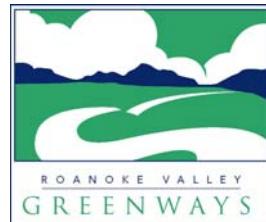


2007

Update
to the
Roanoke Valley
Conceptual Greenway Plan



2007
UPDATE
TO THE
ROANOKE VALLEY
CONCEPTUAL GREENWAY PLAN



Produced by
Roanoke Valley Greenway Commission
and
Roanoke Valley- Alleghany Regional Commission

In cooperation with
City of Roanoke, City of Salem, Roanoke County,
and the Town of Vinton

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EXECUTIVE SUMMARY

In 2005 the Roanoke Valley Greenway Commission and Roanoke Valley-Alleghany Regional Commission, in partnership with the City of Roanoke, Roanoke County, the City of Salem, and the Town of Vinton, decided to update the 1995 *Conceptual Greenway Plan, Roanoke Valley, Virginia*. They obtained a grant from the Virginia Department of Transportation to help fund the project, set up a Steering Committee with representatives from the four localities, and in 2006 began the process of updating the plan.

The update had two components:

- An update to the routes included in the 1995 Plan and prioritization of those routes. The Steering Committee directed this effort and the results are included in this document, *2007 Update to the Roanoke Valley Conceptual Greenway Plan*.
- An organizational assessment of the roles and responsibilities of the various partners. This was completed by a consultant, LandDesign, Inc., and is encapsulated in a separate volume for internal use.

This document has several parts:

- A summary of the **progress** on greenways since 1995,
- Discussion of the **issues** raised by the public and others during the update process,
- **Prioritization** of the greenway routes and information on each, and
- Implementation **strategies**.

Based on the public input and update process, the focus for the next five years will be to finish the Roanoke River Greenway. Secondary priorities will be those north-south routes that are already underway and will provide connections from Roanoke River Greenway to other public lands. The goal is to finish these in five to ten years. Other routes are listed but will be pursued only as opportunity arises.

Implementation of this plan will require continued cooperation among the many partners and will offer opportunity for all of the community to be involved. The vision of finishing the Roanoke River Greenway has been a resounding theme echoed from the citizens and corporations of the valley. The dream is laid out herein and challenges all the partners to focus efforts, not on planning, but on implementation.

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1.0 INTRODUCTION

1.1 Impetus for Updating the Plan

The 1995 *Conceptual Greenway Plan, Roanoke Valley, Virginia* (1995 Plan) was developed and adopted by the City of Roanoke, Roanoke County, City of Salem, and Town of Vinton. That plan launched development of a regional greenway network and establishment of the Roanoke Valley Greenway Commission (Greenway Commission).

In 2005 the Greenway Commission decided it was time to update the 1995 Plan and sought assistance from the Roanoke Valley-Alleghany Regional Commission (Regional Commission) to do so. There were numerous reasons to update the document, but the driving force was a desire to look at how the process of getting greenways built might be improved. The Greenway Commission and Regional Commission decided that the update should include two components:

- 1) an update and prioritization of routes included in the 1995 Plan, and
- 2) an organizational assessment examining roles and responsibilities of various partners.

A Steering Committee of local staff and partners was formed to address the first task, to update and prioritize the routes. This document, the 2007 Update to the Roanoke Valley Conceptual Greenway Plan (the Update), is the result of the Steering Committee's work. It describes the accomplishments since 1995, the process of developing the update, public input and issues, routes, and recommendations for implementation.

A consultant, LandDesign, Inc., was hired to address the second task of assessing the organization and recommending improvements to the way in which the Greenway Commission operated and the partners interacted. That assessment was considered in development of the Update and in the implementation strategies presented in Section 6.

greenway (*grēn'-wā*) *n.* 1. A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route. 2. Any natural or landscaped course for pedestrian or bicycle passage. 3. An open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas. 4. Locally, certain strip or linear parks designated as a parkway or greenbelt. [American neologism: green + way; origin obscure.]

Greenways for America
Charles E. Little

1.2 Terminology: What is a Greenway?

In his 1990 book *Greenways for America* Charles Little recounts the origins of the greenway idea and traces a century of development of the greenway movement. He recognizes that any group of greenway advocates will undoubtedly have multiple definitions of a greenway or even different words for the concepts. Common themes in the greenway movement are green

space, connections, conservation, non-motorized transportation, linear trails, ecology, and sustainable development.

While the terminology of this movement varies from one state or country to another, the Roanoke Valley's development of the 1995 Plan included a strong focus on the "trail" within the greenway corridor. Since development of the 1995 Plan, the Regional Commission and four local governments have each developed other plans, many of which incorporate the ideas of open space, green space, blueways, and green infrastructure. Many of these recent plans recognize the importance of green space for environmental protection, wildlife habitat, and stormwater management. Each locality has refined its preferences and the degree to which its greenways focus on pedestrian/bicycle facilities and green infrastructure elements.

The Greenway Commission encourages and supports each locality's efforts to develop greenways, trails, and green infrastructure. Because citizens typically equate greenways with trails, the focus in this regional Update to the 1995 Plan is on those corridors that will include a public trail. Thus, the definition that is used encompasses the transportation, recreation, and green infrastructure elements and mirrors the terminology of citizens:

Greenways are linear parks, corridors of natural or open space:

- *following land or water features such as streams, rivers, canals, utility corridors, ridgelines, or rail lines and*
- *managed for conservation, recreation, and/or alternative transportation and*
- *including trails for pedestrians, bicyclists, and other trail users.*



1.3 Benefits of Greenways

The benefits of greenways are well documented in a variety of publications on greenways and trails listed in the Bibliography (Appendix A) and in the 1995 Plan. The 1995 Plan included objectives and strategies for meeting goals associated with these benefits, and the progress on those is included in Section 2.4.7 of this Update. The benefits of greenways include:

Transportation	Greenway trails provide corridors for moving from one location to another without an automobile.
Economic Opportunities	Greenways strengthen the local economy by increasing property values, enticing businesses concerned with quality of life for employees, stimulating community revitalization, and creating jobs related to recreation and tourism.

Health and Recreation	Greenways provide free facilities for exercising, and most of the valley's greenway trails are handi capped accessible. Obesity is one of the biggest health issues in the region. Greenways encourage "active living by design" which can help improve citizens' health, as well as providing a location close to home to enjoy the outdoors. Good health among citizens translates into an economic benefit for businesses.
Cultural and Educational Amenities	Greenways provide a facility for events, such as walks and parades, and an avenue for groups to join forces for service projects. Many Roanoke Valley greenways follow historic corridors and provide an opportunity for protecting and interpreting historic resources. While several of the existing greenways connect to area schools, there is significant opportunity to increase environmental education along greenways.
Preservation of Natural Resources	Greenways are linear parks, designed to provide and connect the green infrastructure of the valley. Greenways preserve existing natural resources and enhance the environment through expansion of tree canopy, protection of riparian buffers that reduce stormwater runoff, and provision of continuous habitat for plants, birds, and animals.



The Potential of Greenways



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2

2.0 STATUS OF THE ROANOKE VALLEY GREENWAY PROGRAM

2.1 Establishment of the Greenway Program

The Roanoke Valley greenway program arose as a citizen initiative to improve quality of life in the region. In 1993 members of Valley Beautiful Foundation heard about the need to replace the sewer interceptor lines along the Roanoke River and suggested that a greenway be built at the same time. They organized local informational and motivational meetings featuring speakers with greenway experience in other cities. At their urging, the local governing bodies for the City of Roanoke, Roanoke County, City of Salem and Town of Vinton appointed members to an Open Space/Greenways Steering Committee in 1994. This committee worked under the sponsorship of the Fifth Planning District Commission (now the Regional Commission) to visit greenway programs in other communities and persuaded the local governments to fund development of a greenway plan. Greenways, Inc. was hired to assist with public input meetings and development of the *Conceptual Greenway Plan, Roanoke Valley, Virginia*, which was completed in December 1995.

After the 1995 Plan was written, the committee began exploring ways to begin implementation. In 1996 the four local governments provided funds for a full time staff position devoted to greenways. Liz Belcher started work as the Greenway Coordinator in the office of the Regional Commission in August of that year.

The committee then began planning to establish a structure for implementing the 1995 Plan. The consensus was that the greenway organization should not be autonomous, as with an authority, but rather a regional partnership among the local governments and citizens. In 1997 the four local governments agreed to form a commission to direct the greenway program, established pursuant to Section 15.1-21 of the Code of Virginia. On Earth Day in April 1997 greenway supporters celebrated with a walk up Mill Mountain and the signing of an *Intergovernmental Agreement Establishing the Roanoke Valley Greenway Commission* (Appendix B.) Prior to its dissolution when the Greenway Commission was established, the committee also helped volunteers organize a non-profit, Pathfinders for Greenways.



David Bowers, Liz Belcher, Bob Johnson, Spike Harrison, Jim Trout, Sonny Tarpley, Lucy Ellett, and Buford Barton celebrate the signing of the Intergovernmental Agreement on April 19, 1997.

2.2 Greenway Partners

2.2.1 Local Governments

The greenway program has been implemented as a regional partnership. The four local governments of the City of Roanoke, Roanoke County, City of Salem and Town of Vinton established the Roanoke Valley Greenway Commission. In spring of 1997 each of the four

localities adopted the 1995 Plan as a component of its comprehensive/community plan, with Roanoke County and the City of Roanoke also adopting additional policies. The four jurisdictions help fund the office of Greenway Coordinator on a per capita basis, match capital grants within their respective jurisdictions, oversee planning and construction projects, and provide extensive staff time and in-kind services for greenway construction and management. The greenways are owned and operated by the localities, and the respective parks and recreation departments have responsibility for management and maintenance.

2.2.2 Roanoke Valley Greenway Commission

As mentioned in Section 2.1, the Greenway Commission was formed by an Intergovernmental Agreement among the four local governments (Appendix B). It is comprised of three members appointed by each of these governments, one member appointed by the Roanoke Valley Area Metropolitan Planning Organization (MPO), and non-voting ex-officio members representing the planning and parks departments, Western Virginia Land Trust, Pathfinders for Greenways, and other interested organizations.

The purpose of the Greenway Commission is to "promote and facilitate coordinated direction and guidance in the planning, development, and maintenance of a system of greenways throughout the Roanoke Valley." In accordance with the Intergovernmental Agreement, the Greenway Commission's responsibilities are to encourage incorporation of greenways into each jurisdiction's planning efforts, explore greenway opportunities, make recommendations on legislation, investigate funding and grants, recommend standards, pursue partnerships, and coordinate the efforts of the federal, state, and local governments involved.

When the Intergovernmental Agreement was adopted, the greenway movement in the valley was a new frontier. Over time each locality has developed internal processes and staff expertise to deal with many greenway issues, and thus over time the Greenway Commission's role has evolved. That role varies by jurisdiction, depending on the locality's needs and staffing. The Greenway Commission strives to be responsive in complementing the localities' programs and in finding resources to help meet localities' needs.

2.2.3 Pathfinders for Greenways

The Greenway Commission is assisted by a volunteer, nonprofit group formed in March 1997. Pathfinders for Greenways is a 501(c)(3) grass-roots citizen organization with volunteer members united by the vision of establishing a first-class regional greenway system within the Roanoke Valley. The Pathfinders' purposes are to promote and encourage development of a greenway network, educate citizens and officials on greenway benefits and value, raise and receive gifts, donations and grants, organize volunteers to assist with greenway development and maintenance, and sponsor greenway promotional efforts. The Pathfinders have been particularly effective in building and maintaining natural surface trails. They donate 3-5,000 hours of volunteer service each year and have purchased over \$40,000 worth of trail building equipment.

2.2.4 Roanoke Valley-Alleghany Regional Commission

The Regional Commission is a state-established regional planning organization. It provides assistance to local governments for land use planning, transportation planning, mapping,

project management services, and grant applications. The Regional Commission sponsored and facilitated development of the 1995 Plan and has developed the regional bicycle plans. It has continued to provide greenway services, particularly GPS data and GIS mapping, web assistance, bicycle route assessment and planning, and open space planning. The Greenway Coordinator serves on the Transportation Technical Committee of the Metropolitan Planning Organization of the Regional Commission. The Regional Commission obtained the grant for the update to the greenway plan and has provided significant staff time and support to the Greenway Commission.

2.2.5 Other Partners

The Intergovernmental Agreement included an ex-officio position on the Greenway Commission for the Western Virginia Land Trust. The Land Trust was established in the fall of 1996 and is the partner which can assist with acquisition of rights-of-way and transfer of property.

Ex-officio members have been added to the Greenway Commission over the years to represent diverse groups interested in greenways such as running and bicycle clubs, equine enthusiasts, the Roanoke Appalachian Trail Club, Western Virginia Water Authority, and other interested groups.

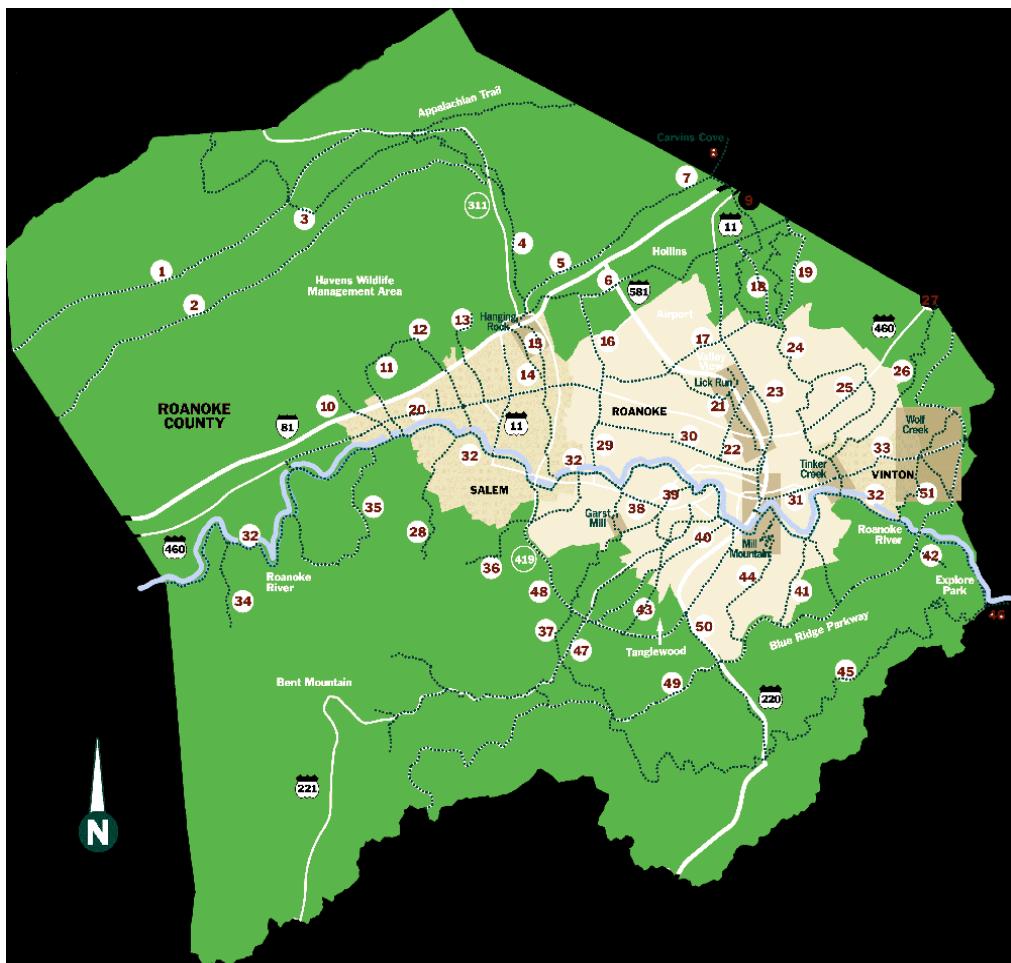
Other groups which have been very involved in the program include Valley Beautiful Foundation, Roanoke Valley Urban Forestry Council, and Greater Raleigh Court Civic League. Other neighborhood groups have been involved with specific projects, and citizens, corporations, and civic organizations are encouraged to be actively involved in greenway planning and construction. The Greenway program has received valuable assistance from Virginia Road and Transportation Builders Association, Boy Scouts, Girl Scouts, corporations, and volunteers from Rotary, Kiwanis, Valley Area Shared Trails, Roanoke College, Virginia Tech, North Cross School, the Governor's School for Science and Technology, and Faith Christian School.

The Greenway Commission has established important formal and informal connections to state and federal agencies. In 2002 the Blue Ridge Parkway approved a General Agreement with the Greenway Commission that allows working cooperatively to develop and maintain trails on and connecting to Parkway facilities. Greenway Commission members and staff have been very active with state agencies such as the Department of Conservation and Recreation, Department of Forestry, Department of Transportation, and Department of Game and Inland Fisheries. In 1999 the first statewide greenway and trail conference was held in Roanoke. The Greenway Commission and staff have assisted with all subsequent statewide greenway conferences and workshops and have provided advice to a number of nearby jurisdictions interested in planning and constructing greenway systems.



2.3 Summary of 1995 Conceptual Greenway Plan

The 1995 Plan was developed as a regional project by the four local governments, Regional Commission, and citizens, with guidance from a nationally renowned consultant, Greenways, Inc. Development of the plan included speaker s, meetings with elected officials and community leaders, and three public input workshops. The 1995 Plan included 51 conceptual greenway routes. It described the benefits of greenways, design criteria, funding strategies, potential corridors, design guidelines, and management and maintenance issues. It is available on-line at <http://www.rvarc.org>.



The 1995 Conceptual Greenway Plan, Roanoke Valley, Virginia included 51 potential corridors.

2.4 Progress on the 1995 Plan

2.4.1 Implementation Schedule

The 1995 Plan began the process of establishing a structure for developing a greenway network. It recommended an implementation schedule wherein the first task was formation of an intergovernmental organization and a citizens' advocacy group. This was completed when the Greenway Commission and Pathfinders for Greenways were established in 1997. Secondly, the 1995 Plan recommended a pilot project; Mill Mountain Greenway was selected and has since been completed. It recommended master plans for phase I and then phase II projects; several of these have been completed. It recommended marketing literature and maps, which have been developed. The 1995 Plan recommended an evaluation after ten years, which is the process documented in this Update. More detail on completion of the 1995 strategies is included in Section 2.4.7.

2.4.2 Design Guidelines

The Intergovernmental Agreement charged the Greenway Commission with recommending standards for the design and construction of greenways. Standards for on-road facilities are mandated by the Virginia Department of Transportation and by the American Association of State Highway and Transportation Officials (AASHTO). In 1997 the Greenway Commission drafted guidelines for development of the off-road greenway routes with trails, based on federal, state, and other published guidelines. These guidelines recognized that different users require different surfaces and that different environments call for different levels of development. While each locality is responsible for its respective greenway and trail facilities, the Greenway Commission's goal was to encourage uniformity in design of regional greenways, suggest best practices for consideration by each locality, and provide guidance for distinctions in levels of development.

Class A

The most developed greenways include a hard surfaced trail to accommodate a range of activities and high levels of use. These greenways are highly suitable for urban environments where wheeled modes of travel such as strollers, wheelchairs, skateboards, and roller blades are common. High use and urban sights and amenities are expected, but users also are able to enjoy a park-like environment or natural area. Trails are paved with either asphalt or concrete. Traffic control devices such as lane markings and bicycle speed limits are acceptable. Facilities are handicapped-accessible. The Roanoke River Greenway, Lick Run Greenway, and Garst Mill Park Greenway are examples of this Class A environment.

Class B

These greenways are built in areas where moderate use is expected and a more natural environment is available. Trails could be hard surfaced, but often the surface is "cinders" similar to a rail-trail, with compacted aggregate stone or wood chips. Narrower trail widths are acceptable in some cases, and users are expected to use courtesy when passing others. These surfaces do not accommodate as many wheeled uses but offer a softer surface for

walking and running and a more relaxed environment. Hanging Rock Battlefield Trail and Wolf Creek Greenway are representative of Class B greenways.

Class C

The third category for Roanoke Valley greenways has natural surfaced trails. These offer a rural or wooded environment and opportunities for long distance walking, hiking, mountain biking, and possibly horseback riding where approved. Trail widths are narrower, and trails may have steeper grades and more challenging terrain. Murray Run Greenway and the trails on Mill Mountain, the Blue Ridge Parkway, and Cavers Cove are Class C facilities. These trails can be built and maintained by volunteers.

Setting and Use Table			
Design Factor	Class		
	A	B	C
User			
Joggers	Walkers Bicyclists Skateboarders Wheelchair users Roller bladers Stroller pushers	Joggers Walkers Bicyclists Mountain bikers Horseback riders (where approved)	Walkers Hikers Mountain bikers Horseback riders (where approved) Distance runners
Use Level	High	Moderate	Moderate to Low
Setting	Urban, suburban. Universally accessible.	City sights less obvious. Park-like.	Natural or rural environment, removed from city sights.
Surface	Asphalt or concrete	Crushed aggregate stone, wood chips, or hard surface	Natural surface, wood chips, or crushed stone

2.4.3 Priorities in 1995 Plan

The 1995 Plan listed several priority projects. It confirmed that valley residents felt the top priority should be a greenway paralleling the Roanoke River. Other routes for which there was public support were also listed, but there was no analysis of the feasibility of any routes. The priority projects listed in the 1995 Plan and the progress on them is shown in the table below. Further information on each is available in Sections 2.4.4, 2.4.5, and 5.



Priority from 1995 Plan	Summary of Status and Obstacles
Roanoke River	<p><i>Status:</i> The Roanoke River Greenway has remained the priority project. Three miles have been built. Master plans have been completed.</p> <p><i>Obstacles:</i> Coordination with sewer and flood projects, right-of-way acquisition, proximity of railroad, proximity of businesses, terrain, flooding.</p>
Mudlick Creek/Garst Mill	<p><i>Status:</i> The section in Garst Mill Park has been completed. Two other rights-of-way have been donated.</p> <p><i>Obstacles:</i> Most of the creek is in residential backyards, making right-of-way difficult; flooding.</p>
Blue Ridge Parkway (on and off road)	<p><i>Status:</i> A General Agreement with the Parkway has been completed. Six miles of off-road trail have been refurbished. The Parkway has completed feasibility study of an off-road multi-use path. Draft trail plan has been developed.</p> <p><i>Obstacles:</i> Parkway is managed by National Park Service; Parkway has been involved in development of its own General Management Plan; Parkway focus is on motor road, not trails.</p>
Salem Rail Trail (Hanging Rock)	<p><i>Status:</i> Opened in 1999, 1.7 miles. Still needs bridge across creek.</p> <p><i>Obstacles:</i> Flooding, restricted right-of-way, agreements with VDOT about Enhancement funding.</p>
Tinker Creek	<p><i>Status:</i> First mile opened in 2002. Conceptual plan completed in 2000.</p> <p><i>Obstacles:</i> Right-of-way acquisition, narrow corridor next to roads, flooding, private residences.</p>
Downtown Roanoke to Explore Park via Mill Mtn.	<p><i>Status:</i> Mill Mountain Greenway opened in 2003. Connections via trails on Mill Mountain and the Parkway are open to Pitzer Road. Trails at Explore have been built.</p> <p><i>Obstacles:</i> Explore Park is now under option to private developer; trail completion is dependent on Parkway schedule in completing trail plan; connections still needed through market area.</p>
Connection to Appal. Trail via Carvins Cove	<p><i>Status:</i> This is an existing trail. No new connection has been identified or authorized. The City has provided a permanent easement for the AT.</p>
Electric Rd/ Rt. 419	<p><i>Status:</i> Minimal progress. VDOT has paved shoulders when resurfacing.</p> <p><i>Obstacles:</i> No off road corridor has been explored.</p>
Wolf Creek	<p><i>Status:</i> Over two miles have been built from Hardy Rd to Blue Ridge Pkwy.</p> <p><i>Obstacles:</i> Connection to Roanoke River would require right-of-way through very steep terrain.</p>
Stewartsville Road/ Rt. 24	<p><i>Status:</i> No progress. This was reviewed during bikeway planning and was not considered a popular route. Bicyclists prefer Mountain View Road which is being rebuilt with bike lanes.</p>
Connection to existing horse trails	<p><i>Status:</i> Minimal progress. Location options have been explored. Connections have been suggested to Blue Ridge Pkwy as part of its trail plan. Input has been provided to the Jefferson National Forest. Horse parking is now available at Carvins Cove. Perimeter Trail included in this Update.</p>

2.4.4 Construction of Greenways

Since the Roanoke Valley Greenway program began, over nineteen miles of trail have been built on nine greenways. Each of the routes has gone through the stages of planning, engineering, right-of-way acquisition, funding, and construction. The chart below shows the greenways completed to date. These are shown on the map at the back of this Update in purple.

Roanoke Valley Greenways Built 1995-2006

Greenway	Locality	Class	Year Opened	Mileage
Garst Mill Park Greenway on Mudlick Creek	Roanoke County	A (Paved)	1997 0.5	
Hanging Rock Battlefield Trail	Roanoke County, City of Salem	B (Cinder)	1999 1.7	
Lick Run Greenway	City of Roanoke	A (Paved)	1999, 2002, 2006	3.0
Mill Mountain Greenway	City of Roanoke	A (Paved)	2003 3.5	
Mill Mountain Star Trail*	City of Roanoke	C (Natural)	1999 1.7	
Murray Run Greenway	City of Roanoke	B-C (Cinder, natural)	2001-2005 2.8	
Roanoke River Greenway	City of Roanoke	A (Paved)	1999-2006 2.5	
Roanoke River Greenway – David Smith Trail	City of Salem	A (Paved)	2002 0.5	
Tinker Creek Greenway	City of Roanoke	A (Paved)	2002 1.25	
Wolf Creek Greenway	Vinton, Roanoke County	B (Cinder)	1999, 2001, 2005, 2006	2.5
			Total	19.95

* Built with assistance from Pathfinders for Greenways



In addition, Pathfinders for Greenways, working with the Greenway Commission and localities, has completed the following natural surface trails, structures, and features which provide important connections and amenities for the greenway network.

Additional Greenway and Trail Projects with Pathfinders for Greenways

Trail	Location	Task	Year	Mileage
Bennett Springs Bridge	Carvins Cove	Construction	2004	1 structure
Chestnut Ridge Loop Trail	Blue Ridge Parkway	Reconstruction	2004	6 miles
Fern Park Trail	City of Roanoke	Construction	2006	1 mile
Fishburn Park Rain Garden	City of Roanoke	Construction	2005	1 garden
Four Gorges Trail	Carvins Cove	Construction	2005-06	3 miles
Horse Trail from Stewarts Knob to Rt. 24	Blue Ridge Parkway	Reconstruction	2003	2 miles
Kiosks	Blue Ridge Parkway, Murray Run, Wolf Creek	Construction of 4 kiosks	2002-03	4 structures
Monument Trail	Mill Mountain Park	Reconstruction	2002	1.5 miles
Murray Run Greenway bridges	City of Roanoke	Construction of 2 bridges	2001-2006	2 structures
Ridgeline Trail	Mill Mountain Park	Construction	2005	1 mile
Roanoke River Trail	Blue Ridge Parkway	Repairs	2005	0.5 mile
Trough Trail	Carvins Cove	Relocation	2005	1 mile
Wolf Creek Bridges	Vinton, Roanoke County	Construction	1999,2001	3 structures
			Total	16 miles 11 structures

2.4.5 Greenway Planning

In addition to construction, the Greenway Commission, localities, and Pathfinders have worked on planning and design for other routes listed in the 1995 Plan. Each of the localities has updated its Comprehensive Plan since 1995 and each has prioritized its greenway routes. The matrices on the following pages show the status of On-road and Off-road routes in the 1995 Plan.

Status of Off-Road Routes Included in the 1995 *Conceptual Greenway Plan*

PROJECT NAME	Plan #	On/Off Rd.	Inactive	Exploration	Planning	Engineering	Funding	Right of way	Construction	Complete	COMMENTS
Appalachian Trail	3	Off		✓	✓	✓	✓	✓	✓	1985	Easement 1998
Back Creek	45	Off		✓							
Barnhardt Creek	36	Off		✓							
Carvin Creek	9	Off		✓	✓						
Dry Hollow	34	Off		✓							
Garnand Branch	41	Off		✓	✓						
Gish Branch	14	Off	x								
Glade Creek	26	Off		✓	✓						
Glenwood Horse Trail Link	27	Off		✓	✓						
Hanging Rock Battlefield Trail	15	Off		✓	✓	✓	✓	✓	✓	1999	
Hanging Rock Bridge	15	Off		✓	✓	✓	✓	✓	✓	2007-08	
Horners Branch	11	Off	x								
Horse Pen Branch	7	Off		✓							
Lick Run	21	Off									
Section 4	21	Off		✓	✓	✓	✓	✓	✓	1999	
Section 3	21	Off		✓	✓	✓	✓	✓	✓	2002	
Section 1&2	21	Off		✓	✓	✓	✓	✓	✓	2006	
Mason Creek	4	Off		✓			Partial				
Mill Mountain	44	Off/On									
Downtown-Piedmont Pk	44	Off/On		✓	✓	✓	✓	✓	✓	2003	
Piedmont-up Prospect	44	Off/On		✓	✓	✓	✓	✓	✓	2003	
Mill Mtn Pk Spur Rd	44	On		✓							Add to Bike Plan
Mill Mtn Star Trail	44	Off		✓	✓	✓	✓	✓	✓	1999	
Mudlick Creek	37	Off									
High School	37	Off		✓	✓						
HS-Garst Mill Park	37	Off/On		✓	✓				One tract		
Garst Mill Park	37	Off		✓	✓	✓	✓	✓	✓	1997	
GMP-Roanoke River	37	Off/On		✓					One tract		
Murray Run	43	Off									
Grandin-track	43, p. 41	Off		✓	✓	✓	✓	✓	Partial	2003	
Track-Brambleton	43, p. 41	Off		✓	✓	✓	✓	✓	✓	2001	
Fishburn Park	43, p. 41	Off		✓	✓	✓	✓	✓	✓	2004	
Fishburn-Colonial	43, p. 41	Off		✓	✓	✓	✓	✓	✓	2004	
Colonial-Ogden	43, p. 41	Off		✓							
Paint Bank Branch	10	Off	x								
Roanoke River Tributary	12	Off		✓							Dry Branch, golf course
Roanoke River Tributary	28	Off	x								Up Twelve O'clock Knob
Route to Appalachian Trail	8	Off		✓							
Route to Smith Mountain Lake	46	Off		By others							In Franklin Co. Plan
Tinker Creek	24	Off									
Kenwood-Wise Ave.	24	Off		✓	✓	✓	✓	✓	✓	2003	
Wise Ave.-County line	24	Off		✓	✓						Conceptual plan in 2000
Co line-Carvins Cove	24	Off		✓	✓						in cooperation w/
RCIT Connection	24, p. 41	Off		✓							Virginia Tech
Wolf Creek	51	Off									
Roanoke R-Hardy Rd	51	Off		✓							
Hardy-Stonebridge Pk	51	Off		✓	✓	✓	✓	✓		1999, 2001	
Stonebridge-BRP	51	Off		✓	✓	✓	✓	✓	✓	2005-2006	Will open 2007

Status of Off-Road Routes Included in the 1995 *Conceptual Greenway Plan*

PROJECT NAME	Plan #	On/Off Rd	Inactive	Exploration	Planning	Engineering	Funding	Right of way	Construction	Complete	Comments
Roanoke River											
Dixie Caverns-Green Hill	32	Off		✓							
Green Hill Park-Diuguids Lane	32	Off		✓	✓	✓	✓	✓	2007		
Diuguids Lane-Mill Lane	32	Off		✓	✓						
Mill Lane-Eddy Street	32	Off		✓	✓	✓	Partial				
Eddy Street-Colorado Street	32	Off		✓	✓	✓	✓	✓	✓	Partial	2002 opened to Williams Br.
Colorado Street-Apperson Drive	32	Off		✓	✓	✓	✓				
Apperson Drive-Apperson Drive	32	Off		✓	✓	✓	✓				
Apperson Drive-Roanoke City Line	32	Off		✓	✓	✓	✓				
Roanoke City Line-Mudlick	32	Off		✓	✓	Partial	Partial				Phase II of Flood Proj.
Mudlick-Bridge Street	32	Off		✓	✓	Partial	Partial				Phase II of Flood Proj.
Bridge Street-Memorial Avenue	32	Off		✓	✓	Partial	Partial				Phase II of Flood Proj.
Memorial Avenue-Wasena Park	32	Off		✓	✓		✓				Phase II of Flood Proj.
Wasena Park-Piedmont Park	32	Off		✓	✓	✓	✓	✓	✓	Partial	Phase I of Flood Proj.
Piedmont Park-9th Street	32	Off		✓	✓	✓	✓	✓	2007		Phase I of Flood Proj.
9th Street-Brownlee	32	Off		✓	✓	✓	✓	✓	✓	2007	Will open in 2007
Brownlee-Golden Park-City line	32	Off		✓	✓						
Bridge to Tinker Creek	32	Off		✓	✓		Partial				
Roanoke City line-Blue Ridge Parkway	32	Off		✓	✓						
Blue Ridge Parkway to Back Creek	32	Off		✓	✓						

2.0 Status of the Roanoke Valley Greenway Program

Status of On-Road Routes Included in the 1995 *Conceptual Greenway Plan*

PROJECT NAME	Plan #	On/Off Rd.	Inactive	Exploration	Six-Yr Plan	Planning	Engineering	Funding	Construction	Complete	COMMENTS
10th Street	22	On		✓	✓	✓	✓				Sidewalks and bike lanes included in plans
Blue Ridge Parkway	49	On		✓		✓					Gen. Agreement to work on trails; Draft Trail Plan 04; BRP bike study in 05; Final Trail Plan FY08
Brandon Road	38	On									
Salem line-Mudlick	38	On		✓	✓	✓	✓	✓	✓	✓	Widened outside lane, sidewalks
Mudlick-Franklin	38	On		✓							
Colonial Avenue	40	On									
City	40	On		✓					✓	Partial	Bike lanes near VWCC
County	40	On			✓	✓	✓				Plans show paved shoulder; neighborhood requesting sidewalks, bike lanes
Cotton Hill Road	No #	On		✓	✓						
Dale Avenue/Bullitt	31	On		✓		✓	✓	✓	✓	2004	Traffic calming installed
Grandin Road	39	On		✓							Partial
Hardy Road	No #	On									
Vinton	No #	On		✓	✓	✓	✓	✓	✓	2003	Includes bike lanes and sidewalks
County	No #	On			✓						Sidewalk included on Wolf Creek bridge
Hershberger Road	17	On		✓							
Hollins Road	19	On		✓	✓	✓	✓	✓			Bike lanes denied; paved shoulder included
Jae Valley Road	No #	On		✓							
Lynchburg/Salem Turnpike	30	On		✓							
Main Street in Salem	20	On									
East -Salem	20	On		✓	✓	✓	✓				
West -County	20	On		✓	✓	✓	✓	✓			Plans include 12' paved shoulder
Peters Creek Road Extension	29	On		✓	✓	✓	✓	✓	✓	✓	Widened outside lane, sidewalks
Peters Creek/Green Ridge Road	16	On		✓							
Plantation Road	18	On		✓							
Red Lane	13	On	x								
Route 622/Bradshaw Road	2	On	x								
Route 639/Harbourwood Road	35	On	x								
Route 785/Blacksburg Road	1	On	x								76 Bike Route
Route 419/Electric Road	48	On		✓							Paved shoulder included in last resurfacing
Rutrough Road	42	On	x								
Salem High School Connection	No #	On	x								
Stewartsville Road	33	On	x								Reviewed in Bike Plan
Thompson Memorial	No #	On	x								
Timberview Road	5	On		✓							
US 220	50	On		✓							Paved shoulder requested
US 221/Brambleton Avenue	47	On		✓	✓	✓	✓				Plans include paved shoulder
US 460/Challenger Avenue	25	On		✓							
Williamson Road	23	On		✓							Traffic calming in some parts
Wood Haven Road	6	On	x								

2.4.6 Greenway Funding

The greenway program has been funded through a variety of sources. Most of the federal and state monies are through grants. The local funds shown include operational funds to the Greenway Commission and capital allocations. The private funds are donations. Locality staff time is not included.

Grants and Allocations for Roanoke Valley Greenways						
Year Awarded	Federal	State	Local	Private	Total	
1995	\$ 549,300	\$ 4,000	\$ 30,000	\$ -	\$ 585,295	
1996	\$ 240,000	\$ 25,000	\$ 60,000	\$ 10,000	\$ 336,996	
1997	\$ 350,000	\$ 35,242	\$ 848,450	\$ 1,000	\$ 1,236,689	
1998	\$ 300,000	\$ 48,250	\$ 86,700	\$ 31,500	\$ 468,448	
1999	\$ 575,000	\$ 217,460	\$ 100,000	\$ 45,700	\$ 940,159	
2000	\$ 300,000	\$ 84,000	\$ 234,000	\$ 215,000	\$ 835,000	
2001	\$ 269,000	\$ 87,440	\$ 555,100	\$ 5,000	\$ 918,541	
2002	\$ 200,000	\$ 48,250	\$ 230,000	\$ 3,500	\$ 483,752	
2003	\$ 100,000	\$ 51,950	\$ 230,000	\$ 4,050	\$ 388,003	
2004	\$ 2,437,400	\$ 44,980	\$ 245,000	\$ 21,241	\$ 2,750,625	
2005	\$ 294,000	\$ 102,900	\$ 250,026	\$ 11,500	\$ 660,431	
2006	\$ 1,055,000	\$ -	\$ 1,080,000	\$ 88,000	\$ 2,225,006	
Total	\$ 6,669,700	\$ 749,472	\$ 3,949,276	\$ 436,491	\$ 11,804,939	

2.4.7 Review of 1995 Goals, Objectives and Strategies

The 1995 Plan presents a holistic vision for a valley-wide greenway system. That plan identifies many greenway corridors to establish an interconnected trail system. However, the greenway system is more than just an alternative transportation and recreation facility. The 1995 Plan addressed not just the physical infrastructure but the following as well:

- Recreation opportunities
- Wellness of the Valley's citizens (health and fitness needs/active lifestyle)
- Preservation/conservation of natural resources
- Educational opportunities
- Economic development potential

These ideas are represented as seven goals with 45 related objectives and strategies. The consultant, LandDesign, and Steering Committee for the Update reviewed these strategies and subjectively evaluated the success in achieving each. The table below lists the goals and objectives/strategies and ranks the degree of progress on each as: None, Low, Moderate, or High. These goals, objectives and strategies represent an ambitious concept that could create a model greenway system.

Progress on 1995 Goals and Objectives

Goals 1995 Plan	Objectives/Strategies Quoted from 1995 Plan	Progress
1. Transportation <i>Provide corridors that bicyclists, pedestrians, and others can use to get from one place to another as an alternative to motor vehicle use.</i>	<ul style="list-style-type: none"> Provide greenways that connect schools, libraries, shopping centers, work sites, parks and other places in the community. Provide connections between mass transit sites and make arrangements for safe storage of greenway system users' bicycles (or other belongings) while they are using the transit system. Identify and make plans for existing roads that should be widened or otherwise modified to accommodate bicycles and pedestrians. Initiate Valley-wide design and installation standards to incorporate bicycle and pedestrian facilities on new roads and road improvement plans. Initiate design standards that are sensitive to the disabled in order to ensure opportunities for a variety of users. 	<ul style="list-style-type: none"> Moderate Low Moderate Low High
2. Safety <i>Design a greenway system that maximizes safety of greenway system users and nearby property owners and neighborhoods.</i>	<ul style="list-style-type: none"> Establish integrated law enforcement and emergency response programs that service the needs of greenway system users and landowners. Incorporate into the greenway management system appropriate safety and security strategies. Design the greenway system to accommodate different activities (such as horseback riding and bicycling) with a minimum of user-conflict. Improve bicycle safety by implementing safety education programs in local schools and the community. 	<ul style="list-style-type: none"> Low Moderate Moderate None
3. Recreation/ Fitness/Health <i>Design the greenway system as both a recreational resource and as public access to other recreational resources, offering a full spectrum of recreation and exercise opportunities.</i>	<ul style="list-style-type: none"> Provide a greenway system that accommodates a variety of recreational activities. Encourage businesses to establish and integrate use of greenways into corporate health and wellness programs. Promote programs and facilities that provide opportunities for individual health related activities. Make each greenway a stand-alone destination (as well as a link to other resources) by providing amenities such as benches, picnic areas, and workout stations. 	<ul style="list-style-type: none"> High Low Moderate Moderate

Goals 1995 Plan	Objectives/Strategies Quoted from 1995 Plan	Progress
3. Recreation/ Fitness/Health (continued)	<ul style="list-style-type: none"> Provide access to the Valley's existing and proposed recreation areas, such as local parks, the Blue Ridge Parkway, and the Appalachian Trail. Inform the public on how using the greenways can help citizens increase personnel fitness and maintain healthy lifestyles. 	<ul style="list-style-type: none"> • Moderate • Moderate
4. Education <i>Educate the public about the need for and benefits of greenways, and educate the greenway system user about the area's natural and cultural history.</i>	<ul style="list-style-type: none"> Educate the community on the importance of environmental conservation and restoration ecology. Develop a program of continuing education for elected officials, agency staff, developers and engineers to define the latest technologies, design methodologies and land use practices for managing the environment. Increase public awareness of the importance of the Roanoke River and its watershed lands to the future of the Roanoke Valley Educate the public on the benefits and uses of greenways. Develop an out-reach education program to attract new users. Educate property owners of the economic advantages of having a greenway on or near their property. Educate greenway system users on proper greenway system etiquette that respects the rights of adjacent property owners and other greenway system users. Use the greenway system as an outdoor Environmental Learning Lab for school and community use. Provide historic information using trail markers along historically significant trail corridors. Provide maps and literature on trail length, difficulty, restrictions and amenities. 	<ul style="list-style-type: none"> • Moderate • Low • Moderate • Moderate • Low • Moderate • Moderate • Low • Moderate
5. Economic Development <i>Address both the appropriate costs of implementing the greenway system (including land acquisition and capital improvements) and the benefits that will result from its creation.</i>	<ul style="list-style-type: none"> Utilize the greenway system as an economic development marketing tool for the Roanoke Valley. Use greenway linkages to compliment and enhance tourist attractions. Document economic benefits of greenways, such as increasing the value of land that lies contiguous to a greenway and the benefits to a new business locating in the Roanoke Valley. 	<ul style="list-style-type: none"> • Low • Moderate • Low
Goals 1995 Plan	Objectives/Strategies Quoted from 1995 Plan	Progress

<p>5. Economic Development (continued)</p>	<ul style="list-style-type: none"> Establish a mechanism to ensure continuing maintenance of the greenways, such as using volunteers to keep maintenance costs low and starting Adopt-A-Greenway program. Utilize tax incentives, easements and other approaches to encourage individuals and businesses to donate land, funding or materials. Establish procedures for subdivision developers to provide donations of land or rights-of-way for greenway systems. Utilize existing rights-of-way, utility corridors, and other features to lower installation costs. Explore and obtain multiple sources of funding for greenways. 	<ul style="list-style-type: none"> Moderate Moderate Low Low Moderate
<p>6. Environmental</p> <p><i>Design a plan that preserves, promotes and enhances the Valley's environmental assets.</i></p>	<ul style="list-style-type: none"> Encourage localities to include greenways as a flood reduction strategy in the <u>Roanoke Regional Stormwater Management Plan</u>. Develop a valley-wide strategy for protecting natural stream corridors and other open space, plus a mitigation program for addressing resources that have been adversely altered by land development. Promote greenways as an alternative transportation mode that can help reduce air pollution. Utilize areas adjacent to greenways as natural areas that protect, maintain, or restore natural vegetation and aquatic and wildlife habitats. Design greenways to reduce non-point source pollution in stormwater runoff. Utilize greenways as buffer zones between developed area and open spaces. 	<ul style="list-style-type: none"> Moderate None Moderate Moderate Moderate Moderate
<p>7. Organizational and Operational</p> <p><i>Implement the Roanoke Valley Conceptual Greenway Plan on a regional level and proceed with future greenway system planning and implementation.</i></p>	<ul style="list-style-type: none"> Obtain local government and citizen support for the Roanoke Valley Conceptual Greenway Plan. Respond to citizen concerns such as safety issues and user conflicts in the establishment and operation of the greenway system. Establish standards for the design, operation, and maintenance of the greenway system. Ensure that an organizational structure exists for regional planning, implementation, and operation of greenways in the Roanoke Valley. Establish a non-profit organization to launch a public awareness campaign, volunteer programs and fundraising efforts Select a pilot greenway project and implement it. Pursue implementation of other elements of the Roanoke Valley Conceptual Greenway Plan. 	<ul style="list-style-type: none"> High Moderate Low High High High Moderate

3.0	Purpose and Process for the Update	3-1
3.1	Need for Update to the 1995 Conceptual Greenway Plan	3-1
3.2	Description of the Study Area	3-2
3.3	Funding for the Update	3-3
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3.5	Procurement of Professional Greenway Planning Services	3-4
3.6	Community Involvement	3-4

3

3.0 PURPOSE AND PROCESS FOR THE UPDATE

3.1 Need for Update to the 1995 Conceptual Greenway Plan

The 1995 Plan included a valley-wide map of potential greenway corridors. The corridors were broad-brush routes with minimal study of topography, green infrastructure, public health, private land issues, and economic development. It served the greenway process well in its initial endeavors, but over the years, as routes became better defined, some corridors were deemed unpractical or, at best, low on the respective jurisdiction's priority lists.

As jurisdictions refined their own greenway priorities and other plans such as the Bikeway Plan were developed, the 1995 Plan became more dated. In 1995, greenways were a new concept to many in the valley, and staff from the four localities was still struggling with how greenways would be developed and managed. Today, citizens, governments, businesses, and civic leaders recognize the many benefits of greenways, including transportation, open space protection, flood mitigation, encouragement of healthy lifestyles, conservation, recreation, aesthetic improvement, and quality of life. Many developers are interested in including trails and greenways in residential and industrial developments and seek guidance on how to do this. The Greenway Commission has worked with adjacent counties on blueways, with the City of Roanoke on equestrian and mountain bike opportunities at Carvins Cove, and with the Blue Ridge Parkway to complete a trail plan that allows connections of greenways to Parkway trails. Since the 1995 Plan was completed, many related plans have been updated including comprehensive, neighborhood, and transportation plans. An Update to the 1995 Plan was needed to accurately reflect present conditions and facilitate coordination among the Greenway Commission, local governments, federal and state agencies, and other stakeholders in the future development of a regional greenway network. It was time to re-look at the 1995 Plan maps and better define the routes utilizing the experience of ten years of greenway development and planning.

There were other issues a new plan would need to address. Many in the community felt the process of implementing the greenway program was too slow. Although over 19 miles of trail have been constructed, many felt that there had to be a faster, more efficient means of getting greenways financed and built. While conceptual master plans have been developed for 45 miles of greenway, these plans have not always led subsequently to preliminary engineering, acquisition of right-of-way, and construction, and have seldom been officially adopted by the affected localities. In some cases opportunities for right-of-way donations have been "missed" because master plans were either not completed or not adopted. On occasions grant funding for construction has been received prior to engineering and right-of-way acquisition, making it difficult to meet deadlines. On other occasions grants have been received before matching funds have been secured. The Greenway Commission felt that a comprehensive review of the process was in order. That meant reviewing financial alternatives, engineering methods, procurement for construction, construction management, the role of the Greenway Commission, the role of the Greenway Coordinator, and a host of other issues. This update

was an opportunity for the localities and Greenway Commission to look at the past ten years and create a document that would serve the community for the next decade.

The Update to the 1995 Plan is the product of a collaborative effort among the Roanoke Valley-Alleghany Regional Commission, Roanoke Valley Greenway Commission, local governments, citizens, and other stakeholders. Other objectives of this Update are to harness the synergy among neighborhood and civic leaders, corporations, staff, and elected officials and to identify improvements needed to ensure that our greenway network provides seamless transportation corridors that capitalize on and showcase the green infrastructure and natural character of the Roanoke Valley.

3.2 Description of the Study Area

The Roanoke Valley is located in southwest Virginia, within 500 miles of many of the major population, business, and economic regions of the United States. The valley is bisected by Interstate 81, which generally runs south to north, and the Roanoke River, which generally runs west to east. While some waters in Roanoke County flow to the James River and Chesapeake Bay, most of the valley is in the Upper Roanoke River drainage which flows to the Albemarle Sound in North Carolina. Nestled between the Blue Ridge and Allegheny Mountain ranges, the Roanoke Valley is surrounded by mountains and benefits from many natural resources and public lands. These public lands are shown in green on the map included in this Update and include the Jefferson and George Washington National Forests, the Blue Ridge Parkway, the Appalachian Trail, Havens Wildlife Management Area, Virginia's Explore Park, Carvins Cove Reserve, Spring Hollow Reservoir, and Poor Mountain Preserve.

The table below shows that the population of the four localities in 2005 was 205,457. While the City of Roanoke has experienced population loss since 1990, it remains the largest locality represented in the Greenway Commission. Overall the valley's growth is limited, with Roanoke County experiencing the most increase in population since 1990.

Total Population and Percent Change

Locality	Population 1990	Population 2000	Population 2005	Percent Population Change 1990-2005
City of Roanoke	96,487	94,911	92,631	-4.0
City of Salem	23,835	24,747	24,654	3.4
Roanoke County*	79,278	85,778	88,172	11.2
Total Population	199,600	205,436	205,457	2.9

* Includes the Town of Vinton. In 2000, the population of the Town of Vinton was 7,782.

Source: US Census Bureau

Given the 2005 population and the total number of completed greenway miles (205,457 population ÷ 19.95 miles), the current mileage per capita is one mile of greenway for every 10,300 people. One of the case studies completed by LandDesign shows that Knoxville, TN has one mile per 6,600 people. Based on national standards, Pros Consulting has

recommended to the City of Roanoke that it strive for one mile of greenway per 3,300 people. Because obesity is one of the largest health issues in the Roanoke Valley, active living, walk ability, and proximity to greenways and parks have become increasingly important aspects of addressing health issues.

The table below provides the total land area and population density for Roanoke Valley localities. The Town of Vinton has the highest population density with approximately 2,432 persons per square mile. Roanoke County is the least densely populated locality in the study area, with approximately 315 persons per square mile. Much of the County's population is in areas adjacent to the cities of Roanoke and Salem.

Land Area and Population Density, 2000

Locality	Land Area (Square Miles, 2000)	Persons per Square Mile, 2000
City of Roanoke	43.0	2207
City of Salem	14.0	1768
Roanoke County*	247.8	315
Town of Vinton	3.2	2432
Total	308.0	

* Does not include the Town of Vinton.

Source: US Census Bureau

The table below lists population projections for the four localities, through 2030. The combined population is expected to be over 218,000 by 2030. This represents a 6.2 percent increase over the 2005 population. The populations of the cities of Roanoke and Salem are projected to remain relatively stable over this period while Roanoke County is expected to account for the vast majority of growth. Population increases may translate into greater demand for an expanded Greenway system in the Roanoke Valley.

Population Projections - 2010, 2020, and 2030

Locality	2010	2020	2030
City of Roanoke	93,400	92,398	92,399
City of Salem	25,401	25,898	26,299
Roanoke County*	90,500	95,000	99,499
Total Population	209,301	213,296	218,197

* Includes the Town of Vinton

Source: Virginia Employment Commission

3.3 Funding of the Update

In the winter of 2005 the Virginia Department of Transportation announced that it would provide grant funding under the Pilot Transportation Planning Grant Program to address planning for special transportation needs. The Roanoke Valley-Alleghany Regional

Commission, partnering with the Roanoke Valley Greenway Commission, applied for one of these grants to fund an update to the regional greenway plan.

In July 2005 the Regional Commission received \$73,000 in grant funding to update the greenway plan. Funding from the grant program was used to contract with the Roanoke Valley Greenway Commission and a private consultant for assistance in the update process. The Regional Commission also contributed transportation planning funding, staff hours, and a cash match to the project. Funded through transportation monies, the Update does focus, as did the 1995 Plan, on those corridors which will include a trail, but the Update also considers the broad range of benefits of greenways as linear parks, as cited in Section 1.3.

3.4 Establishment of a Steering Committee

A Steering Committee was formed to guide the update process. Steering Committee members included:

Liz Belcher (Roanoke Valley Greenway Coordinator)
Cristina Finch (City of Roanoke, Planning Division)
Michael Gray (Virginia Department of Transportation)
Bill Gordge (Pathfinders for Greenways)
Anita McMillan (Town of Vinton, Department of Planning and Zoning)
Linda Oberlender (Pathfinders for Greenways)
Shane Sawyer (Roanoke Valley-Alleghany Regional Commission)
Janet Scheid (Roanoke County, Department of Community Development)
Ian Shaw (City of Roanoke, Planning Division)
Benjamin Tripp (City of Salem, Department of Planning and Development)
Donnie Underwood (City of Roanoke, Department of Parks and Recreation)
Lon Williams (Roanoke County, Department of Parks, Recreation, and Tourism)
Donald Witt (Roanoke Valley Greenway Commission)

3.5 Procurement of Professional Greenway Planning Services

In August 2005 the Regional Commission advertised for professional assistance with the update. A consultant was sought to complete a management analysis, develop alternative funding strategies, provide comparisons with other communities, and recommend implementation strategies. LandDesign Inc., based in Charlotte, North Carolina, was selected to assist in the update process.

3.6 Community Involvement

The Steering Committee and consultant designed a variety of methods for involving the public, staff, and elected officials in the update to the greenway plan. Because the greenway program requires large outlays of capital funds to get greenways built and then operational funds to maintain them, political support is crucial. Greenway users and citizens can support the localities' allocation of funds and provide backing to staff and elected officials on issues such as right-of-way acquisition. Greenway users often know routes and opportunities better than staff and thus provide important input on routes. The methods for obtaining community input and the various comments are summarized in Section 4 and Appendix C.

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4.2	Input from Elected Officials and Staff	4-3
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4.4	Input from Other Sources	4-5
4.5	Discussion of Issues	4-6
4.6	Goals	4-16

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4.0 COMMUNITY INVOLVEMENT AND INPUT

The Steering Committee and consultant selected a variety of methods for involving citizens, staff, and elected officials in the update to the greenway plan. These methods included:

Citizens:	<ul style="list-style-type: none"> Two input meetings, one February 16, 2006 and one on June 8, 2006 Continuous updates to the Regional Commission website, with on-line comment form and message board Presentations to a variety of user and civic groups
Staff:	<ul style="list-style-type: none"> Review of routes and priorities Assessment of routes Interviews with consultant Steering Committee review of materials and development of plan Greenway Commission assessment of roles and responsibilities
Elected Officials:	<ul style="list-style-type: none"> Interviews with consultant Presentation by consultant at Metropolitan Planning Organization and Regional Commission Presentation by Greenway Commission at City Councils, Town Council, and Board of Supervisors meetings

Input from these various sources is summarized in this section.

4.1 Public Input Meetings

Two public meetings were held to receive input on routes and greenway-related issues.

4.1.1 First Public Input Meeting

The initial public input meeting was held on February 16, 2006 from 7:00-9:00 p.m. at the Roanoke Civic Center Exhibition Hall. This meeting was well attended with more than 125 people providing input and discussion on a range of greenway issues including:

- Vision
- Route Priorities
- Problems
- Improvements Needed
- Community and Public Involvement

Stakeholders had the opportunity to identify routes on maps and provide comments by completing a public input form and/or



A large crowd attended the first public input meeting.

participating in facilitated break-out sessions. The public input form was also made available on the website to be completed by those who could not attend the meeting.

During the break-out sessions, facilitators guided the discussion of the questions from the public input form and recorded/displayed the groups' comments. Following the break-out sessions, each group provided a brief summary of the discussion to the larger audience. The compiled public input from the first public meeting is provided in Appendix C.

The Steering Committee and consultant distilled this input into key issues.

Public Input Meeting #1 - Key Issues

- Prioritize routes to better focus effort to get greenways on the ground – Priority # 1: Roanoke River Greenway.
- Promote connectivity between greenways and other activity centers /destinations.
- Provide additional greenway information – signage, mapping, kiosks.
- Provide additional amenities along greenways – trash bins, restrooms, signs, benches.
- Increase publicity and promotion of greenways – races, special events, etc.
- Promote sponsorship by corporations and adoption by neighborhoods.
- Recognize greenways as an economic generator.
- Recognize that some public lands are managed for specific purposes, e.g. Carvins Cove and Spring Hollow for watershed protection, Havens Wildlife Management Area for hunting, the Blue Ridge Parkway as a recreational motor road, the Appalachian Trail as a foot path for hikers.



Citizens provided feedback at break-out comment sessions at first public meeting.

4.1.2 Second Public Input Meeting

The second public input meeting was held on June 8, 2006 from 7:00-9:00 p.m. at Virginia Western Community College. Between the first and second public meetings, the Steering Committee reviewed and analyzed input from the first meeting, held staff meetings in each locality to discuss priorities, field checked some routes, and revised maps.

Approximately 80 people attended the second meeting. Staff and the consultant presented the key issues from the February meeting and the prioritization of greenways developed by the Steering Committee.



Citizens review maps at the second public meeting.

The focus of this meeting was to present to the public some of the challenges faced by local governments and to get public input on methods of addressing these concerns. The critical issues to be addressed were:

- Priorities of Routes
- Acquisition Methods
- Funding
- Other Initiatives
- Organization

After the presentation, participants were given the opportunity to fill in a comment sheet and to express their opinions on alternatives under each issue, using a dot exercise. Comment sheets were also available.

Public Input Meeting #2 – Key Comments

- Finish the Roanoke River Greenway in the next five years.
- Create an aggressive land acquisition program to acquire the right-of-way, using all methods of acquisition.
- Use a variety of funding methods, including a bond, local government contributions, corporate donations, and private/public sponsorships.
- Increase information on existing greenways.
- Increase greenway staffing to facilitate greenway development.

The results of the dot exercise are shown in Appendix C. The issues from the public input meeting are discussed further below in Section 4.5.

4.2 Input from Elected Officials and Staff

4.2.1 Presentations to Regional Commission and Metropolitan Planning Organization

The consultant made presentations to the Roanoke Valley-Alleghany Regional Commission and the Roanoke Valley Area Metropolitan Planning Organization on April 27, 2006. At these meetings Regional Commissioners and MPO representatives were asked to review various possible funding mechanisms and indicate their level of support for each mechanism and to provide any additional comments.

4.2.2 Key Stakeholder Interviews

The consultant conducted qualitative telephone interviews with key stakeholders during the month of April 2006 to gain an understanding of perceptions and attitudes towards greenway development. The Steering Committee provided the consultant with a list of key stakeholders – elected officials, chief administrative officers, department heads, and other decision makers. From this list, the consultant conducted fifteen qualitative, anonymous, telephone interviews consisting of nine qualitative discussion questions pertaining to general greenway development and greenway specific funding. Most of those interviewed supported greenways and understood the connection to economic development. Most were willing to consider a

variety of funding options, but unwilling to use condemnation to obtain the land. A summary of the Key Stakeholder Interviews is provided in Appendix C.

4.2.3 Work Sessions with Elected Officials

Between June and October of 2006 the Greenway Commission met with each locality's elected officials at either a work session or a Council/Board meeting. There was significant support for greenways, but also continued concern about right-of-way acquisition and questions about the process for deciding the location when the north and south sides of the river were in different jurisdictions.

4.2.4 Input from Staff and Greenway Organizations

The Steering Committee and consultant used several methods to obtain additional input from the Greenway Commission, Pathfinders for Greenways, and local staff. These included homework assignments, a survey, discussion of organizational options at meetings, and assessment of who should be doing various tasks.

4.3 Corporate Input

After the first public input meeting in February of 2006, the Greenway Commission was approached by Ted Melnik, president of Novozymes Biologicals, Inc., for information about the greenway program. On April 4 Novozymes held a press conference to announce its support and commitment of \$50,000/year for the next five years to help complete the Roanoke River Greenway.

Mr. Melnik has made numerous presentations to solicit additional corporate and business support for the greenway program. An economic study completed by Dr. Sabine O'Hara for the Roanoke Business Council also emphasizes the importance of greenways and trails to attracting businesses to the region. Many corporate leaders have lived in other areas with more extensive greenway networks and recognize the importance of these facilities to their employees.

A frequent request from the business community has been to see a business or implementation plan for the Roanoke River Greenway. The Greenway Commission has now asked the Steering Committee to work on compiling the necessary information and developing an implementation plan for Roanoke River Greenway through all jurisdictions.



Ted Melnik, president of Novozymes Biologicals, presents a \$50,000 check to the Greenway Commission to show corporate support for finishing Roanoke River Greenway.

4.4 Input from Other Sources

4.4.1 Case Studies

The consultant prepared four case studies, comparing the Roanoke Valley Greenway program to the efforts in Charlotte, NC, Indianapolis, IN, Knoxville, TN, and on the Washington and Old Dominion Trail in northern Virginia. These studies revealed organizational differences, as well as different sources of funding. The case studies are included in Appendix D.

4.4.2 Local Park Plans

During the time that the Greenway Plan update was being developed, Roanoke County was engaged in a year-long process to write its first Parks Master Plan and the City of Roanoke began a process of updating its 2000 Parks Master Plan. At the public meetings for both of these processes, there was strong support for greenways.

Roanoke County's process included a statistically valid survey of County residents, asking about their needs and support for park facilities. This survey showed that more households (59%) felt a need for greenways than for any other park facility. Greenway development was the action most supported to improve parks and recreation facilities. The County Park Master Plan recommends increasing greenways and park trails.

In the City of Roanoke's master plan update, a statistically valid survey of residents also showed greenways and walking/biking trails as the park facility most needed, with 50.2% of respondents finding it very important. When asked what actions were needed to improve parks and recreation facilities, development of walking/biking trails was again the first choice of respondents.

4.4.3 Blueways

In fall of 2005 the Greenway Commission was approached by a group of "blueway" advocates proposing that the Greenway Commission expand its role to include blueways. After a series of meetings, the group summarized its request in a letter stating that the goal of the blueways initiative was to "ensure the protection, preservation and appropriate economic and recreational use of the valley's waterways, particularly those waterways that interface with greenways and other open spaces." The Greenway Commission was asked to consider including in its work: education on stream and river issues, study of watershed land use with consideration of sedimentation and pollution loads, coordination of monitoring and stewardship, coordination of media relations, coordination of blueway clean-ups and water quality mitigation, partnering with community organizations, promotion of recreation and tourism, support of historic preservation along the river, and promotion of neighborhood utilization and adoption of blueways. The Greenway Commission decided to consider this request during the update to the 1995 Plan and to ask the consultant to assess the feasibility of including blueways in the Greenway Commission mission. This is discussed in Section 4.5.13.

4.5 Discussion of Issues

The Steering Committee and Greenway Commission have tried to address the issues raised by the public and by elected officials and staff. The discussion below provides some background to these issues and some of the rationale used in developing the implementation strategies presented in Section 6. Some of the issues are applicable in all four jurisdictions; others are not. The intent is to show how the greenway program, with all its partners, has evolved and how the partners might continue to work together to improve the greenway network. The issues to be addressed are:

Issue#	Issue	Source of Issue
1	Prioritization of routes	Public meetings, corporations
2	Connectivity between greenways	Public meetings
3	Greenway signage and information	Public meetings
4	Greenway amenities	Public meetings
5	Publicity and promotion	Public meetings, elected officials
6	Sponsorships	Public meetings, elected officials, corporations
7	Economic development	Public meetings, corporations
8	Trails on other public lands	Staff from other agencies
9	Land acquisition for greenways	Elected officials, staff
10	Funding	Elected officials, staff, corporations
11	Staffing for greenway projects; roles and responsibilities	Public meetings, staff
12	Timeliness of implementation	Public meetings, corporations
13	Blueways	Blueway group
14	Design, management and operations	Staff, public meetings

4.5.1 Prioritization of Routes

When the greenway program began, greenway advocates and staff agreed that it was important to get some trails on the ground and build grassroots support for the program. Each of the greenways built to date was initiated because of some factors which simplified implementation. In many cases the land was already in public ownership, and thus the most difficult of issues, right-of-way acquisition, was avoided.

While Roanoke River Greenway has always been considered the priority project, construction of the greenway had to be coordinated around other public works projects, specifically the sewer interceptor line replacement and the flood reduction project. While the greenway was not built with the sewer line replacement, acquisition of land for that project did simplify completing the greenway in the Cities of Salem and Roanoke. The Roanoke River Greenway is now a component of the flood reduction project in the City of Roanoke, and federal funds are paying 50% of the cost of trail installation. Thus, coordination with these projects has

helped, albeit slowly, to build resources for completion of Roanoke River Greenway, and the flood project is now moving in a timely fashion.

The priorities in the 1995 Plan were based on public input at the time (See Section 2.4.3). To the extent that these projects fall within the jurisdiction of the four local governments, progress has been made on implementation. The priorities identified then which have seen little progress are those which require action by another agency, such as Virginia Department of Transportation or the Blue Ridge Parkway. Some projects that were not priorities were implemented as a result of unique opportunities, such as coordination with other projects. An example would be a portion of Lick Run Greenway, which was coordinated with the interchange construction for Valley View Extension.

A key comment during the update has been that the greenway program needs to be more focused on fewer projects and that the projects need to connect to provide longer trail opportunities. The priorities in this Update are based on input from citizens, staff, elected officials, and corporations, assessments of feasibility, importance to the regional network, benefits, opportunities, and resources. The projects have been divided into four priorities. (See Chapter 5.) The rationale for these priorities is:

Priority #1 Route: This will be the most important project, Roanoke River Greenway. It will be the only #1 priority, in order to focus efforts on finishing it within five years. This greenway offers the longest route when finished, the most opportunity for economic development on adjacent lands, the greatest attraction for tourists, the most recreation and health benefit for residents, the most opportunity for special events such as marathons, the most opportunity for water based recreation such as canoeing and fishing, the most opportunity to enhance appreciation of environmental resources, and the most opportunity to be a regional asset. Roanoke River Greenway is the “backbone” of the greenway network.

Priority #2 Routes: These are important regional greenways, already underway, which could be finished in 5-10 years. They include five north-south routes connecting to Roanoke River Greenway and three destination sites with clusters of trails. These routes provide the major side corridors of the greenway network.

Priority #3 Routes: These greenways are priorities within specific localities. These are important at the local level for enhancement of neighborhood values, economic development and public health. The goal is to finish these in 5-10 years. Most have already had some work done, such as planning or acquiring right-of-way. Some are neighborhood priorities.

Priority #4 Routes: These are other greenway projects to be addressed as opportunity and resources arise. Included in this group are several routes that

have strong citizen support but no resources in terms of land or funding. Also included are clusters of trails on other public lands that help provide connectivity for the greenway network.

4.5.2 Connectivity among Greenways

Because of the initial approach of building greenways where public land or right-of-way was already available, many of the greenways are short and do not have good connections to other greenways, trails or destinations. An interconnected, regional, greenway trail network provides a range of benefits – transportation, economic, environmental, and health – that, collectively and individually, improve the overall quality of life for residents of the Roanoke Valley. The need to promote greater connectivity among greenways and other activity centers/destinations was identified as a key issue at the public input meetings.

Increasing connectivity between the greenway and trail networks and the transportation and recreation infrastructure can be accomplished through the development of a variety of accommodations. These could be temporary measures until a greenway is completed or they may be the long-term plan. These accommodations could include:

- Sidewalks
- Paved shoulders
- Bike lanes
- Wide travel lanes
- Shared streets and roadways
- Roadways with "Share the Road" signs
- Path adjacent to roadway
- Trails or other routes
- Neighborhood streets
- Alleys
- Signage and pavement markings
- Spot improvements

Connectivity between greenways could be improved by on-road wayfinding and signage. Street maintenance and signage are locality functions within the Cities of Roanoke and Salem and the Town of Vinton; in Roanoke County the Virginia Department of Transportation (VDOT) is responsible for road maintenance. Under VDOT's new policy for integrating bicycle and pedestrian accommodations, the local district has initiated efforts to pave shoulders, erect signs, and stripe lanes in ways that improve bicycle safety and use.

This issue will need to be addressed not only through construction of greenways but also through better identification of user needs, greater coordination between departments in each locality, better signage, and improvements to road and sidewalk infrastructure. The Regional Commission's new Mobility Map is a first step, as it helps show the connectivity among greenway trails, bike lanes, and bus routes.

4.5.3 Greenway Signage and Information

A key issue noted during the Update process was the need for additional information on existing greenways. Examples of ways to improve information include signage and route markers, information kiosks, web site information, and brochures at visitor centers.

4.5.3.1 Signage and Route Markers

The public input process cited the need for additional signage and route markers along greenways to assist users. Confusion for users is often due to insufficient number of signs, but may also be due to a combination of factors such as insufficient size/height or placement of the signs or route markers.



Greenway signage across the Roanoke Valley varies considerably between different greenways as well as along individual routes. Signs are particularly important at greenway termini, when a greenway crosses roads or parking lots, or when a route changes from off-road to on-road. The photos above show the efforts to provide signage, pavement markings, and route markers along the Mill Mountain Greenway in the City of Roanoke. This greenway is at times off-road and at other times on sidewalks and streets. Although signage is adequate in some places, citizen comments have indicated that pavement markings and way finding posts are not always visible from a distance. A balance needs to be maintained with sensitivity to providing for user needs while limiting vertical signage that might detract from natural scenery and attractive landscapes.



In addition to signage to assist in way finding, public input indicated the need for additional mileage markers, interpretive signs (cultural, historical), and environmental education. The need for increased consistency in greenway signage was also noted. A concern for the localities is cost control. Several departments have the ability to make metal-backed street signs themselves. Wooden or routed signs are usually more expensive. Within each locality signage design criteria need to be compatible with locality requirements, while meeting the user needs and recognizing the regional greenway network.



4.5.3.2 Information Kiosks

Kiosks are available downtown near the market, at Mill Mountain Star, at the Discovery Center, at Wolf Creek Greenway in Goode and Stonebridge Parks, at Stewarts Knob on the Blue Ridge Parkway, and at Fishburn Park. Ideally these should display mapping, contact information,



interpretive information, and greenway descriptions. The kiosks could also promote greenway connections and educate the public on benefits of a greenway network.



While several of the kiosks have been built by volunteers, localities have standards for signage and publications that volunteers may not be able to address. Maps and educational information for kiosks are items which require professional development and approval by the localities.

4.5.3.3 Web Sites and Brochures

The Greenway Commission's web site is www.greenways.org. Maintenance of the site and posting of timely information has been sporadic. Each locality and the Regional Commission also post greenway information on their web sites.

In 1998 the Greenway Commission developed a greenway brochure with maps and information on benefits, volunteering, and greenway history. (This was revised and reprinted in 2003.) In 2002 the Pathfinders developed a less expensive brochure for users with sketched maps and drawings. This is currently being updated. Brochures for individual greenways have occasionally been developed prior to ribbon cuttings, but there is no family of brochures for the greenways.

The Greenway Commission recognizes that the Internet is currently the most important source of information for many people. Pathfinders for Greenways have obtained a donation to pay for redesigning the web site. After this is done, maintenance of the site by either staff or volunteers will be an on-going need.

4.5.4 Greenway Amenities

The public has requested greenway amenities such as toilet facilities, trash receptacles, bike racks, water fountains, benches, and lighting. In the past the localities and Greenway Commission have focused on getting the trail built and have added amenities later as funds or donations became available.



Amenities requiring infrastructure are more difficult to add than benches and trees. Flush toilets and water fountains which can be open year round require frost proof lines, which are often not available. Lighting requires conduit and operational funds. In the past the localities have opted not to provide lights because parks are closed at night. Ultimately, all amenities require maintenance, whether it is bi-weekly trash removal or biennial painting. Localities are challenged to provide amenities and pay operational costs of maintaining them.



At this time the addition of amenities to greenways can be a piece meal process. Localities may be approached with donations, grants, Eagle Scout projects, requests, and suggestions. The localities and Greenway Commission need to work together to develop a process for utilizing donations, providing consistent facilities, utilizing energy and water free designs, and maintaining amenities.



4.5.5 Publicity and Promotion

Citizens and elected officials recognize that the Roanoke Valley greenway program needs more publicity and promotion. Common complaints are that many people don't know about the greenways, it is hard to find information, it is hard to locate the greenways, and it is difficult to know when you are on a greenway. Improvement to signage, information, and the web site (See 4.5.3) will address part of this issue. Another component is that greenways could be used more frequently for special events such as races and walks and for fundraisers for monies to speed up greenway construction.

4.5.6 Sponsorships

Citizens and corporations suggested sponsorships as a method by which they could be involved and provide funding for greenways. A neighborhood or civic group initially sponsored several greenways. Hanging Rock Battlefield Trail was initially a project of the Hanging Rock Battlefield and Railway Preservation Foundation. The Greater Raleigh Court Civic League has sponsored Murray Run Greenway.

Sponsorships by corporations could be a method for providing capital funds for construction as well as annual maintenance monies. Other communities, such as Laguna, CA, recognize sponsors who provide funding for greenway maintenance with small signs along the trails. Corporations are also often willing to provide manpower of employees for special projects like clean-ups or plantings. Companies adjacent to greenways are particularly good candidates to be sponsors, as greenway users would recognize their contribution and proximity to the trail.

Development of a regional "adopt-a-greenway" program has been difficult because of the localities' different approaches to liability, volunteerism, and risk management. The City of Roanoke has developed a Greenway Sponsorship program, which is utilized for adopting greenway sections. A similar system could be adapted to fit each jurisdiction's needs. The benefits include not only the manpower for minor maintenance like trash pick-up but also the ownership and watch functions that daily users can provide.

4.5.7 Economic Development

Citizens and corporations have recognized the importance of greenways for economic development. In 2003-04 the Greenway Commission assisted with a state sponsored study of the economic impact of the Virginia Creeper, Washington & Old Dominion, and New River trails. This study confirmed that these trails are important economic generators for surrounding communities. The economic study by Dr. O'Hara (see 4.3) recognized trails as an important quality of life attraction for employees. Several corporate executives have been promoting greenways as important to their ability to attract employees and as a factor in their location in

the Roanoke Valley. Real estate agents and developers have already recognized the value of greenways and trails, and use this asset in advertising. The Roanoke River Greenway in particular has potential to contribute to the economic vitality of the Riverside Centre and other industrial complexes. Other communities also see small business impacts once greenways of substantial length are built.

4.5.8 Trails on Other Public Lands

Within the Valley there are federal, state and local lands which are managed for specific purposes and include trail networks. Many citizens voiced their need to be connected to these trail systems. Agency personnel expressed concern for recognition of their specific management direction.



The Steering Committee recognized the following federal, state, and local trail networks as important destinations for greenway users. In response to public input and with consideration of agency concerns, these trails are included in this plan as existing networks which are destinations within the greenway network. These are described in more detail in Section 5.

Federal:

- Appalachian National Scenic Trail, managed for foot travel only
- Blue Ridge Parkway, Chestnut Ridge Trail, managed for pedestrian and horse use, may be proposed for multiple use
- Blue Ridge Parkway Horse Trail, managed for pedestrian and horse use
- Jefferson and George Washington National Forest trails, managed for multiple use

State:

- Department of Game and Inland Fisheries Birding and Wildlife Trail, a mapped network of existing local and state park sites where birding and wildlife observation are available
- Havens Wildlife Management Area trails and roads, managed for hunting and wildlife observation
- Virginia's Explore Park trails, hiking and mountain biking
- Poor Mountain Preserve, a Natural Heritage preserve, hiking trails

Local:

- Carvins Cove Natural Reserve trails, multiple use
- Green Hill Park trails, multiple use
- Mill Mountain Park trails, multiple use but hiking only on Star Trail
- Spring Hollow Reservoir trails, not yet developed, proposed for multiple use

Within locality parks there are other trails providing on-site recreation opportunities. These are not included in the Greenway Plan unless they provide connections to destinations beyond the park.

4.5.9 Land Acquisition for Greenways

Elected officials recognize land acquisition as the most sensitive issue for greenway development. The four localities own and operate the greenways. Because of the linear nature of greenways, many properties may be crossed. Some greenway easements have been donated and others proffered as part of rezonings. The City of Roanoke has acquired numerous properties for Lick Run, Mill Mountain, and Roanoke River Greenways. Roanoke River properties were bought in conjunction with the flood reduction project, where City Council has authorized condemnation if needed. Elected officials from other jurisdictions have expressed reluctance to consider using condemnation but are amenable to donation or purchase. The City of Salem acquired many properties along the river when installing the sewer line and is proceeding with acquisition of easements needed for Roanoke River Greenway.

4.5.10 Funding

Construction costs for greenways have increased dramatically in the last five years and are expected to continue to do so. Costs vary depending on the trail surface and the terrain. Volunteers can build natural surface trails at minimal cost. Class B trails with cinder surface cost \$40,000-\$100,000/ mile. Paved greenways in urban areas have ranged from \$150,000-\$800,000/mile. Bridges increase those costs. The Roanoke River Greenway alone is projected to cost \$30 million.

Funding for the greenway program has come from a variety of sources. (See Section 2.4.6.) The Roanoke Valley has received at least one Transportation Enhancement grant every year since 1995; this funding requires a 20% match. At least one locality has received a Virginia Recreational Trails grant every year also; these also require match. The Greenway Commission has assisted the localities with submission of these applications.

In 2000 the Greenway Commission requested that the localities provide capital funding every year to get the Roanoke River Greenway completed. The City of Roanoke responded by putting \$200,000 per year in its capital funds for greenways every year starting in 2001, and it has set up a multi-year action plan for its greenway effort through 2010.

In 1999 the Greenway Commission received a challenge grant of \$100,000 from a private foundation for Roanoke River Greenway in Salem. With the help of Salem staff the Greenway Commission raised the matching funds, but that effort took a year. The Greenway Commission is not currently staffed or set up for fundraising activities and campaigns.

During LandDesign's review of funding issues, it concluded that the program is overly dependent on Transportation Enhancement Funds. The consultant's recommendation was that private giving increase to 25% of costs and locality contributions to 50%. The consultant recommended obtaining funding from all four sources (federal, state, local, private) every year.

4.5.11 Staffing Roles and Responsibility

When the greenway program began, the four localities' representatives to the steering committee were planning staff. With formation of the Greenway Commission, parks and planning staff became ex-officio members of the Greenway Commission. In the early years some projects were coordinated by locality staff, and, for others, the Greenway Commission, Greenway Coordinator, and Pathfinders were important players. Many times the roles were dictated by the source of funding for the project, with paved trails with larger budgets requiring involvement of a variety of staff while natural surfaced trails involved more volunteers. As greenways were built, it became clear that staff from a variety of departments needed to be involved and that ultimately the parks departments were responsible for maintenance and management. Today the City of Roanoke and Roanoke County each have park planners responsible for greenway planning within the parks departments to lead local project planning and construction management.

Over the years the Greenway Coordinator has assumed different roles in projects, depending on the needs of the localities. Because the roles and responsibilities have evolved, there have been times when responsibilities were unclear. As part of this update the Greenway Commission and Regional Commission included an organizational analysis, which has been completed by the consultant, LandDesign. LandDesign has provided an outsider's perspective and has evaluated roles and responsibilities for the different partners. The recommendations of that analysis will need to be addressed further by the Greenway Commission and localities and may be further defined through revisions to the Intergovernmental Agreement.

4.5.12 Timeliness of Implementation

Corporations and citizens have voiced concern about progress on greenways, particularly Roanoke River Greenway. The public wants to see Roanoke River Greenway completed within five years. To focus the valley's efforts and address this issue the Steering Committee developed priorities. (See Section 4.5.1.) In addition, the purpose of the organizational analysis was to improve efficiency. Efficient implementation requires a well defined project timeline, aggressive land acquisition, and continuous funding. Clear responsibilities and good coordination are needed to accomplish this.

4.5.13 Blueways

The blueway group which approached the Greenway Commission in 2005 was actually looking for coordination of multiple activities along major streams and the river. While the term blueway could be interpreted to mean any stream or water body, it is generally used interchangeably with "water trail". (See *Virginia Outdoors Plan*, <http://www.dcr.state.va.us>.) Thus blueways are rivers and streams with sufficient depth and access to provide opportunity for water trails for canoeing and kayaking. Common blueway amenities and features include canoe and kayak access points, parking, route information on kiosks or maps, markers, toilet facilities, and outfitters for rentals and shuttles. The designated blueways closest to the Roanoke Valley are the New River Blueway, the James River Water Trail, and the Pigg River and Blackwater River Blueways in Franklin County.

While the Greenway Commission and Steering Committee recognize the concerns of this group, they felt that the only opportunity in the valley for a blueway as a water trail is on

Roanoke River. Other activities on smaller streams such as monitoring, land use studies, and clean-ups are the purview of other organizations and agencies. Should the four localities choose to enlarge the scope of the Greenway Commission, it would require substantial changes in organizational structure and staffing.

Currently, the Roanoke River has many of the amenities associated with blueways. Local governments maintain several public access points along the river, and a commercial outdoors store is adjacent to the river on Apperson Drive. Amenities at public access points vary, but generally include parking areas, launching points for canoes, kayaks, and light boats, and trash receptacles. Many of these access points are located at public parks with additional land-based amenities (picnic tables and shelters, playgrounds, restrooms, and water fountains) or are in close proximity to commercial establishments. Numerous bridges crossing the Roanoke River provide emergency access for water related search and rescue situations. Moreover, once completed, the Roanoke River Greenway would provide access along the entire length of a Roanoke River Blueway.

Stream flows and water levels in Roanoke River are sufficient for blueway activities for about half the year. Typically in the summer flows may drop to levels that are not conducive to paddling (e.g., sections may not be floatable or vessels may scrape bottom.) The river level can increase significantly following periods of moderate to heavy precipitation. Real-time stream flow data for the Roanoke River Basin is available at: http://waterdata.usgs.gov/va/nwis/current/?type=flow&group_key=basin_cd.

While the Roanoke River flows unimpeded through much of the valley, obstacles do exist; which may require portage. Underwater utility lines may be crossed during high water but not low; low water bridges may be passed in low water but not high. Obstacles that always require portage are the ledge in Wasena Park, the two low water bridges in Smith Park, and Niagara Dam. The Niagara Dam portage is on the left side of the river and, at one-quarter mile long, is the most physically demanding.



Canoe access sign in Wasena Park.



4.5.14 Design, Management, and Operations

This issue encompasses a range of concerns raised by the public and staff about the way greenways are designed, managed and maintained. Examples are concerns about dogs, crime and security, emergency management, bicycle police patrols, dumping of trash, bicycle interaction with other users, maintenance, and budget. Design issues have been addressed over the years by using national standards, such as Crime Prevention through Environmental Design (CPTED) to improve security in public areas and American Association of State Highway and Transportation Officials guidelines to consider design safety. While these guidelines have been considered in greenway design, staff may not know how well they are working. Users may, through experiences, recognize problem areas where accidents could happen prior to staff knowing. Thus, a loop of feedback from users and from staff who manage and maintain the greenways to those designing the greenways could provide for continual improvement.

Other management issues may be ones that Park staff addresses frequently for other facilities. Many times design is influenced by available budget, and an acceptable solution may be built rather than the best solution. Staff charged with management of greenways need increases in budget to cover maintenance of new facilities as they are built. Interaction among departments is important, so that emergency management and police know where the greenways are and how to access them. Coordination among jurisdictions, within localities, and between citizens, volunteers, and staff is an on-going task which may require more attention.

4.6 Goals

Since development of the 1995 Plan, public support for a regional greenway system has continued to grow. This is exhibited by the continued construction of trails and greenways over the last decade and responses from citizen surveys that show greenway development as a top priority issue for area residents. As greenway development has evolved over the past decade, so has recognition that the goals and objectives of the 1995 Plan must be modified to reflect implementation efforts to date and evolving needs and perceptions of the citizens and governments in the region.

There is concern that the original 1995 Plan may have been too ambitious and that there has not been a focused effort to complete long sections of trail and connections between greenways. It is the goal of this Update to develop a more focused approach to implementation of the greenway system over the next ten years. The Update continues the previous 1995 Plan's goals to achieve a well connected transportation network that will satisfy recreational, health and fitness needs of the region's residents and to provide open spaces and buffers that will maintain and enhance the natural resources of the Valley. However, the Update also focuses efforts so that a base system of connected trails can be constructed in the near term (next five years). In this way a functional greenway system will be in place soon, while still allowing full completion of the system over time.

This Update includes six goals to address the vision and issues raised through community involvement. These goals are essential to allow for construction of the base greenway system over the next five to ten years and provide for full construction over the longer term. The goals

are shown below, with the issues they address. Implementation strategies for these goals are in Section 6.

Goals and Associated Issues

Goals	Issues to be addressed
1. Greenway Construction Complete a connected greenway network of trails to provide the multiple benefits of greenway system, with focus on finishing Roanoke River Greenway.	Prioritization of routes (4.5.1) Connectivity between greenways (4.5.2) Greenway signage and information (4.5.3) Greenway amenities (4.5.4) Trails on other public lands (4.5.8) Blueways (4.5.13)
2. Funding Increase greenway funding to meet the goals for trail construction and completion of the greenway network.	Funding (4.5.10) Timeliness of implementation (4.5.12)
3. Land Acquisition Develop a land acquisition program that provides rights-of-way needed for greenway construction.	Land acquisition for greenways (4.5.9) Timeliness of implementation (4.5.12)
4. Community Outreach and Education Develop a community outreach and education program that provides information on greenway opportunities and benefits.	Greenway signage and information (4.5.3) Publicity and promotion (4.5.5) Economic development (4.5.7) Sponsorships (4.5.6)
5. Organizational Structure Refine the organizational structure to effectively and efficiently implement the Update to the Conceptual Greenway Plan and manage the growing greenway system.	Staffing, roles and responsibilities (4.5.11)
6. Greenway Management Manage the greenway network to meet user needs, provide a range of experiences in a secure environment, and protect the natural resources.	Design, management, and operations (4.5.14) Greenway signage and information (4.5.3) Sponsorships (4.5.6) Staffing, roles and responsibilities (4.5.11)

4.0 Community Involvement and Input



5.0	Greenway Network	5-1
5.1	Prioritization of Greenways	5-1
5.2	Priority #1 Roanoke River Greenway	5-4
5.3	Priority #2 Greenways	5-8
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5

5.0 GREENWAY NETWORK

5.1 Prioritization of Greenways

The 1995 Plan recommended 51 greenway routes with each route labeled as either on-road or off-road on a map. In addition, it described six other routes not shown on the map. This Update focuses on the off-road routes and endorses the 2005 *Bikeway Plan* for on-road routes (Section 5.6). The Update includes 35 routes.

In response to public input, the Steering Committee and each locality prioritized the off-road greenways and trails to provide more focus to implementation efforts.

Priority #1 Route:

The Roanoke River Greenway was identified as the most important greenway in the regional network. It will be the only #1 priority, in order to focus efforts on finishing it within five years. This greenway offers the longest route when finished, the most opportunity for economic development on adjacent lands, the greatest attraction for tourists, the most recreation and health benefit for residents, the most opportunity for special events such as marathons, the most opportunity for water based recreation such as canoeing and fishing, the most opportunity to enhance appreciation of environmental resources, and the most opportunity to be a regional asset. Roanoke River Greenway is the “backbone” of the greenway network.

Priority #1 Greenway			
City of Roanoke	Roanoke County	City of Salem	Town of Vinton
Roanoke River	Roanoke River	Roanoke River	Roanoke River

Priority #2 Routes:

These are important regional projects, already underway, which could be finished in 5-10 years. They include five north-south routes connecting to Roanoke River Greenway and three destination sites with clusters of trails. These routes provide the major side corridors of the greenway network.

Priority #2 Greenways			
City of Roanoke	Roanoke County	City of Salem	Town of Vinton
<ul style="list-style-type: none"> • Blue Ridge Parkway Trails • Carvins Cove Trail Network • Lick Run Greenway • Mill Mtn. Greenway • Mill Mtn. Park Trails • Tinker Creek Greenway 	<ul style="list-style-type: none"> • Blue Ridge Parkway Trails • Hanging Rock Battlefield Trail • Lick Run Greenway • Mason Creek Greenway • Tinker Cr. Greenway • Wolf Cr. Greenway 	<ul style="list-style-type: none"> • Hanging Rock Battlefield Trail • Mason Creek Greenway 	<ul style="list-style-type: none"> • Tinker Cr. Greenway • Wolf Creek Greenway

Priority #3 Routes:

These greenways are priorities within specific localities. These are important at the local level for enhancement of neighborhood values, economic development and public health. The goal is to finish these in 5-10 years. Most have already had some work done, such as planning or acquiring right-of-way. Some are neighborhood priorities.

Priority #3 Greenways			
City of Roanoke	Roanoke County	City of Salem	Town of Vinton
<ul style="list-style-type: none"> • Biomed Loop • Garden City Greenway • Mudlick Creek Greenway • Murray Run Greenway • Neighborhood Connections 	<ul style="list-style-type: none"> • Glade Creek Greenway • Mudlick Creek/Garst Mill Greenway • Read Mountain Trails 		<ul style="list-style-type: none"> • Glade Creek Greenway • Gladetown Trail

Priority #4 Routes:

These are other greenway projects to be addressed as opportunity and resources arise. Included in this group are several routes which have strong citizen support but no resources in terms of land or funding. Also included are clusters of trails on other public lands which help provide connectivity for the greenway network.

Priority #4 Greenways			
City of Roanoke	Roanoke County	City of Salem	Town of Vinton
<ul style="list-style-type: none"> • Barnhardt Creek Greenway • Birding and Wildlife Trail sites • Glade Creek Greenway 	<ul style="list-style-type: none"> • Appalachian Trail • Back Cr. Greenway • Barnhardt Creek Greenway • Birding and Wildlife Trail sites • Carvin Cr. Greenway • Catawba Greenway • Explore Park Trails • Green Hill Pk. Trails • Havens Wildlife Mgt. Area Trails • Jefferson National Forest Trails • Long Ridge Trail • Masons Cove Greenway • Murray Run Greenway • Perimeter Trail • Poor Mountain Preserve Trails • Roanoke River Grwy Extensions • Spring Hollow Trails 	<ul style="list-style-type: none"> • Birding and Wildlife Trail sites • Dry Creek Greenway • Gish Branch Greenway 	<ul style="list-style-type: none"> • Birding and Wildlife Trail sites

On the map included with this Update the routes are listed and numbered in alphabetical order. The table below shows the numbering system, jurisdiction, and surface expected for each trail.

Roanoke Valley Greenway Network					
PROJECT NAME	Plan #	Localities	Priority	Class	
Appalachian Trail*	1	Roanoke County	4	C	
Back Creek Greenway	2	Roanoke County	4	B-C	
Barnhardt Creek Greenway	3	Roanoke County, City of Roanoke	4	A-B-C	
BioMed Loop	4	City of Roanoke	3	A	
Birding and Wildlife Trail Sites	5	All	4	A-B-C	
Blue Ridge Parkway Trails*	6	Roanoke County, City of Roanoke	2	C	
Carvin Creek Greenway	7	Roanoke County	4	A-B	
Carvins Cove Trail Network	8	City of Roanoke	2	C	
Catawba Greenway	9	Roanoke County	4	B-C	
Dry Creek Greenway	10	Salem	4	A-B	
Explore Park Trails	11	Roanoke County	4	B-C	
Garden City Greenway (Garnand Branch)	12	City of Roanoke	3	A-B	
Gish Branch Greenway	13	Salem	4	B-C	
Glade Creek Greenway	14	Roanoke County, Vinton	3	A-B-C	
	14	City of Roanoke	4	A-B	
Gladetown Trail	15	Vinton	3	C	
Green Hill Park Trails	16	Roanoke County	4	B-C	
Hanging Rock Battlefield Trail	17	Roanoke County, Salem	2	B-C	
Havens Wildlife Management Area Trails+	18	Roanoke County	4	C	
Jefferson National Forest Trails*	19	Roanoke County	4	C	
Lick Run Greenway	20	City of Roanoke, Roanoke County	2	A	
Long Ridge Trail	21	Roanoke County	4	C	
Masons Cove Greenway	22	Roanoke County	4	B-C	
Mason Creek Greenway	23	Salem, Roanoke County	2	A-B	
Mill Mountain Greenway	24	City of Roanoke	2	A	
Mill Mountain Park Trails	25	City of Roanoke	2	C	
Mudlick Creek Greenway (& Garst Mill)	26	Roanoke County, City of Roanoke	3	A-B	
Murray Run Greenway	27	Roanoke County	4	B-C	
	27	City of Roanoke	3	B-C	
Perimeter Trail	28	Roanoke & Botetourt Counties	4	C	
Poor Mountain Preserve Trails+	29	Roanoke County	4	C	
Read Mountain Trails	30	Roanoke County	3	C	
Roanoke River Greenway	31	All	1	A-B-C	
Roanoke River Greenway Extensions	32	Franklin, Montgomery Counties	4	A-B-C	
Spring Hollow Trails	33	Roanoke County	4	C	
Tinker Creek Greenway	34	City of Roanoke, Roanoke County	2	A-B-C	
Wolf Creek Greenway	35	Roanoke County, Vinton	2	B	
*Federal Jurisdiction					
Class A = Paved with asphalt or concrete (See Section 2.4.2)					
+State Jurisdiction					
Class B = Crushed aggregate stone or wood chips					
Class C = Natural surface, wood chips, or crushed stone					

5.2 Priority #1 Roanoke River Greenway, Map #31

Description

The Roanoke River Greenway has always been considered the backbone of the regional greenway and trail network. This 30-mile bicycl e/pedestrian path will be the major west-east greenway, making it possible to travel from western Roanoke County near Spring Hollow Reservoir through the City of Salem to the City of Roanoke, Town of Vinton, Blue Ridge Parkway and Explore Park. The greenway will provide linkages to neighborhoods, industrial facilities and business complexes, ten parks, th ree schools, two sport complexes, Cardinal Criminal Justice Academy, the Blue Ridge Pa rkway and Montgomery and Franklin Counties. It will be a continuous route for non-motorized transportation where none currently exists. Connections to streets with bike lanes and to Masons Creek, Murray Run, Mill Mountain, Lick Run, Tinker Creek, and Wolf Creek greenways will permit travel north and south.

Status

Currently, three miles of Roanoke River Greenway are finished and open. One section is a half mile long near the Moyer Sports Complex in Salem. It was built in 2002 using private funds. A two and a half mile section is complete in the City of Roanoke, linking both Wasena and Smith Parks to the Rivers Edge Sports Complex and the Riverside Centre for Research and Technology. This was built using City monies and federal funds for the flood reduction project. Another two mile section is under construction in the City of Roanoke from t he Waste Water Treatment Plant to Hamilton Terrace; completion is expected in 2007.



A master plan for the western section of Roanoke River Greenway from Green Hill Park through Salem was completed in 1998; a plan for the City of Roanoke's section was completed in 2000; and one for the eastern section in Roanoke County and Vinton was completed in 2003. No master plan has been co mpleted for the western section from Green Hill Park to the Montgomery County line. Engineering for the section in Green Hill Park in western Roanoke County is complete, and cons truction is anticipated in 2007. In Salem engineering is 80% complete. Construction there should start in FY 08. In the City of Roanoke the greenway is being built in conjunction with the flood reduction project. The first five miles will be finished in 2008. Right-of-way acquisiti on for the upstream section should begin in 2007-08. No engineering or right-of-way work has been completed for the eastern section in Roanoke County.

Benefits

The Roanoke River Greenway has long been recogniz ed in local, regional, and state plans as an important facility for the area. It is included in each locality's comprehensive plan, the regional greenway and open space plans, and the *Virginia Outdoors Plan*. The Roanoke River Greenway is a multi-faceted project. All of t he master plans include canoe launches, providing access to a river once used for bateau travel. The greenway plans also include historic and

environmental interpretive signage, landscaping, mitigation of runoff into the river, and establishment of riparian buffers. This project will provide transportation, safety, health, environmental, and economic benefits to the valley, thus improving the quality of life in the region. The trail is often used for races and fundraising walks and runs. Greenways and trails in other areas have attracted significant tourism business, and the Roanoke River Greenway is expected to be a similar attraction.



Challenges

A big challenge in completion of Roanoke River Greenway is acquisition of rights-of-way. Local elected officials are reluctant to use condemnation, and approximately two-thirds of the corridor is in private ownership. There are two sections where the north and south side of the river are in different jurisdictions. Officials in the City of Roanoke are willing to justify the acquisition in conjunction with the flood reduction project and are moving forward with both the acquisition and design processes.

A second challenge is the proximity of the railroad to the river. In many places the rail bed drops straight into the river, and often there is a railroad track on both sides of the river. Crossing the tracks and being within the rail right-of-way are both safety concerns for Norfolk Southern. Further dialogue between the localities, the Greenway Commission and Norfolk Southern is needed. Other challenges include flooding and topography, such as cliffs.

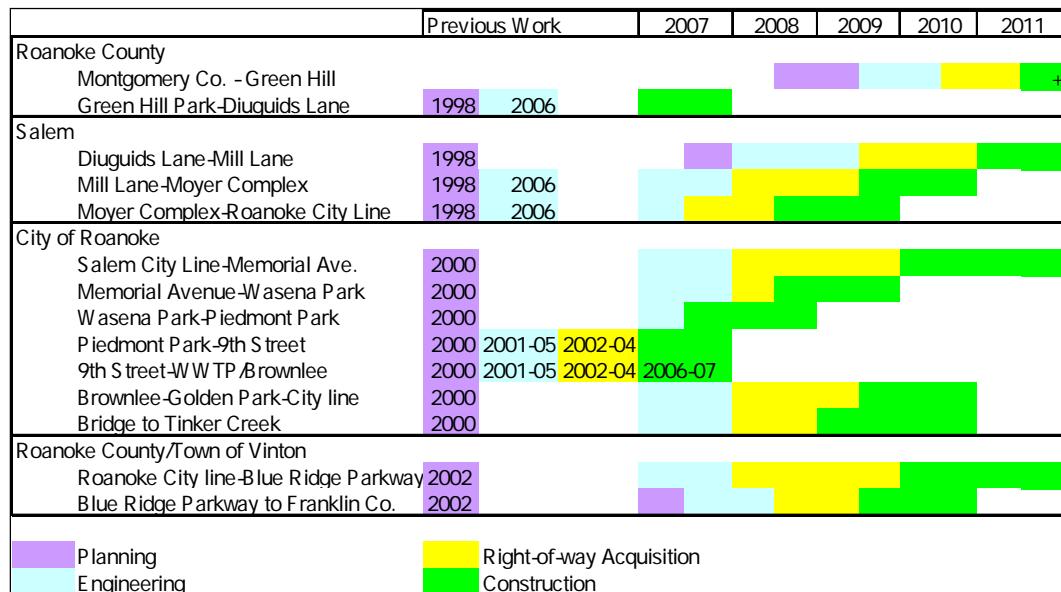
Funding is a critical issue for the jurisdictions. While grants have been received every year, additional sources of revenue and innovative funding methods are needed.

Next Steps

For several years there have been suggestions that the Roanoke River be designated a blueway. The Draft 2007 Virginia Outdoors Plan recommends development of the Roanoke River Greenway and Canoe Trail. For approximately half the year the river through the Roanoke Valley has sufficient flow for floating as a water trail. Each of the localities has existing and planned facilities for canoeists, kayakers, and fishermen. Should the four localities choose to expand the scope and role of the Greenway Commission to include other blueway functions, this change would require action by the localities and changes in organizational structure and staffing.

Completion of the Roanoke River Greenway is strongly supported. The table below proposes a schedule needed to complete the greenway in the next five years. Each locality is responsible for finishing its section.

Proposed Schedule for Roanoke River Greenway Completion

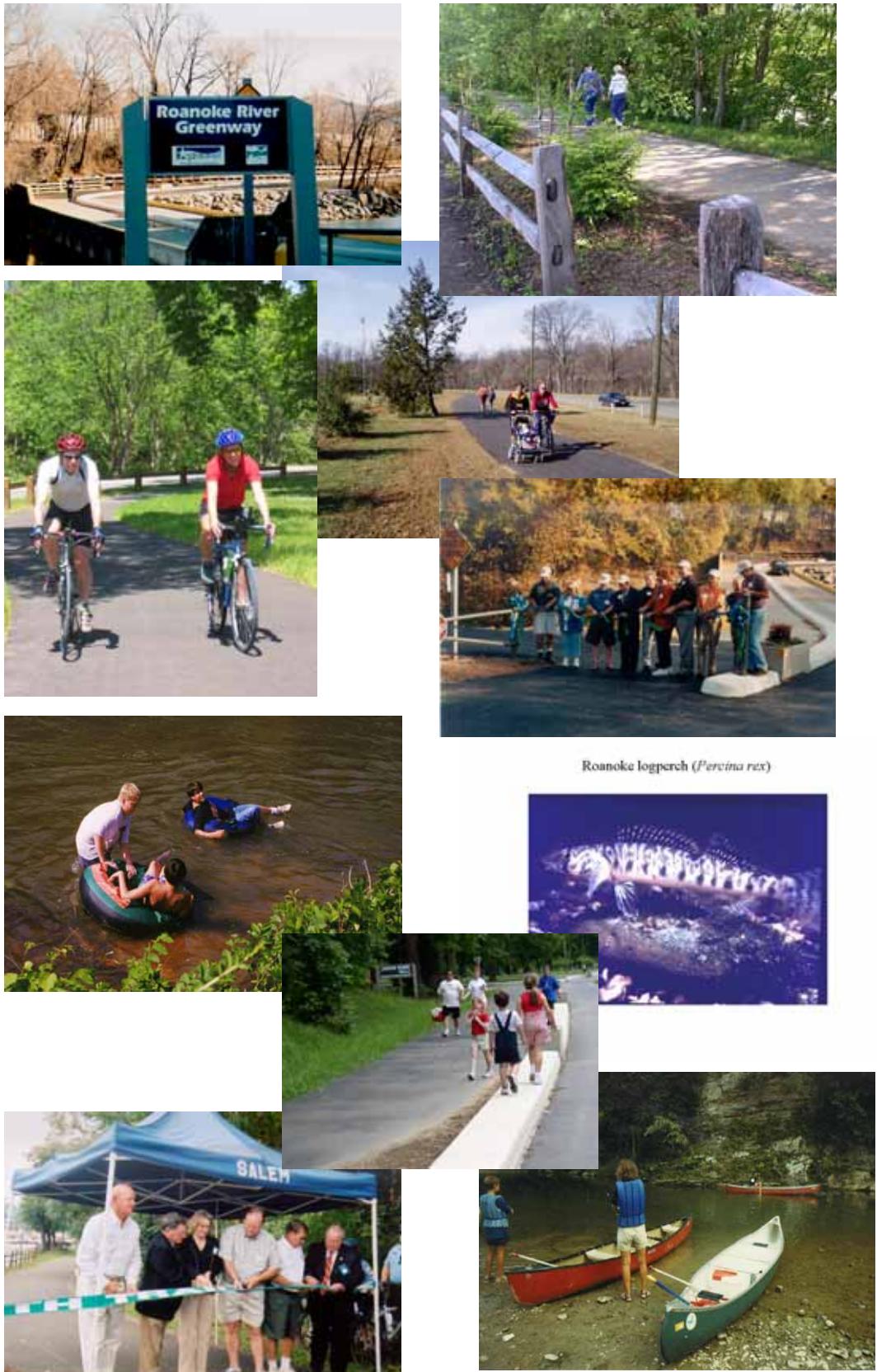


Costs

The table below shows the projected cost and funds needed to complete Roanoke River Greenway.

Section	Length in Miles	Preliminary Engineering and Permits	Right-of-way	Construction, Contingency, and Administration	Total Cost	Committed Funding	Funding Needed
County of Roanoke - Western Section							
Spring Hollow Reservoir to Green Hill Park	7.2	\$ 567,420	\$ 540,000	\$ 5,843,475	\$ 6,950,895	\$ -	\$ 6,950,895
Green Hill Park to Diuguids Lane	0.9	\$ 26,600	\$ -	\$ 372,100	\$ 398,700	\$ 398,700	\$ -
City of Salem - Western Section							
Diuguids Lane to Roanoke line	5.8	\$ 167,590	\$ 262,500	\$ 1,932,870	\$ 2,362,960	\$ 1,430,400	\$ 932,560
City of Roanoke - Central Section							
Phase II - Salem to Memorial	4.5	ACOE	\$ 1,830,000	\$ 3,400,000	\$ 5,230,000	\$ 3,530,000	\$ 1,700,000
Memorial to Wasena	0.5	\$ 87,800	\$ -	\$ 679,800	\$ 767,600	\$ 575,000	\$ 192,600
Phase I - Wasena to 13th Street	5.0	Complete	\$ 1,830,000	\$ 5,700,000	\$ 7,530,000	\$ 7,530,000	\$ -
13th St. to Tinker Creek Greenway	1.1	\$ 278,600	\$ 100,000	\$ 1,675,700	2,054,300	\$ 394,000	\$ 1,660,300
County of Roanoke/Town of Vinton							
Wastewater Treat. Plant to Franklin Co.	5.9	\$ 382,980	\$ 330,000	\$ 3,978,525	4,691,505	\$ 44,980	\$ 4,646,525
Total	30.9	\$ 472,790	\$ 4,022,500	\$ 13,080,670	\$ 29,985,960	\$ 13,903,080	\$ 16,082,880

5.0 Greenway Network



5.3 Priority #2 Greenways

5.3.1 Blue Ridge Parkway Trails, Map #6

Description

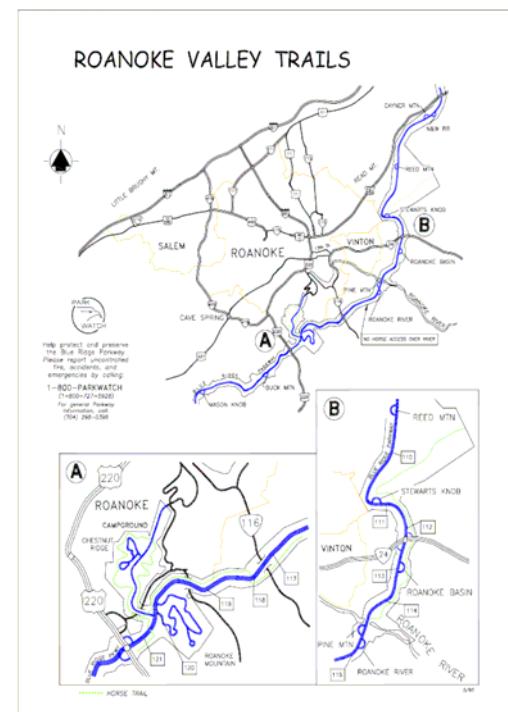
The Blue Ridge Parkway, a National Park, is a 469-mile recreational motor road through Virginia and North Carolina connecting Shenandoah and Great Smoky National Parks. The Parkway is a popular on-road cycling route for recreational cyclists, in part due to its limited access and lower traffic levels when compared to most community streets and highways. The Parkway traverses southern Roanoke County from MP 105 near US 460 to MP 136 near Adney Gap.

The Parkway has several trail systems in the Roanoke Valley: 1) the six mile Chestnut Ridge Loop Trail around Roanoke Mountain Campground, 2) the 13 mile horse trail paralleling the Parkway from US 220 to Stewarts Knob, 3) the one mile Roanoke River Trail from the overlook to the river, and 4) the half mile Buck Mountain Trail from the parking area to an overlook.

Status

In 2001 the Greenway Commission and the Blue Ridge Parkway signed a General Agreement allowing the Commission to assist with trail planning, mapping, and rehabilitation of Parkway trails. This agreement allowed the Commission to facilitate volunteer assistance in reconstructing and maintaining Parkway trails under the direction of Parkway staff.

In 2002 the Greenway Commission, Parkway staff, and National Park Service staff from the Rivers, Trails and Conservation Assistance program began a process of training, inventory and assessment of the Parkway trail system from MP 121 (US 220) to MP 110 (Stewart's Knob). This process involved a 25 member team of trail professionals and resource management staff working to develop a trail plan, with the final draft completed in January 2004. The plan recognized greenway connections at Mill Mountain, Roanoke River, and Wolf Creek Greenways and recommended construction of several new trail sections, as well as extensive trail rehabilitation. The plan made specific recommendations on the feasibility of developing a shared-use trail network, linking the Parkway, Greenway, and Mill Mountain trails. Shared use sections were to



allow mountain bicycles as well as horses and hikers. A categorical exclusion environmental document was completed documenting impacts of the trail work. The Blue Ridge Parkway planned to incorporate the plan into its new General Management Plan, but the GMP was never completed.

In fall of 2004, the Greenway Commission, working with Parkway staff and using a \$43,250 Virginia Recreational Trails grant, hired a professional trail contractor to relocate the sections of Chestnut Ridge Loop Trail which were considered irreparable. In addition, Pathfinders for Greenways worked with a variety of groups to rehabilitate damaged trail sections, establish campground connections, maintain all sections and thus complete the plan's vision for the loop. The Greenway Commission bought and installed interpretive signs showing the Chestnut Ridge Loop Trail.

In 2005 the Parkway completed a *Multi-Use Path Feasibility Study* for the entire Parkway, looking at the feasibility of having an off-road bicycling path.

In January 2006 the Parkway held a public meeting in the Roanoke Valley to discuss bicycling issues and illegal use of the trail system. This meeting launched a new trail planning process. Staff have mapped and documented the official and social trails and access points. A charette was held in January 2007 for representative users to discuss staff recommendations.

The 2004 *Roanoke Valley, Blue Ridge Parkway Trail Plan*, the 2005 *Blue Ridge Parkway Multi-Use Path Feasibility Study*, and the current proposals are available on-line under Blue Ridge Parkway at <http://parkplanning.nps.gov>.



Benefits

The Parkway trails provide many loop connections between Roanoke Valley greenways. Completion of the Parkway system would greatly enhance the local network. It would also give the Parkway trail attractions in the Roanoke region and much needed assistance with trail construction and maintenance.

Challenges

The biggest challenge in completing the Parkway trail system is providing a bridge across the river for trail users.

Next Steps

The Parkway hopes to have a public input meeting about its trail proposals in summer of 2007. The new recommendations include the greenway connections and a new trail from Buck Mountain overlook to Back Creek Greenway, as well as a new trail on Stewart's Knob. The Parkway is looking to Greenway volunteers for completion of the trail work. The uses allowed on each trail are not finalized. No funding is available at this time for the trail work.

5.3.2 Carvins Cove Natural Reserve's Trail Network, Map #8

Description

The Carvins Cove Natural Reserve is a 12,700-acre municipal park protecting the watershed of Carvins Cove Reservoir. The Cove is located in Roanoke and Botetourt counties, 7 miles from downtown Roanoke and 4 miles from Interstate 81. The reservoir is fed by springs and creeks within the Reserve as well as by tunnels from Catawba and Tinker Creeks.

When the Western Virginia Water Authority (WVVA) was formed in 2004, the City gave the reservoir and lands below the 1,200-foot contour to WVVA to be managed as one of the valley's major water sources. The remaining Reserve lands above 1,200' were retained by the City and are managed by the Parks and Recreation Department. Carvins Cove is the largest municipally owned park east of the Mississippi River and the second largest municipal park in the country.

The Appalachian Trail (AT) follows the ridge above Carvins Cove for fifteen miles from McAfee Knob to Tinker Cliffs and Tinker Mountain. This is one of the most photographed sections of the AT. In 1998 the National Park Service paid the City for a permanent easement for the Trail. This funding allowed the City to develop the Carvins Cove Land Use Plan, adopted by Council in 2000. The Land Use Plan recognized the many recreational activities at the Cove, including fishing, boating, bird watching, picnicking, hiking, mountain biking, and horseback riding.

Carvins Cove Natural Reserve can be accessed from three public roads:

- Reservoir Road near Hollins, known as "the boat landing"
- Carvins Cove Road, Route 740 off of Route 311, known as "Bennett Springs"
- Timberview Road

At the Reservoir Road entrance there is a large parking lot, picnic area, fishing pier, restrooms, and office. On Carvins Cove Road there is a parking lot and trailhead located a mile from the Bennett Springs gate. At Timberview Road there are no facilities, but bicyclists can access trails if they approach from Timberview.

Status

The 1995 Plan shows five greenway routes in the vicinity of the Cove. They are:

- Appalachian Trail (AT)
- Route to Appalachian Trail
- Carvins Creek
- Horse Pen Branch
- Timberview Road

There are 23 trails within the Reserve now, most of them open to hikers, mountain bikers, and equestrians. There are two trails within the Cove which provide connection to the AT. One is Sawmill Branch Trail near Riley's Loop and the other is near the boat launch; these are open to hikers only. This Plan incorporates the entire Carvins Cove trail network into the greenway system.

When the City of Roanoke Parks and Recreation Department was given responsibilities at the Cove in 2004, it began to assess management of the trail network. Mountain biking had increased dramatically, and the internet had made information about the Cove trails widely available. In 2005 the Parks and Recreation Department obtained a Virginia Recreational Trails grant to begin assessment of trail conditions and relocation of trails that were not sustainable. In 2006 the City hired Trail Solutions to provide an assessment of seven miles of the trail network and make recommendations on sustainable locations. In fall of 2006 Trail Solutions installed two of the recommended trail relocations. Volunteers have provided finish work on those trails. In the two years since an on-line database was established, volunteers have provided 9000+ hours in trail work at the Cove.

Benefits

The Carvins Cove trail network provides a premier natural area as a destination site for greenway users, as well as for tourists of all trail persuasions. Completion of greenway connections to the Cove would allow local users to ride to the Reserve and would enhance connectivity to other parks and public lands. The Cove has the potential to become a national destination for naturalists, mountain bikers, hikers, and equestrians.

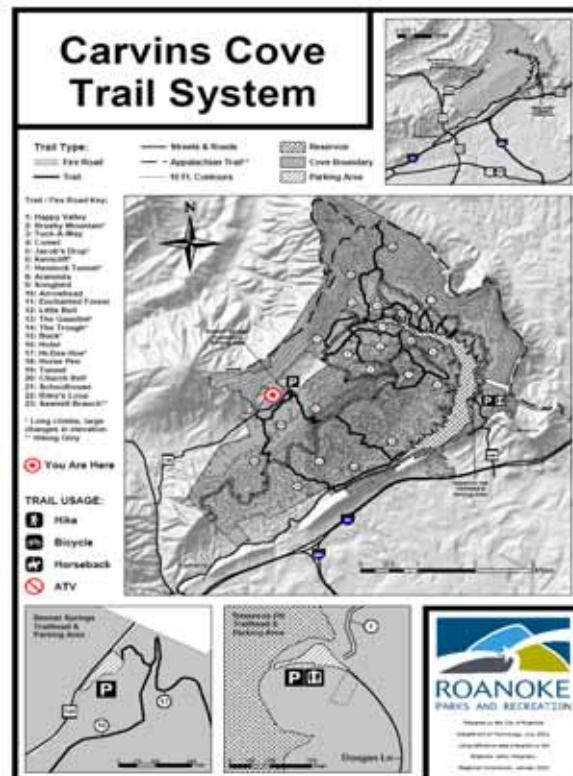
Challenges

Currently, Carvins Cove is in a pristine state with a large system of multi-use trails cared for by dedicated volunteers. A resource and recreational management plan is needed to ensure long-term sustainability of the natural resources at the Reserve.

Next Steps

The City is currently developing a Carvins Cove Natural Reserve Management Plan, which will provide further direction on development and management of the entire Cove. As part of the management plan, the City will develop a trails assessment, which will address not only existing trails but also any future trail needs. The assessment will address sustainability of existing trails and recommend retirement or relocation of any trail negatively affecting water quality.

Additional information on Carvins Cove is available from the City of Roanoke's Parks and Recreation Department at <http://www.roanokeva.gov>.



5.3.3 Hanging Rock Battlefield Trail, Map #17

Description

Hanging Rock Battlefield Trail is the only rail-trail project in the Roanoke Valley. It is a portion of Mason Creek Greenway, 1.7 miles long, along a railbed donated by Norfolk and Southern. The project was initiated by the Hanging Rock Battlefield and Railway Preservation Foundation, supported by the City of Salem and Roanoke County. The railroad right-of-way was donated to the Foundation and then from it to the localities. Other donations included land owned by the United Daughters of the Confederacy and easements from the Hinchee family.

This is a joint project between the City of Salem and Roanoke County, funded under the Enhancement program in 1995, 1997, and 2004. The greenway includes many signs explaining the history of the Civil War battle and of the Catawba Branch rail line. Natural features include the Hanging Rock, Mason Creek, Buzzards Roost, and Route 311 scenic byway. The Battle of Hanging Rock is commemorated on a stone obelisk, and a statue of a Confederate officer has been relocated to the north parking lot. The greenway is listed on Virginia's Civil War Trails map of the Shenandoah Valley and on the western Virginia Birding and Wildlife Trail Guide. The conversion of the rail line to a bicycle/pedestrian trail has provided opportunities not only for tourists studying Civil War history or looking for birds, but also for residents and business employees using the corridor for transportation to work, stores and government offices. The trail is used at all hours of the day by people wanting a pleasant path on which to exercise and enjoy the scenic and historic area.

The current facilities on Hanging Rock Battlefield Trail are a northern parking lot with historic information and exhibits, shared parking facilities at the Orange Market and at the southern terminus of the trail, numerous interpretive signs about the Battle of Hanging Rock and the railroad corridor, bike racks, a renovated trestle bridge, and wildflower plantings along the trail.



Status

A bridge connection is still needed to connect the northern parking lot to the Orange Market section of trail. Plans include a 100' free span bridge across Masons Creek, a 150' ADA compliant ramp from the bridge on the north side, and a tie-in to the existing trail on the Orange Market side. Funding has been awarded under the Enhancement program and over \$1000 has been donated to Pathfinders for this bridge.

Benefits

This greenway has been an attraction for tourists, particularly those interested in the Civil War. The Civil War Roundtable at Virginia Tech often sponsors field trips to this site, which is the closest battlefield to the Blacksburg. With easy access to Interstate 81, tourists are most apt to be introduced to the Valley's greenway network at this trail.

Challenges

In addition to the challenge of completing the bridge across Mason Creek, managers have the opportunity to expand interpretive facilities along the trail by renovation of the coal tipple. Such a renovation is unfunded at this time.



Next Steps

Roanoke County received an updated Enhancement grant agreement from VDOT in 2007. The County is proceeding with design and construction of the bridge. Completion is expected in 2009.



5.3.4 Lick Run Greenway, Map #20

Description

Lick Run is a tributary of Tinker Creek, starting beyond Countryside Golf Course and running to downtown Roanoke. The creek has water year round and is one of the major drainages in the valley, contributing to flooding downtown during heavy rains. The 1928 Comprehensive Plan for Roanoke depicted a green corridor along this creek, thus recognizing its importance to the green infrastructure of the valley.

Status

Construction of Lick Run Greenway was initiated as part of the interchange at Valley View Extension. When the interchange was built, the Greenway Commission and City of Roanoke recognized that there was an opportunity to provide pedestrian and bicycle facilities to cross I-581. The consulting firm of Whitesell Orrison, working with the Greenway Commission, completed a feasibility study for the greenway from there to downtown, and the City was able to fund construction of the greenway with the interchange, which opened in 1999.

The next section of Lick Run Greenway, was from the Valley View interchange to Court Street. This area historically was part of the Watts Plantation, the largest farm operation in antebellum Roanoke. Until the early 1900's it was known as "the Barrens," open land originally cleared by Native Americans for hunting. White oaks on the property are several hundred years old. The land was donated to the Western Virginia Land Trust until the trail was completed and then was passed on to the City. Funding for the construction was from multiple sources including Virginia Recreational Trails grant, Strategic Regional Alliance funds, City monies, Roanoke County in-kind services, private donations, and land donations. This section of the greenway opened in 2002.



The third section of Lick Run from Court Street to the Hotel Roanoke was developed by the City of Roanoke Parks and Recreation Department and opened in 2006. This portion connects several northwest neighborhoods including Historic Gainsboro, three schools, two parks, two fitness facilities, the Civic Center, Hotel Roanoke, and the Visitor Center. Funding came from Transportation Enhancement grants, the City, and Community Development Block Grant funds. The three miles of greenway built to date are paved.

Phase II of Lick Run Greenway will run from 19th Street, past Fairland Lake, to William Fleming High School and Countryside Golf Course, and then to Peters Creek Road for a connection to Roanoke County's multi-generational fitness center at Valleypointe Business Park and Northside High School. No plans for this phase have been developed.

Benefits

Lick Run Greenway is a crucial greenway in terms of transportation from downtown Roanoke to northern parts of the valley. It provides a free exercise and recreation facility in a section of the City which has historically been underserved medically and which has had high risk for health and obesity problems. It also is important in terms of green infrastructure. Protection of riparian buffers along this perennial stream helps reduce runoff and thus flooding in downtown. The wooded linear trail linking multiple parks provides a beautiful setting with unusual habitat for an urban area.

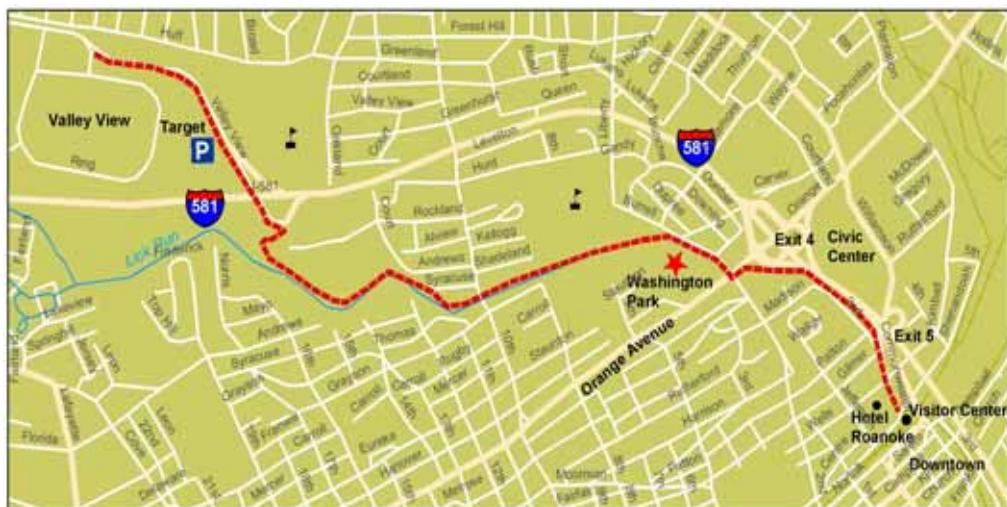


Challenges

No plans for the next phase of the greenway have been developed, but there are unique opportunities for inclusion of the greenway during development of properties currently in open space.

Next Steps

The City of Roanoke should consider including Lick Run Greenway, phase II, in plans for development of Countryside Golf Course and William Fleming High School. Likewise, Roanoke County should consider development of Lick Run Greenway to provide access to the proposed multi-generational center.



Lick Run Greenway Map

5.3.5 Mason Creek Greenway, Map #23

Description

Mason Creek begins in the Masons Cove area of Roanoke County and runs into the Roanoke River across from the Salem industrial park at Cook Drive near Apperson Drive. Hanging Rock Battlefield Trail is a portion of Mason Creek Greenway. Upstream from Hanging Rock the greenway is in Roanoke County and could be extended to provide connections to Carvins Cove Road, Masons Cove, and thus over the mountain to Catawba Valley and Hospital.

Downstream from Hanging Rock Trail, the creek is in Salem. It parallels Kesler Mill Road to Main Street, flows behind Lakeside Shopping center, under Rt. 419, past the General Electric plant and Arnold Burton Vocational School, to Roanoke River near Apperson Drive. Employees at General Electric are particularly interested in having this greenway built to provide connections for them back to Hanging Rock Trail.

Status

In 2004 this greenway was awarded \$994,400 in funding through the Scenic Byway portion of the federal Omnibus bill.

Benefits

Completion of this greenway from Hanging Rock Battlefield Trail to Roanoke River Greenway will provide an important north-south connection from the river to Carvins Cove, Havens Wildlife Management Area, the Jefferson National Forest, the Appalachian Trail, and north County neighborhoods. There are numerous businesses and commercial areas along the route, and thus the greenway could be important for access to these employment areas, as a health and fitness facility for these businesses, and as a quality of life attraction that facilitates retention of a talented work force. Because of the linkage to Hanging Rock Battlefield Trail, this greenway has great potential as a destination site for tourists, who might then bike or run on to Roanoke River Greenway.



Challenges

There is little right-of-way available at this time, but much of the corridor is in commercial and industrial areas where businesses might be willing to provide an easement.

Next Steps

The City of Salem should consider appointing a project manager to work with VDOT on the funding and to lead project design and implementation. The Greenway Commission could assist Salem with field work and contacts with businesses and landowners.

5.3.6 Mill Mountain Greenway, Map #24

Description

The Mill Mountain Greenway was selected in 1996 to be the Roanoke Valley's pilot project. The original plans envisioned the greenway trail connecting from the market downtown to Mill Mountain Park and out to Explore Park, via the Blue Ridge Parkway.

Status

The City of Roanoke was awarded two Transportation Enhancement grants, totaling \$390,000, to build the project and included \$250,000 in a bond referendum. Right-of-way issues necessitated modifications in the alignment. The existing section, 2.5 miles long, begins in Elmwood Park, parallels Williamson Road through the railroad district, crosses Walnut Street bridge and follows the Roanoke River to Piedmont Park. Trail users then follow sidewalks and streets to reach the rugged terrain of Mill Mountain, following historic Prospect Road, the old road up the mountain. The greenway passes under the old Toll House and utilizes the unique switchback bridge. The greenway reaches the top of the mountain at the Discovery Center, where park pathways link to both the Mill Mountain Star and the trail system of the mountain. The greenway opened in 2003 in a joint dedication with the western phase of the Virginia Birding and Wildlife Trail.

In order to fulfill the initial vision of tying the market to Explore Park, the Greenway Commission has worked with the City and the Blue Ridge Parkway to link the off-road trails of Pathfinders for Greenways has been instrumental in the construction of the Chestnut Ridge Loop Trail and in connecting Chestnut Ridge to the Discovery Center. In addition, in 1999 Pathfinders worked with the Mill Mountain Advisory Board Trail Committee to construct the Star Trail, a hiking connection from the Star to a parking lot on Riverland Road across from the AEP substation. When the Roanoke River Greenway is completed, the Star Trail will be an even more important link, providing a loop with Mill Mountain Greenway and Roanoke River Greenway.



Mill Mountain to the Parkway trail network.

In completing the rehabilitation of the construction of Ridgeline Trail to connect Chestnut Ridge to the Discovery Center. In addition, in 1999 Pathfinders worked with the Mill Mountain Advisory Board Trail Committee to construct the Star Trail, a hiking connection from the Star to a parking lot on Riverland Road across from the AEP substation. When the Roanoke River Greenway is completed, the Star Trail will be an even more important link, providing a loop with Mill Mountain Greenway and Roanoke River Greenway.

Benefits

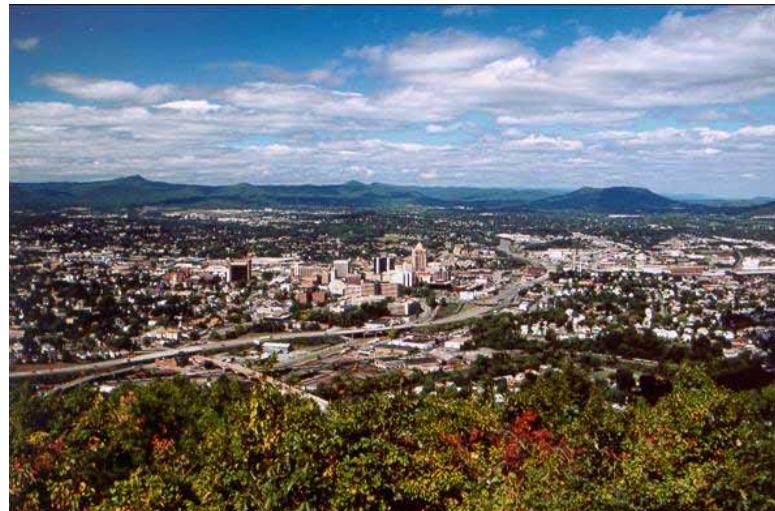
This greenway provides an important connection from downtown to the northern section of the Riverside Centre for Research and Technology, Roanoke River Greenway, Mill Mountain Park and Star, and the Blue Ridge Parkway.

Challenges

Because of its urban location, this greenway has off-road and on-road sections. Clear signage for users, as well as for adjacent motorists, is important. Users continue to say that the wayfinding needs to be improved. Further wayfinding identification should be considered to create fluid connectivity between Mill Mountain and Lick Run Greenways through downtown Roanoke.

Next Steps

The City Parks and Recreation Department will be coordinating with other departments and with Downtown Roanoke, Inc. to develop wayfinding that connects the Lick Run and Mill Mountain trail opportunities.



5.3.7 Mill Mountain Park Trails, Map #25

Description

Mill Mountain Park is a 600-acre park managed by Roanoke Parks and Recreation Department. It has historically attracted recreational use and many of the trails are shown on 50-year old maps.

Status

In 2006 Roanoke City Council adopted the Mill Mountain Park Management Plan, developed by the Roanoke Parks and Recreation Department. This plan addressed management of trails in the park. A few trails on the mountain are open to hikers only, but most are available also for mountain biking and equestrian use. The trail network connects the park to Chestnut Ridge Loop Trail, managed by the Blue Ridge Parkway, to Fern Park and Piedmont Park, and to Riverland, south Roanoke, and Garden City neighborhoods. When Roanoke River Greenway is complete, the trail network will be extended to connect to Mill Mountain. Pathfinders for Greenways has helped build many of the park trails and recruit volunteers for trail work.



Benefits

The Mill Mountain Park trails provide a wonderful, wooded network of natural surface trails within walking distance of numerous City neighborhoods. These trails also provide an attraction for tourists coming from the Blue Ridge Parkway.

Challenges

Park staff face the typical challenges of managing a wooded park and trail network in an urban area. These challenges include restricting illegal uses, such as all terrain vehicles, camping, and fires, managing user conflicts, educating inexperienced users, managing resources such as control of invasive species, protecting resources like trees and wildlife, and maintaining facilities.

Next Steps

Park staff is working with volunteers to complete the construction of the trail network. Wayfinding will be developed, so that all trails are well marked, with directional signs at intersections.

5.3.8 Tinker Creek Greenway, Map #34

Description

The Tinker Creek corridor is one of the most historic in the valley. The creek has its headwaters in Botetourt County and is fed by Carvins Creek, Lick Run, and Glade Creek. It is one of the few urban trout streams in the east and connects seven parks and three golf courses. Historic resources include the Great Wagon or Carolina Road, Monterey, Bell Mont, numerous other historic buildings, and remains of mills near the creek.

Status

In spring 2000 a conceptual plan for an 11-mile Tinker Creek Greenway was completed, for the City of Roanoke, with assistance from Virginia Tech. This plan inventoried natural and cultural resources and land uses, explored alternative trail locations, and included a public input meeting with landowners and neighbors. The plan recognized that beyond Mountain View School right-of-way would become more problematic. Thus a connection from Tinker Creek to Carvins Creek near LaMarre Drive was proposed, allowing utilization of Hollins University properties to reach Carvins Cove.



The first mile of Tinker Creek Greenway was built in the City of Roanoke along a utility corridor, opening in January 2003. There are connections to southeast via Kenwood Boulevard and to Fallon Park. Parking lots on Dale Avenue, Wise Avenue and Fallon Park provide ample access. The City has done extensive riparian planting within the corridor.

Roanoke Parks and Recreation Department has been awarded funding to begin design of a bridge to cross the river and tie Tinker Creek Greenway to Roanoke River Greenway. In Roanoke County, right-of-way for the greenway was dedicated at Villages of Tinker Creek, and Hollins has included the greenway in its master plan. Further engineering and right-of-way acquisition for other sections have not been initiated.



Benefits

When Tinker Creek Greenway is completed, it will provide a direct linkage from Roanoke River Greenway to Carvins Cove trail network. It will also attract significant tourism traffic because of its historic resources.

Challenges

Significant challenges include right-of-way acquisition and location of the trail along 13th Street, where the road is adjacent to the creek.

Next Steps

Several willing landowners, such as Hollins University and Community School, have stepped forward in support of this greenway, and development of a partnership should be explored. Ideally, a more detailed master plan of the greenway would be created to specifically address acquisition, corridor design, and multi-year capital outlay.



5.3.9 Wolf Creek Greenway, Map #35

Description

This greenway corridor parallels Wolf Creek from the Blue Ridge Parkway to Roanoke River. The creek is the boundary between the Town of Vinton and Roanoke County. Development of this greenway as a joint project was initiated early in the greenway program because of the availability of land within parks, along sewer corridors, and next to Vinton's well fields.

Status

The section of the greenway in Vinton from Hardy Road to Washington Avenue was completed in 1999 using Virginia Recreational Trails Grant funds. The 80' bridge crossing the creek was built by volunteers, and the ribbon cutting for the trail was incorporated into the first Governor's Conference for Greenways and Trails. Vinton has continued to utilize volunteers for greenway maintenance and enhancement, with the addition of flower beds, kiosks, benches, additional parking, and a Police fitness course. In 2001 Hardy Road was widened from two lanes to five, and bicycle lanes and sidewalks were included with connection to the greenway. Extensions from Hardy road south to Vinton Business Center and down the creek to Roanoke River Greenway are options in the future.



Roanoke County's section of the greenway was initiated by an Eagle Scout as a trail project in 1995. The County obtained a Virginia Recreational Trails Grant to upgrade the trail to greenway standards from Stonebridge Park to Goode Park. Improvements included an aggregate stone surface, culverts and bridges at stream crossings, benches, and a trail shelter. Volunteers have helped with construction of two bridges, two kiosks, bluebird boxes, tree identification signs and a seating area for William Byrd classes.

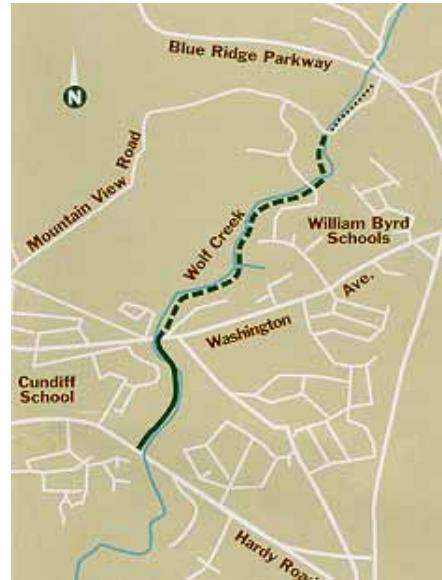
The third section of the greenway to be built is between Stonebridge Park and the Blue Ridge Parkway. The County installed the section from Stonebridge Park to Mountain View Road in 2005. A right-of-way from Mountain View Road to the Blue Ridge Parkway was donated when the sewer line was installed across the Gross Farm in 1996. In 2006 construction began on improvements to Mountain View Road. The greenway will be able to go under the new road and the road itself will include bike lanes. The extension of the trail from Mountain View Road to the Blue Ridge Parkway was completed in 2006, but will not open until the road is completed.

Benefits

Wolf Creek Greenway provides a well used connection in Vinton and Roanoke neighborhoods. Many senior citizens, William Byrd students, and residents from local subdivisions as well as the neighboring county use the trail. With completion to the Parkway, Wolf Creek Greenway will offer many extended loops.

Next Steps

Plans for extension of the greenway to Vinton Business Center and to Roanoke River should be developed before right-of-way acquisition can be initiated.



5.4 Priority #3 Greenways

5.4.1 The BioMed Loop, Map #4

This corridor recognizes potential loops utilizing Lick Run Greenway, the Railwalk, Mill Mountain Greenway, Roanoke River Greenway, and Tinker Creek Greenway. "BioMed" is the colloquial name given to the area along Reserve Avenue and Jefferson Street where the Riverside Centre for Research and Technology is being developed.



5.4.2 Garden City Greenway, Map #12

The Garden City Greenway corridor follows Grand Branch from the Roanoke River near the AEP substation to Garden City Elementary School. Several properties have been purchased with flood mitigation funds and are now being managed by the City of Roanoke Parks and Recreation Department. This greenway could provide connections from Roanoke River Greenway through the neighborhood to the trail networks of Mill Mountain Park and the Blue Ridge Parkway, as included in the Garden City Neighborhood Plan.

5.4.3 Glade Creek Greenway, Map #14

Glade Creek is a tributary of Tinker Creek, with headwaters in eastern Roanoke County near US 460. The Town of Vinton and Roanoke County have explored running the greenway from Tinker Creek Greenway to Gearhart Park, Vinyard Park and connecting to the Blue Ridge Parkway near Stewarts Knob. The portion in Vinyard Park is a priority for Roanoke County in its Parks master plan.

5.4.4 Gladetown Trail, Map #15

Gladetown Trail in Vinton would connect Craig Avenue Recreation Center to Niagara Road. It is included in Vinton's Comprehensive Plan, with connections to the proposed Tinker Creek canoe launch and to Wolf Creek Greenway.

5.4.5 Mudlick Creek Greenway, Map #26

Mudlick Creek flows through many neighborhoods in Roanoke County and the City of Roanoke, generally connecting Hidden Valley High School, Garst Mill Park, and the Deyerle Road area. The creek is subject to flash flooding after hard rains, and in 2002 Roanoke County installed a stormwater detention pond as part of the High School construction.

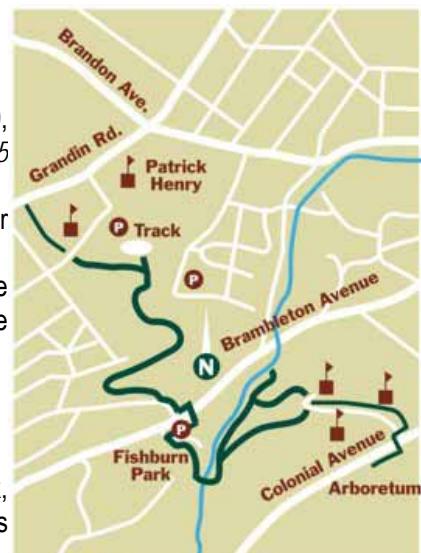
The first section of this greenway opened in Garst Mill Park in 1999. A plan was developed with assistance from the Virginia Tech Community Design Assistance Center. The greenway was built in conjunction with a sewer line upgrade, with additional right-of-way donated by an adjacent landowner. The ½ mile paved trail is heavily used by neighbors and by others driving to the park. In addition to those exercising, frequent users include families with children learning to ride bikes, handicapped groups with wheelchairs, neighbors walking dogs, and elderly folks with some mobility impairments. Since the trail was built, many amenities have been installed, including trees, benches made from recycled materials, pooper scooper bag dispensers, and a memorial to Lee Eddy, a County Supervisor instrumental in establishing the greenway program.

Extension of the trail is challenging because of the proximity of residences to the creek itself, but several easements have been secured. In 1999 an easement for the greenway near Route 419 was secured as a proffer with the McVitty Forest development. An easement downstream from the park, parallel to Garst Mill Road, was secured in 1999. The greenway has been included in development plans for the high school, McVitty Forest, and McVitty Road. Connections to Cave Spring Junior High and Penn Forest Elementary have also been proposed in conjunction with Merriman Road improvements.

5.4.6 Murray Run Greenway, Map #27

Murray Run is a stream which starts near Green Valley School in Roanoke County, runs through a site known as the Old Jefferson Hills Golf Course, passes behind residential houses, and then enters Fishburn Park. From the park the stream goes under Brambleton Road, through a neighborhood, through Lakeside Park, behind more residences and then under Brandon Road to Roanoke River.

In 1998 the Greater Raleigh Court Civic League adopted this project and developed a plan in 2000, which combined three routes suggested in the 1995 *Conceptual Greenway Plan*. The greenway has been built in stages, with much of the work by Pathfinders for Greenways and corporate volunteers. The trail has a natural surface in wooded areas and a cinder surface across school and park fields. The sections of the greenway which have been built connect six schools and three parks: Patrick Henry High, Roanoke Valley Governor's School, Raleigh Court Elementary, James Madison Middle School, Fishburn Park Elementary, Virginia Western Community College, Shrine Hill Park, Woodland Park, and Fishburn Park. Other facilities



along the route include the Virginia Western Arboretum and the Gator Aquatic Center.

There are two sections of the greenway which are not finished in the phase from Grandin Road to Colonial Avenue: the section behind Raleigh Court Elementary and the bridge near the rain garden at Fishburn Park. An extension of the greenway is planned from Colonial Avenue to Ogden Road, Tanglewood Mall, and Green Valley School. Another connection to Mudlick Creek Greenway is proposed along Grandin Road. The City of Roanoke Parks and Recreation Department expects to initiate a corridor feasibility analysis by 2008 to determine the best corridor alternatives to connect to Roanoke County near Tanglewood Mall.



5.4.7 Read Mountain Trails, Map #30

Read Mountain lies between US 460 and Old Mountain Road and is undeveloped on its upper slopes. In 2000 a grassroots group called Read Mountain Alliance was formed to protect the mountain from ridge line development. The Alliance has worked with property owners to secure easements and to explore and build trails on the mountain. In November 2006 a developer donated 125 acres to Roanoke County to be part of this new park. In addition to trails on the mountain there is opportunity for a connection to Tinker Creek Greenway, Roanoke Center for Industry and Technology, and the Jefferson National Forest.



5.5 Priority #4- Routes

5.5.1 Appalachian Trail, Map #1

The Appalachian National Scenic Trail (AT) is a 2,174-mile foot path along Appalachian Mountains from Katahdin in Maine to Springer Mountain in northern Georgia. The AT provides the ultimate greenway on the northern edge of the Roanoke Valley. This section of the Trail is managed for foot travel only by the National Park Service, U.S. Forest Service, Appalachian Trail Conservancy, and Roanoke Appalachian Trail Club.

Well known lookouts along this section of AT include Audie Murphy Memorial, Dragon's Tooth, McAfee's Knob, Tinker Cliffs, and Fulhardt Knob. Key access points with parking are located at:

- VA 311 at Dragon's Tooth Trailhead, north of Catawba
- VA 311 at the top of Catawba Mountain (Catawba Valley Road)
- VA 779 near the cement plant, Catawba Creek Road (Botetourt County)
- US 220 in Daleville at the park-n-ride (Botetourt County)
- US 11 near Troutville (Botetourt County)

The parking lots at Dragon's Tooth and VA 779 provide access to the AT via blue-line trails. There are also two trails within Carvins Cove Natural Reserve which provide connection to the AT: Sawmill Branch Trail from the Bennett Springs end and another from the boat launch end.

Additional information on the AT is available from the National Park Service at <http://www.nps.gov/>, the Appalachian Trail Conference at www.appalachiantrailconference.org, and from the Roanoke Appalachian Trail Club at www.ratc.org. Note: Bicycles and horses are not allowed on the AT.

5.5.2 Back Creek Greenway, Map #2

The 1995 Plan included a greenway route (#45) along the entire length of Back Creek. Exploration of the corridor, setting of priorities, and recognition of the extensive acquisition that would be needed has led to shortening the corridor. The most feasible section is from the headwaters to Merriman Park. Here a connection to the Blue Ridge Parkway is planned.

In the headwaters of Back Creek there are several public properties which might be linked by a greenway, including a well field site and Back Creek School. This part of Roanoke County is a mix of rural farms and newer subdivisions. Widening of VA 220 as far as Cotton Hill Road is included in the Virginia Department of Transportation (VDOT) Six Year Plan. While the original engineering did not include bike lanes or a greenway, VDOT is re-examining the available right-of-way in an effort to provide some bicycle accommodations. VA 220 is a critical road for bicyclists because it provides a section of so many loop rides.

Roanoke County Parks, Recreation, and Tourism manages a large park complex on Back Creek near Penn Forest. This complex includes Darrell Shell Park, Starkey Park, and Merriman Park. The County has built some sidewalks and pedestrian connections between the park facilities which could be linked together as part of Back Creek Greenway. There is a well-

used bicycle access point from Merriman Park to the Blue Ridge Parkway, which is proposed by the Parkway as an official access and connection of Parkway and greenway trails.

5.5.3 Barnhart Creek Greenway, Map #3

Barnhardt Creek begins near state property on Long Ridge, parallels the end of Grandin Road Extension, winds through Hidden Valley Country Club and Junior High, and runs into Roanoke River at the Salem/City of Roanoke line. Within the City of Roanoke it is often called Craven Creek. While this route is difficult from a right-of-way standpoint and would require on- and off-road sections, it is retained from the 95 Plan (where it was Route 36) because it could provide linkages from suburban neighborhoods like Meadow Creek, Fairway Forest, Farmingdale, Medmont Lake, and Crestwood to Roanoke River and to Poor Mountain Preserve.

5.5.4 Birding and Wildlife Trail, Map #5

The Virginia Department of Game and Inland Fisheries has developed a Birding and Wildlife Trail to celebrate the state's diverse habitats and bird watching opportunities. The Mountain Area guide includes two loops in the Roanoke Valley, the Star City Loop and the Roanoke Valley Loop. The guide highlights parks, trails, greenways, and other sites where nature enthusiasts will have good opportunities for observing birds and wildlife and directs users on driving between these sites. While many of the individual sites are otherwise listed in the *Greenway Plan*, the Birding and Wildlife Trail is included as a separate "greenway" to highlight its importance as a state network.

Sites currently listed on the Roanoke loops are:

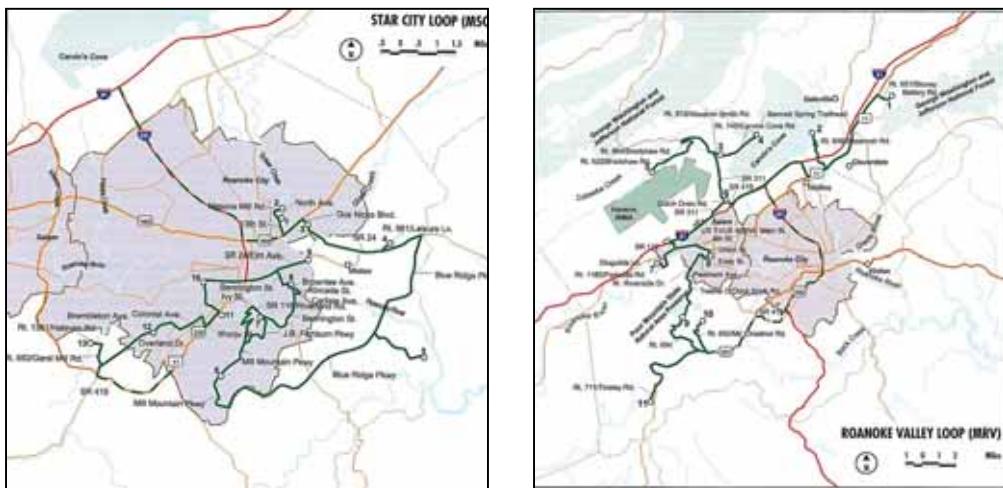
Star City Loop

- East Gate Park
- Masons Mill Park
- Thrasher Park
- Wolf Creek Greenway
- Virginia's Explore Park
- Chestnut Ridge Trail
- Mill Mountain Park (including Star Trail)
- Roanoke Water Pollution Control Plant
- Tinker Creek Greenway
- Wasena Park and the Roanoke River Greenway
- Rivers Edge Sports Complex
- Fishburn Park
- Garst Mill Park Greenway

Roanoke Valley Loop

- Woodpecker Ridge Nature Center
- Carvins Cove Recreation Area
- Whispering Pines Park
- Carvins Cove Recreation Area – Upperside
- Havens Wildlife Management Area
- Hanging Rock Battlefield Trail
- Green Hill Park
- Moyer Sports Complex/ Roanoke River Greenway
- Poor Mountain Natural Area Preserve
- Happy Hollow Garden
- Bent Mountain Elementary School

Virginia Birding and Wildlife Trail Guides are available from the Virginia Tourism Corporation at 1-866-VABIRDS (1-866-822-4737). Additional information is available at <http://www.dgif.virginia.gov/wildlife/vbwt/index.asp>.



5.5.5 Carvin Creek Greenway, Map #7

The 1995 Plan included a greenway route (# 9) from Carvins Cove Reservoir to Tinker Creek. Exploration of the corridor, setting of priorities , and recognition of the extensive acquisition that would be needed has led to shortening the corridor. There are two feasible sections. One is from Brookside Park to Tinker Creek. The second section is being incorporated into the Tinker Creek Greenway corridor from LaMarre Drive through Hollins University campus to Carvins Cove.

5.5.6 Catawba Greenway, Map #9

This greenway has been added to the Greenway Plan through this Update at the request of citizens. It would run from Masons Cove, cross the Appalachian Trail on Sandstone Ridge, descend through the Catawba Farm owned by Virginia Tech, and connect to Catawba Hospital and the National Forest.

5.5.7 Dry Creek Greenway, Map #10

This corridor (Route # 12 in the 95 Plan) follows a small tributary of Roanoke River. The drainage begins in Havens Wildlife Management Area, goes through the municipal golf course, and connects several Salem neighborhoods and a park along Shanks Street. It goes underground and resurfaces near Timber Truss, with connections to Union Street near Moyer Complex.

5.5.8 Explore Park Trails, Map #11

Virginia's Explore Park is 1,100 acres of state owned land managed by the Virginia Recreational Facilities Authority (VRFA). The park includes an historic interpretive area and many recreation opportunities like canoeing, fishing, picnicking, hiking, and mountain biking.

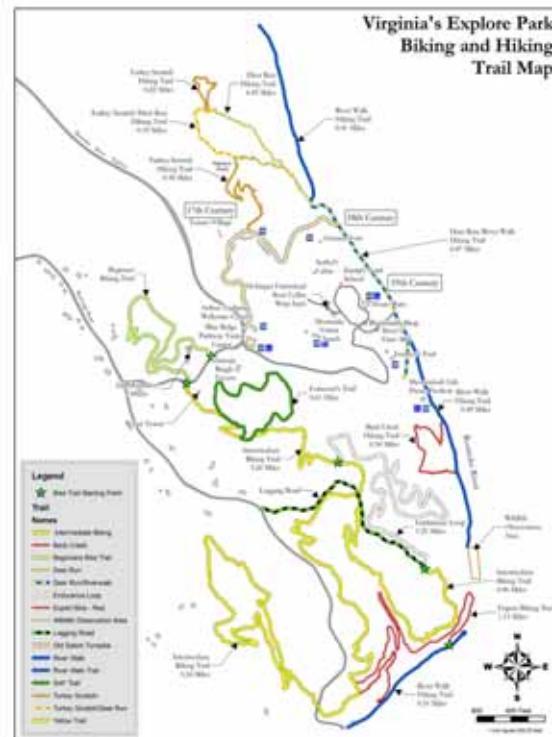
Within the park are a Blue Ridge Parkway visitor center, the restored Brugh Tavern, and a restored church which can be rented for special events. Access to the park is from Milepost 115 on the Blue Ridge Parkway.

VRFA has signed an option to lease the park to Virginia Living Histories for development as a family recreation area. Details of that development have not been completed.

Explore Park's trail system currently has several components.

- There are 12 miles of mountain bike trails, which were professionally built by International Mountain Biking Association (IMBA) and volunteers.
- There are hiking trails from the third over look of the entrance road, which generally descend to the river and historic area.
- There is a Society of American Foresters' trail, 0.65 miles, designed to demonstrate forestry regeneration and natural resource management.
- Back Creek Nature Trail is a half mile interpretive loop near the river.
- Along the river, there is Riverwalk, a dual track, wooded trail. This is a potential location for the Roanoke River Greenway.
- From the Shenandoah Picnic Pavilion to the end of the park at Rutrough Road there is trail. Initially it is dual track, and then beyond the wildlife plot it is a single track trail. In 2005 the Greenway Commission sponsored an Eagle Scout to build a bridge on this trail.

Explore Park is an important component of the Roanoke River Greenway. The Roanoke River Greenway is projected to enter park lands near Niagara Dam, run under the Blue Ridge Parkway, and then re-enter the park to run through to Back Creek, where it would connect to Franklin County. The greenway will also connect Explore Park to downtown Roanoke and other portions of the Roanoke River. Additional information on Explore Park is at www.explorepark.org.



5.5.9 Gish Branch Greenway, Map #13

Gish Branch is a tributary of Mason Creek, and the corridor includes several historic structures related to the Valley Railroad. This greenway could link Salem neighborhoods to the Hanging Rock Battlefield Trail.

5.5.10 Green Hill Park Trails, Map #16

Green Hill is a 224-acre Roanoke County Park on the Roanoke River west of Salem. The park offers a range of festival events, sports, and recreation opportunities. It includes an equestrian facility with show rings, stables, and a hunt course, and multi-use trails for hiking and mountain biking. Construction of the Roanoke River Greenway through the park has been designed and funded; construction is expected to begin in 2007.

5.5.11 Havens Wildlife Management Area Trails, Map #18

Havens Wildlife Management Area (WMA), covering 7,190 acres, is located in northwest Roanoke County and managed by Virginia Department of Game and Inland Fisheries. Havens encompasses most of Fort Lewis Mountain and is generally steep and inaccessible terrain except to the hardiest hunter or nature enthusiast. Elevations range from 1,500 to 3,200 feet. In addition to hunting, Havens offers visitors the opportunity to hike, view wildlife and wild flowers, and pursue other outdoor interests. The WMA is an important connection between Carvins Cove and the western part of Roanoke County.



Havens has two primary public access points:

- Carroll's Access Road from Wildwood Road on the south side of the property
- Bradshaw Road, VA 622, where it joins the area's northwest boundary.

Additional information is available at [_____](#)

5.5.12 Jefferson National Forest Trails, Map #19

The Jefferson National Forest includes 690,000 acres of woodlands between the James River and southwest Virginia. It is managed by the U. S. Forest Service for multiple uses, including recreation, timber, wildlife, water, and minerals. The Jefferson is now administered jointly with the George Washington National Forest, which covers the Forest Service lands in the western part of the state from the James River to the Potomac.

The U. S. Forest Service is one of the experts nationally in construction and management of natural surface trails for hiking, horseback riding, mountain biking, and other trail uses. The Jefferson NF provides important greenway connections for the Perimeter Trail, Appalachian Trail, and other trail loops. Other trails close to the Roanoke Valley include North Mountain Trail and the Glenwood Horse Trail.

5.5.13 Long Ridge Trail, Map #21

Long Ridge connects Poor Mountain Preserve, managed by the Virginia Division of Natural Heritage, to Happy Hollow Gardens, managed by Roanoke County as a park. The ridge is undeveloped at this time and provides a unique opportunity for a woodland trail connecting western Roanoke County to southwest County.

5.5.14 Mason Cove Greenway, Map #22

The Masons Cove greenway would connect Mason Creek Greenway to Catawba Greenway utilizing an old railroad bed.

5.5.15 Perimeter Trail, Map #28

The Perimeter Trail will be a multi-use trail circling the Roanoke Valley and connecting existing public lands. Existing trail networks to be connected include Carvins Cove, Havens Wildlife Management Area, Green Hill Park, Spring Hollow, the Blue Ridge Parkway, Explore Park, and the Jefferson National Forest. This greenway would provide a long distance trail for hikers, equestrians, and mountain bikers. A route for the perimeter trail through Botetourt County from the Jefferson National Forest to Carvins Cove has not been identified.

5.5.16 Poor Mountain Preserve, Map #29

Poor Mountain Preserve is a 925-acre site managed by the Virginia Division of Natural Heritage (Department of Conservation and Recreation) to protect the world's largest population of the globally rare piratebush. This shrub is saprophytic to Table Mountain pine and hemlock. The Division plans to install a new four mile trail system to provide better public access to its very steep terrain. The Preserve could provide a connection from Harborwood Road to Twelve O'Clock Knob.

5.5.17 Roanoke River Greenway Extensions to Franklin and Montgomery Counties, Map #32

This route is the extension of Roanoke River Greenway from Explore Park to Smith Mountain Lake and from Spring Hollow to the New River Valley. The Valley's portion of this route may be only a bridge to Franklin County or a short connection to Montgomery County, but the route is included in both the *Virginia Outdoors Plan* and the *Franklin County Trails Plan*. The Montgomery County Bikeway/Walkway Plan includes a North Fork route, and the New River Planning District Commission is currently updating the regional greenway plan, which is expected to include a Roanoke River Greenway connection to New River.

5.5.18 Spring Hollow Trails, Map #33

Spring Hollow is a major reservoir for the Roanoke Valley, now managed by the Western Virginia Water Authority. Adjacent lands are owned by Roanoke County, as is the adjacent Camp Roanoke. A master plan for the site completed in 1996 proposed numerous horse trails and other facilities, but these have not yet been developed. Spring Hollow is an important connection for the Perimeter Trail and a destination along Roanoke River Greenway.

5.6 On-road Connections

While the focus in this Update is on greenways which provide linkages and which are both "green" and a "trail", there was in 1995 and still is today, recognition that on-road transportation connections are needed to traverse the valley and to get from one greenway to another. The 1995 *Conceptual Greenway Plan* included thirty-one routes, some numbered and some not, which were labeled as being on-road. These are listed in the matrix in Section 2.4.5. For on-road routes, this Update endorses the 2005 *Bikeway Plan for the Roanoke Valley Metropolitan Planning Organization* and the 2006 *Rural Bikeway Plan*.

5.6.1 Bikeway Plan for the Roanoke Valley Metropolitan Planning Organization

The 2005 *Bikeway Plan for the Roanoke Valley Area Metropolitan Planning Organization (Bikeway Plan)* represents a coordinated effort by the Roanoke Valley Area MPO, local jurisdictions, and other stakeholders to facilitate development of a regional transportation network that accommodates and encourages bicycling as an alternative mode of travel and as a popular form of recreation in the MPO study area. The MPO study area covers the "urbanized" portions of the region and includes the City of Roanoke, City of Salem, Town of Vinton, and portions of Botetourt and Roanoke Counties. These localities, with the exception of Botetourt County, are members of the Greenway Commission.

The Bikeway Plan describes a variety of on-road facilities that might be constructed or managed for bicycle use, including striped bicycle lanes, paved shoulders, widened outside lanes, and rural roads with low levels of vehicular use. These routes are ranked as either "priority" or "vision". The routes currently included in the 2005 *Bikeway Plan* and thus endorsed as on-road transportation routes for the Greenway Plan are shown in Appendix E.

The Bikeway Plan includes an annual review and update process. The Regional Commission is currently reviewing the Bikeway Plan with an expected update by June 2007. An initial comparison of corridors listed in the Bikeway Plan with on-road greenway routes from the 1995 Conceptual Greenway Plan identified corridors for inclusion in the 2007 update to the Bikeway Plan. The following routes are recommended as an amendment to the Bikeway Plan to provide for the needs recognized in the greenway network. The complete Bikeway Plan for the RVAMPO and information on the update process is available at www.rvarc.org/bike.

On-Road Greenway Routes and/or Connections for Consideration in the 2007 Update of the Bikeway Plan for the RVAMPO

Street	From	To	Locality
Cove Road	Electric Road /419	Greenridge Road	Roanoke County
Electric Road /419	Route 220	Route 311	Roanoke Co., Salem
Green Ridge	Cove Road	Wood Haven Road	Roanoke County
Harborwood Road	Riverside Drive	Poor Mountain Road	Roanoke County
Main Street	Electric Road /419	Peters Creek Road	City of Salem
Mill Lane	Electric Road /419	Roanoke River	City of Salem
Mill Mountain Park Spur Road	Blue Ridge Parkway	Mill Mountain Park	City of Roanoke
Spartan Lane	Electric Road /419	Mill Lane	City of Salem
Timberview Road	Route 311	Terminus	Roanoke County
US 220 South	Franklin Road	Blue Ridge Parkway	City of Roanoke
Washington Avenue /Route 24	Vinton CL	Bedford County CL	Vinton, Roanoke Co.
Wood Haven	Green Ridge	Peters Creek Road	Roanoke County

5.6.2 Rural Bikeway Plan

The Rural Bikeway Plan, completed in 2006, covers the portions of Roanoke County outside of the Roanoke Valley Area MPO and the localities of Alleghany, Craig, and Franklin Counties, the City of Covington, the Town of Clifton Forge, and the rural portions of Botetourt County. On-road greenway routes included in the Rural Bikeway Plan are provided below. The Rural Bikeway Plan is available at www.rvarc.org.

On-Road Greenway Routes Included in the 2006 *Rural Bikeway Plan*

Street	From	To	Locality
Bradshaw Road (Route 622)	Route 311	Montgomery County CL	Roanoke County
Blacksburg Road (Route 785)	Route 311	Montgomery County CL	Roanoke County
Carvins Cove Road (Route 740)	Route 311	Botetourt County CL	Roanoke County
Carvins Cove Road (Route 740)	Botetourt County CL	Terminus	Botetourt County

5.6.3 Virginia Interstate Bicycle Route 76

Several nationally recognized bicycle routes that run through Virginia. These include the BikeCentennial Route 76, the Trans-America Bike Trail, and the Interstate Bicycle Route 76. The Trans-America Bike Trail (a.k.a. BikeCentennial Route 76) runs for 4,250 miles from Williamsburg, Virginia to Astoria, Oregon. The 500-mile Virginia section of the Trans-America Bicycle Route runs from Yorktown to the Kentucky state line near Breaks Interstate Park and is known as the Virginia Interstate Bike Route 76.

The Virginia Interstate Bicycle Route 76 runs through portions of Roanoke County. Although "Route 76" signs with a bicycle image demarcate the route (Figure 6.1), the roads along the route have not necessarily been improved for bicycle travel. Bike Route 76 through Roanoke County is outlined below.

- Enter Roanoke County on Route 779 (Catawba Creek Road) from Botetourt County
- Continue on Route 779 until the intersection with Route 311 (Catawba Valley Road)
- Turn right (west) onto Route 311 for a short distance
- Turn left onto Route 785 (Blacksburg Road) and continues on Route 785 into Montgomery County

Route 785 was noted as an on-road greenway route in the 1995 Plan and is included in the 2006 *Rural Bikeway Plan*.

5.6.4 Virginia Department of Transportation Policy for Integrating Bicycle and Pedestrian Accommodations

The Commonwealth Transportation Board adopted the new *Policy for Integrating Bicycle and Pedestrian Accommodations* on March 18, 2004. This policy provides the framework through which VDOT will accommodate bicyclists and pedestrians in the planning, funding, design, construction, operation, and maintenance of Virginia's transportation network. In this policy an



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6.0 IMPLEMENTATION STRATEGIES

6

The Update to the Conceptual Greenway Plan envisions an ambitious network of trails and accommodations that connects the region. As shown in Section 4, the issues raised by the public led to development of six new goals, in addition to those in the 1995 Plan. (See Section 4.6.) These six goals are regional goals for all the partners involved in the greenway program to consider during future greenway planning. The objectives and strategies address these six goals and suggest methods for implementing the Update. The four localities and Greenway Commission will need to work together to determine needs within each jurisdiction and the best allocation for sharing responsibilities. The Greenway Commission will address the goals, objectives and strategies outlined in this section in a cooperative partnership with the four local governments, recognizing that each locality operates in an individual manner and is responsive to a broad spectrum of needs and desires from its citizenry, one of which is the implementation of the regional greenway program.

Goals	Objectives	Strategies
1. Greenway Construction Complete a connected greenway network of trails to provide the multiple benefits of a greenway system, with focus on finishing Roanoke River Greenway.	<ul style="list-style-type: none"> Prioritize greenway construction and focus resources on completion of the greenway network's arterial routes. Provide a connected greenway system by focusing on long stretches of off-road trails and tying them together with on-road bicycle and pedestrian facilities. Improve the process for getting greenways built. Provide identification, regulatory, and informational signs on each greenway to facilitate use and management. 	<ul style="list-style-type: none"> Focus on finishing the Roanoke River Greenway (Priority #1) in the next five years. Focus on finishing Priority #2 routes in five to ten years. Incorporate on-road greenways and connections into the regional Bikeway Plans. Develop master plans for Priority 1 and 2 greenways with time lines for land acquisition and construction. Identify a project team for each project, with assigned roles and responsibilities.

Goals	Objectives	Strategies
1. Greenway Construction (continued)		<ul style="list-style-type: none"> Within each locality coordinate project management, land acquisition, and greenway construction with all departments that might help or be impacted. Develop greenway sign guidelines to encourage signage consistency while retaining flexibility to meet locality requirements. Continue to use Pathfinders for Greenways to build Class C trails.
2. Funding Increase greenway funding to meet the goals for trail construction and completion of the greenway network.	<ul style="list-style-type: none"> Develop an aggressive, regional, multi-year funding plan that identifies fiscal goals and sources of continuous funding for greenway construction. Develop new sources of revenue for greenway construction. 	<ul style="list-style-type: none"> Continue to seek federal and state grants but reduce reliance on these sources. Develop an implementation plan for completion of the Roanoke River Greenway and utilize it in soliciting corporate donations and investments. Target multiple funding sources and explore innovative funding possibilities such as bonds, stormwater fees, private grants, and partnerships. Expand fund raising activities such as charitable donations, festivals, races, and other fundraising events.

Goals	Objectives	Strategies
2. Funding (continued)		<ul style="list-style-type: none"> Include capital money for greenways in each locality's Capital Improvement Program. Develop a donation program to allow private donation of greenway amenities such as water fountains, bike racks and benches. Develop a method for receiving and efficiently utilizing corporate donations. Develop a list of specific trail sections or components that could be funded by corporate or other private monies.
3. Land Acquisition Develop a land acquisition program that provides rights-of-way needed for greenway construction.	<ul style="list-style-type: none"> Develop an aggressive, land acquisition program that identifies properties needed for each project and time lines for acquisition that dovetail with construction schedules. Work cooperatively among local jurisdictions to coordinate land acquisition across jurisdictional boundaries. 	<ul style="list-style-type: none"> Form land acquisition teams, define roles and responsibilities of team members, and train team members to assist with acquisition of greenway easements. Identify existing public properties and easements being acquired for other purposes to determine if greenway easements can be incorporated. Develop a mechanism to be involved in the utility easement process so that greenway easements can be considered where appropriate.

Goals	Objectives	Strategies
<p>3. Land Acquisition (continued)</p>		<ul style="list-style-type: none"> • Work with planning staff to refine local zoning ordinances to encourage and protect greenway corridors. • Work with developers to include greenway easements, and greenway construction, within new developments that are located along identified greenway corridors. <p>Utilize corporations and chambers of commerce to support development of trails within industrial/business complexes.</p>
<p>4. Community Outreach and Education Develop a community outreach and education program that provides information on greenway opportunities and benefits.</p>	<ul style="list-style-type: none"> • Develop a dynamic outreach program that communicates the economic, health, environmental, and quality of life benefits of the greenway system. • Increase awareness of greenway implementation efforts through a comprehensive marketing strategy. • Expand environmental educational programs and service opportunities through cooperation with local schools and an expanded volunteer program. 	<ul style="list-style-type: none"> • Expand the Greenway Commission and localities' web sites to provide current information on projects and events, trail locations and maps, and information for tourists. • Provide greenway marketing information to the economic development departments of the local jurisdictions. • Develop an outreach program that goes beyond the Roanoke Valley to be used to attract new businesses and enhance the valley's value as a tourism destination. • Develop a speaker's bureau to market greenways to Valley residents through club and organization meetings, civic associations, and business groups.

Goals	Objectives	Strategies
4. Community Outreach and Education (continued)		<ul style="list-style-type: none"> Standardize use of the greenway logo on trail signs, maps, and marketing materials. Publicize greenway projects, trail locations, and benefits via the press, newsletters, signage, and web site. Expand the volunteer and volunteer recognition program. Develop a “Youth of the Greenways” advocacy component to engage young audiences to volunteer and contribute to future greenway development.
5. Organizational Structure Refine the organizational structure to effectively and efficiently implement the Update to the Conceptual Greenway Plan and manage the growing greenway system.	<ul style="list-style-type: none"> Clarify the roles and responsibilities for implementing the Greenway Plan. Improve the Greenway Commission’s function to assist the localities effectively. 	<ul style="list-style-type: none"> Clarify the roles and responsibilities of each locality, the Greenway Commission and volunteers in implementation of the Greenway Plan and specific projects. Update and renew the Intergovernmental Agreement. Identify staffing needs of the localities and Greenway Commission to meet the responsibilities of each in implementing the Greenway Plan and managing the greenway network.

Goals	Objectives	Strategies
5. Organizational Structure (continued)		<ul style="list-style-type: none"> • Develop a Memorandum of Understanding with Western Virginia Water Authority and other utility companies to facilitate right-of-way planning and management of greenways within utility corridors.
<p>6. Greenway Management Manage the greenway network to meet user needs, provide a range of experiences in a secure environment, and protect the natural resources.</p>	<ul style="list-style-type: none"> • Utilize best management practices in design and maintenance of greenways. • Improve regional coordination among greenway managers to address management issues and develop consistent responses. • Provide departments maintaining greenways with sufficient budget and resources to manage the growing greenway network. 	<ul style="list-style-type: none"> • Work with legal department to develop any ordinances needed to effectively manage greenways. • Develop methods for users to report problems or conditions on greenways. • Involve law enforcement and emergency management personnel prior to the opening of new greenways. • Schedule regional meetings among staff managing greenways to share methods and experiences. • Identify greenways in locality mapping and geographic information systems. • Use national and state guidelines like CPTED (Crime Prevention through Environmental Design) and AASHTO (Amer. Association of State Highway and Transportation Officials) to design secure and safe trails. • Expand adopt-a-greenway programs and other methods for volunteer assistance to reduce maintenance costs.

In addition to goals, objectives and strategies in the table above, this Update reaffirms the goals and objectives of the 1995 Plan.

Goals from 1995 Plan	Objectives/Strategies Quoted from 1995 Plan
<p>1. Transportation</p> <p>Provide corridors that bicyclists, pedestrians, and others can use to get from one place to another as an alternative to motor vehicle use.</p>	<ul style="list-style-type: none"> Provide greenways that connect schools, libraries, shopping centers, work sites, parks and other places in the community. Provide connections between mass transit sites and make arrangements for safe storage of greenway system users' bicycles (or other belongings) while they are using the transit system. Identify and make plans for existing roads that should be widened or otherwise modified to accommodate bicycles and pedestrians. Initiate Valley-wide design and installation standards to incorporate bicycle and pedestrian facilities on new roads and road improvement plans. Initiate design standards that are sensitive to the disabled in order to ensure opportunities for a variety of users.
<p>2. Safety</p> <p>Design a greenway system that maximizes safety of greenway system users and nearby property owners and neighborhoods.</p>	<ul style="list-style-type: none"> Establish integrated law enforcement and emergency response programs that serve the needs of greenway system users and landowners. Incorporate into the greenway management system appropriate safety and security strategies. Design the greenway system to accommodate different activities (such as horseback riding and bicycling) with a minimum of user-conflict. Improve bicycle safety by implementing safety education programs in local schools and the community.
<p>3. Recreation/ Fitness/Health</p> <p>Design the greenway system as both a recreational resource and as public access to other recreational resources, offering a full spectrum of recreation and exercise opportunities.</p>	<ul style="list-style-type: none"> Provide a greenway system that accommodates a variety of recreational activities. Encourage businesses to establish and integrate use of greenways into corporate health and wellness programs. Promote programs and facilities that provide opportunities for individual health related activities. Make each greenway a stand-alone destination (as well as a link to other resources) by providing amenities such as benches, picnic areas, and workout stations. Provide access to the Valley's existing and proposed recreation areas, such as local parks, the Blue Ridge Parkway, and the Appalachian Trail. Inform the public on how using the greenways can help citizens increase personnel fitness and maintain healthy lifestyles.

Goals from 1995 Plan	Objectives/Strategies Quoted from 1995 Plan
<p>4. Education</p> <p>Educate the public about the need for and benefits of greenways, and educate the greenway system user about the area's natural and cultural history.</p>	<ul style="list-style-type: none"> • Educate the community on the importance of environmental conservation and restoration ecology. • Develop a program of continuing education for elected officials, agency staff, developers and engineers to define the latest technologies, design methodologies and land use practices for managing the environment. • Increase public awareness of the importance of the Roanoke River and its watershed lands to the future of the Roanoke Valley • Educate the public on the benefits and uses of greenways. Develop an out-reach education program to attract new users. • Educate property owners of the economic advantages of having a greenway on or near their property. • Educate greenway system users on proper greenway system etiquette that respects the rights of adjacent property owners and other greenway system users. • Use the greenway system as an outdoor Environmental Learning Lab for school and community use. • Provide historic information using trail markers along historically significant trail corridors. • Provide maps and literature on trail length, difficulty, restrictions and amenities.
<p>5. Economic Development</p> <p>Address both the appropriate costs of implementing the greenway system (including land acquisition and capital improvements) and the benefits that will result from its creation.</p>	<ul style="list-style-type: none"> • Utilize the greenway system as an economic development marketing tool for the Roanoke Valley. • Use greenway linkages to compliment and enhance tourist attractions. • Document economic benefits of greenways, such as increasing the value of land that lies contiguous to a greenway and the benefits to a new business locating in the Roanoke Valley. • Establish a mechanism to ensure continuing maintenance of the greenways, such as using volunteers to keep maintenance costs low and starting Adopt-A-Greenway program. • Utilize tax incentives, easements and other approaches to encourage individuals and businesses to donate land, funding or materials. • Establish procedures for subdivision developers to provide donations of land or rights-of-way for greenway systems. • Utilize existing rights-of-way, utility corridors, and other features to lower installation costs. • Explore and obtain multiple sources of funding for greenways.

6.0 Implementation Strategies

Goals from 1995 Plan	Objectives/Strategies Quoted from 1995 Plan
<p>6. Environmental</p> <p>Design a plan that preserves, promotes and enhances the Valley's environmental assets.</p>	<ul style="list-style-type: none"> • Encourage localities to include greenways as a flood reduction strategy in the <u>Roanoke Regional Stormwater Management Plan</u>. • Develop a valley-wide strategy for protecting natural stream corridors and other open space, plus a mitigation program for addressing resources that have been adversely altered by land development. • Promote greenways as an alternative transportation mode that can help reduce air pollution. • Utilize areas adjacent to greenways as natural areas that protect, maintain, or restore natural vegetation and aquatic and wildlife habitats. • Design greenways to reduce non-point source pollution in stormwater runoff. • Utilize greenways as buffer zones between developed area and open spaces.
<p>7. Organizational and Operational</p> <p>Implement the Roanoke Valley Conceptual Greenway Plan on a regional level and proceed with future greenway system planning and implementation.</p>	<ul style="list-style-type: none"> • Obtain local government and citizen support for the Roanoke Valley Conceptual Greenway Plan. • Respond to citizen concerns such as safety issues and user conflicts in the establishment and operation of the greenway system. • Establish standards for the design, operation, and maintenance of the greenway system. • Ensure that an organizational structure exists for regional planning, implementation, and operation of greenways in the Roanoke Valley • Establish a non-profit organization to launch a public awareness campaign, volunteer programs and fundraising efforts • Select a pilot greenway project and implement it. • Pursue implementation of other elements of the Roanoke Valley Conceptual Greenway Plan.

APPENDIX A: BIBLIOGRAPHY

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APPENDIX B: INTERGOVERNMENTAL AGREEMENT

INTERGOVERNMENTAL AGREEMENT ESTABLISHING THE ROANOKE VALLEY GREENWAY COMMISSION

1. PURPOSE

The purpose of the Roanoke Valley Greenway Commission ("Commission") is to promote and facilitate coordinated direction and guidance in the planning, development, and maintenance of a system of greenways throughout the Roanoke Valley.

2. SCOPE

This greenway system is intended to enhance the quality of life for Valley citizens and visitors and to:

- (a) provide safe and efficient alternative transportation linkages between recreational sites, open spaces, residential areas, employment centers, educational and cultural facilities, and other activity centers;
- (b) encourage citizen wellness and maintain environments which promote opportunities for recreation activities;
- (c) protect environmental assets and retain beneficial ecological habitats;
- (d) maintain a contiguous urban forest ecosystem to reduce community wide environmental problems such as excessive storm water runoff, air quality degradation, water pollution, and urban climate change;
- (e) promote an appreciation for the Valley's natural, historical and cultural resources and its neighborhoods;
- (f) protect and link significant remnants of the community's undeveloped open spaces, woodlands, and wetlands; and
- (g) enhance the Valley's appearance to encourage tourism, promote economic development, and improve the living environment for residents.

3. EFFECTIVE DATE; ESTABLISHMENT OF COMMISSION

This Agreement shall be effective, and the Commission shall be established, pursuant to §15.1-21, Code of Virginia (1950), as amended, upon its execution pursuant to the authority of ordinances adopted by the governing bodies of each of the City of Roanoke, the City of Salem, the County of Roanoke and the Town of Vinton.

APPENDIX B - CONTINUED

4. RESPONSIBILITIES AND DUTIES

The Commission shall have the following responsibilities and duties:

- (a) To study the needs of the Roanoke Valley and the desires of the Valley residents as expressed in the Roanoke Valley Conceptual Greenway Plan, dated December, 1995, as the same may be amended from time to time, and to work to implement a coordinated system of greenways into each jurisdiction's planning efforts;
- (b) To advise and inform the governing bodies and the citizens of the Valley of existing, planned, and potential opportunities for establishing greenways within the Valley;
- (c) To make recommendations to the governing bodies relative to desirable federal, state, and local legislation concerning greenway programs and related activities;
- (d) To investigate and recommend funding, grants, and/or donations of land, property or services from the Commonwealth of Virginia, the United States of America, their agencies, private citizens, corporations, institutions and others to promote, construct or maintain Greenways within the Roanoke Valley;
- (e) To study and recommend uniform standards for the design and construction of greenways, including sign standards, to be employed Valley-wide;
- (f) To actively pursue and promote public/private partnerships, work closely with the Western Virginia Land Trust and similar nonprofit organizations, and facilitate cooperation among Valley governments in developing, constructing and maintaining a system of greenways throughout the Valley; and,
- (g) To coordinate the efforts of the federal, state and local jurisdictions in the Valley to create a Valley-wide system of greenways and trails that satisfy the needs of all the residents of the Valley, including those with special needs.

5. MEMBERSHIP

- (a) The Roanoke Valley Greenway Commission shall be composed of members, appointed as follows:
 - (1) Three (3) members from each of the participating political subdivisions to be

APPENDIX B - CONTINUED

appointed by the governing bodies, each for a term of three (3) years, except for the initial appointments which are to be staggered for each representative as a one, a two and a three-year term as determined by the governing body. Each member shall be a resident of the jurisdiction which he or she represents.

- (2) One (1) member appointed by the Metropolitan Planning Organization of the Fifth Planning District Commission for a term of three (3) years.
- (b) In addition to the above members, the following individuals, or their designated representatives, shall serve as ex-officio, non-voting members of the Greenway Commission:
 - (1) the chief planning official of each jurisdiction;
 - (2) the official responsible for parks and recreation from each jurisdiction;
 - (3) one representative of the nonprofit group heretofore established to support greenways in the Roanoke Valley; and,
 - (4) one representative of the Western Virginia Land Trust.
- (c) A vacancy for the remainder of any term shall be filled by the governing body making the original appointment.
- (d) The Commission may add ex-officio members, as appropriate, from interested organizations.
- (e) The members of the Commission shall serve without pay.

6. MEETINGS

- (a) The Commission shall hold regular meetings at least once per quarter each calendar year. All meetings and hearings of the Commission shall be open to the public except private meetings may be held pursuant to provisions of the Virginia Freedom of Information Act. Reasonable notice of the time and place of all regular and special meetings shall be given to the public. Meetings shall be called by the chairman or upon request of a majority of the members.
- (b) The Commission shall adopt bylaws necessary to conduct the affairs of the Commission.

APPENDIX B - CONTINUED

7. OPERATING REVENUE

- (a) The Commission shall not operate as a fiscal agent.
- (b) Funding for staff support to the Commission may be made available as appropriated and administered through an agreed-upon fiscal agent.
- (c) Annual funding requests from the Commission shall be made by February 1 of each year to the governing bodies of the member jurisdictions.

8. ADMINISTRATION

- (a) An annual report shall be prepared and submitted to the governing body of each member jurisdiction each calendar year.
- (b) The Commission may establish any committees necessary to fulfill the responsibilities and duties of the Commission.
- (c) Any greenway coordinator or staff positions of the Commission approved by the governing bodies shall be funded on a per capita basis as determined by the most recent population estimates of the Weldon Cooper Center for Public Service of the University of Virginia.

9. DURATION AND TERMINATION

- (a) This Agreement shall remain in force for a period of twelve (12) years unless specifically extended or otherwise modified by action of the governing bodies of all member jurisdictions.
- (b) A participating political subdivision may withdraw from this by adoption of appropriate ordinance.

10. AMENDMENTS

This may be amended only by approval by the governing bodies of each member jurisdiction.

11. LIABILITY

To the extent permitted by law, the participating political subdivisions agree to indemnify, keep and hold the members of the Commission and its staff free and harmless

APPENDIX B - CONTINUED

from any liability on account of any injury or damage of any type to any person or property growing out of performance of the duties and responsibilities imposed by this Agreement. In the event of any suit or proceeding brought against members of the Commission or its staff, the participating political subdivisions shall pay reasonable costs of defense. Any costs of the participating political subdivisions under this section shall be shared on a per capita basis as determined by the most recent population estimates of the Weldon Cooper Center for Public Service of the University of Virginia.

WITNESS our hands and seals this _____ day of _____, 1997.

ATTEST:

Mary J. Parker
City Clerk

CITY OF ROANOKE

By D. D. Brown

ATTEST:

Mary W. Allen
Clerk to the Board

COUNTY OF ROANOKE

By B. J. Lane

ATTEST:

Forest L. Jones

CITY OF SALEM

By Calie Zoffy S.

ATTEST:

Carolyn S. Rose
Town Clerk

TOWN OF VINTON

By C. Buford Carter

APPENDIX C: INPUT TO THE UPDATE OF THE ROANOKE VALLEY CONCEPTUAL GREENWAY PLAN

Summary of Public Response on Update to the Greenway Plan
February 16, 2006

1. What is your vision of the greenway network? Are there corridors that should be added or deleted from the Conceptual Greenway Plan?

Input No.	Question #	Written Comment	Date
G1	1	Work on core greenways and not on roadways	2/16/2006
G1	1	Major east west = Roanoke River; perhaps north-south=Lick Run	2/16/2006
G1	1	Roanoke River top priority; to Explore Park-destination	2/16/2006
G1	1	Connectivity to schools - needed	2/16/2006
G1	1	Connect to trails outside area	2/16/2006
G1	1	Connect Nature Conservancy and Happy Hollow	2/16/2006
G1	1	Concern with use at Havens Wildlife Management Area	2/16/2006
G2	1	Pedestrian traffic area	2/16/2006
G2	1	Connecting parks and recreation areas	2/16/2006
G2	1	Connecting people with places of employment	2/16/2006
G2	1	Venue for events - races	2/16/2006
G2	1	Connects natural resources	2/16/2006
G2 1		Connect neighborhoods/communities	2/16/2006
G3	1	Extend connections to Franklin, Montgomery and Botetourt County	2/16/2006
G3	1	Green Hill Park to Explore Park	2/16/2006
G3	1	Include Read Mountain	2/16/2006
G3	1	Tinker Creek to Carvins Cove to Botetourt	2/16/2006
G3	1	Lick Run out to William Fleming (west)	2/16/2006
G3	1	More bicycle/walker friendly greenways along roadways!	2/16/2006
G3	1	Add Glade Road trail - south of Vinton	2/16/2006
G3	1	Add Interior Dept. trails from 111 to Explore	2/16/2006
G3	1	Must include Explore Park	2/16/2006
G4 1		Mixed surfaces	2/16/2006
G4 1		On/off road	2/16/2006
G4	1	* Mix of location (urban, suburban, rural)	2/16/2006
G4	1	* Better/more uniform signage	2/16/2006
G4	1	Length of river ~entire way; tributaries as well	2/16/2006
G4	1	*Potential connection to other counties (Botetourt, Bedford) 2/16/2006	2/16/2006
G4	1	* Better volunteer promotion	2/16/2006
G4	1	Tie into existing events (i.e. Clean Valley Day, etc)	2/16/2006
G4 1		*Enhance connections: Carvins Cove, Read Mtn, National Forest land 2/16/2006	
G4	1	Low maintenance, pedestrian traffic	2/16/2006
G5	1	Emphasize the protection and enhancements of Nature	2/16/2006
G5	1	Safe clean area	2/16/2006

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G5	1	Create trails that serve multiple users	2/16/2006
G5	1	Greenways should parallel rivers/streams/creeks, not roadways	2/16/2006
G5	1	Focus on off-road trails; do not drop trails on top of roadways	2/16/2006
I-1	1	Nature Conservancy tract on Bent Mtn, connect to Happy Hollow	2/16/2006
I-1 1		Perimeter trail - horse trail around valley; start with trail along Blue Ridge Parkway	2/16/2006
I-10	1	1 - Recreation first	2/16/2006
I-10	1	2 - Casual development such as restaurants or condos	2/16/2006
I-10	1	3 - Connectors to access greenways	2/16/2006
I-11 1		Connected trails	2/16/2006
I-12	1	Add Hollins College to Carvins Cove	2/16/2006
I-12	1	Add Read Mtn.	2/16/2006
I-12 1		Vision: Connectivity to outlying counties and their trails, open spaces/ nat. lands	2/16/2006
I-12 1		Vision: *Preservation within city of undeveloped properties, open spaces, still natural patches of land.	2/16/2006
I-12	1	Vision: Connecting neighborhoods and communities	2/16/2006
I-13 1		That neighborhoods are connected to business districts to encourage more walking and biking to run your errands instead of driving - connecting neighborhoods to downtown and places like Grand village is essential	2/16/2006
I-14 1		Connections to all points & planned routes that can be accessed by bicycle & walking	2/16/2006
I-14 1		Connect existing trails of Roanoke River trail, Chestnut loop & Carvins Cove	2/16/2006
I-15	1	Facilitate biking transportation around the city and into downtown	2/16/2006
I-16 1		Add back greenway in Explore Park along Roanoke River. Also trails along river from STP down to Explore	2/16/2006
I-16	1	Havens Wildlife Refuge needs a trail	2/16/2006
I-17 1		Selfishly, my vision would be to use connected network of trails for commuting on bicycle from Garden City area to downtown, to northwest area of city. I think connecting downtown to Mill Mountain and Blue Ridge Parkway would also be wonderful!	2/16/2006
I-18 1		I think the greenway system should be both 1) beautiful and 2) functional. Some areas would be more of 1 and some would be more of 2, of course, depending on location and type of trail.	2/16/2006
I-19 1		I hope we're not holding up work in certain areas because of the overwhelming nature of the "big plan". My present perception is that we have a gorilla that we don't quite know how to approach. How many miles per year have we finished? Keep the big plan in mind, but finish something.	2/16/2006
I-2	1	Everything look good	2/16/2006
I-20 1		Delete the highways (e.g. #20, #1, #2). These are not greenways. Focus on real trails.	2/16/2006
I-21 1		I think the greenways need to be interactive connections throughout the whole region. We need connections to natural areas like Explore Park, the Appalachian Trail, the GW National Forest and the Roanoke River.	2/16/2006

APPENDIX C - CONTINUED

I-22 1		To be able to travel by foot or bike from downtown Roanoke to the Roanoke River and then either east to the Salem city limits or west to the Blue Ridge Parkway following the river's floodplain. There should also be at least 2 north-south greenways: Lick Run corridor and Peters Creek or Masons Creek corridors. Lastly, a connection to Carvins Cove and Havens WMA would be nice but only after the above items are finished.	2/16/2006
I-23 1		The greenways will be more populated & used when there is a continuous path of 5 miles. Therefore, all efforts should be directed toward this.	2/16/2006
I-24 1		All stream corridors should be greenways, as well as abandoned railroad rights of way and many alleys.	2/16/2006
I-25	1	A network that crosses the valley with connected trails	2/16/2006
I-26 1		Riverside greenway from Green Hill Park to Explore with feeder trails leading to the river from strategic areas of the valley	2/16/2006
I-27 1		Walks all the greenways all the time. Greenways make Roanoke a better place to be, healthier environment. Old folks need the greenways; they can't do the AT.	2/16/2006
I-28	1	Completion of the current plan throughout the Valley	2/17/2006
I-3 1		To have a network of pathways (paved/unpaved) throughout the valley to provide routes for non-motorized transportation, exercise, and recreation	2/16/2006
I-30 1		I have a copy of the original 1906 Roanoke River Greenway Plan. Back then they knew the value of having a greenway along the river. It is TIME we finish the thing!!!	2/14/2006
I-30 1		It would enhance our valley's offerings not only to citizens but to the traveling public, visitors, and tourists, if we could do a circumferential from Carvins Cove to Havens Wildlife Area to Spring Hollow, up Bent Mountain, down the Parkway to the National Forest, to Greenfield, and to the Cove. Many communities in America now have these wonderful loops	2/14/2006
I-30 1		Long range goal -- connect Montgomery County to Smith Mountain Lake.	2/14/2006
I-4 1		We need to get the river corridor completed as soon as possible. There are unlimited possibilities for greenways, but the corridor along the Roanoke River will serve as the backbone. The many smaller trails need to be connected by this river backbone.	2/16/2006
I-5 1		To be able to walk out my door and go anywhere from anywhere, on foot. To Damascus on the AT & back a different way, for example. To travel in large circles from my house. To walk & bike on more errands, commutes, etc.	2/16/2006
I-6	1	Extend Roanoke River Greenway to Blacksburg, Franklin County.	2/16/2006
I-6	1	Extend Lick Run to Peters Creek Rd. and to Mason's Cove.	2/16/2006
I-6	1	Use paper alleys in city for greenway corridor's.	2/16/2006
I-6	1	Use utility right of ways - sewer upgrade for right of way.	2/16/2006
I-6	1	Push for rail <u>with</u> trail from Wasena Park to Ghent Park.	2/16/2006

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I-7 1		I'm of the impression that the scope of Roanoke's Conceptual Greenway Plan is too ambitious at this stage. Too much red, not enough blue. Promote a more scaled back stage.	2/16/2006
I-8	1	Connected, usable for transportation as well as recreation	2/16/2006
I-30 1		I would like to see a place my family can ride bicycles and walk/run without fear of traffic. I would also enjoy being able to walk/bicycle to work and school safely.	2/16/2006

2. Which Greenways should be completed first? List 1-5

Input No.	Question #	Written Comment	Date
I-14	2	#32 [Roanoke River] to Blue Ridge Parkway	2/16/2006
I-18	2	#4, #5 Any other long wooded trails	2/16/2006
I-15 2		#8, #9, #23 - bike access from downtown Roanoke to Carvins Cove 2/16/2006	
I-18	2	1 Roanoke River	2/16/2006
I-23 2		1) Roanoke River - as far as feasible - hopefully to Explore Park and/or Salem	2/16/2006
I-10	2	1) Roanoke River corridor	2/16/2006
I-20 2		1. #32 [Roanoke River] Get the trunk done, then focus on the branches 2/16/2006	
I-21	2	1. Bridge at Hanging Rock	2/16/2006
I-29 2		1. Lick Run. This corridor should ultimately serve the Carvins Cove natural area north of the City limits. Ample open space exists north of Valley View Crossing to extend this multi-use trail to residents near Countryside Golf Course and beyond.	2/16/2006
I-12	2	1. Roanoke River	2/16/2006
I-13	2	1. Roanoke River	2/16/2006
I-22	2	1. Roanoke River - No. 32	2/16/2006
I-17	2	1. Roanoke River #32	2/16/2006
I-18	2	2 Lick Run	2/16/2006
I-23	2	2) Barnhardt Creek #36	2/16/2006
I-10	2	2) Connectors to downtown, shopping	2/16/2006
I-20 2		2. #15 [Hanging Rock] Get the bridge in behind Orange Market so trail connects to trailhead and parking and future #4 & 5.	2/16/2006
I-12	2	2. Hollins to Carvins Cove	2/16/2006
I-22	2	2. Lick Run - No. 22	2/16/2006
I-13	2	2. Mill Mountain	2/16/2006
I-17	2	2. Mill Mountain #44	2/16/2006
I-21	2	2. Roanoke River Greenway - west Salem to Roanoke Co.	2/16/2006
I-29 2		2. Roanoke River. Currently, the City should focus on extending the Roanoke River greenway from Wiley Drive to Ghent park utilizing open space adjacent to the Roanoke River under the city's ownership.	2/16/2006

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I-18	2	3 Mill Mtn	2/16/2006
I-23	2	3) Roanoke River Tributary #28	2/16/2006
I-17	2	3. Garnand Branch #41	2/16/2006
I-13 2		3. Grandin Road - something to connect south Roanoke and downtown to Grandin Village	2/16/2006
I-22	2	3. Hanging Rock - No. 15	2/16/2006
I-21	2	3. Roanoke River Greenway - Roanoke City to Explore Park	2/16/2006
I-29 2		3. Tinker Creek. This corridor should be extended to NE Roanoke to Old Mountain Road. This is a viable option that can get pavement down now so that people can enjoy Tinker Creek and surroundings. 2/16/2006	
I-17	2	4. Blue Ridge Parkway	2/16/2006
I-13 2		4. Blue Ridge Parkway - access from south Roanoke and downtown to BRP	2/16/2006
I-22 2		4. Get the 1st three done [Roanoke River, Lick Run, Hanging Rock] 2/16/2006	
I-21	2	4. Raleigh Court area to Garst Mill Park	2/16/2006
I-21	2	5. Colonial Ave. (VWCC) to Parkway at 220 S.	2/16/2006
I-2	2	Along the Parkway: connected to Stewarts Knob	2/16/2006
I-4 2		As much of the river as possible. Green Hill Park to Explore Park as a start	2/16/2006
G4	2	Back Creek ~ removed?	2/16/2006
I-5 2		Bent Mountain	2/16/2006
I-8	2	Bike lanes on 10th Street	2/16/2006
I-15	2	Blue Ridge Parkway #49 - biking access along BRP trails	2/16/2006
G2	2	Chestnut Ridge loop to Explore Park (horse trail)	2/16/2006
G5	2	Complete Garnand Branch (from Bedford County Residents)	2/16/2006
G5	2	Complete Roanoke Loop through the Havens area	2/16/2006
G3	2	Complete segments along the river (connect)*	2/16/2006
G5	2	Completion of Roanoke River Greenway a TOP priority	2/16/2006
G4	2	Concentrate on loops	2/16/2006
G2	2	Connect existing greenways! <u>All</u> greenways!	2/16/2006
I-11	2	Connect to Carvins Cove	2/16/2006
I-11	2	Connect to Parkway	2/16/2006
G2	2	Connect to Parkway - Mill Mtn. Greenway	2/16/2006
G2	2	Connect to Tanglewood Mall - Franklin Rd. corridor	2/16/2006
G5	2	Create Connection between Melrose and Cove Road	2/16/2006
I-28	2	Didn't pick up the map, but the River corridor	2/17/2006
G5	2	Finish Tinker Creek	2/16/2006
I-16	2	Greenway at Explore park, along river.	2/16/2006
I-5	2	Hanging Rock - connect to AT	2/16/2006
I-30 2		Hanging Rock - I live in the City near HR and would sure love to see the trail extend to Roanoke River. My end of town has NOTHING, no parks, no trails, no anything.	2/14/2006
I-7 2		I think connectivity is the most important aspect of staging. Making the first greenway development connect is most important. This whether linear connection or circular connection.	2/16/2006

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I-1 2		Lick Run	2/16/2006
I-6 2		Lick Run	2/16/2006
I-8 2		Lick Run	2/16/2006
I-5	2	Lick Run - connect to AT	2/16/2006
G5	2	Link Blue Ridge Parkway #42/#33	2/16/2006
I-1 2		Mason Creek	2/16/2006
G1 2		Masons Creek	2/16/2006
G4 2		Mason's Creek	2/16/2006
G5 2		Masons Creek - Initiate Construction of Masons Creek from Battlefield Trail	2/16/2006
I-1	2	Murray Run - Tanglewood	2/16/2006
I-9	2	Ones that link existing segments together.	2/16/2006
G1 2		Roanoke River	2/16/2006
I-1 2		Roanoke River	2/16/2006
I-11 2		Roanoke River	2/16/2006
I-24 2		Roanoke River	2/16/2006
I-26 2		Roanoke River	2/16/2006
I-6 2		Roanoke River	2/16/2006
I-8 2		Roanoke River	2/16/2006
I-5	2	Roanoke River - Victory Park - canoes	2/16/2006
I-15 2		Roanoke River #32 upstream from Smith/Wasena Park and downstream to BRP	2/16/2006
I-25	2	Roanoke River from Green Hill park to Mill Mt.	2/16/2006
G4 2		Roanoke River ~ core of the system (Blueway) - also greenways leading into it, incorporation of blueways	2/16/2006
G2 2		Roanoke River!!	2/16/2006
I-19 2		Roanoke River!! This should be the core of the entire greenway project. What a showcase it could be.	2/16/2006
G4	2	Same goes for Parkway ~ connections to other jurisdictions	2/16/2006
I-30 2		Roanoke River #32 Garden City #41 Tinker/Carvin Creek #19&24 Roanoke Valley Perimeter Trail #49 Wolf Creek #51	2/16/2006
I-18 2		Should complete main east-west trails 1st, then main south-north trails 2nd, then other connecting trails and long, wooded trails 3rd. 2/16/2006	
G1	2	Shrine Hill ?	2/16/2006
I-29 2		The City should focus on Lick Run, Roanoke River and Tinker Creek. We cannot afford to wait any longer.	2/16/2006
I-5	2	Tinker Creek - connect to AT	2/16/2006
G4	2	Tinker Creek and Lick Run ~ connections to AT are important	2/16/2006
G2	2	Tinker Creek to Carvins Cove + AT	2/16/2006
I-1	2	Work on Perimeter Trail	2/16/2006

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3. Have you encountered any problem (s) while visiting area greenways? If so, please describe what problem (s) was/were encountered and where encountered.

Input No.	Question # Written	Comment	Date
G5	3	Better lighting to promote safe trails	2/16/2006
I-25 3		Biggest problem is that the sections are not long enough for biking. 2/16/2006	
I-16 3		City of Roanoke has a sign on the trail between Carvin Cove Dam and boat launch that says trail closed. Needs to be removed.	2/16/2006
I-8	3	Could they be plowed?	2/16/2006
I-3 3		Disconnected w/ other greenways or other non-motorized friendly routes - not always easy to get to	2/16/2006
G5	3	Emergency phones should be made available to Greenway users	2/16/2006
I-1 3		Erosion	2/16/2006
I-3 3		Finding/learning about the greenways	2/16/2006
I-22 3		Free ranging dogs along Mill Mountain Greenway and Roanoke River Greenway from Carilion Memorial to Piedmont Park area. These dogs come from nearby homes.	2/16/2006
I-30 3		Garst Mill - congestion/people not cleaning up after pets Hanging Rock - Trail not clearly marked	2/16/2006
G2 3		Getting info on greenways (RVCVB) (New Comer Mag.) (Media Coverage) (Website links from area hotels) (Pamphlets at retail establishments)	2/16/2006
I-18 3		I think unauthorized cross country travel is leading to erosion in some areas, esp. where there are switchbacks.	2/16/2006
G5	3	Increase the connectivity between trails	2/16/2006
I-6	3	Keep glass off of trails	2/16/2006
I-21	3	Lack of bathrooms	2/16/2006
I-21	3	Lack of interpretive signage	2/16/2006
I-21	3	Lack of trash cans	2/16/2006
G1	3	Lick Run: shopping carts, vandalism, security concerns	2/16/2006
G4	3	Lighting most important in urban areas	2/16/2006
G1	3	Loose pit bull	2/16/2006
I-6 3		Maintenance - keep open (Wiley Drive and Tinker Creek) - they close gates and are slow in removing mud from transportation corridor	2/16/2006
I-4	3	Marking of greenway to Mill Mountain	2/16/2006
I-6	3	Markings make it difficult to follow trails	2/16/2006
G1	3	Murray Run: trash, trash cans needed	2/16/2006
I-2 3		My husband Mr. Bryant looks after Wolf Creek Trail. We pick up trash - 24 underpass clean out after each flood, call Mrs. McMillan about portajohn's upside down	2/16/2006
I-11 3		No	2/16/2006
I-14 3		No	2/16/2006

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I-28 3		No	2/17/2006
I-15	3	No - trash in trees is unsightly	2/16/2006
I-26 3		No except the bridge over Mason's Creek needs to be completed. 2/16/2006	
I-17	3	No problems encountered	2/16/2006
I-12	3	Not enough clear signage leading me to the routes	2/16/2006
I-12	3	Not enough promotion/publicity 2/16/2006	
I-7 3		Not really.	2/16/2006
I-22 3		Obnoxious graffiti on the I-581 underpass, south side of Roanoke River; visible from Roanoke River trail where it passes under I-581, looking south at underpass supports along old NS tracks.	2/16/2006
I-24	3	Pet poop pollutes the water. Pet owners need to pick it up.	2/16/2006
G5 3		Police patrols	2/16/2006
G3 3		Problems: Amenities	2/16/2006
G4	3	Promotion should improve	2/16/2006
G1	3	Roanoke River: graffiti	2/16/2006
I-10	3	Safety - some are pretty scary	2/16/2006
G5	3	Safety (perception of being unsafe - Wolf Creek, Lick Run)	2/16/2006
G2	3	Security issues - lighting, call boxes in specific areas	2/16/2006
G4	3	Separate uses on a single greenway?	2/16/2006
G4	3	Smell! (Roanoke River)*	2/16/2006
G1	3	Smith/Wasena: security at night	2/16/2006
I-18 3		Some greenway routes are hard to follow (e.g. between VWCC & Patrick Henry). But <u>not too many signs</u> - ruins the outdoor experience. 2/16/2006	
G1	3	Tinker Creek: garbage, security	2/16/2006
I-1 3		Trash	2/16/2006
G4	3	Trash (Roanoke and Tinker) *	2/16/2006
I-8	3	Trash in waterways and along Tinker Creek Greenway	2/16/2006
I-20	3	Vandalism & erosion from adjacent athletic fields on #21	2/16/2006
G4	3	Vandalism (Wolf Creek) *	2/16/2006
I-12 3		Washouts/trail cutting on hills on Murray Run above Fishburn Park 2/16/2006	
I-19 3		Wiley Drive is a joke because of token auto traffic. The low water bridges should be replaced by graceful arched pedestrian bridges.	2/16/2006
G4	3	Wiley Drive near Smith Park (lighting concerns/safety) 2/16/2006	
I-13	3	Yes - they don't connect and there aren't enough!!	2/16/2006
I-5 3		Yes. They only run a mile or two, on a long hike you have to navigate through scrambles. I've solved some problems.	2/16/2006

APPENDIX C - CONTINUED

4. What improvements or amenities would you like to see on existing greenways?

Input No.	Question #	Written Comment	Date
G4	4	*Interpretive signage in appropriate areas (natural, historical, etc.)	2/16/2006
G4	4	*Kiosks with maps	2/16/2006
I-27	4	Add bathrooms, trash cans (occasional)	2/16/2006
I-21	4	Add blueways (recreational water use) to the master plans.	2/16/2006
G2	4	Amenities - bike racks	2/16/2006
G3	4	Art on the trail	2/16/2006
I-12	4	Art sculptural elements	2/16/2006
G4	4	Auto traffic (remove where possible, river) - alternate routes	2/16/2006
I-12 4		Barriers keeping people on main trail and off of spur trails/cut throughs (erosion and degradation a problem)	2/16/2006
I-6	4	Bathrooms should be open all year round	2/16/2006
G1 4		Benches	2/16/2006
G3	4	Better markings on greenway itself (except Mill Mountain)	2/16/2006
I-12 4		Better signage	2/16/2006
G3	4	Better signage/identification - help in using/promoting	2/16/2006
G1	4	Bridge at Hanging Rock	2/16/2006
I-12	4	Call boxes and lighting periodically	2/16/2006
I-19	4	Complete Roanoke River section	2/16/2006
I-3	4	Connections w/ other greenways	2/16/2006
I-9 4		Consider porous pavement or grass pavers instead of asphalt on a demonstration segment	2/16/2006
G1 4		Contact information - notify about trash	2/16/2006
G3	4	Control of animals/ what to do if dog attacks?	2/16/2006
I-2	4	Do not have any complaints	2/16/2006
I-20	4	Don't worry about amenities. Get the core trail network built.	2/16/2006
I-12 4		Educational;/interpretive signage	2/16/2006
I-19	4	Have picnic areas, bike racks, benches, etc.	2/16/2006
I-18	4	Historic walks (with signs)	2/16/2006
I-5	4	Historical markers, monuments, fountains, etc.	2/16/2006
I-7	4	I'm more concerned with new trail than trail improvements	2/16/2006
G3	4	Kiosks with history of area or to emphasize natural amenities	2/16/2006
I-5 4		Latrines	2/16/2006
I-19 4		License vendors	2/16/2006
G3 4		Maintenance	2/16/2006
G1 4		Maps	2/16/2006
I-4 4		Maps	2/16/2006
I-4	4	Mile markers. From the river out.	2/16/2006
G1 4		Mileage markers	2/16/2006
I-22 4		Mileage markers and maps would be great although I realize the vandalism risk of these features.	2/16/2006

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G1	4	Mill Mountain kiosk - update	2/16/2006
I-12	4	More clear mapping & an adopt-a-mile plan	2/16/2006
I-11 4		More trees	2/16/2006
G1	4	Multi-use/ horse trails	2/16/2006
I-12 4		Natural habitat restoration (cleanout ivy, restore native plants, grasses) 2/16/2006	
I-18	4	Nature walks (with signs)	2/16/2006
I-16 4		None	2/16/2006
G1	4	Parking - access - Murray Run	2/16/2006
I-9	4	Plan for pet waste bag dispensers as part of all new segments.	2/16/2006
I-24 4		Preserve or replant <u>thick vegetation</u> on stream banks for wildlife and water quality.	2/16/2006
I-21	4	Promote regular clean up events (like the fall waterways cleanup)	2/16/2006
I-18 4		Put up more bike ways near shops and retail areas. E.g. put up an outside bikeway around Towers and put bike racks at a safe location along the outside bikeway. The idea would be to have a safe corridor at these areas to increase non-motorized use.	2/16/2006
I-6	4	Remove debris that accumulates behind low water bridge	2/16/2006
I-23	4	Remove the concrete median in Smith Park	2/16/2006
I-10 4		Restaurants	2/16/2006
G2 4		Restrooms, etc.	2/16/2006
G4	4	Restrooms/water fountains, access	2/16/2006
I-12 4		Restrooms/water fountains/trash cans	2/16/2006
I-5	4	Rock gardens, sculptures, flowerbeds, other aesthetic things	2/16/2006
I-10 4		Security cameras	2/16/2006
I-21 4		See previous question [lack of bathrooms, trash cans, interpretive signage] 2/16/2006	
G4 4		Signs (uniformity)*	2/16/2006
G4 4		Surface consideration important	2/16/2006
I-28 4		The car side of the Smith Park is too narrow, an extra 6 inches would mean a lot	2/17/2006
G5 4		There should be a footbridge over Lick Run to connect community. 2/16/2006	
I-10	4	Trash pick up	2/16/2006
G4	4	Trash receptacles near greenways (wildlife proof)	2/16/2006
I-8	4	Trees, trees, trees!	2/16/2006
G1 4		Water fountains	2/16/2006
I-5 4		Water fountains	2/16/2006
I-6 4		Water fountains	2/16/2006
I-30	4	We need some decent signs for the trails.	2/14/2006
I-25	4	What exists is fine. We just need more.	2/16/2006
I-18 4		Wildflower gardens in some areas would be nice. Otherwise, retain the forest cover and allow older forests to grow along greenways. 2/16/2006	
I-1 4			2/16/2006

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5. What is the best way to get citizens involved in greenways? Are there ways in which you would be willing to volunteer? For information on volunteering opportunities, please contact Pathfinders for Greenways (E-mail: pathfinders@greenways.org)

Input No.	Question # Written	Comment	Date
G1	5	Foot race up Mill Mtn - fund raiser/interest	2/16/2006
G1	5	Sponsors for clean up	2/16/2006
G1	5	Have Pathfinder notifications	2/16/2006
G1	5	Involve Scouts, other groups	2/16/2006
G1	5	Brochures on greenways	2/16/2006
G1	5	Adopt-a-trail - neighborhood or corporate	2/16/2006
G3	5	Present to neighborhood groups	2/16/2006
G3	5	Adopt a trail/sponsors - create a sense of ownership	2/16/2006
G3	5	Involve everyone - arts community/civic	2/16/2006
G3	5	Better mapping to identify trails	2/16/2006
G3	5	Launching points to encourage and facilitate use	2/16/2006
G3 5		Promote to schools - outdoor recreation/nature or community study 2/16/2006	
G4	5	Tie into festivals, etc.	2/16/2006
G4	5	Hype awareness "Greenway Day" ~ media coverage	2/16/2006
G4	5	Advertise and increase opportunities ~ more frequent	2/16/2006
G4	5	Promote awareness with additional events	2/16/2006
G4	5	Incorporate schools (curriculum and sports) - art, history, science	2/16/2006
G4	5	Promote ownership (adopt-a-trail/stream.greenway) 2/16/2006	
I-1 5			2/16/2006
I-10	5	Great website. The current one did not list this meeting tonight.	2/16/2006
I-11	5	Branch out to business, civic groups, other non-profits	2/16/2006
I-11	5	Solicit funds from local business	2/16/2006
I-12 5		Present to & involve schools - PH cross country team adopt the trail they use; school groups volunteer on trails; taking home info to parents	2/16/2006
I-12 5		More neighborhood events on greenways - "may day", festivals, children's events, races, etc.	2/16/2006
I-12	5	Present regularly (1/yr or 1/2 yr?) at neighborhood meetings 2/16/2006	
I-13	5	Build more to connect to neighborhoods to businesses!	2/16/2006
I-15	5	Adopt a section	2/16/2006
I-16	5	I already am a volunteer.	2/16/2006
I-17 5		Emphasize Charlotte's success. Stress economic development potential 2/16/2006	
I-19 5		Have outdoor festivals with mayoral proclamations, youth participation, media coverage	2/16/2006
I-2 5		We are members of Dr. Bill Gordge's Wednesday work group - "all day, year round". Working at Carvins Cove - we have dug about 2 miles - with 3/4 mile to go.	2/16/2006

APPENDIX C - CONTINUED

I-20 5		I already do volunteer. Many others would if they knew how. I found out by accident.	2/16/2006
I-21	5	I already do volunteer and support program.	2/16/2006
I-21 5		Have picnics and outdoor events, like Earth day, to help get people out of doors.	2/16/2006
I-21	5	+ more money from the state.	2/16/2006
I-22	5	Race events, fun runs/walks/rides 2/16/2006	
I-22 5		Clean-up events	2/16/2006
I-22	5	Neighborhood association events	2/16/2006
I-22	5	Adopt a trail programs	2/16/2006
I-22	5	School field trips	2/16/2006
I-25 5		Contact neighborhoods - people who live near a greenway will be more likely to volunteer on a particular section	2/16/2006
I-28 5		See sponsorship for sections on an annual basis, say \$1000 a mile 2/17/2006	
I-3	5	Advertise/promote current greenways and their potential users	2/16/2006
I-3 5		Willing to volunteer w/ maintenance/upkeep - currently a member of Pathfinders for Greenways	2/16/2006
I-4	5	By having a greenway connect to their neighborhood	2/16/2006
I-5 5		Publicize it better. The open stretches are attracting traffic. Build more miles	2/16/2006
I-6 5		Fun!	2/16/2006
I-7 5		Connecting with community groups is probably the most effective way to engage people who are engaged.	2/16/2006
I-8	5	The picnics are good	2/16/2006
I-30	5	Make sure people know about them.	2/16/2006

6. Additional Comments?

Input No.	Question #	Response # Written	Comment	Date
G3	6	C	"Rails with trails"	2/16/2006
I-27 6		B	30 years from now greenways will define Roanoke, whereas what city managers are doing won't matter	2/16/2006
G6 6		A	Alley greenways. Bring into the neighborhoods. Identify. 2/16/2006	
I-5 6		A	Bridges. Can Highland Park be connected with Roanoke River via footbridge?	2/16/2006
G4 6		K	Carilion would be a good target for corporate participation	2/16/2006
I-12 6		B	Coordinate right-of-way negotiations for alleys/sewers/electric service improvements w/ greenway development	2/16/2006

APPENDIX C - CONTINUED

I-12 6		A	Create obligations (govt/zoning) that developers allow/set aside funds and land for connections and or protections of corridors	2/16/2006
G6 6		C	Develop a pilot project urban greenway along the rive to show the possibilities of a greenway as an urban economic generator, i.e. little San Antonio	2/16/2006
G4	6	I	Focus on important areas	2/16/2006
I-6 6		A	Funding needs to be a higher priority. Ask 10,000, 1,000 - 500 sponsors for business & government. Sell bonds to finance greenways.	2/16/2006
G4 6		A	Good opportunity for connections with Havens Wildlife area	2/16/2006
G3 6		A	Governments need to secure rights of way for greenways when creating/changing land use or rights of way	2/16/2006
I-10	6	A	Great recruiting tool for bringing people to town!	2/16/2006
G6 6		B	Greenways must be perceived as economic generators like softball/soccer complexes.	2/16/2006
G4 6		H	Identify potential places for redevelopment (ex.: Walnut Street bridge, Smith Park, etc.)	2/16/2006
I-15 6		A	Incorporate bike lanes on city streets to link existing sections	2/16/2006
G4 6		J	Incorporate greenway during Carilion development, biomed center	2/16/2006
G4	6	M	Involve NS railroad in the process	2/16/2006
I-15 6		B	Is there any way to add bike lanes on Jefferson St. from Memorial Hospital to downtown/Mill Mountain Greenway along Williamson?	2/16/2006
I-13 6		A	It seems that funding is a problem - the gov't needs to make it more of a priority to increase the quality of life for the area	2/16/2006
I-2	6	A	Just keep going.	2/16/2006
I-22	6	A	Keep up the good work!	2/16/2006
I-28	6	A	Keep up the good work!	2/17/2006
G4	6	F	More greenway development = cleaner rivers	2/16/2006
I-2	6	B	Mrs. Liz Belcher does a wonderful job.	2/16/2006
I-21 6		A	Need more efforts in Roanoke County and Salem City and some effort in Botetourt County to complement the City of Roanoke's efforts.	2/16/2006
I-19 6		A	One other thought - develop the river! (The rest will follow!)	2/16/2006
G3	6	B	Open utility ROW for greenways	2/16/2006
I-30	6	A	Please, please allow bikes on sidewalks.	2/14/2006
I-24 6		A	Presentations by Commission can be made at City Council, boards of supervisors, with budget requests.	2/16/2006
G4	6	G	Private contractors help	2/16/2006

APPENDIX C - CONTINUED

G4	6	E	Promote commercial exposure to greenway	2/16/2006
G4 6		D	Promote to <u>local/regional</u> business for economic benefit/quality of life ~ long term benefits - ITT	2/16/2006
I-26 6		A	Push for corporate financial assistance along with construction money from local governments.	2/16/2006
G4 6		L	Rails to Trails potential sites? (Roanoke River Greenway near Wiley) - can be big economic driver	2/16/2006
I-6	6	B	Rails with trails	2/16/2006
G4 6		C	Reach out to business ~ promote themselves through greenway awareness/participation	2/16/2006
G4 6		B	Some paved trails are good to get bikes off roads, road bikes	2/16/2006
I-30 6		C	The City needs greenways AND more trees to offset its increasing air pollution problem; on the back end, they need to plan to deal with the increasing amount of leaves to pick up.	2/14/2006
I-29 6		A	The City should avoid future mistakes in greenway design and construction evident in Mill Mountain greenway corridor. <i>Sidewalks should not be eligible as greenways.</i> 2/16/2006	
I-5 6		B	The trail concept being connected with a historic neighborhood walk concept makes for interesting crosstown hikes.	2/16/2006
I-23 6		A	Use existing alleys, for which the City already owns the right of ways, to extend the greenway network	2/16/2006
I-30 6		B	Yearly funding could come from each locality as capital improvement funds.	2/14/2006

APPENDIX C - CONTINUED

Public Input from Individuals at June 8, 2006 Public Input Meeting

1. Do you support the vision of completing the Roanoke River Greenway as the #1 priority?

Comment #	Question	Response	Date
1 1		Yes	6/8/2006
3 1		Yes	6/8/2006
4 1		Yes	6/8/2006
5 1		Yes	6/8/2006
6 1		Yes 6/8/2006	
7 1		Yes - showcase segments only to start with. This leaves money for other small connectors or less expensive greenways	6/8/2006
8	1	Yes. It is a natural artery.	6/8/2006
9	1	Yes, it is the cornerstone.	6/8/2006
10 1		I think that regionally, this is a great notion; however, localities may be privy to unplanned circumstances that provide them with positive opportunity to tackle other greenways.	6/8/2006
11 1		Yes.	6/8/2006
12 1		Yes	6/8/2006
13	1	Do it in two years	6/8/2006
14 1		The sooner this can be completed, the more that people and the community will see the benefits of a completed trail/greenway across the valley.	6/8/2006
15 1		Yes!	6/8/2006
16 1		Yes	6/8/2006
17 1		Yes - complete it first and use it as a model to gain support for other projects.	6/8/2006
18	1	Yes - like a tree, must have a strong trunk to support the limbs	6/8/2006
19 1		Yes	6/8/2006
20 1		Yes, but act on other opportunities for other greenways that become available too!	6/8/2006
21 1		Yes 6/8/2006	
22 1		Yes but we need more involvement from the private sector in getting funds. Novozymes is a great start & maybe that will spur competition among other large companies to donate & get involved. 6/8/2006	
23 1		Yes!	6/8/2006
24 1		Yes 6/8/2006	
25 1		This would create a very long trail that should be scenic through much of the Roanoke Valley. Break the task up into sections and complete 1 section a year that could be used. With the right publicity this could create more local support and this should create local demand for connecting existing trails to this	6/8/2006

APPENDIX C - CONTINUED

2. Do you agree with the #2 priorities listed on the back of your map? If not, what changes would you suggest?

Comment #	Question	Response	Date
1 2		See 3	6/8/2006
3 2		#2 priority should be #9 in Botetourt and Ro. Co; #2 priority should be #8 in Botetourt Co.	6/8/2006
4 2		Yes	6/8/2006
5 2		Yes	6/8/2006
6	2	No. Move the Murray Run Greenway to a higher priority	6/8/2006
7 2		Delete 49. Add new trail Hanging Rock to Hollins via Timberview Road 1) connecting to Loch Haven Road via Loch Haven Lake 2)extending through the woods & connecting to #9 Tinker Creek	6/8/2006
8 2		Yes, because they connect to the Roanoke River Greenway, forming the beginnings of a network	6/8/2006
9 2		Yes	6/8/2006
10 2		Yep	6/8/2006
12 2		Yes. Also consider making main gravel trail through Carvins Cove a paved greenway.	6/8/2006
13 2		?	6/8/2006
14 2		I think that more emphasis should be placed in connecting neighborhoods and communities to existing trails and the Roanoke River Greenway. Specifically, the ability to access downtown and the greenway there is important but currently quite difficult to do safely. The connectivity can be done piece by piece and should be advocated by the Greenway Commission any time that road/infrastructure work is done in Roanoke.	6/8/2006
15 2		Yes.	6/8/2006
17 2		Yes	6/8/2006
18 2		Yes	6/8/2006
19 2		Yes	6/8/2006
20 2		Yes, again other opportunities that "pop up" should be grabbed even if on other #3 & #4 priorities.	6/8/2006
21	2	Yes - plus a connection from the Mason Cove trail to Carvins Cove.	6/8/2006
22 2		Yes	6/8/2006
23 2		Yes!	6/8/2006
24 2		Yes 6/8/2006	

3. Other Comments?

Comment #	Question	Response	Date
1 3		Biking is my priority. We should complete small connector routes on the greenway or on a suitable public road. Typical of this would be a route around Roanoke Memorial Hospital which would allow biking from river's edge to the road going downstream along the Roanoke River. Perhaps Carilion would pay for this?	6/8/2006

APPENDIX C - CONTINUED

2 2		Acquisition Methods: I like rights of way in coordination with utility easements. I do not like condemnation because I distrust localities to pursue condemnation in a fair and equitable way	
4	3	Open Chestnut Ridge to mountain bikes!!!	6/8/2006
5 3		Thank you for all of your hard work. Please find more commitment for paying new staff members. A volunteer coordinator?	6/8/2006
6 3		More government staffing is an obvious and critical need. Liz Belcher <u>cannot do it all!!</u>	6/8/2006
7	3	For the issue ranking, for each idea indicate the level of difficulty	6/8/2006
8 3		There should be a greenway authority, just as there is now a water authority. The only way to get anything done in a region of competing localities. Allow condemnation up to 10% of land needed, so that one landowner can't stop a whole greenway.	6/8/2006
9 3		Reserve the right to condemn 10%. A very few can ruin a good plan. We need a regional water authority. We need a regional airport authority. We need a regional trash authority. WE NEED A REGIONAL GREENWAY AUTHORITY.	6/8/2006
11 3		Lack of connectivity an obvious problem. Definitely need one comprehensive resource for trail maps and information, bikeways, etc. Push advertising of greenways as an economic development incentive. 6/8/2006	
12 3		I have ridden on many rail trails along east coast. Does Roanoke area have any potential rail trail areas from abandoned Norfolk-Southern routes.	6/8/2006
13	3	Take the railroad tracks you need for the Roanoke River greenway	6/8/2006
17 3		When at all possible keep greenways separate and free of motor vehicle traffic. Some streets could be closed and used for foot or bicycle use only! Work with "rails to trails" and other groups to connect projects. Need to protect trails at Explore Park.	6/8/2006
18 3		Develop a bond issue regionally that includes greenway funding, schools, public safety, transportation, etc. - Something for everyone so it has a decent chance of voter approval - with coordinated marketing to all voters -- by all elected officials speaking as one voice (as close to it as possible)	6/8/2006
19 3		Create more regionalization to support other area localities in their greenway efforts.	6/8/2006
20 3		Would like to see the perimeter trail built, even if as sections at first connecting various major greenways (ex. Parkway to Carvins Cove via Greenfield)	6/8/2006
21	3	Let's have this as a priority for our valley.	6/8/2006
22	3	Have an online survey to solicit more input from the public	6/8/2006
23 3		Collect public input on greenway priorities via an online survey form so people can provide input without having to come to a meeting	6/8/2006
24	3	Utilize <u>as many funding mechanisms & partners as possible!</u>	6/8/2006
25 3		We need to create local support and convince everyone that it is to their advantage to have pleasant places to walk. More publicity.	6/8/2006

APPENDIX C - CONTINUED

Results of the Dot Exercise at June 8, 2006 Public Input Meeting

Construction Priorities (place a dot under the one statement you most support)	# stickers
Build the complete Roanoke River Greenway in 5 years	44
Build the complete Roanoke River Greenway over the next 10-15 years	2
Build smaller neighborhood greenways and trails first, then the Roanoke River Greenway	0
Build some critical segments of the Roanoke River Greenway and a few smaller greenway segments	8
Build more on-road and sidewalk connections to connect existing greenway routes	1
Acquisition Methods (place a dot under the one statement you most support)	
Create an aggressive land acquisition program for greenway development that utilizes a range of acquisition methods, including land purchase at fair market value, land donations (which allow tax advantages), rights-of-way in coordination with utility easements, and possibly condemnation.	42
Create an aggressive land acquisition program for greenway development that utilizes only land purchase at fair market value and land donations (which allow tax advantages).	7
Rely on donations of rights-of-way or purchase only from willing sellers	0
Funding (place a dot under the three statements you most support)	
Increase local government contributions	32
Develop a regional greenway capital improvement program for localities.	11
Aggressively seek corporate donations	27
Build private/public economic development partnerships	18
Seek developer fees for Greenway development	14
Consider a Greenway and Trail Bond Issue	39
Continue to rely on standard State and Federal assistance	4
Create and promote a regional greenway donation program	5
Other Initiatives (place a dot under the one statement you most support)	
Increase information available to public on greenway opportunities and locations	15
Increase marketing efforts	5
Improve multi-jurisdictional coordination	12
Partner with the private sector	14
Conduct greenway training program annually for elected officials and government staff	3
Increase volunteer efforts	2
Organization (place a dot under the one statement you most support)	
Maintain the current organizational structure with the Greenway Commission as a regional advisory and planning board and local governments responsible for greenway construction and management within their jurisdictions; more clearly define the roles and responsibilities of each.	7
Increase the authority and staffing of the Greenway Commission to implement the Greenway Plan and better facilitate development of area greenways	30
Create a regional greenway authority responsible for development of a regional greenway network	12

Summary of Qualitative Interviews by LandDesign

Regional Greenway Support and Funding

The Consultant addressed perceptions and attitudes regarding financial support for greenway development by conducting fifteen key stakeholders telephone interviews (one person per interview) with designated elected and appointed officials and government staff during the month of April, 2006. Interviewees were selected by the Client and asked nine qualitative discussion questions pertaining to general greenway development and greenway specific funding. Each interview was completed in a continuous timeframe, each lasting up to 45 minutes. A general summary of the results are presented below.

1. Do you support right-of-way acquisition and greenway development?

Most of the respondents supported the idea of acquiring more land for greenway development. However, the majority of the respondents did not support the idea of land condemnation for greenway development, but did support donation and fair value acquisition.

2. What type of funding strategies would you support for greenway and trail development?

In general the respondents cited the need for increases in private donations to fund greenway development. They also noted aggressive funding pursued must continue through all available options, including leveraging of funds to develop more greenways at a quicker pace and various public/private partnership efforts. Some respondents noted that increasing local taxes for greenway development probably would not be supported.

3. In what way does your locality contribute towards greenway development each year?

Most of the respondents understood that their locality contributes in some fashion for greenway development either by monetary allocations or in kind services. Some of the participants were unable to report specific contribution amounts or hours of in-kind services used each year.

4. Do you feel that your locality needs to contribute more in order to further stimulate right-of-way acquisition and greenway development?

A mixed group of results were obtained from this question. Some participants highlighted the need for each locality to contribute more funds and services and others felt that increases were not necessary to stimulate greenway development and right-of-way acquisition.

5. Do you feel that greenways can spur economic development?

A majority of the respondents agreed that greenways have the potential to spur economic development in some fashion. The respondents cited new business development, increased real estate values, cultural and tourism development as the most common forms of economic development that could spur from greenway development.

APPENDIX C - CONTINUED

6. Are there any specific interests that you or your organization would like to see addressed in the Greenway Plan update?

A variety of responses were generated from the participants, the following lists the most common interests cited: Increased public education, increased publicity, consistent goals and objectives, increased cooperation, shared vision, better planning efforts, funding strategies, development of the Roanoke River Greenway.

7. What role do you see your organization playing in future greenway development?

Most of the participants highlighted a variety of roles in which they see their organization playing in future greenway development. It was surprising to discover a wide variety of responses from leadership roles and financial responsibilities to site specific design assistance. Overall, there seemed to be a lack of consistency of defined roles for each organization.

8. In your opinion, what are the challenges that need to be overcome before developing a strong regional greenway network?

A variety of responses were generated from the participants, the following lists the most common interests cited: Funding, public education, accountability, need for goals and objectives, lack of design standards, coordination and cooperation, and improved trail maintenance efforts.

9. Are you willing to become an avid supporter of right-of-way acquisition and greenway development?

The majority of participants are willing to become avid supporters of greenway development and avid supporters of acquisition efforts as long as it does not include land condemnation.

APPENDIX D: CASE STUDIES

Charlotte Mecklenburg Greenway System

Background

There are currently 23 miles of developed trails and 185 miles of planned greenways to be completed in the next 20 years in Mecklenburg County (MC). 16 miles will be built within the next 4 years.

Most greenways will be located along 22 creeks within the County. The two main goals in building greenways are to protect the floodplains and to provide public transportation.

The development of future greenways are funded by public, private and foundation support. Getting the first greenway on the ground has helped people understand what greenways are and has helped to educate them on their benefits. MC has found that once the public has experienced them first hand they want more of them.

Greenway Infrastructure

Trails cross sections within the various greenway corridors range from 8-10 foot-wide paved and/or limestone surface trails. All existing and future greenway infrastructure development occurring within floodplains are specifically designed to reduce flooding damage from anticipated rain events.

Program Objectives

As stated above the main objective of the Mecklenburg County Greenway Program is to protect the floodplains and to provide alternative transportation routes for bikes and pedestrians. The 1999 Mecklenburg Greenway Master Plan identifies three major objectives based on their overall vision statement “The preservation, protection, and appropriate recreational use of floodplains in Charlotte-Mecklenburg through a greenway and greenway trail program will create a more livable and sustainable community for all residents and businesses.”

1. “Preserve and reclaim natural floodplains for the purposes of improving water quality protection, protecting wildlife habitat and open space, and providing recreational, educational, and alternative transportation opportunities.”
2. “Create a primary infrastructure of multi-use trails along suitable floodplain corridors that are connected to adjacent parks and nature preserves and provide a system of contiguous and substantial trail mileage for rigorous pedestrian and bicycle use.”
3. “Include partnerships between civic, corporate, and governmental entities to ensure that overland linkage beyond the County’s floodplain greenway trail system is provided to offer access to destinations such as schools, neighborhoods, businesses, and shopping.”



APPENDIX D - CONTINUED

Interagency Partnerships

Storm Water Services

MC Park and Recreation and Storm Water Services often partner in land acquisition and development projects. MC Storm Water Services is working aggressively to tackle water quality problems in its 22 creeks and their tributaries through stream and wetland restoration and flood mitigation projects. Through a flood buyout program, residential and commercial parcels subject to flooding have and continue to be acquired. The use of this land is turned over to floodplain restoration coupled with greenways – a much more suitable use for the floodplains than the previous. MC Storm Water Services is also very involved in stream restoration projects. Often the stream restoration construction is coupled with trail construction, in order to save on construction cost and limit land disturbance. These two county departments have learned that you can stretch your dollars when doubling up.

Charlotte Mecklenburg Utilities

Partnering with the Charlotte Mecklenburg Utility Department (CMU) has also brought benefits to the greenway system. Park and Recreation is a County department and CMU is a City department so consequently they are different land owners. Although crossing easements to locate their services in each others properties works well, when one department pays for an easement on private property, the other department has to pay the private property owner again to use the same easement.

Planning- Subdivision Ordinance Reservation Clause

Within the subdivision ordinance, MC, has the right to reserve land if the development is happening within or near a public entity, such as a planned greenway corridor. This means they reserve the right to buy that property. Of course, they would prefer if this clause required a dedication of land, rather than just the reservation.



General Organization Structure

According to Mecklenburg County Greenway Master Plan, a new organization strategy was proposed in the 1999 plan to improve the process of greenway development. The following section highlights the organizational structure cited from the adopted 1999 master plan.

Mecklenburg County is the lead agent, owner, developer, and manager of the primary greenway system throughout the County. The County has partnered with local municipalities throughout the County to build and maintain various segments of the greenway system. Listed below are the key agencies and organizations that play a role in greenway implementation.

The Park and Recreation Department acquires necessary land and prepares detailed corridor master plans and construction documents for each greenway segment. The Park and Recreation Department is the primary steward for greenway lands and facilities.



APPENDIX D - CONTINUED

The Mecklenburg County Commission is called upon to adopt and implement the recommendations of the adopted Master Plan. The County Commission is viewed as the ultimate "Champion" of this master plan and will need to exhibit appropriate leadership of the overall system goals and objectives.

The Mecklenburg County Manager is vested with management responsibilities for the community's public resources. The County Manager is called upon to determine a coordinated capital improvements program that enables various County departments to share resources in support of greenway development.

The Greenway and Trails Advisory Council mission is to "promote and support implementation efforts of the Mecklenburg County Greenway System through public education, coordination, identification of future greenways, facilitating regional cooperation

The Charlotte-Mecklenburg Planning Commission supports the Greenway Master Plan and helps with implementation by showing potential greenways in District Plans, notifying Mecklenburg County Park and Recreation Department of proposed developments in a greenway area, utilizing the rezoning process to encourage dedication of lands, such as sidewalks and bicycle facilities, for the greenway system, and planning transportation improvements in coordination with greenways.

The Mecklenburg County Storm Water Services Department assists the Park and Recreation Department with the development of specific greenway segments via use of funds obtained from federal and state grants and through a coordinated capital improvement approach to project implementation.

Charlotte-Mecklenburg Utilities Department plays an important role in the implementation strategy for county-wide greenways. CMUD's system of sanitary sewers offers enormous potential for shared use with greenway development objectives.

The Mecklenburg County Engineering and Building Standards Department assists the Park and Recreation Department with the preparation of detailed corridor master plans for each of the greenway segments defined by the comprehensive master plan.

Mecklenburg County Department of Environmental Protection (MCDEP) assists the Park and Recreation Department with the implementation of this master plan. MCDEP maintains an advisory role, assisting with scientific, technical, and policy issues that impact water quality.

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Major Implementation Strategies

Mecklenburg County has put together the following implementation plan to guide for each greenway corridor:

Step One - Land Acquisition: Before detailed master planning of an individual corridor occurs, it is necessary for the County to have an ownership interest in the land that is included in this greenway system. A variety of land acquisition techniques are included in this master plan to guide both public and private interests. It is essential that an interest in land ownership take place prior to beginning a detailed master plan for an individual greenway corridor.



APPENDIX D - CONTINUED

Step Two - Corridor Master Planning: Site specific master planning for individual greenway corridors will determine the feasibility and the appropriate level of use for a segment of corridor and, where appropriate, trail routing. Each master plan for a greenway corridor or segment of a corridor should involve residents from surrounding neighborhoods, as well as adjacent property owners and businesses.

Step Three - Design Development, Construction Documents, and Engineering:

After master planning has been completed and a specific corridor plan has been defined, detailed construction documents will then be produced for the project as well as a detailed cost estimation and assignment of responsibilities and costs.

Step Four - Construction and Facility Development: Depending on the level of use that is appropriate for a greenway corridor, actual construction of the greenway facilities, such as trails, habitat restoration, and stream-bank restoration will take place. Construction and development operations can be phased as necessary to meet budget and time constraints.

Step Five - Maintenance and Management: Once the greenway facilities have been completed, maintenance and management should begin immediately. The Mecklenburg County Park and Recreation Department and its divisions shall be the lead management agency and should work in partnership with other county agencies, the City of Charlotte, and municipalities throughout the County, as well as private sector groups, to effectively manage the greenways.

Successful Funding

In 1999 the residents of Mecklenburg County approved a bond package with \$7,235,000- for greenway development.

Again in 2004 the residents approved a bond package for \$25,000,000 specifically for greenway development. The 2004 bonds have to be spent by 2009. The combined 32 million dollar bond packages are for greenway development not land acquisition

In 1999 the public also supported land banking bonds for land acquisition for all open space for approximately \$220 million dollars.



The 2004 bond referendum had a very high approval rate of 63%. The referendum had a lot of support through Partners for Parks and other public awareness efforts. Park and Recreation as a public department, could not advertise their own support for the issue, the advocacy came from outside the Department. In addition to the bond issues, the Department also receives various amounts of money from standard government grants efforts.

Greenway Staff

In 2005 the operating budget for Mecklenburg County Park and Recreation's Greenway was \$304,361.88 which includes staff salaries and operational expenses.

The current staff includes: 6 construction/maintenance team members, 4 planners (including the Branch Manager).

APPENDIX D - CONTINUED

There are two "Community Liaison" positions for Little Sugar Creek Greenway. Their positions are funded by grants from the Knight Foundation and the Foundation for the Carolinas. They are primarily engaged in public relations, community outreach and grant writing. They also act as a support system for the four greenway planners through educating the public and keeping the community engaged in the greenway system.

Contact:

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Sources:

Mecklenburg County Park and Recreation Department
1999 Mecklenburg County Greenway Master Plan

APPENDIX D - CONTINUED

Case Study Indianapolis Greenway System

Background

The Indianapolis Greenways System, when fully constructed as planned in 2002, will span 175 miles including 150 miles of 8-12 foot-wide paved or limestone trails. They will link more than 125 destinations. The current plan follows 1 river, 12 streams, 3 historic rail corridors, and the Central Canal. Currently, an estimated two million users access the Indianapolis greenway trails annually.



All photos courtesy of www.Indianatrails.com

Greenway Infrastructure

At present a total of sixty-five miles of interconnected greenway trails exist within Indianapolis/Marion County, and an additional forty-five miles of greenway trails are either being constructed or planned within the near future. Trails cross sections within the various greenway corridors range from 8-12 foot-wide paved and limestone surface trails. The current greenway infrastructure inventory also includes over 56 miles of greenway green conservation corridors that do not include any trail infrastructure components.

Program Objectives

The Indianapolis Greenways Plan describes the community's vision for a regional network of linear open space that connects neighborhoods and promotes recreation, fitness, and alternative transportation and conservation. This network, known as the Indianapolis Greenways System, will benefit not only Marion County, but will also help connect the entire central region of Indiana."

General Organization Structure

The organization structure for Indianapolis Greenways contains three main components: The City of Indianapolis, Marion County and The Greenways Foundation, Inc.

According to the 2004 Indianapolis Marion County Park, Recreation and Open Space Plan, the Indianapolis Department of Parks and Recreation is the primary regional park agency for the more than 860,000 residents of both the City of Indianapolis and Marion County, Indiana. The Department's roots are within the pre-1969 boundaries of the City of Indianapolis. Since that time, the Department's jurisdiction has grown to the boundaries of the County.

The Greenways Foundation, Inc. is a charitable trust working to promote the growth, enhancement and use of Indiana trails and greenways. The Greenways Foundation, Inc. is not affiliated with Indy Parks, other than to provide the Indy Greenways web site at no cost to the City of Indianapolis and to provide amenities and services for the various Indy Greenways trails.

Established in 1991, the Greenway Foundation, Inc. (formerly known as the White River Greenways Foundation, Inc.) was created specifically to facilitate contributions, of all forms, to central Indiana greenway projects. After receiving cash and in-kind donations, the Greenway Foundation can hold them until they are needed for greenway development, enhancement or operation. As a private, permanent and on-going entity, the Greenway Foundation

APPENDIX D - CONTINUED

doesn't have the bureaucratic burdens of annual re-appropriation, or the cumbersome and inflexible procurement regulations, which must be followed by city-county government. Non-partisan and non-political, the Greenway Foundation can focus exclusively on the needs of greenway projects on a regional basis for cross county coordination.

Major Implementation Strategies

Indy Parks actively pursues acquisition of open spaces and natural areas wherever possible and works to create partnerships that promote stewardship, program and facility development and maintenance of those areas. Indy Parks implements strategies that provide the necessary resources to establish programs to acquire land for Greenway connections and parks using land trust or other strategies to preserve corridor open space for resource conservation. Land acquisitions shall be targeted through criteria based on established policies used to prioritize locations. Additional effort will be made to increase environmental education program opportunities on the Greenways by developing partnerships with local schools and environmental groups. Indy Parks continues to develop plans for "Living Links", which identify various ways of accessing parks and community facilities.

According to the 2004 Park, Recreation and Open Space Plan, One of the outcomes of this plan was the establishment a new greenway development standard of .15 miles of greenways per 1,000 people. The growth of Indianapolis has outpaced the number of actual miles added to the greenways in recent years. While there are long-term plans for many more miles and connections within the county, the current state of built greenways falls short of our created standard. Currently, there are approximately .03 miles per 1,000 people. In order to increase this number the following implementation strategies have been identified.

- Develop and implement a methodology to coordinate use/management and acquisition of non-park open space.
- Advocate, develop and implement an aggressive policy for land acquisition, land transfers, sale of surplus property and acquisition of more critical lands in expansion areas. Indy Parks should be a leader in conservation of open spaces.
- Implement strategies to provide necessary resources to establish programs to acquire land for Greenway connections and parks, using land trust strategies to preserve corridor open space for resource conservation.
- Review and update criteria for land acquisition by Indy Parks. Criteria based on land stewardship policies, demographic needs, and developed baseline standards for recreation services, compelling need and that fit Indy Park's overall land policies.



APPENDIX D - CONTINUED

- Develop and maintain a prioritized list of potential property acquisitions within Marion County that fulfill the criteria developed above.
- Acquire property using the prioritized list of available areas.

Successful Funding Mechanisms

According to the 2002 Indianapolis Greenway Master Plan, local greenway efforts have brought in nearly \$18 million dollars of funding for greenway projects above and beyond the local tax dollars. The most important funding source for Indy Parks Greenway projects since 1993 has been federal transportation enhancement funds, available under the ISTEA statute and its successor the TEA-21 (Transportation Equity Act for the 21st Century). Transportation enhancement funds are administered through the Indiana Department of Transportation (INDOT), and total approximately \$16 million annually for all Indiana projects. In addition to TE, other sections of TEA-21 may also be used to fund pedestrian and bikeway expenditures, including CMAQ (Congestion Mitigation & Air Quality Program) STP (Surface Transportation Program) and others."

"Although local tax monies have never been the major source of funding to develop the Indy Parks Greenway System, they have played a key role. Many of the external grants previously mentioned require 20% to 50% "matching" funds which have primarily come from local tax revenue. Given that Indy's greenways are on properties under mixed jurisdiction, using municipal staff and budgets to coordinate greenway maintenance and capital improvements have proven to be the most efficient course. Local budgets also provide for the small professional staff to manage Indy Parks Greenways."

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Sources:

City of Indianapolis
Marion County
Greenway Foundation, Inc.
2004 Indianapolis Marion County Park, Recreation and Open Space Plan
2002 Indianapolis Greenway Master Plan

APPENDIX D - CONTINUED

Case Study City of Knoxville, TN Greenway System

Background

The City of Knoxville is home to over 39 miles of paved greenways which is also part of a larger regional greenway system. Knoxville's greenways have been built from the "bottom up" claims Greenway director Donna Young. During our case study research, we spoke with Donna and she explained to us how Knoxville's system was built by integrating greenway projects and various transportation efforts together. As road improvements started to incorporate trails in their design, the network began to grow over time and has continued to gain momentum every year. New greenways are built every year in Knoxville and the system is evolving further into neighborhoods, connecting thousands of citizens to recreation and transportation opportunities.

Third Creek Park River Greenway



Greenway Infrastructure

The Great Smoky Regional Greenway Board helps to guide regional greenways efforts throughout the Knoxville area. Approximately 90 miles of greenways have been built in the area including: 44 miles in Knox County, encompassing the City of Knoxville, 30 miles in Anderson County, 15 miles in Blount County, 6 miles in Sevier County and less than 2 miles in each Cocke, Jefferson, and Loudon Counties. (source: <http://www.knoxtrans.org>)

Program Objectives

The primary objective for the City of Knoxville's greenways system is connecting neighborhoods. Neighborhood connections for recreation and transportation have driven local greenway development over the past 12 years. Additional objectives have arisen lately, which include strong support for increased greenway based tourism development and water quality management efforts.

"Our goal is to have a greenway system that connects throughout the entire city and we're well on our way to making this happen" – Mayor Haslam

General Organization Structure

Currently, the organization structure, in theory, is similar to the Roanoke Valley. A Greenway Commission has been appointed and has similar roles as Roanoke's Greenway Commission. A grass roots organization called Knoxville Greenway Coalition has been activated and has similar objectives to the Pathfinders for Greenways. A full time Greenway Coordinator position was established by the City and a Greenway Sidewalk Coordinator with the Transportation Planning Organization has also been a key working partner.

"The more people who work on greenways the better they get. Having an inclusive quality of working on greenways is extremely important. It hurts your greenways when your territorial" - Donna Young

APPENDIX D - CONTINUED

Major Implementation Strategies

The major implementation strategy for greenway development in the Knoxville area is teaming up with the Tennessee Department of Transportation to include greenway and trail projects on all upcoming capital improvement projects. An increased awareness from the State has brought on many new projects to the Knoxville area which grew from the earlier success of the City's first greenway efforts.

An additional implementation strategy is integrating greenway projects with school programs designed to stop the current child obesity epidemic. This approach enables the City of Knoxville to work with the local schools to help design access to safe greenway trails that connect to the local neighborhoods.



The final major implementation strategy for the City is to find and acquire as much green space as possible, along every creek, riverbank on all state roads. This initiative of acquisition has helped Knoxville to position itself in creating a larger future network of greenway trails and connections.

Successful Funding Mechanisms

The City of Knoxville has never paid for a greenway/trail easement. Donations have enabled the project thus far even without a formal donation process. Local coordination with land owners and a supportive council have led to major victories in the easement donation department. But it's anticipated that formal produce will need to be identified over the next few years as major alignments may require easement purchases.

All of the greenway projects over the last 12 years have been built with grant money and matching funds. The City has only spent 3.4 million dollars and relies on earmarks from the State with more and more funding expected to be available in the near future. With both the Tennessee Department of Transportation (T-DOT) and the Governor of Tennessee in favor of greenway development substantial strides are expected over the next few years.

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dyoung@cityofknoxville.org

Sources:

www.cityofknoxville.org
www.knoxtrans.org
Donna Young –phone interview – April 2006
Photos – courtesy of cityofknoxville.org

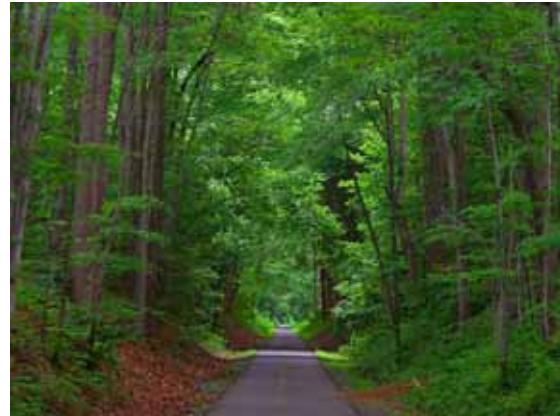
APPENDIX D - CONTINUED

Case Study:

Northern Virginia Regional Park Authority - W&OD Regional Railroad Trail

Background:

W&OD railroad Regional Park is a linear park 100 feet wide and 45 miles long, built on the old roadbed and named for the former trains which ran along the right of way from 1859 to 1968, extending from Arlington to Purcellville in western Loudoun County, Virginia. According to www.savethetrail.com, "the first phase of the W&OD Trail's construction was a mile-and-a-half in length and was an experiment. In 1974, the NVRPA, in partnership with the City of Falls Church and Virginia Electric and Power Company (now Dominion Virginia Power (DVP)), sought to gauge public reaction to the conversion of a railway line into a long and narrow park. This type of park is now widely known as a rail-trail. Reaction was overwhelmingly positive and this prompted the NVRPA to purchase the W&OD Railroad line from DVP in 1978. A decade later the entire 45-mile stretch of the trail had been built. It is described by the Park Authority as, "the most popular rail-trail in the U.S."



All photos courtesy of: www.savethetrail.com

In 1987, the W&OD was designated a National Recreation Trail by the U.S. Department of the Interior and completed in 1988. Since its completion, the W&OD has become a nationally known trail exhibiting historically high levels of inter-jurisdictional cooperation tremendous local support. The trail currently travels through variety of jurisdictions including:

- Loudoun County, VA
- Fairfax County, VA
- Purcellville, VA
- Leesburg, VA
- Herndon, VA
- Reston, VA
- Falls Church, VA
- Arlington, VA
- Ashburn, VA
- Sterling, VA

According to a recent economic study conducted by the Virginia Department of Conservation, an estimated 1.7 million users spent in total about \$12 million annually related to their use recreational use of the trail. Of this amount, about \$7 million was spent directly in the northern Virginia economy by locals and non-locals using the trail. The estimated 1.6 million local visits accounted for about \$5.3 million of spending directly related to the use of the W&OD.

APPENDIX D - CONTINUED

Greenway Infrastructure

The W&OD regional trail corridor is an 100 foot wide corridor area that includes specific infrastructure components such as a 45 mile paved asphalt trail ranging from 8-12 feet in width along with a parallel 31 mile 10' wide gravel horse trail. The gravel horse trail is being used more and more by walkers and runners seeking a softer trail surface for their recreation endeavor as well as providing an alternative to trail overcrowding. The trail also has a variety of designated access points and parking areas scattered strategically throughout the corridor. The W&OD trail provides opportunities for a wide variety of trail uses by promoting activities such as, walking, hiking, running, biking, blading and horseback riding. Due to the over 2 million people per year visiting the regional trail, a continuous program of trail infrastructure maintenance has been implemented throughout the corridor to keep up with daily wear and tear.



Currently, there is not an overall greenway plan for the area. All of the planning efforts are done via general management plan updating.

Program Objectives

The major program objective of the W&OD trail is to provide a continuous linear non motorized multi-use regional trail to be used for regional recreation purposes. Currently, the primary objective remains the same, but the added objective of alternative transportation has arisen from the tremendous growth impacts and vehicle congestion in the Northern Virginia Area.

General Organization Structure

The W&OD trail is owned by the Northern Virginia Regional Park Authority. "Created in the late 1950's, the Northern Virginia Planning District Commission and a group of citizens from several local jurisdictions came together to protect Northern Virginia's rich heritage of woods, meadows, lakes and streams from the threat of suburban sprawl. These citizens, working with their local parks for all Northern Virginians to enjoy government offices--Fairfax County, Arlington County and the City of Falls Church--organized under the Virginia Park Authorities Act in 1959 as the Northern Virginia Regional Park Authority (NVRPA). (www.nvrpa.org) The Park Authority is a separate regional authority containing 6 member jurisdictions. Each jurisdiction appoints two members that make up the 12 member independent board."

The W&OD regional trail is also supported by a strong advocacy group. Similar to the Roanoke Valley's Pathfinders for Greenways, the Friends of the W&OD Trail is a non profit citizens group dedicated to preservation, enhancement and preservation of the W&OD Regional Trail established in 1991. The governing body of the Friends of the W&OD consists of 15 northern Virginia residents from a number of jurisdictions on or near the trail who have a variety of recreational interests in the W&OD trail. (www.wodfriends.org)

APPENDIX D - CONTINUED

Major Implementation Strategies

Various strategies have changed since the trail was completed in 1998. The initial implementation strategy for the trail development stemmed from the Park Authority's charge to purchase the full 45 miles of linear trail for approximately 9 million dollars from the Dominion Valley Power Company. According to savethetrail.org, the sale of the 45 mile stretch of property from Dominion Valley Power to the Park Authority also contained an easement clause on the acquired property. This easement has allowed the power company to place future towers carrying overhead transmission lines along and over the existing rail corridor. This clause, is currently the subject of highly controversial power line development proposal that seeks the compromise of beautiful mature trees covering throughout the last 11 miles of the trail corridor.



Successful Funding Mechanisms

A major contributor to the start up of the regional trail was the award of a Rail to Trails grant for approximately 1.8 million dollars from the Department of the Interior. This grant helped to provide monies for acquisition, design and construction of the trail. As the trail developed over time, the Northern Virginia Regional Park Authority had to investigate other financial avenues to keep the trail going. Today, the Northern Virginia Regional Park Authority generates approximately 80% of its operating funds through various enterprise revenues and only 20% of its revenue from government assistance programs. Most of the revenues fall into the category of user fees, license agreements and rents and account for close to a million dollars of revenue each year collected from the W&OD Regional Trail.

Typically the Park Authority grants revocable permits and licenses for a specified time period for various utility agreements. They are set up as ongoing reoccurring annual payments every year for the length of the term of the license with an inflation factor built in to the fee terms. Utility crossings, water and sewer permits are a one time fee, but cable, gas and phone utilities fall into the category of reoccurring fees. The base ranges for the permit fees are generated from real estate appraisals based on land values.

Private commercial purposes must pay if using trail land for utility easements. The telecom boom in 90's is one example on how the W&OD capitalized on the utility market. Fiber optic companies were willing to pay the fees in exchange for utility crossings along the trail. The Park Authority also inherited leases when they brought property the land where the W&OD stands today. They have wisely increased rents to adjacent properties which bring in additional funding for various trail projects.

Another way the Park Authority creates revenue from its regional trail is to charge administration fees for various projects. Staff time dedicated to any permit work is fully recoverable. They charge a three time multiplier of their hourly rate for any administration time accrued. The Park Authority also charges any out of pocket expenses for engineering and legal support that is needed to process various permits and requires a cash bond for utility construction work on park property.

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Kate Rudacille

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W&OD Regional Railroad Trail

Potomac Heritage National Scenic Trail

APPENDIX D - CONTINUED

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www.nvrpa.org

Sources:

Northern Virginia Regional Park Authority

U. S. Department of Transportation

Virginia Department of Conservation

Savethetrails.org

Woodfirends.org

Railserve.com

Railstotrails.org

APPENDIX E: ON-ROAD ROUTES FROM THE BIKEWAY PLAN FOR THE ROANOKE VALLEY AREA MPO

Table 3
City of Roanoke
Priority List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
10th Street	Ferdinand Avenue	Williamson Road	
Brandon Avenue	Franklin Road	City of Salem CL	City of Salem
Colonial Avenue	Dogwood Drive	Brandon Avenue	
Dale Avenue	13th Street	Town of Vinton CL	Town of Vinton
Grandin Road	Brandon Avenue	Memorial Avenue	
Melrose Avenue	Salem Turnpike	Peter Creek Road	
Memorial Avenue	Campbell Avenue	Grandin Road	
Peters Creek Road	Brandon Avenue	Cove Road	Roanoke County
Shenandoah Avenue	Williamson Road	City of Salem CL	City of Salem
Walnut Avenue / Mill Mountain Spur	Jefferson Street	Blue Ridge Parkway	
Williamson Road	Shenandoah Avenue	Hershberger Road	Roanoke County
Wise Avenue	Campbell Avenue	8th St. / Walnut Avenue	Town of Vinton
Lick Run Greenway			
Mill Mountain Greenway			
Murray Run Greenway			
Roanoke River Greenway			
Tinker Creek Greenway			

APPENDIX E - CONTINUED

Table 4
Roanoke County
Priority List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
Bent Mountain Road / Route 221	Electric Road / Route 419	Cotton Hill Road	
Brambleton Avenue / Route 221	City of Roanoke CL	Electric Road / Route 419	City of Roanoke
Buck Mountain Road	Starkey Road	Franklin Road / Route 220	
Catawba Valley Drive / Route 311	Electric Road / Route 419	Carvins Cove Road	
Colonial Avenue	Bent Mountain Road / Route 221	Electric Road / Route 419	
Electric Road / Route 419	Roanoke County CL	Catawba Valley Drive / Route 311	
Hardy Road	Town of Vinton CL	Blue Ridge Parkway	
Hollins Road	Shadwell Drive	Plantation Road	
Loch Haven Drive	Electric Road / Route 419	Belle Haven Road	
Merriman Road	Ranchcrest Drive	Starkey Road	
Mountain View Road	Vinton CL	Blue Ridge Parkway	Town of Vinton
Plantation Drive	I-81	Hollins Road	
Ranchcrest Drive	Bent Mountain Road / Route 221	Merriman Road	
Riverside Drive	Salem CL	Harborwood Road / Diuguids Lane	City of Salem
Shadwell Drive	Williamson Road / Route 11	Hollins Road	Botetourt County
Starkey Road	Merriman Road	Buck Mountain Road	
Thompson Memorial / Route 311	Electric Road / Route 419	City of Salem CL (Main St.)	City of Salem

Table 5
City of Salem
Priority List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
Apperson Drive	City of Roanoke CL	Electric Road / Route 419	City of Roanoke
College Avenue	Colorado Avenue	Main Street	
Colorado Avenue	Apperson Drive	College Avenue	
Diuguids Lane	West Main Street	Riverside Drive	Roanoke County
East Riverside Drive	Apperson Drive	Colorado Avenue	Roanoke County
Thompson Memorial Avenue / Route 311	Main Street	Route 311 / Catawba Valley Drive	Roanoke County
Twelve O'Clock Knob Road	Roanoke County CL	West Riverside Drive	Roanoke County

APPENDIX E - CONTINUED

Table 6
 Town of Vinton
 Priority List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
Hardy Road	Terminus of bike lane	Roanoke County CL	Roanoke County
Mountain View Road	Washington Avenue	Roanoke County CL	Roanoke County
South Pollard Street	Gus Nicks Boulevard	Virginia Avenue	City of Roanoke
Virginia Avenue	South Pollard Street	City of Roanoke CL	City of Roanoke
Walnut Avenue	Lee Street	Wise Avenue	City of Roanoke

Table 8
 City of Roanoke
 Vision List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
13th Street / Bennington	Rutrough Road	Dale Avenue	
13th Street / Hollins Connector	Dale Avenue	Orange Avenue	
Brambleton Avenue	Garst Mill Road	Brandon Avenue	
Franklin Road	Reserve Drive	Route 220	Roanoke County
Grandin Road	Garst Mill Road	Brandon Avenue	Roanoke County
Hollins Road	Orange Avenue	Liberty Road	
King Street	8th / Braddock Street	Orange Avenue	
Liberty Road	Hollins Road	Burrell Street	
Plantation Road	Liberty Road	Roanoke County CL	
Garden City Boulevard	Yellow Mountain Road	Riverland Road	
Belle Avenue	King Street	Roanoke County CL	Roanoke County
Ogden Road	Roanoke CL	Electric Road / Route 419	
Mount Pleasant Boulevard	Riverland Road	Roanoke County CL	Roanoke County
Riverland Road	Garden City Boulevard	Mt. Pleasant Boulevard	

APPENDIX E - CONTINUED

Table 9
 Roanoke County
 Vision List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
221 Bent Mountain Road	Cotton Hill Road	Twelve O'clock Knob Road	
Belle Haven Road	Loch Haven Road	North Barrens Road	
Carson Road	City of Roanoke CL	460 Challenger Avenue	City of Roanoke
Catawba Creek Road	Catawba Valley Drive/ Route 311	Roanoke CL	
Colonial Avenue	Electric Road / Route 419	Ogden Road	
Colonial Avenue	Ogden Road	City of Roanoke CL	City of Roanoke
Cotton Hill Road	Bent Mountain Road / Route 221	Blue Ridge Parkway	
Dallas Road	Webster Road	Enon Drive	
Electric Road / Route 419	City of Roanoke CL	Brambleton Avenue / Route 221	City of Roanoke
Enon Drive	Dallas Road	Walrond Drive	
Feather Road	Route 24 / Washington Ave	Rte 634 Hardy Road	Town of Vinton
Garst Mill Road	Brambleton Avenue / Route 221	City of Roanoke CL	City of Roanoke
Feather Road	Washington Avenue	Hardy Road	Town of Vinton
Jae Valley Road	City of Roanoke CL	Blue Ridge Parkway	City of Roanoke
Laban Road	North Barrens Road	Webster Drive	
North Barrens Road	Belle Haven Road	Laban Road	
Ogden Road	Colonial Avenue	Electric Road / Route 419	
Peters Creek Road	City of Roanoke CL	Williamson Road	City of Roanoke
Rte 24 Washington Avenue	Vinton CL	Blue Ridge Parkway	Town of Vinton
Starkey Road	Electric Road / Route 419	Buck Mountain Road	
Twelve O'clock Knob Road	Bent Mountain Road / Route 221	W. Riverside Drive	City of Salem
Walrond Drive	Enon Drive	Plantation Road	
Walrond Park Road	Enon Drive	Walrond Drive	
Webster Drive	Laban Road	Dallas Road	
Wildwood Road	City of Salem CL	I-81 / City of Salem CL	City of Salem
Williamson Road	Peters Creek Road	Botetourt County CL	Botetourt County

APPENDIX E - CONTINUED

Table 10
City of Salem
Vision List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
Boulevard Roanoke	Electric Road / Route 419	College Street	
Idaho Street	Texas Street	Lynchburg Turnpike	
Twelve O'clock Knob Road	Roanoke County CL	West Riverside Drive	Roanoke County
Wildwood Road	West Main Street	Roanoke County CL / I-81	Roanoke County
Academy Street	Roanoke County CL / I-81	Main Street	Roanoke County

Table 11
Town of Vinton
Vision List of Corridors for Bicycle Accommodation

Street	From	To	Inter-jurisdictional Connection
Gus Nicks Blvd./Washington Avenue	Vinton CL	Blue Ridge Parkway	Roanoke County
Third Street	Virginia Avenue	Hardy Road	