for their habitat.

The Surface Water Improvement and Management (SWIM) initiative was established by the Mecklenburg County Department of Environmental Protection in November 1996. The program's objective is to improve the surface waters in Mecklenburg County and to restore the usability of the creeks. Growth is occurring at a high rate in the southern watersheds of the County, which has led to the degradation of water quality in local creeks. Similar growth is also occurring in the north and west watersheds of Mecklenburg County, which discharge into the County's primary drinking water supply, Mountain Island Lake. Greenways and the SWIM initiative will help to improve water quality within these watersheds of Mecklenburg County by protecting and promoting stream side buffers that will filter pollutants from overland runoff.

Transportation Benefits

In past years, most American communities have grown in a sprawling, suburban form as a result of dependence on the automobile as the sole means of transportation. Americans have abandoned some traditional forms of transportation (such as passenger train service) and have been slow to improve other forms of transportation (bicycle and pedestrian networks, bus systems, and local train service). In order to provide relief from congested streets and highways in Mecklenburg County, future transportation planning and development should be concentrated on providing a choice in mode of travel to local residents. These mode choices should offer the same benefits and appeal currently offered by the automobile: efficiency, safety, comfort, reliability and flexibility.

Figure 3: Greenways linked with on-road bicycle facilities, sidewalks and transit facilities can be a valuable component of the County's transportation network.



Little Sugar Creek Greenway

Greenway corridors throughout Mecklenburg County can serve as extensions of the roadway network, offering realistic and viable connections between origins and destinations such as work, schools, libraries, parks, shopping areas, and tourist attractions. Greenway-based bikeways and walkways are

most effective for short travel distances. National surveys by the Federal Highway Administration have shown that Americans are willing to walk as far as two miles to a destination and bike as far as five miles. It is conceivable that destinations can be linked to multiple origins throughout the County with a combination of off-road trails and on-road bicycle and pedestrian facilities. As stated in the 2015 Plan for Mecklenburg County, "the overall transportation goal for Charlotte-Mecklenburg is to develop an efficient, effective, safe, and interrelated transportation system that includes roads, mass transit, aviation, rail, bicycle, and pedestrian ways and related facilities needed for mobility in a rapidly growing urban

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region.” The greenway system will be linked to improvements that will be made to bicycling, sidewalk and transit systems.

Air Quality Benefits

Greenways as alternative transportation corridors can serve to reduce traffic congestion, helping to improve local air quality. Offering viable alternative transportation choices through greenways will encourage people to bicycle and walk more often, especially on short trips, thereby reducing traffic congestion and automobile emissions.

The 1970 Clean Air Act calls for federal, state and local governments to reduce ozone levels to what is believed to be a safe level. The level has been lowered to 0.08 parts-per-million (ppm) averaged over an eight hour period. Currently, Mecklenburg County is not a non-attainment area and meets the requirements of the Clean Air Act. However, air quality monitoring shows that levels of air pollutants, such as ozone, are increasing.

Cars and trucks are the key contributors of ozone pollution in Mecklenburg County, producing 68% of the ozone. Factories and power plants only contribute approximately 4% of the ozone pollution. The number of ozone “alert” days in 1998 exceeded the number of ozone “alert” days in 1997 by 800 percent.

Figure 4: Air quality in Mecklenburg County continues to degrade as the population increases and more land development takes place. Greenways can help cleanse the air by providing areas for reforestation of native species.



Little Sugar Creek Greenway

Plant and Animal Habitat Benefits

Greenway corridors serve as habitat for many species of plants and wildlife. These corridors provide essential food sources and access to water. Greenway corridors in Mecklenburg County function as primary migratory corridors for aquatic, avian and terrestrial wildlife, serving to help maintain the integrity of plant and animal gene pools. Some wildlife biologists have extolled greenways as future “gene-ways” and determined that migration routes are essential to maintaining healthy wildlife populations. Greenways can also serve as “gene-ways” for plant species which migrate with changes in climate and habitat. These “gene-ways” often follow river and stream corridors that have long served as transportation routes for animals and humans. Greenways in Mecklenburg County can be targeted as a primary habitat and breeding ground for many species of plants and animals. Programs can be established to not only protect the valuable existing forested and wetland areas of the County, but also to reclaim and restore streams to support higher quality habitat.



Figure 5: Greenways provide a valuable refuge for urban wildlife.

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Figure 6: Greenways, like Little Sugar Creek Greenway, promote economic activity, increase the value of adjacent property and can be a primary destination for tourists.

Economic Benefits

Greenways offer numerous economic benefits to Mecklenburg County, including higher real property values, increased tourism and recreation related revenues, and cost savings for public services. Greenways have been shown to increase the value of adjacent properties by as much as 5 to 20 percent. For example, within a new development in Apex, North Carolina, new lots situated on greenways were priced \$5,000 higher than comparable lots off the greenway.

In Charlotte, national builders typically charge premiums ranging from \$1000 to \$5000 for \$120,000-\$200,000 homes bordering open space and greenways.

Many home buyers and corporations are looking for real estate that provides direct access to public and private greenway systems. Greenways are viewed as amenities by residential, commercial and office park developers who, in turn, are realizing higher rental values and profits. American LIVES, a Real Estate Research Firm, completed a national study of the top reasons that people choose their new home. Walking and biking paths are viewed as extremely important to 74% of buyers nationally. The Crosland Land Company, Charlotte, NC, surveyed 800 new and older Charlotte area homebuyers in 1993 and found that walking/biking paths that meander was the second most important amenity to buyers across all price points and buyer types. Additionally, greenways in Mecklenburg County can also save local tax dollars by utilizing strategies for managing community storm water and placing into productive use landscapes that would not normally be developed for community uses.

Figure 7: Greenways offer County residents close to home access to outdoor resources, promoting opportunities for health and fitness activities.



The 2015 Plan for Mecklenburg County states that Mecklenburg County has a strong record of economic vitality and new jobs. Greenways will enhance the quality of life in Mecklenburg County and ensure long term economic viability. Tourism is currently ranked as the number one economic force in the world. In several states, regional areas, and localities throughout the nation, greenways have been specifically created to capture the tourism potential of a regional landscape or cultural destination. The State of Missouri, for example, spent \$6 million to create the 200-mile KATY Trail, which, in its first full year of operation, generated travel and tourism expenditures of more than \$6 million. Orange County, Florida spent \$2 million to create the 16-mile West Orange Greenway and expects to realize a complete return on its investment in the first year of operation through the economic revitalization of the small towns that lie along the trail's route.

APPENDIX H: BENEFITS OF GREENWAYS

Mecklenburg County Greenway Master Plan

Health and Recreation Benefits

Greenways encourage more people to walk or bike to nearby destinations. Studies have shown that as little as 30 minutes a day of moderate-intensity exercise (such as bicycling, walking, or in-line skating) can significantly improve a person's mental and physical health and prevent certain diseases. Providing opportunities for participation in these outdoor activities close to where people live and work is an important component of promoting healthy lifestyles for Mecklenburg County residents.

In 1987, the President's Commission on Americans Outdoors released a report that profiled the modern pursuit of leisure and defined the current quality of life for many Americans. Limited access to outdoor resources was cited as a growing problem throughout the nation. The Commission recommended that a national system of greenways would provide all Americans with access to linear open space resources.

The proposed greenway system for Mecklenburg County can be developed to complement the community's existing parks and open space system. Trail systems will be developed not only for alternative transportation, but also to serve as primary recreation and fitness resources.

Cultural Benefits

Greenways can enhance local culture and protect many of the historic resources in Mecklenburg County. Successful greenway projects across the United States have served as new "main streets" where neighbors meet, children play, and community groups gather to celebrate. For cities and towns large and small, greenways have become a cultural asset and focal point for community activities. Some communities sponsor "greenway days" to celebrate the outdoors and local traditions. Various walking and running events are also held on greenways to support charity or to extend traditional sporting events. Many civic groups adopt segments of greenways for clean-up, litter removal and environmental awareness programs. Some greenways, like San Antonio's Riverwalk, are the focal point not only for community activities but also for economic development.

The richness and diversity of Mecklenburg County's historic resources are represented by numerous National Register of Historic Places and locally significant sites and historic districts. The interpretation of historic and archeological sites along greenways can serve to increase the awareness and appreciation of Mecklenburg County's rich history. Greenways can also be a vehicle to provide controlled public access to important cultural sites in a manner that promotes preservation and enhances interpretive opportunities.

Figure 8: Greenways promote social interaction and have become America's new "Main Street."



Little Sugar Creek Greenway, Freedom Park

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Mecklenburg County Greenway Master Plan

Little Sugar Creek



Figure 9: Greenways have been shown to be one of the safest landscapes in America. They are places where children can play safely in an outdoor setting that encourages interaction.

Safety Benefits

Many Americans are concerned with crime. Some of the most successful deterrents to criminal activity have involved increased neighborhood awareness by citizens and participation in community watch programs. Greenways have proven to be an effective tool to encourage local residents to participate in neighborhood watch programs. Some greenways have even been developed as part of efforts to deter criminal activity in a neighborhood.

As a recreation resource, alternative transportation corridor, or area where fitness activities can take place, most greenways provide a much safer and more user-friendly resource than other linear corridors, such as local roads. Greenways typically attract local residents who use the facility frequently and create

an environment that is virtually self-policing. Crime statistics and reports from law enforcement officials have shown that parks and greenways are typically land uses with the lowest incident of reported criminal activity. According to national crime statistics, on average, a person is more likely to be raped, robbed or assaulted on a street, in a parking lot, or inside their home than in a park (Statistical Abstract of the United States 1988-1992). Additionally, out of 372 trails included in a recent study by the Rails-to-Trails Conservancy, only 3 percent of the trails reported experiencing any type of major crime (in 1995 and 1996).

Figure 10: The natural beauty of greenways makes them one of the most valuable assets of a community.



Little Sugar Creek

A December 1997 Crime Risk study was completed by a UNC-Charlotte graduate student, Shane Nixon, that researched crime risks along the Mallard Creek Greenway and adjacent properties. Using information supplied by the district police department, the study showed that Mallard Creek Greenway and adjacent properties had a total of eight crimes in three years. When compared on a square mile basis per year, the Mallard Creek Greenway and adjacent properties had a crime rate of 13.0 offenses per square mile whereas the local police district area had approximately 24.7 offenses per square mile. Compared to

Mecklenburg County, which had a crime rate of 95.7 offenses per square mile, the Mallard Creek Greenway and adjacent properties have a very low crime rate. This study concluded that people that lived along the greenway were at less risk for crime.

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Greenways also improve the safety of their users by providing off-road facilities for bicyclists and pedestrians that are much safer than the roadways. Nationally, over 5,000 pedestrians are killed every year on streets. Sixteen percent of those fatalities are children. **A 1998 study by the Surface Transportation Policy Project identified Charlotte, NC as the 10th most dangerous place in America for pedestrians. Recently, a South Mecklenburg High School cross country runner was hit and killed by an automobile while training and a jogger was critically injured in Dilworth by a hit and run driver. These tragic events can be avoided in the future by supporting greenway development to provide connections between existing greenways and schools, parks, businesses, and neighborhoods.**