

# 1. Virginia Vision and Trail System

## Connecting our Commonwealth

Greenways and trail systems begin with the vision of a group, or individual, interested in recreation, conservation of natural environments, transportation, or simply enthusiastic about the outdoors. This section is intended to familiarize readers with common terminology and current ideas about how greenways and trails fit into, and enhance, the Virginia landscape.

In *Greenways for America*, author Charles Little chronicles the evolution of the greenway movement, beginning with Boston’s “Emerald Necklace,” a system of parks designed by 19<sup>th</sup>-century landscape architect Frederick Law Olmsted (see Bibliography). Little characterizes the greenways movement as “citizen-led”. Since the time of Olmsted, across the country and in Virginia, greenways and trails have been proposed and created under the leadership of those who have a vision, articulate that vision, and recruit others to make it a reality.

## The Vision of Greenways and Trails for the Virginia Landscape

Greenways and trails will play a key role in the preservation and enhancement of the Virginia landscape. By protecting and providing access to the abundant natural and cultural features found throughout the state, representative areas of the many periods of human habitation will be available for future generations to enjoy. When viewed overall, the land has not changed for thousands of years. Those who inhabited Virginia after the last glacial period looked at much the same rolling hills and mountain ranges as we do today. Native Americans canoeing the many tidal creeks around the Chesapeake Bay saw the same broad marshes against wooded uplands.

As the Europeans settled and expanded into new territories, they converted large areas of Virginia into agricultural landscapes. Some moved into the mountains creating settlements in the hollows and on gentle ridges overlooking the valleys below. Later, canals and railroads began to cross the land and weave along the rivers, and cities developed at the intersections of these important new routes.

But, the landscape resulting from widespread use of the automobile is the landscape that most Virginians are now exposed to on a daily basis. From a recreation and heritage preservation point of view, there is a need to make the earlier landscapes more readily available. While the network of roads provides vehicular access to and through most places, only greenways can preserve the landscape itself and only trails can provide the individual with a connection to its unique qualities.

Access through the many Virginia landscapes created by eons of natural processes and centuries of human cultivation can be the theme that unifies the greenway

and trail movement in Virginia. Priorities for state-wide linkage should be based on a framework of landscapes created by the imprint of human activity upon natural features, building local greenways and trails for preservation, recreation, and transportation. By focusing on the overlap of the two forces, natural and human activity, the emerging state-wide system would help preserve the essentials of both domains and would serve the broadest interest of Virginians and visitors.

## Greenways and Trails

There are many types of greenways that serve numerous possible functions. This section defines greenways and describes many of their functions. A particular greenway will likely have more than one function. In *Greenways for America*, Charles E. Little defines a greenway as:

- “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, a certain strip or linear parks designated as a parkway or greenbelt.”***

The *Virginia Outdoors Plan* (VOP) defines greenways simply as ***“Open space corridors that can be managed for conservation, recreation, or alternative transportation.”*** Some greenways are designed to be used for recreation and non-motorized transportation, while others are designed for wildlife, biodiversity, and scenic beauty. Resources that greenways might connect

include: schools, playgrounds, forests, parks, historic sites, rivers, neighborhoods, businesses, and wildlife refuges. Greenways may feature a wide variety of activities and points of interest, such as hiking, bicycling, and horseback riding trails, sidewalks, streams and rivers suitable for canoeing and boating, abandoned or active railroads, scenic roads, and scenic easements.

Greenways and trails have many similar characteristics and often are combined, forming a greenway with trails passing through it. A trail can develop into a greenway when an area of land along the route becomes protected from incompatible land uses through purchase or easement. When first proposing and working to establish a greenway or trail, proponents should be cautious about how they use the two terms. While establishing a greenway may be acceptable to contributing and adjacent property owners, trails and associated activity may not be. Conversely, some property owners may be comfortable donating an easement for a trail across their property, but become uneasy if they think that it will lead to solicitations for controls on a larger portion of their land. Therefore, if establishing a greenway is the primary objective, it should only be called a greenway. If a trail is being developed, references to greenways can accidentally complicate the issue. Certainly, if the goal is both, use both terms, but use them precisely when selling the ideas to landowners.

## **Greenways and Trails Delineate Corridors**

Greenways often follow the alignment of a natural or open space feature in the landscape, such as a river or a scenic road. Trails exist in a broader landscape and provide access to corridor, if only visually. Therefore, the area of concern for either is a swath through the environment which includes adjacent land, and possibly

# **Greenways and Trails in Virginia**

(A Partial List)

## ***Northern Virginia***

**Washington and Old Dominion Railroad**

**Regional Park**

**Goose Creek Scenic River**

**Bull Run Mountains Preserve**

**Fairfax County Stream Valley Park System**

**Arlington County Stream Valley Park**

**System**

**George Washington Memorial Parkway**

**Fountainhead Regional Park**

**Northern Virginia Trail Riders System**

**Appalachian Trail**

**Georgetown Pike**

## ***Southeastern Virginia***

**Colonial Parkway**

**Route 5 Virginia Byway**

**Virginia Beach-Chesapeake Canoe Trail**

**System**

**Virginia Beach Bike-to-Beach Trails**

## ***Western Virginia***

**New River Trail State Park**

**Roanoke Valley Greenways**

**Virginia Highlands Horse Trail System**

**Blacksburg Bike Lane System**

**Appalachian Trail**

## ***Central Virginia***

**Virginia's Retreat Trails**

**Charlottesville Bike Lane System**

**Kanawha and Haxault Canal Walk**

**Lynchburg Area Trail System**

areas beyond that, in addition to the land on which the greenway or trail rests.

Some corridors exist in an indirect relationship with the greenway or trail:

**Virginia Byways** are state designated roadways that recognize the beauty and cultural legacy of the local region through which they pass. There is nothing about the Byway designation that changes, or prevents changes, to the road itself, or the land along its route. Local governments are encouraged to use their planning authority to preserve the scenic and historic features along the road, and when they do, as in the case of Route 20 in Albemarle County, a corridor related to the Byway is defined.

**Blueways** are rivers and streams used for recreation that occur primarily within the waterway. Some have been officially designated as federal or state scenic rivers, but any stream that serves as a conduit for travel and recreation is included in this category. The reason that blueways are considered a corridor is that for the recreational use to be sustained, adjacent land use and public access must remain beneficial to the recreational uses. This means that non-river oriented activities within the corridor must be managed appropriately through cooperative agreements, land use planning, and enforcement.

**Heritage corridors** can be formed by federal, state, or local action and normally define an area within which a particular cultural or historic theme or tradition can be appreciated. They are not really greenways or trails themselves, but may include greenways and trails that provide access to the heritage resources. An example is the Mattaponi-Pamunkey Trail in King William County and the Town of West Point. It includes no real estate of its own but formally defines key cultural and

natural features in the two jurisdictions which have relevance to the lives of the natives and early settlers in the region.

## Greenway Types and Functions

A defining characteristic of greenways that distinguishes them from parks and preservation areas is their connective nature. Charles Little describes five major type categories in which greenways are commonly defined.

**Urban riverside greenways** are usually created as part of (or instead of) a redevelopment program along neglected, often run-down city waterfronts. A new example of this type is Canal Walk along the James River waterfront in Richmond.

**Recreational greenways**, featuring paths and trails of various kinds, often of relatively long distance. These are usually based on natural corridors as well as canals, abandoned railroad beds, and other public rights-of-way. The Washington and Old Dominion Railroad Regional Park in Fairfax County is an example of this type of greenway.

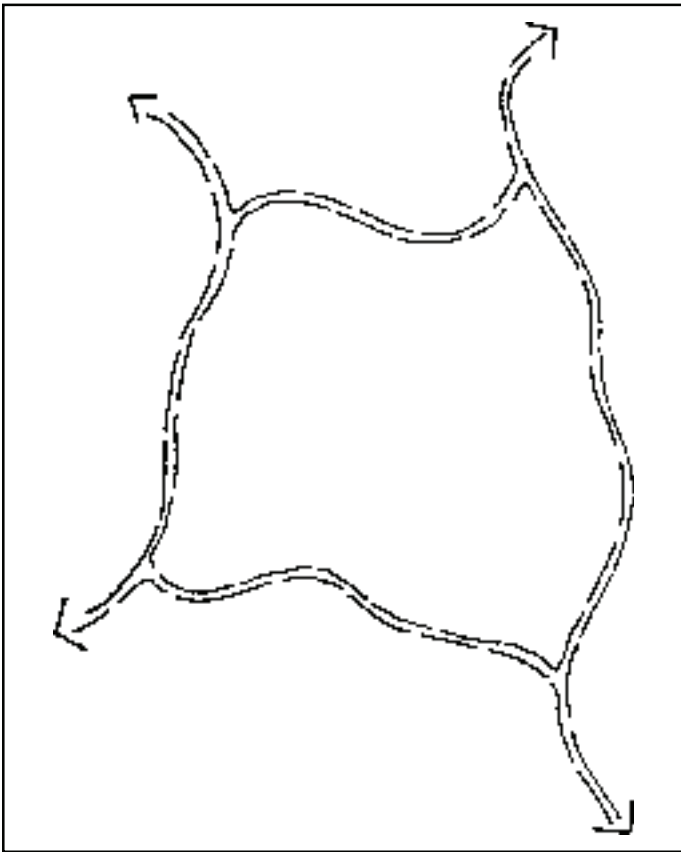
**Ecological greenways**, usually along rivers, streams and mountain ridges, provide for wildlife migration and “species interchange,” nature study, and hiking. The Tinker Creek Greenway in the Roanoke area is an example of this type of greenway.

**Scenic greenways** and historic routes, are usually along a road, highway, or waterway. Pedestrian access is often provided along the route or at key points. The Blue Ridge Parkway is an example of this type of greenway.

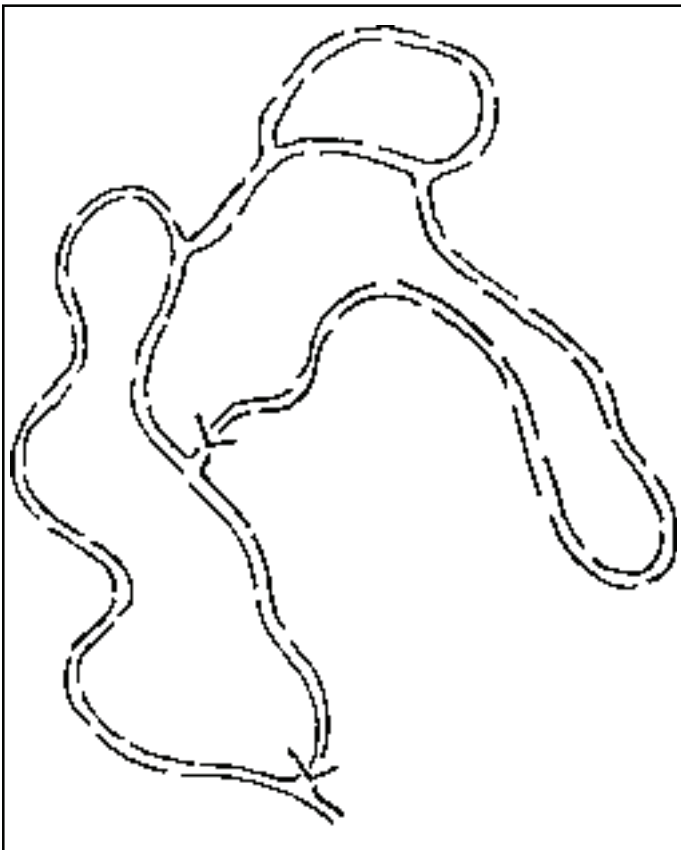
**Comprehensive greenway systems** are usually based on natural landforms, such as valleys and ridges, but sometimes are simply an opportunistic assemblage of



**Roanoke Valley Greenway**



**System of Interconnected Trails**



**System of Extending Loops**

various greenways and open spaces linked to create a local or regional network. The Roanoke Valley Greenway is an example of a comprehensive greenway system.

## **Trail Types and Functions**

The *Virginia Outdoors Plan* (VOP) defines trails as “*A linear corridor, on land or water, with protected status and public access for recreation or transportation (excluding scenic byways and highways).*” This definition was adopted from *Trails for All Americans*, a report by the National Park Service (NPS) and the private coalition, American Trails. The VOP also states that the goals outlined in *Trails for All Americans*, are applicable to Virginia.

There are many types and functions of trails, just as there are a range of organizations that create and maintain them. Some are wholly located on public land and operated by a local recreation department, while others, such as the Appalachian Trail, are located on public and private land and maintained by a collection of volunteer organizations. Trails are used for relaxation; for intense physical workouts; for access to specific places; for the pleasure of walking nowhere in particular; and for getting away from the workday routine, as well as for getting to and from work.

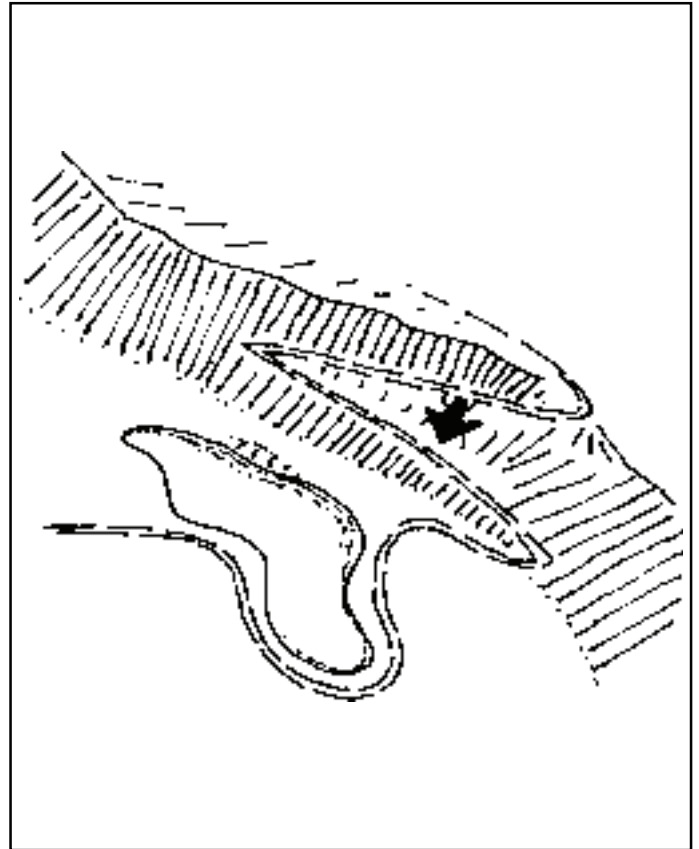
Trails can occur as individual routes between two points, but often occur in groups, comprising a trail system. It appears that trail use increases when an individual trail is linked to a larger network of trails. When examining a whole trail system, one expects to see the quality of hierarchy. When enough land is available it is desirable to align a trail in a loop, so that one departs and return to the same point. When additional trails are built, subsequent loops should extend the original route to create opportunities for longer walks, again without retracing steps. This sequencing of loops outward from

the point of origin creates a pattern of hierarchy that is easily understood and followed by trail users on subsequent visits. No specific list of hierarchies needs to be followed; rather, a hierarchy should be designed and created in such a way as to make a trail more than just a line connecting two points.

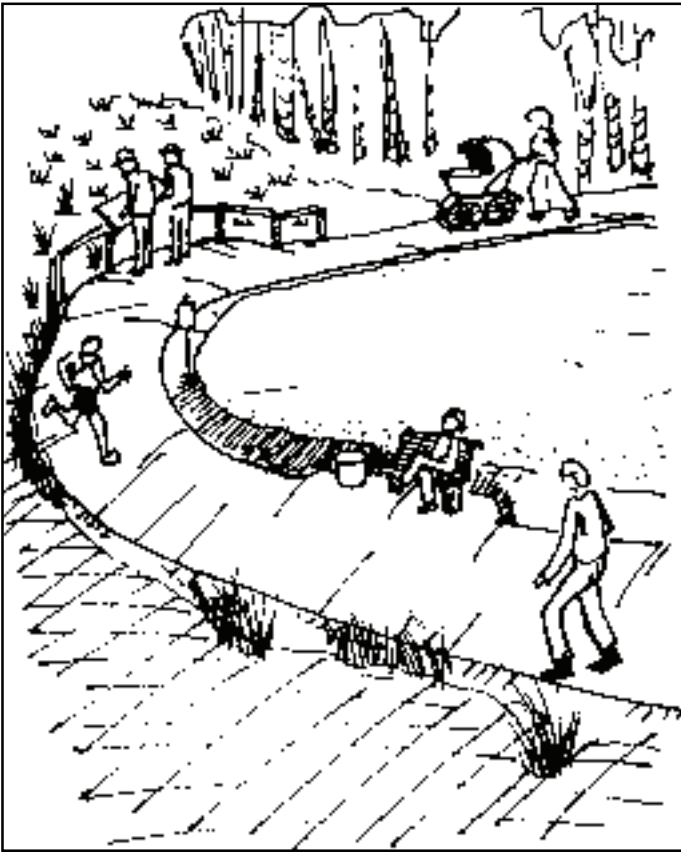
Continuity in a trail or trail system gives it a quality that will enhance the experience offered as well as encourage repeat use, and create a growing constituency. Continuity exists when the sequence of views and experiences along a trail occur in a smooth and logical order. For example, a trail that passes a pond then climbs a ridge to an overlook where the pond is again viewed has continuity. But if that trail climbed the ridge and never gave a view back to the pond, continuity would be lacking. Continuity is also created when a trail exposes users to a series of features in a recognizable order. A trail that follows a stream to its headwaters then climbs a ridge for the return loop would have more continuity than one that repeatedly switched back and forth across the stream and up and down the flanking ridges.

Most trails have a variety of ways in which they can be used by low volumes of traffic. But as the level of traffic increases, the various methods that people use to propel themselves must be separated. The types and functional descriptions define the type of use intended and each type has numerous implications related to feasibility, design, cost, and management. These subjects are covered in the following sections of this handbook.

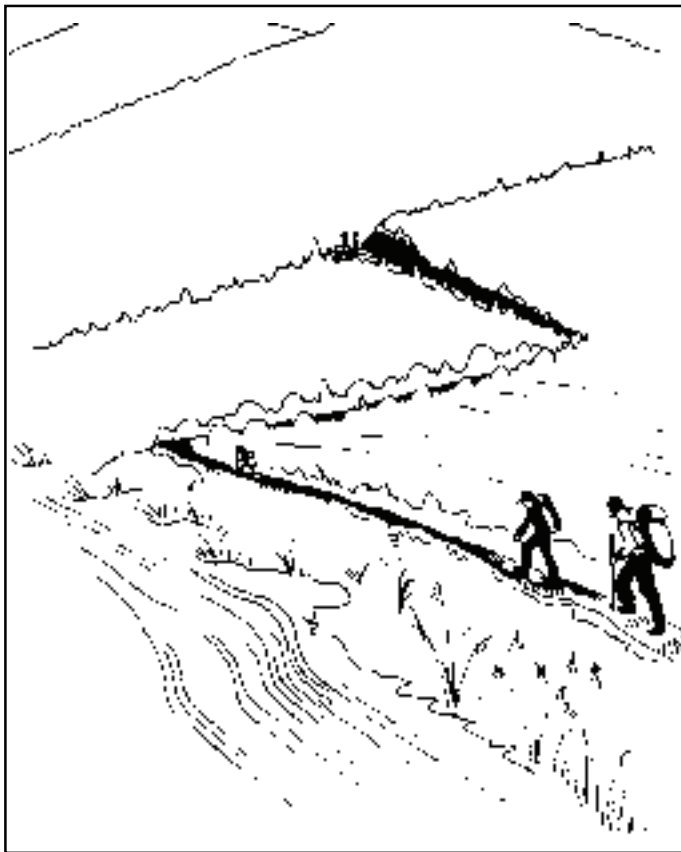
In general, there are single-use and multi-use trails. Many trails established in the past were intended for a single use such as walking. As their popularity grew and use increased, the variety of modes of transportation used on the trail also increased. Therefore, trails



**Continuity in Trail Experiences**



**Pedestrian Trail**



**Hiking Trail**

designed for single-use have become multi-use trails. When planning a new trail, it is best to incorporate design for the nature of future uses, or to design it with specific limitations as to use. When use of an existing trail changes, the trail should be modified so that all intended activities are accommodated. Where space permits, single-use trails can be properly converted to multi-use by adding treads, or surfaces, that are designed and marked for specific uses. The types of trails listed below are single use that in some combinations can properly function on a single tread. Other types of trails should have a separate tread and in some cases a separate route.

**Pedestrian trails** are used by individuals and groups on foot or using low speed wheeled vehicles, such as strollers or wheel chairs. Pedestrian trails can offer relatively easy access to natural or scenic beauty or provide a safe and stimulating course for a vigorous outing. Generally, the presence of many others enjoying the same experience is acceptable. The surface material for these trails can vary from firmly packed crushed stone to asphalt or concrete. Most users do not expect to encounter much bicycle, skateboard, or in-line skate traffic on these trails and are discouraged from using them when the higher speed traffic increases. When providing access to a natural area, these trails have frequent stopping areas with benches, interpretive signs and displays.

**Hiking trails** provide overland access and usually require complete physical mobility. The surface of these trails is often uneven and consists of packed soil and naturally occurring vegetative debris. Hikers prefer trails that present physical challenges and offer dramatic scenic rewards. These trails can often be used by cross-country skiers during the winter. These trails are further subdivided into the most rugged “back country” trails and the less rugged “front country” trails. Because



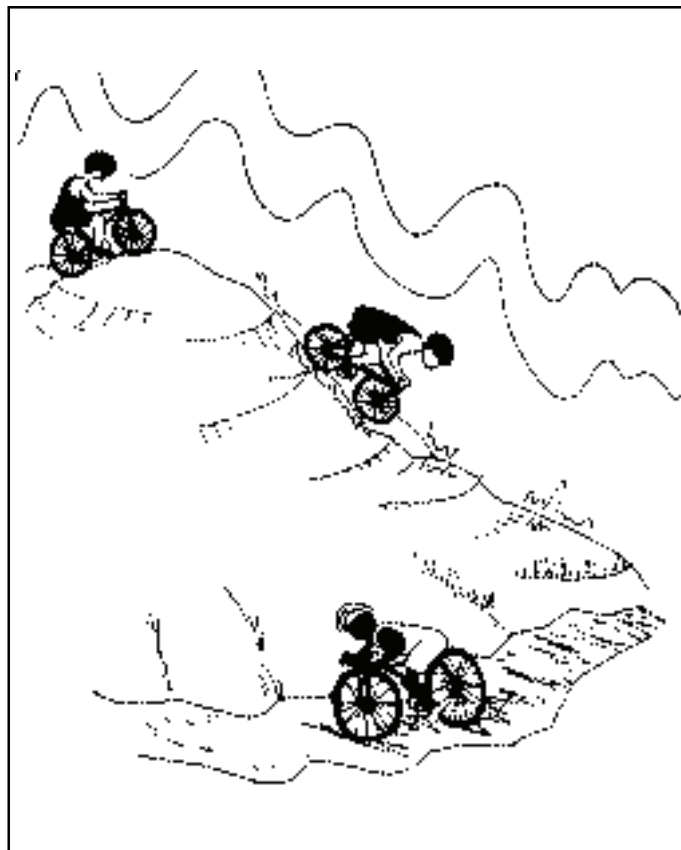
hiking trails lead away from developed areas, users often need to carry provisions with them as none are provided along the way.

**Hike-bike trails** are intended to combine walking and wheeled vehicles on the same tread. Because of the combined use, people using these trails on foot tend to be those walking or running for exercise. The immediate route should be safe and pleasant, but may pass through areas that would be less than appropriate for a scenic trail. The surface should be paved with asphalt or well compacted crushed stone. These trails should exclude motorized vehicles except electric-powered wheel chairs, but can be used in winter for cross-country skiing.

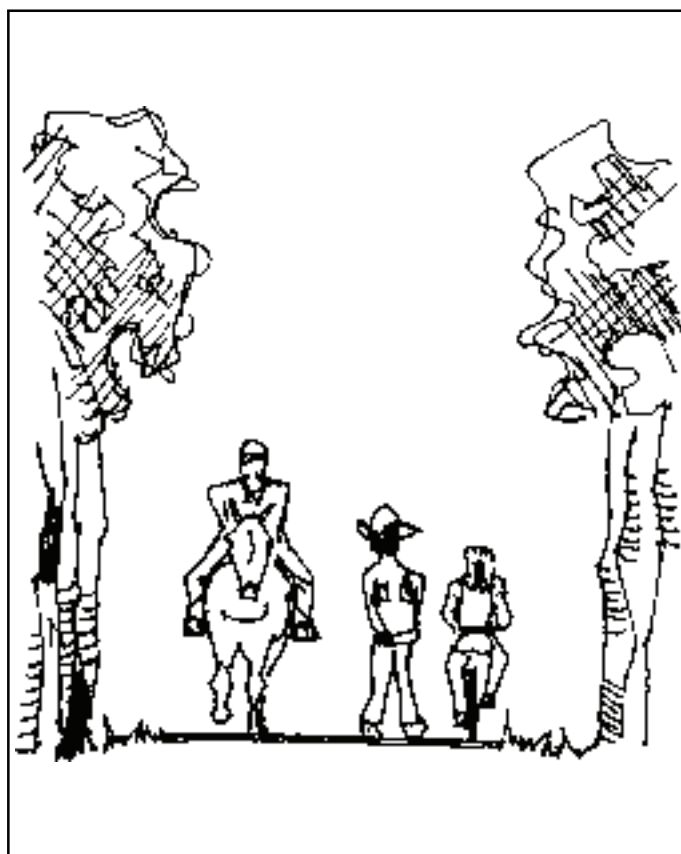
**Equestrian trails** are designed for riders who enjoy travelling overland on horseback. Because horses do not require a specific trail surface, equestrian trails vary in width, grade, and construction. Parking at trail access points must accommodate trailer maneuvering as well as parking. Overnight facilities along equestrian trails should offer shelter and bedding for horses as well as accommodations for riders.

**Mountain bike trails** are very specialized trails that take riders through challenging terrain and present them with obstacles and at levels of risk normally avoided with other bicycle trails. Because mountain bikers travel rapidly and are focused on the course, no other users should use these trails, except possibly cross-country skiers in winter. In some areas, snow mobile trails may follow the same route during winter, but signs should clearly indicate seasonal changes and warnings if both types of winter users are present.

**Multi-use trails** are divided into two types; non-motorized and motorized. Non-motorized multi-use trails are for use by hikers, bikers, equestrians, and other



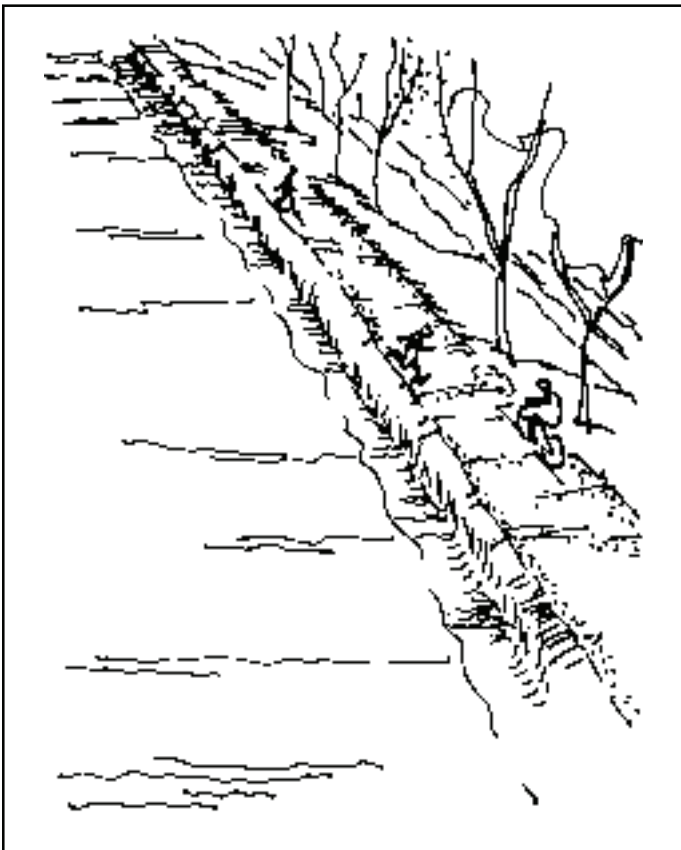
**Mountain Bike Trail**



**Multi-use Trail**



**Rail Trail**



**Canal Tow Path**

uses such as in-line skaters. Motorized multiple-use trails are also of two types; those intended for vehicles designed for off-highway use, such as dirt bikes and all terrain vehicles (ATV), and those intended for vehicles licensed for highway use. The Virginia Department of Motor Vehicles will not license for highway use a motorized vehicle having an engine size of 90 cubic centimeters or less. Trails for highway licensed vehicles, such as four wheel drive trucks and jeeps, called high clearance vehicle trails, often are also used by hikers and mountain bikers. Trails intended for the smaller, off-road vehicles can be managed as non-motorized trails through day of week or time of day restrictions. Due to the associated noise, most motorized multi-use trails should be located in areas away from non-motorized trails. The surface for these trails is normally paved with asphalt or macadam.

**Bike routes** are of three types; shared lane, separate lane, and off-road. A shared lane bike route is merely an identified route along which bicyclists ride in the same lane with motor vehicle traffic. Separate lane bike routes have a special bike lane, next to the motor vehicle lane, with specific markings to indicate exclusive use by bicyclists. These two types of bike routes are mostly used by riders traveling from place to place within an urban area. Off-road bike routes are sections of the bicycle system that are completely separate from the roadways. Bike routes are often used by pedestrians and others, but local ordinances sometimes restrict all non-bicycle use.

**Rail-trails** are trails that have been located along the abandoned bed of a former railroad track. They are very popular because they follow a gentle grade and often pass through undeveloped land and along rivers. Typically they are very stable and wide enough to accommodate multiple users, including cross-country skiers in winter.

**Rails-with-trails** are trails that parallel an operating railroad track. They are located within the right-of-way but typically not on top of the gravel embankment with the tracks.

**Tow paths** are pedestrian or multi-use trails beside old canals that were formerly used by the draft animals to tow canal boats. In many ways they are similar to rail-trails because of their level grades and often wide tread, and because they are near rivers. They are usually restricted to non-motorized use because of the number of users.

**Water trails** are recreational routes within or along bodies of water such as streams and lakes. There are two types; high-gradient water trails and blue water trails. High-gradient water trails are those that follow the course of a flowing stream or river. Blue water trails are those that follow a tidal shoreline or that of a lake.

## Community Benefits of Greenways and Trails

The community benefits that result from greenways and trails are varied and extensive. In addition to contributing to the preservation of natural features and providing public places for recreation and enjoyment, they can stimulate to local economy. *Economic Impacts of Protecting Rivers, Trails and Greenway Corridors* (National Park Service, 1995) presents detailed information on a range of economic benefits that can be realized locally by the creation and effective promotion of various types of trails. However, most greenway and trail projects begin with the highest priorities being placed on the purely local, non-economical benefits.

There are numerous social benefits to greenways and trails. Among these are recreational opportunities, health

and fitness, places to socialize, historic preservation, environmental protection, and community aesthetics. Connecting neighborhoods and bringing people into contact with each other helps to build a sense of community. A technical brief, *The Economic and Social Benefits of Off-Road Bicycle and Pedestrian Facilities*, by the National Bicycle and Pedestrian Clearinghouse contains additional information useful to trail planners (see Appendix XXIII: Bibliography).

**Conservation** of natural resources is a primary objective of the establishment of most greenways. The intent is usually to protect a strip of land along a stream, river, ridge, or shoreline from development or disturbance. By keeping disturbances back from the edge of a waterway, runoff can be filtered through the greenway to remove sediment and pollutants. By eliminating development along a ridgeline, views across the landscape will reveal its beauty for generations.

**Preservation** of historic structures, features, and landscapes can be facilitated through establishment of trails linking such sites to each other and to other public facilities in the area. Visitors to one site will go to additional locations when they are made aware of the linkage, helping the constituency of all sites to grow.

**Flood control** is increased when a floodplain, in addition to the legally protected floodway, is maintained in an undeveloped state. When a river or stream overflows its banks and floods the natural margin along its length, the extent of the flood is limited. By creating a greenway along flood-prone waterways, land owners reduce the extent of a future flood on each of their parcels.

**Recreation** is the primary justification and benefit expected from a new trail. Communities find that an attractive and safe trail system brings in more people to walk and ride. Trails designed for fitness activities get

heavy use and can attract visitors from outside the area to attend competitive or special events.

**Transportation** in and around a community can be improved by designation of bike routes and trails. When properly located to connect activity centers and populated areas to popular destinations, these facilities encourage commuters to travel by bicycle or foot, thereby reducing congestion.

**Economic** benefits from the creation of a greenway or trail flow to the businesses, the local government, and ultimately the people who reside in the area. Recreation, history, natural areas, wildlife, and beautiful towns are well documented generators of tourist revenue. During the early 21<sup>st</sup> century, more people in retirement will be traveling throughout Virginia, searching for beautiful and invigorating places to learn about and enjoy. Those communities that welcome and embrace these visitors with interesting and convenient attractions will be rewarded with new friends and increased revenue.

The needs of recreational visitors to a community support a wide range of small businesses including food, lodging, and automotive services. As popularity of a community grows, additional services will become necessary, creating opportunities for local entrepreneurs. Each new service and comfort that becomes available will make the area more attractive, in turn creating and increasing revenue to the local economy.

Local investment in a trail system and/or greenways can cause many local residents to recreate in their home community rather than traveling to more distant locations, spending locally the money they would have spent on trips out of the community.

When compared to many other types of recreational facilities, the generally low cost of trail development

allows local governments to realize the cost savings and benefits more quickly. Indirect economic benefits, such as increasing property values, can also be expected when streams, ponds, and other natural features are preserved by greenways.