2008 Tennessee Greenways and Trails Plan
Appendix A - Defining Greenways and Trails

What are Greenways and Trails?

What is a Greenway? There are as many definitions for the term greenway as there are actual greenways around the nation. Charles Little, in his book Greenways for America, [1] provides the following definition:

> A **greenway** is 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, scenic road or other route. It is a natural or landscaped course for pedestrian or bicycle passage; an open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas; locally certain strip or linear parks designated as parkway or greenbelt.

Little describes five general types of greenways:

1. Urban riverside (or other water body) greenways, usually created as part of (or instead of) a redevelopment program along neglected, often run-down, city waterfronts.
2. Recreational greenways, featuring paths and trails of various kinds, often relatively long distance, based on natural corridors as well as canals, abandoned rail beds, and public rights-of-way.
3. Ecologically significant natural corridors, usually along rivers and streams and less often ridgelines, to provide for wildlife migration and species interchange, nature study and hiking.
4. Scenic and Historic routes, usually along a road, highway or waterway, the most representative of them making an effort to provide pedestrian access along the route or at least places to alight from the car.
5. Comprehensive greenway systems or networks, usually based on natural landforms such as valleys or ridges but sometimes simply an opportunistic assemblage of greenways and open spaces of various kinds to create an alternative municipal or regional green infrastructure.[2]

Greenway trails require a variety of design considerations depending on their type and the natural features that they include. In general, there are three specific features that define a greenway and influence its design:

1. **Linearity**
2. **Connectivity**
3. **Resource Protection**

[1] Greenways for America, by Charles Little, 1990

Greenways, in essence, are ***linear*** in nature. They can follow natural features like river corridors, ridgelines or man-made features such as abandoned railroad rights-of-way and utility rights-of-way. Because of their linearity, they provide greater access to more people at a lower cost than traditional city parks. Their linearity also provides a functional corridor for wildlife migration.

Greenways ***connect*** places and resources. Whether connecting a school to a park or residential neighborhood or connecting wildlife to larger natural areas, the greenways should be created with destination(s) in mind. For wildlife, this connectivity provides opportunities to move from food and water sources to shelter and nesting areas without interfacing with Tennessee's expanding urban growth. For people, this connectivity provides an ultimate destination that makes the trip meaningful. People can walk or ride a bicycle from home to the office or school, the park, or shopping areas without having to use an automobile.

Greenways focus on ***protecting resources***. Whether establishing a buffer zone along the riparian edge of a river or maintaining natural forested acreage between development and a wetland or habitat for threatened species, greenways can play a critical role in protecting our most significant natural or cultural resources. In an urban environment, greenway areas are quickly becoming the only oasises of green open space remaining to help us get back to nature.

Trails and *greenways* are not synonymous. Whereas ***greenways*** denote the preservation or designation of a corridor that protects cultural or natural resources or the creation of linear conservation areas, ***trails*** differ in that they are primarily pathways. Trails provide opportunities for recreation, non-motorized and motorized transportation, viewing scenic vistas, exploring nature, viewing wildlife, natural treasures, and historic places as well as bonding as a family and providing close to home opportunities for physical activity. In Tennessee, there are trails to accommodate persons with disabilities, rollerbladers, cyclists of all types, walkers, hikers, moms with strollers, off-road vehicle enthusiasts, and horseback riders. Trails provide Tennesseans with an opportunity to access the wonders of our beautiful state. For the purposes of this plan, trails are not paved automobile driving routes nor sidewalks (except when sidewalks are used expressly to connect sections of greenways and trails).[2]

Tennessee is fortunate to have such a diversity of landscape and opportunities for trail use throughout the state. There are many types of trails in Tennessee that have been developed and are considered in the main Tennessee Greenways and Trails Plan. In general, there are three categories of trails in Tennessee: motorized trails, non-motorized trails and multi-use (diverse) trails. Loop, spider web, and inter-connected trails make the best use of the land and are preferred by most users, giving users the most options for trail enjoyment.

[2] Greenways: A Guide for Planning, Design and Development, by Charles A. Flink and Robert M. Searns, 1993

MOTORIZED

Motorized trails are trails that are primarily used by off-highway vehicles (OHVs) which are also often called off-road vehicles (ORVs). OHVs come in many shapes and forms. The most typical are off-road motorcycles, all-terrain vehicles (ATVs) and four-wheel drive vehicles such as jeeps and trucks. Also included in this category are dune-buggies and sand rails which are more similar in their trail usage to four-wheel drive vehicles. Among ATVs, there are the two-wheel drive sport-type which use trails in a fashion similar to motorcycles and utility-type ATVs that are usually four-wheel drive and designed for a slower pace and greater load capacity.

OHV trails are as diverse as the machinery used because each type has a different rider style, travel pace and size.

Off-Road Motorcycle Trails

Off-road motorcycle trails and dirt bike trails are traditionally backcountry, narrow dirt trails known as single track. Riders enjoy the difficulty of quick turns and rough terrain in this challenging

endurance sport. In recent years, motorcycle events such as "hare scrambles" and "enduros" have become popular around the country, where motorcycle riders compete on a backcountry course.

Off-road motorcycle riders enjoy a variety of terrain, but typically one-way, narrow loop trails with challenging topography. Motorcycles are the faster-paced OHVs, therefore requiring greater trail lengths to provide for a day-ride without repetition of riding the same trails. Depending on terrain and difficulty, motorcycles may travel up to 30 mph, although average speed is 6-10 mph. Trails are narrow so greater mileage can be more tightly compacted onto the land surface. Trail coverage may vary from 10-15 miles per day for beginners, and up to 50-80 miles per day for experts.

Motorcyclists prefer trail lengths of 10-40 miles in a loop format, or up to 100 miles in a grid format. Variable trail topography is preferred, ranging from level to steep slopes of up to 25%. Where steepest slopes occur, alternate routes of less severe topography should be available. One-way single-track trail width should be 12-24 inches wide on the ground surface with clear width of 32-40 inches and a clear height of 6-8 feet. Natural surfaces such as clay, soil, and sand are preferred, although some amount of subsurface rock is desirable for tread longevity and stability.

All-Terrain Vehicle Trails (ATVs)

For most users, ATVs are easy-going motorized transportation into the woods. Less aggressive and invasive than larger four-wheel drive vehicles and off-road motorcycles, ATV riders typically prefer gentler terrain and trails more narrow than can be accessed by four-wheel drive vehicles, yet wider than motorcycle trails. These trails are known as double track, although the track width is 48" or less. ATV riders use ATVs for several purposes. For many people with limited physical ability or in poor health, ATVs are a way to access the outdoors where otherwise these riders would not have the opportunity. Hunters and farmers also use ATVs regularly to quickly access remote areas and transport heavy supplies, materials or animals out of the woods.

With the aging of the populations and the increasing leisure time of the Baby Boomers, ATVs offer an opportunity for recreation and enjoyment of the outdoors for persons who otherwise may not have the opportunity to experience such places. As with all motorized recreation, safety precautions such as wearing a helmet, goggles, heavy boots and gloves are important for persons riding ATVs.

Four-Wheel Drive Trails

Like motorcycle trails, four-wheel drive jeep riders enjoy exploring the deep backcountry in specially designed vehicles that allow them to access areas not typically accessible to traditional automobiles. Four-wheel drive trails must be wider than motorcycle and ATV trails to accommodate the wider vehicles. Like other motorized trails, one-way loop trails are an important safety feature and make it easier for larger group riding events.

Four-wheel drive riders typically travel slowly and methodically to traverse intricate terrain. Getting out of mud holes and climbing steep terrain with large rocks to climb over without tipping over are part of this user group's thrills.

Providing Motorized Trails

Motorized trails can be shared by the various forms of OHVs, although this is not preferred. Trail areas, however, can be shared through proper trail design. Four-wheel drive trails around the perimeter of an area provide not only a method of isolating jeeps (the largest and slowest of off-road motorized vehicles), but also provide a safety and accessibility factor for ATV and motorcycle riders. In a smaller concentric circle inside the double track perimeter can be ATV trails, and toward the center the narrowest trails for motorcycles only.

Motorized trails are not exclusive to rural landscapes. Opportunities exist to create motorized trails within communities or suburban areas. In Iowa, the City of Waterloo has established a partnership with the Trailblazers Off Road Club (http://www.trailblazersoffroadclub.com) to establish an OHV park for all types of motorized users. The Club, formed in April, 1996 was formed to help establish and operate a new ATV Park. Since that time, the Club has put hundreds of hours into cleanup, construction and maintenance at Riverview Park. This shows that cooperative public/private partnerships can work to the benefit of both the trail users and the local government entity.

Another great example of a multi-jurisdictional public/private partnership is the Hatfield-McCoy Trail System in West Virginia. The West Virginia state government created the Hatfield McCoy Recreational Resource Authority (HMRRA) in 2000 and the HMRRA is working in partnership with 9 counties and 7 cities along with the property owners and the trail users and they have created a multi county trail system of over 1,000 miles of roads and trails. The local communities have passed ordinances that allow the OHV's access from the OHV trails into the communities so the trail riders can gas up, eat, spend the night and purchase souvenirs of their trip. For more information about the Hatfield-McCoy trail system, go to: www.trailsheaven.com.

Motorized trail opportunities on publicly owned lands in Tennessee are diminishing rapidly, while the demand and interest in OHV trail riding is growing. Areas traditionally used for motorized recreation are being closed for a variety of reasons:

- Land management/ownership changes
- Federal/State budget cutbacks/limited funds to manage/maintain OHV trails
- Environmental impacts
- Liability/safety concerns
- Conflict among different user groups
- Bad reputation (behaviors) of users
- Noise

The Off Highway Vehicle (OHV) Act of 2004 was passed by the Tennessee State Legislature and the OHV Act created an OHV program and the Tennessee Wildlife Resources Agency (TWRA) administers the OHV program. The Act did not have any funding mechanisms created to help generate funding for the operation of the OHV program. The only funds available for OHV trails are from the Recreational Trails Program (RTP) and the 2004 OHV Act directed all federal funds be given to the TWRA. TWRA has chosen to use these funds to inventory, plan, manage and maintain the OHV trails at the Royal Blue Wildlife Management Area (RBWMA). When the RBWMA lands were purchased, OHV use was already an existing use of the property and a condition of the purchase was to continue the OHV trails access. For a map of the RBWMA – OHV trails, go to: http://www.state.tn.us/twra/gis/tnmaps.html and click on Royal Blue WMA OHV Map.

Many government agencies, both federal and state, are limiting or eliminating the permissible use of OHVs on public land. Increasing numbers of motorized users continue to put pressure on existing trails and decreasing federal and state budgets continue to decrease the number of available trails. Private landowners, including timber and mining companies, that historically permitted motorized recreation are now limiting access to their properties or selling their properties to other interests. Bowaters Southern Paper Corporation divested itself of 300,000 acres of forest lands in Tennessee, north Alabama and north Georgia and sold the majority of those lands to private individuals, developers or corporate timber investment companies. These new landowners are not as receptive to OHV trail use on their lands plus the developers are subdividing the larger acreage areas into 1-5 acre tracts.

Where motorized trails remain, they often do not offer the experience desired by users because of their limited size, length or ability level. Just as there are different skill levels among hikers and bicyclists, there are also different ability levels for OHVs. Some users enjoy a slow, peaceful journey along a fairly level trail surface, while others prefer steep, rocky terrain. Low, medium and high challenge trails are needed as well as longer distance trails for dirt bikes and ATV's.

Turkey Bay OHV Park

Land Between the Lakes (LBL) has been home for the past 35 years to the best Off-Highway Vehicle (OHV) Park in the southeast United States. Set up as a pilot project by the Tennessee Valley Authority in the 1970's, approximately 2,300 acres of LBL was set aside for motorized recreation. Managers agree that the original purpose of the project was to alleviate illegal motorized recreation use on the overall 170,000 acre National Recreation Area, now under the management of the U.S. Forest Service. The result has been a surprisingly favorable trail model with years of testing to show that OHV Parks can be successful.

Turkey Bay is a defined, open-riding motorized recreation area. Users pay either an annual or short-term user fee and receive unlimited access to the OHV area. The U.S. Forest Service uses the revenues generated through the fees to help cover the costs of the management and maintenance associated with operating the OHV area. Go to: http://www.lbl.org/OHVTrails.html for more information.

The University of Southern Illinois completed a study of the Turkey Bay OHV Park, concluding that environmental impacts due to OHV recreation were minimal if the proper trail design parameters are used, and on the ground application of these design parameters have reduced the impacts. Management of the trails, routine maintenance and trail users following set rules have made a difference resulting in a successful solution for OHV recreation impacts.[3]

[3] U.S.D.A. Forest Service, Land Between the Lakes.

NON-MOTORIZED

Bicycling and walking are both important elements of recreation and as connections continue to be made, they are part of an integrated, intermodal transportation system as well. Constructing sidewalks, installing bicycle racks on buses and bicycle parking at bus/transit stations, teaching children to ride and walk safely to school, installing curb cuts and ramps for wheelchairs, striping bike lanes and building trails all contribute to our national transportation goals of safe routes, mobile communities with economic growth that enhances the community and the surrounding natural environment.

Non-motorized trails are trails that are accessed using human power without the assistance of a motor. Examples of non-motorized trails include hiking, walking, jogging, mountain and road bicycling, equestrian and water trails.

In addition to the different user types of non-motorized trails there are also different types of terrain and purpose. From urban trails to backcountry hiking, equestrian and mountain biking trails, non-motorized trails offer diverse opportunities for outdoor enthusiasts.

Urban Trails

Urban trails provide the greatest opportunities for residents of Tennessee to enjoy a trail experience close to home. Whether for exercise, relaxation or the enjoyment of nature, urban trails provide a variety of opportunities to enhance the lives of our citizens and the character of our communities. Urban greenways and trails provide unique opportunities to enhance community features that already exist and to revitalize areas that have been forgotten or misused.

Urban greenways and trails come in many varieties -- from walking trails found inside a nearby park and urban mountain bike trails to urban conservation projects and urban greenways and trails focused on stimulating tourism and economic growth. The types of trails and trail surfaces are equally as varied. Urban trails are typically limited to bicycle and pedestrian users. In some areas, in-line skating is also permitted.

Starting in the 1980's and continuing today, communities such as Maryville, Alcoa and Blount county and Chattanooga/ Hamilton County across Tennessee took the lead in creating local greenway and trail projects. The variety of urban trail projects are as diverse as the state itself. Some communities have focused on

developing elaborate, integrated greenway and trail networks throughout their communities that have inspired additional economic and social benefits.

The **City of Chattanooga and Hamilton County** worked with local private non-profit organizations to create a regional greenway system focused around the Tennessee River Park. The Trust for Public Land (TPL) (http://www.tpl.org/tier2_rl.cfm?folder_id=670&submit.x=9&submit.y=10) has been instrumental in securing donations of land for Chattanooga greenways and open space. TPL has other creative solutions for land acquisitions with tax advantages for the seller of the property. The RiverCity Company (http://www.rivercitycompany.com/)has been a catalyst for the redevelopment of the riverfront and sustainable urban renewal efforts have inspired major private for profit and non-profit capital investments of hundreds of millions of dollars that have led to the development of the two Tennessee Aquariums, IMAX Theatre, Chattanooga Regional History Museum and many other attractions that have made downtown Chattanooga a prime tourism destination. The City of Chattanooga is also a leader in Tennessee in the planting of urban trees which is greening the downtown streets. Chattanooga was designated as a Tree City for the 14th year, has a goal of 15% tree coverage and is halfway to that goal.

Other communities such as **Johnson City** are targeting greenway and trail development (http://www.johnsoncitytn.org/index.php?page=home-26) as a way to provide alternative transportation throughout the city. While the city expands, city planners are integrating bicycle and pedestrian routes into the community, linking older areas of the city with new development. The Johnson City is currently in negotiations with the G&W Railroad Company for the purchase of 10 miles of inactive railroad line that connects with the Town of Elizabethton. After the purchase is complete, the rails and crossties will be removed and the city will be developing a Rail-Trail between the two communities.

The **City of Murfreesboro** is focusing it's greenway development on the rich historic and natural resources (http://www.murfreesborotn.gov/government/parks_rec/greenway.htm), revitalizing properties along the once hidden Stones River and linking the Stones River National Battlefield with downtown Murfreesboro. The recently completed Lytle Creek Greenway trail connects the National Park Service site, Fortress Rosecrans with the historic area of Cannonsburgh. Longer-term goals include expanding the trail along Stones River through Symrna and LaVergne to the J. Percy Priest Reservoir and Dam. The ultimate connection would tie into to the Nashville/Davidson County greenway system along the Stones River to the Cumberland River.

Urban greenways and trails also provide communities with opportunities to return to nature within an urban setting. Communities such as **Covington** have developed nature trails (http://www.covingtontn.com/Departments/Parks.htm) that serve an important role in local environmental education programs, while also providing opportunities for quiet, peaceful walks away from the busy lifestyle of the city.

The **City of Knoxville** (http://www.ci.knoxville.tn.us/greenways/) has focused much of its greenway program on the revitalization of various creeks and rivers in the City and extending into Knox County. By cleaning up the waterways and providing access that brings people back to these resources, the community has become more conscious of the importance of water quality, and water quality is improving. Trails are already constructed along several creeks in the city, as well as along the Tennessee River through downtown Knoxville, with many more diverse trail projects on the drawing board. The system is expanding through connections with the City of Farragut and with Knox County to create long distance greenway trail connections. The recently completed section of Second Creek greenway was the final connection of a 16 mile long section that goes from downtown Knoxville out to the Bearden school in west Knoxville.

For some communities, greenways and trails are as simple as a half-mile path in a city park. In small communities, providing even a small walking trail enables neighbors to come together, interact socially and recreate in ways that they may not have otherwise in a rural area.

Whether through a short walking trail in a city park or an elaborate system of trails, communities that are including trails in their overall recreation, transportation, and economic infrastructure are thriving, and residents are enjoying the new opportunities to explore their communities and improve their health.

Accessible Trails

Accessible trails are trails that can be used by anyone, including persons with disabilities. Currently the federal government is reviewing proposed guidelines from the Universal Access Board that provide clearer

direction to trail planners and developers for complying with the Americans with Disabilities Act of 1990 (ADA). These guidelines will also help planners determine how the ADA impacts backcountry and non-traditional trail developments. Design guidelines are readily available providing trail developers with detailed structural requirements for accessible trails. Go to the TDEC-RES, Greenways and Trails website at http://state.tn.us/environment/recreation/greentrails.shtml for a technical bulletin on Accessible Trail Guidelines found in the Helpful Links section.

Making trails accessible to everyone enhances the quality of life for all potential trail users, regardless of regulatory requirements. Accessible trails make trails available not only to persons using wheelchairs, senior citizens using walkers, but also to mothers pushing baby strollers and bicyclists. Federal law requires all trail planners and developers to consider accessibility when constructing pedestrian trails. In urban areas, accessible trails typically involve providing firm and stable surface generally of asphalt or concrete, designing trails wide enough and flat enough to ensure that persons with limited mobility can safely enjoy the trail, and providing appropriate signage so that trail users understand the terrain and obstacles of the trail. It is important to remember that the ADA requires developers to consider provisions for all types of disabilities, not just persons who use wheelchairs. Parking and trailhead facilities, including restroom structures, must also meet accessibility guidelines including signs in Braille for the vision impaired.

Throughout Tennessee's trail system, opportunities for persons with disabilities to enjoy trails and the outdoors are increasing every day. New technologies such as off-road wheel chairs and "natural" accessible trail surfaces are broadening opportunities for accessible trail use.

The United States Forest Service (USFS) has taken the lead in developing accessible trails and recreational facilities in the National Forests across the United States. To view the USFS standards, go to http://www.fs.fed.us/recreation/programs/accessibility/ . These standards apply to federally owned public lands.

Hiking/Backpacking

Backpacking and backcountry hiking for recreation has been popular in Tennessee for many years, tracing back to the early 1920's when Benton MacKaye first proposed development of the Appalachian Trail. Whether for a day hike or enjoying the backcountry for many days, hiking trails allow access to areas of Tennessee preserved for their natural or scenic beauty that cannot be otherwise accessed.

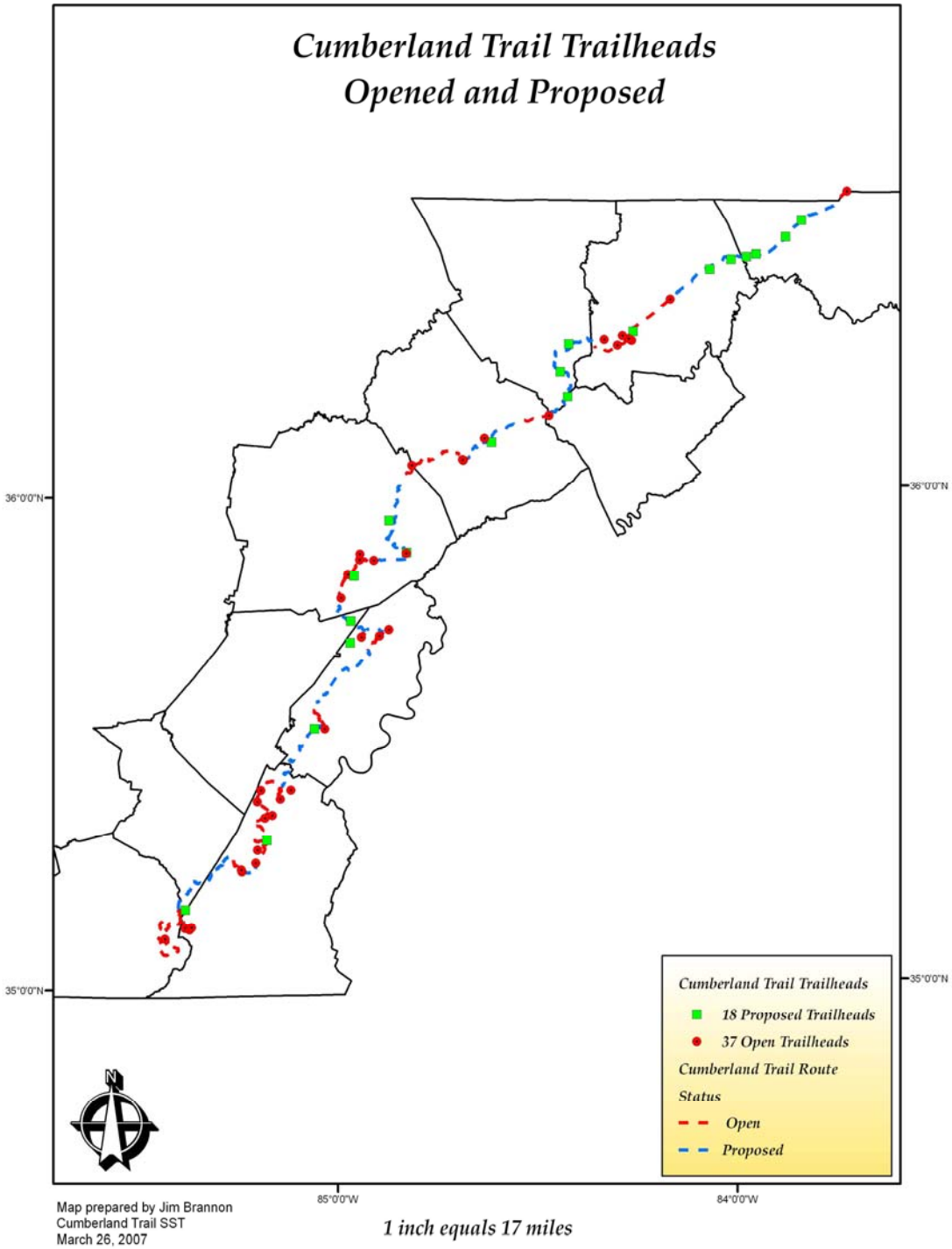
Many of our existing hiking trails follow the routes of Native Americans and early European settlers who explored the scenic beauty of our state. In 1971, the Tennessee legislature passed the Tennessee Trails System Act (TTSA), designating our state's most historic and significant trail routes as scenic trails for foot traffic only.

Since the passage of the TTSA, four of those trails have been designated National Scenic Trail or National Historic Trails (NHT). These four are the Overmountain Victory National Historic Trail, Natchez Trace National Historic Trail, Trail of Tears National Historic Trail and Appalachian National Scenic Trail. Most of these trails follow existing roads, but all the National Scenic and Historic Trails have certified locations that were either portions of the original routes or significance locations along the trail. Two very important locations on the Overmountain Victory NHT are Sycamore Shoals State Park on the Watauga River and along the Trail of Tears NHT is the Cherokee Removal Memorial Park at the Tennessee River, Blythe's Ferry location.

Hiking trails are a prime attraction to our state's most visited parks such as the Great Smoky Mountains National Park, Big South Fork National River and Recreation Area, and the Cherokee National Forest. These federal recreation areas in Tennessee are home to 1,500 miles of hiking, mountain biking and horse trails that help lead us to explore some of the most breathtaking scenery in eastern Tennessee.

Hiking trails are typically narrow paths composed of natural surface materials. The variety of hiking trails in Tennessee is enormous, ranging from steep, challenging, rocky climbs to the top of our state's highest peaks, to quiet, strolls through natural areas such as Radnor Lake State Park in Nashville, to the unique boardwalk system of trails at Big Hill Pond State Park and Reelfoot Lake State Park that perch hikers above the bottomland hardwood wetlands, sensitive wildlife habitats and the beautiful Reelfoot Lake. Tennessee has the variety, terrain, and scenery for hiking trails to provide unique opportunities and experiences for everyone. There are over 1,000 miles of hiking, mountain bike and horse trails in the Tennessee State Parks.

Interest in hiking trails is continually on the rise in Tennessee. An aggressive development campaign is under way in partnership with the Tennessee Trails Association and the Cumberland Trails Conference to complete the Cumberland Trail State Scenic Trail by 2012. Once complete, the trail will start at the TN-KY-VA state corner in Cumberland Gap National Historic Park, and going south, follow the eastern escarpment of the Cumberland Plateau and terminate in Signal Point Park in Hamilton County, covering over 320 miles.



The Cumberland Trail - Tennessee's First Linear State Park

On June 22, 1998, Gov. Don Sundquist announced the creation of the Cumberland Trail State Park, Tennessee's 53rd State Park and the only state park of its kind. "The Cumberland Trail (CT) will be a tremendous addition to our state park system and a jewel in Tennessee's expanding network of greenways and trails. Our action today will assure that it remains preserved and protected for future generations to enjoy," Sundquist said.

Governor Bredesen has continued the support for the Cumberland Trail during his administration with the acquisition of thousands of acres of land protecting the corridor of the Cumberland Trail using the State Lands Acquisition Fund and the Heritage Conservation Trust Fund as well as partnerships with non profit organizations such as the Tennessee Parks and Greenways Foundation who purchased and held the Head of Sequatchie Valley property until the State of Tennessee was able to take possession of the property. Bowaters Southern Paper Corporation has also worked with the State of Tennessee donating several thousand acres of land they owned on the eastern escarpment of the Cumberland Plateau.

Since 1998, 170 miles of trail have been developed and are open with approximately 150 miles left to build. The state has worked in partnership with the Cumberland Trails Conference (CTC), an associate organization of the Tennessee Trails Association (http://www.tennesseetrails.org/) and other volunteers to solicit public and private support for acquisition of additional land along the trail. The CTC (http://www.cumberlandtrail.org/) is building the Cumberland Trail at the ground level with the help of volunteers. Upon completion, the Cumberland Trail State Park -- the state's only linear park -- will be 320 miles long, cutting through 11 Tennessee counties from the Cumberland Gap National Historic Park on the Tennessee-Virginia-Kentucky state line corner, to the Signal Point Park there overlooking Chattanooga.

Portions of the CT are open and ready for exploration. This section north of I-40 include the National Park Service's (NPS) Cumberland Gap National Historic Park, the Cumberland Mountain segments above LaFollette and Jacksboro, going through Cove Lake State Park, Frozen Head State Natural Area and the NPS Obed Wild and Scenic River segment in the Obed River Gorge found in the Catoosa Wildlife Management Area. South of I-40 includes the top of Black and Brady Mountain overlooking Grassy Cove, along the eastern escarpment of Walden's Ridge and through the Soddy, Possum and Rock Creek gorges. The Cumberland Trail travels through Prentice Cooper State Forest and the southern terminus is at Signal Point Park which overlooks the Tennessee River Gorge and the City of Chattanooga.

Road Bicycling

Bicycling is used for recreation among all age groups. In recent years, bicycling has once again become a popular mode of transportation for commuting to work and school. In urban areas, the benefits of bicycle commuting are obvious – exercise, less traffic congestion and parking headaches, and no automobile emissions. The Safe, Efficient Transportation Equity Act – Legacy for Users (SAFTEA-LU) defines a bicycle transportation facility as "a new or improved lane, path or shoulder for use by bicyclists and a traffic control device, shelter or parking facility for bicycles."

For many people, road bicycling is a passion. Being able to ride 25, 50, or even 100 miles in a day on a bicycle is not inconceivable for true cycling enthusiasts. Bicycle tours such as the B.R.A.T. (Bicycle Ride Across Tennessee) steadily attract hundreds of riders each year to enjoy the scenery of Tennessee and the challenge of competition.

Road cyclists are challenged with finding safe places to ride. In Tennessee, bicycles are designated a mode of transportation, yet bicycles and automobiles (and trucks) don't mix well within the standard road width. Special provisions must be made to keep cyclists safe and motorists educated about how to share the road with bicycles.

The Tennessee Department of Transportation (TDOT) is currently designating bicycle routes throughout the state when wide shoulders and other criteria are met along roads. Currently, there are 680 miles of designated Bike Routes throughout Tennessee (http://www.tdot.state.tn.us/bikeped/routes.htm). When new

state roadways are developed or existing roadways improved, the TDOT reviews the project design and incorporates bicycle rights-of-way where possible.

In general, road cyclists prefer to share the road with automobiles where wide road shoulders (minimum 4 feet), bike lane striping and special signage are provided. However, an 8 foot wide shoulder is best to provide separation between vehicles and bicyclists. In some areas such as high-volume major roadways or highways where bicyclists are prohibited, separate bike paths are the preferred alternative and are more appropriate to accommodate bicycle use.

Nashville Takes First Steps to Become a Bicycle Friendly Community

In 2003, Metropolitan Nashville and Davidson County initiated a planning process for sidewalks and bikeway projects that calls for establishing a network of bike-friendly streets that will connect downtown Nashville with neighborhoods and popular destinations on the west side of town. Design plans are currently underway with construction anticipated for 2004. "Numerous studies indicate that when you provide on-street bike facilities, it increases the number of people who use bikes as transportation, and it decreases the conflicts between bikes and cars," says Tim Netsch, Superintendent of Parks Planning for Metro Nashville. Since 2003, Nashville has created 94 miles of bikeways including 36.5 miles of off road greenway trails and 124 miles of new and repaired sidewalks.

Nashville recently updated its 2003 Strategic Plan for Sidewalks and Bicycles and the newly amended plan can be found at http://mpw.nashville.gov/IMS/stratplan/PlanDownload.aspx . Metro Nashville's Greenways Program website can be found at http://www.nashville.gov/greenways/ .

Mountain Bike Trails

Mountain biking has become one of the fastest growing forms of recreation in Tennessee. In the past decade, cycling has seen dramatic growth of more than 25 million riders nationwide. This has created a new user group wanting to utilize the trails and backcountry roads throughout our state. Differing from road bicycles that ride on paved surfaces, mountain bikes allows users to leave the pavement behind to explore forests, fields and mountaintops. This versatility is fueling the growth of the sport. Riders of all ages and abilities are able to get off the busy streets and into a quiet and remote setting within a city park, state park or national forest. As a result of this new interest, the International Mountain Bike Association (IMBA) was founded in 1988 and in the past 10 years the IMBA volunteers have developed over 5,000 miles of mountain bike trails. IMBA is found in all 50 state and 40 countries and boasts of 35,000 members internationally.

When planning trail systems for mountain bikes, most bike users prefer a close association with the hiking community, stressing the quiet, non-polluting nature of their activity. As with hikers, cyclists prefer a variety of trails, terrain and distances to ride. The large number of Tennesseans that are buying and riding mountain bikes are seeking the opportunity for a ride ranging from 2-3 miles along a quiet path in the woods to an experienced rider wanting to ride all day on rugged single-track backcountry trails in the mountains.

Trail closures to bicycles are being reduced as other user groups find they are good partners on multi-use trails. Education efforts by the cycling community are paying off, teaching riders to yield to other users and respect the land through proper riding technique and giving time back to the trails with maintenance and trail building days. You can find out more about good land management resources in the IMBA *Managing Mountain Bikes* book. Go to: http://www.imba.com/news/news_releases/03_07/03_01_managing_mtbs.html to purchase a copy of the book.

In a nationwide study conducted by the International Mountain Bike Association (IMBA) of their members, state parks were identified as the most frequented mountain biking areas, followed by county parks, city parks, national forests, and private land. Mountain bikers overall, preferred single-track forest trails over gravel or paved roads.

Tennessee Mountain Bike Clubs Partner to Build Trails

In 2005, the Southern Off Road Bicycle Association (SORBA), Chattanooga entered into a historic partnership with the Tennessee Valley Authority to build single track mountain bike trails on the Raccoon Mountain property. By 2008, 17.5 miles of trails have been constructed by the SORBA volunteers and they are flagging the routes of more trails to build. The Southern Off-Road Bicycle Association (SORBA) mountain bikers in Chattanooga, Tennessee created the Singletrack Initiative to build 100 miles of singletrack mountain bike trails within a 10 mile radius of Chattanooga by 2010.

Throughout Tennessee, similar partnerships have been fostered resulting in an explosion in mountain bike trail opportunities, including the support of the Appalachian Mountain Bike Club at Panther Creek State Park, resulting in an international award for design. The Ocoee district of the Cherokee National Forest has partnered with the Chattanooga Bicycle Club to build and maintain a network of over 50 miles of hiking/biking trails. The Mountain Trails Bicycle Club in Nashville has partnered with Montgomery Bell State Park (Dickson County) and Hamilton Creek Park (Percy Priest Lake) to assist in the construction and maintenance of more than 30 miles of trails.

Mountain bike clubs have also contributed countless thousands of hours of volunteer labor to community hiking/biking trail projects, including Bowie Nature Park in Fairview, the City of Norris watershed, Chickasaw Trace Park near Columbia and Franklin State Forest near Sewanee, TN. The mountain bicycle clubs of Tennessee have established a strong track record for being responsible stewards of our public land that has resulted in an expanding network of mountain bike trails throughout Tennessee.

Equestrian Trails

Equestrian trails are recreational horse trails. Horseback riders enjoy a variety of terrain and topography, from mountain trails to open fields. In general, natural trail surfaces are preferred to make the ride enjoyable for both the rider and the horse.

Equestrians often do not peacefully coexist with other trail users. Horses can easily be spooked by motorized vehicles and mountain bikes, and hikers can often be overwhelmed by horses. Another issue to consider is the environmental impact horses have on trails, and the waste they leave behind. Horse droppings often contain seeds of a variety of non-native, invasive plants which can pose a special threat to native ecosystems.

Special facilities needed for horse trails include hitching posts and larger parking areas to accommodate horse trailers and trucks. Wrangler camps provide opportunities for overnight camping at trailheads. These camps allow equestrians to share specially designed camping facilities with their horses. Popular wrangler camps in Tennessee are located at **Big South Fork National River and Recreation Area** and **Natchez Trace State Park and State Forest**.

For a copy of the Tennessee Department of Agriculture's booklet, *Equine Trails in Tennessee*, go to: http://picktnproducts.state.tn.us/farm/etrail.html .

Water Trails

A water trail is a trail traveled primarily by non motorized boaters. Water trails, also called "Blueways" are most typically paddle trails for canoe and kayak enthusiasts, but on the Tennessee and Cumberland River reservoirs, could also include other watercraft, including motorized boats. Whether on one of Tennessee's many rivers or lakes, water trails can provide a unique trail experience for people of various ability levels.

Water trails are not a new concept. Native Americans often utilized water routes as transportation corridors to hunt, trade and travel between tribal villages. The history of water routes also extends around the world to many cultures that rely on waterways for transportation. Water trails are primarily for recreation, but in some communities, water trails play a role in commuting to and from work.

Another important role of water trails is to promote environmental awareness. The environmental health of a river is vital to the success of a water trail. Likewise, the creation of water trails often exposes the

need to clean and improve the quality of waterways and can serve as natural outdoor classrooms for children and adults.

The Tennessee Scenic Rivers Act, passed by the Tennessee Legislature in 1968, designated the following Tennessee waterways for conservation and recreation use. There are 13 designated state scenic rivers across the state. The longest state scenic river is the Hatchie River flowing 163 miles through six counties of west Tennessee and is the last unchannelized river in west Tennessee. Unfortunately, a large number of the Hatchie River tributaries have been channelized and wash hundreds of tons of silt into the Hatchie.

Long-distance water trails provide the opportunity for overnight camping along the river. Important water trail features include river or lake access points with suitable parking and boat loading areas, boat ramps or "put-in/take-out," access points along the trails, signage or maps indicating routes and rules, and camping facilities for overnight trails.

In Tennessee, a sensitive water trail issue is private property rights. Navigable waterways are considered open to the public, but the shoreline or lands along the river or waterway are often private property. It is important to provide suitable public access points that do not impact adjacent private property owners. Education is especially important for water trail users to help them understand the laws and appropriate etiquette, but also for the landowners along water trail routes.

MULTI-USE

Multi-use trails can be a combination of motorized and non-motorized trail uses or any combination of non-motorized or motorized users. The primary concept is that more than one user group is sharing the same trail. Throughout Tennessee, many trails are considered multi-use. "Multi-use trails invite various users – including walkers, joggers, bicyclists, people in wheelchairs, equestrians and others – to share a trail corridor collectively."[4]

Examples of multiple use trails include many urban trails where pedestrians and bicyclists share the same path. Another good example might be state park trails where equestrians, hikers and mountain bikers all utilize the same trail and facilities. Most motorized trails in Tennessee are multi-use with multiple types of OHVs utilizing the same corridor and sometimes non-motorized users as well.

Rail-to-Trails

Rail-trails are trails developed on currently unused railroad corridors. They are usually accessible to a variety of user types and skill levels because of their gentle grades. Rail-trails are commonly used by walkers, joggers, hikers, and cyclists. Depending on the type of trail surface, equestrian and motorized trail users may also enjoy rail-trail corridors. Rail-trails can be found in urban, suburban and rural areas. Around the country it is not uncommon to find rail-trails of over 100 miles in length connecting a variety of resources, communities and people.

Abandoned rail corridors can either be purchased in fee simple from a railroad company or authority, if that entity owns clear title to the property, or they can be "banked" by either a public or private entity for future transportation uses. "Rail banking" is authorized by both state and federal statute allowing state and local entities to protect established corridors for future transportation use. In the interim, the corridor can be used for recreation and alternative transportation purposes as a rail-trail without waiving future rights as a train transportation corridor.

In Tennessee, few rail-trails exist and "rail banking" has never been used. Compared to our neighboring states, Tennessee has done little to preserve our rail corridors for recreation and transportation use or for future rail use. In the 1800's and early 1900's when railroads were established in Tennessee, property was acquired using various means. In some cases, the railroad company purchased the land and all the rights from a property owner in fee simple. Other times the company only purchased the right or easement from the adjacent landowner to *use* the corridor specifically for the railroad.

[4] Trails for the Twenty-First Century: Planning, Design and Management Manual for Multi-Use Trails, Rails-to-Trails Conservancy, Washington, DC: Island Press, 1993.

In the latter case, when the railroad corridor is abandoned, the rights to that property typically revert back to the original landowner or their descendents. Rail-banking allows government entities to maintain transportation rights to the corridor while allowing an interim recreation and transportation use.

Rail-trail projects require significant research and effort to fully understand property ownership issues. The smooth, level grade of railroad corridors often makes conversion to trails efficient and cost effective. The fact that the corridor is already established and often solely owned by the railroad company provides a quick means to acquire a long trail corridor that otherwise would not be possible.

Problems with rail-trails arise with the concern over adjacent landowner rights. Some railroad property deeds are unclear, and in some cases the deed records are no longer available to determine which means of acquisition was used by the railroad company. Other times rail corridors are acquired through both easement and fee simple acquisition which complicates a community's ability to purchase the entire linear corridor. In any case, it is important to fully understand the legal rights of the landowner.

Rail-trails can provide a unique opportunity for multiple use trails that meander along some of Tennessee's most scenic routes. Because they often cover long distances and provide suitable terrain for diverse ability levels and interests, opportunities to attract tourists are strong. In Virginia, just northeast of Bristol, the Virginia Creeper Trail, a converted railroad corridor, is one of the most popular trails in the country, attracting tens of thousands of visitors each year. Studies completed by the National Park Service and the Rails-to-Trails Conservancy have shown rail-trail projects to have significant positive impacts on local and regional economies.

Rails-with-Trails

The *Rails-with-Trails* concept is new to Tennessee and is being considered by several communities. Typically, a rail-with-trail is a trail along an active or semi-active railroad corridor with the trail utilizing a portion of the railroad right-of-way. Most railroads control a minimum 100 foot corridor with the railroad tracks positioned in the center of that corridor.

Rails-with-trails require special considerations for safety and liability and are probably not feasible along most high-speed rail lines. In many cases, railroad companies will not allow shared use of the railroad corridor because of concerns about liability, especially in areas where a high volume of rail traffic exists. In other cases, particularly when short-lines or government-owned railroad authorities exist, rail-with-trail opportunities may be negotiable depending on the level of liability the community is willing to incur and the installation of special safety provisions to keep trail users a safe distance from the train tracks.

In highly urban areas, rails-with-trails may also be considered for alternative transportation in combination with light passenger rail systems. In San Diego, California, separate bicycle and pedestrian paths share a corridor with local light rail passenger trains and long-distance AMTRACK carriers, safely divided by fencing and vegetated buffer zones and specially designed crossing systems.

Cookeville Rail-<u>with</u>-Trail

As the City of Cookeville searched for a pilot project to launch its greenway system, the most obvious and feasible route was quickly identified as a rail corridor through the heart of the city. But what was challenging to members of the local greenways committee was the fact that the railroad corridor was still in active rail use and its use was expected to continue long into the future. Instead of looking elsewhere, local greenway enthusiasts contacted the owner, Nashville and Eastern Railroad, about the possibility of using a portion of the railroad right-of-way for recreational use and an agreement was reached to share the corridor.

This rail-with-trail will be the first known jointly used trail/railroad venture in Tennessee. The proposed trail will serve as both a recreation trail for bicyclists and walkers, and provide an alternate transportation route connecting historic downtown with Tennessee Tech University and a large residential area. From the historic downtown Cookeville Depot Museum to Tennessee Tech University, the trail will run parallel to the existing railway tracks.

The trail will be an asphalt path ten feet wide in most places. For safety, the lease with the railroad requires the city to install dense landscaping and/or fencing that is not obtrusive, but marks the boundary between the railroad tracks and the trail.

Planning for this 19 mile long project is complete and construction will begin in Cookeville, Algood and Monterey and the simultaneously. Ultimately, the rail-with-trail will be extended to the Cane Creek Park's new Sportsplex on the west side of Cookeville. Cookeville Regional Medical Center is near the trail and the Center has expressed strong interest in the trail because of its potential for rehabilitation of patients.

Multi-Use Trail Conflict

There are no simple solutions. With the current limited availability of single use trails, trail users must work together to resolve differences. Conflict resolution should focus on the following:

- For what user groups is the terrain best suited?
- How wide is the trail and what type of trail users can the trail accommodate safely?
- Is this a rural or urban setting?
- What other trails are available to all users in the area?
- Should specific trails be closed to certain users based on availability of alternative trails?
- Are there established rules that explain which users have the right-of-way?
- Education
- Signs
- One way trails

The most obvious solution to user conflict is the creation of rules or regulations developed with public input, and then posting of these rules along the trail. Well-designed rules help keep trails safe and improve users' experiences. From a positive standpoint, multi-use trail conflict is often a symptom of a well-used trail that is in high demand. This may also be an indication that more trails are needed in the area to accommodate the number of users and user types rather than limiting the types of users.

Education and courtesy are often the best solutions to multi-user conflict. Understanding user rights-of-way, user etiquette, the needs and issues of each trail user group and the rules of the trail are important components for a compatible and satisfying multi-use experience.

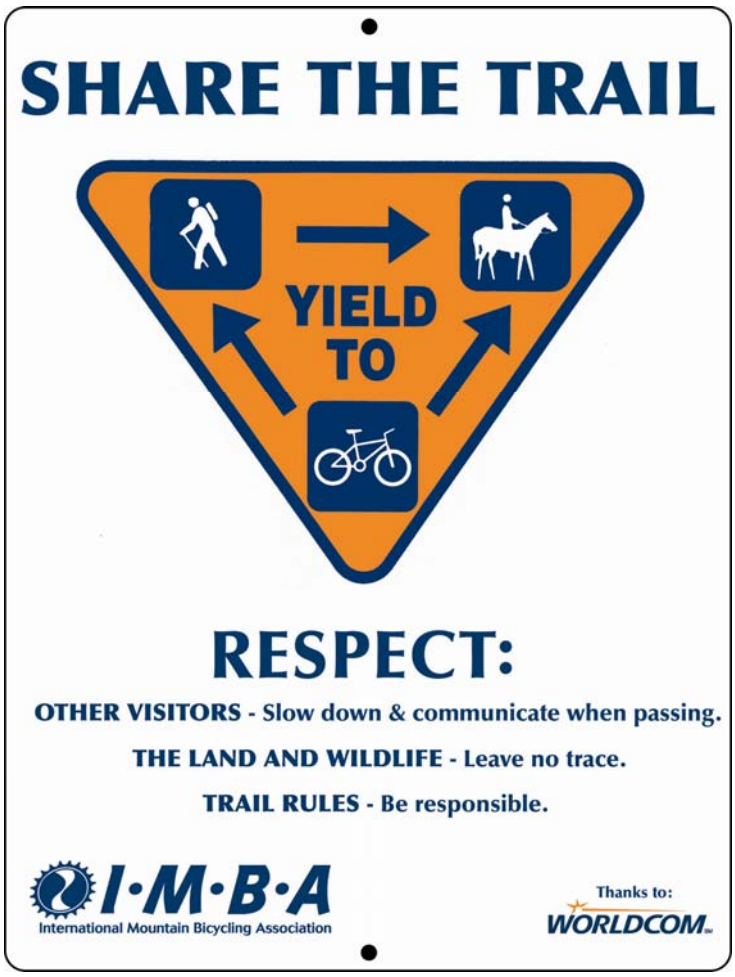
Trail Ethics Key to Maintaining Trail Use Privileges

Trails are often thought of as harmless paths through the woods. But many of the areas where trails are planned are fragile environments that are sensitive to even minimal human intrusion. **"Leave No Trace"** Outdoor Ethics and Skills is a program developed by the National Outdoor Leadership School to teach practical conservation techniques designed to minimize impact. Principles developed through the Leave No Trace education program are designed to make trail users more environmentally conscious and responsible when they use trails. The benefit is a more enjoyable trail experience for everyone and gained respect for public land management agencies that make these trails possible.

Leave No Trace Principles:

- ☑ Plan Ahead and Prepare
- ☑ Travel and Camp on Durable Surfaces
- ☑ Dispose of Waste Properly
- ☑ Leave What You Find
- ☑ Minimize Campfire Impacts
- ☑ Respect Wildlife
- ☑ Be Considerate of Other Visitors

It is important that every trail user be a good steward of the land and respects the privilege of enjoying what nature has to offer.



Summary

With more people each year out discovering the greenways and trails throughout Tennessee, there is a high unmet need for additional trails like the ones mentioned in this Appendix. Hopefully, local, state and federal government land managing agencies can forge new partnerships with conservation minded groups and work cooperatively to meet the needs of Trails for the Future!