



T E N N E S S E E
State Parks

TENNESSEE STATE PARKS

TRAIL ACCESSIBILITY GUIDELINES

All trails and constructed features that are to be labeled as “Accessible” shall comply with these guidelines required by the Architectural Barriers Act Accessibility Standards, the United States Access Board’s Accessibility Standards for outdoor developed areas, ADA Standards for Accessible Design, and additional requirements set forth by the US Forest Service Trail Accessibility Guidelines (FSTAG), Adaptive Trail Standards from the Kootenay Adaptive Sports Association, the Adaptive Trails Coalition, and the Tennessee State Parks Design Guidelines.

Scoping Requirements and Technical Provisions

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Application:

Tennessee State Parks Trail Accessibility Guideline provides guidance in creating and maintaining our trail system to maximize accessibility to our guests while protecting the unique characteristics of the environment.

These guidelines have been written to incorporate the Architectural Barriers Act Accessibility Standards and the Outdoor Developed Area Accessibility Guidelines (ODAAG), developed by the Architectural and Transportation Barriers Compliance Board (U.S. Access Board). While this document incorporates the U.S. Access Board's ODAAG minimum requirements, it also includes a higher level of guidance to comply with other policies, including the universal design as well as agency terminology and processes.

While this guideline's goal is to standardize the term "Accessible Trails", please note that this document allows for grades up to 12 percent over a short distance and may still have challenging terrain for some of our visitors. Therefore, a trail constructed under these guidelines shall be marked "Accessible Trail" with the statement "This Trail complies with the Tennessee State Parks Trail Accessibility Guidelines", rather than an ADA Trail.

While these guidelines set the minimum standard for Adaptive Mountain Biking Trail Design, they may create difficulty for less experienced riders and/or be challenging for persons with varying physical abilities. Always consider exceeding these standards whenever possible.

Accessible trails shall be categorized as New/Altered, Existing, and/or Mobility Device Accessible. Non-Accessible trails will not be categorized until implementing these design standards.

For additional resources please visit:

Architectural Barriers Act Accessibility Standards (ABAAS)

<https://www.access-board.gov/law/aba.html>

U.S. Forest Service Trail Accessibility Guidelines (FSTAG)

<https://www.fs.usda.gov/sites/default/files/FSTAG-2013-Update.pdf>

Adaptive Trails Coalition Adaptive Trail Design Specs

<https://adaptivetrails.com/#specs>

Kootenay Adaptive Sports Association Adaptive Trail Standards 2020 Edition

https://kootenayadaptive.com/wp-content/uploads/2021/03/KASA-Adaptive-Standard_FINAL-EDIT2.pdf

or

Contact the Tennessee State Parks Accessibility Team at

TNStateParks.Accessibility@tn.gov

Exceptions:

Accessible Trails should always be considered when looking to build a new trail or when modifying an existing trail. However, there are some exceptions:

Exception 1. Where compliance with this guideline is not practical due to terrain.

Examples include: excessive slope/cross slope, cliffs, sink holes etc.

Exception 2. Where compliance with this guideline would fundamentally alter the function or purpose of the trail or the setting.

Exception 3. Where compliance with this guideline cannot be accomplished with the prevailing construction practices.

Exception 4. Where compliance with this guideline is precluded by a cultural, historical, or natural feature that are protected by Federal, State or Local Laws. Examples include but are not limited to the Natural Areas Preservation Act of 1971, Endangered Species Act, National Environmental Policy, National Historical Preservation Act, etc.

Definitions:

Accessible Trail: is a trail that fully complies or exceeds the requirements of the TN State Parks Trail Accessibility Guideline. *Please note that this guideline allows for grades up to 12 percent and may still be a challenging terrain as a hiking path for our visitors.*

Accessible Pathway/ADA Trail: is a pathway or sidewalk that may have a gentle grade and meets the requirements set forth by the ADA Standards for Accessible Design.

Accessible Hiking Trail: a purpose-built trail designed for foot traffic and/or mobility device (i.e. Manual or All-Terrain Wheelchair) to allow people of any age or physical

condition to enjoy the outdoors and scenery.

Adaptive Mountain Biking Trail: is purpose-built trail designed for Mountain Biking and/or mobility devices (i.e. E-Bikes and Adaptive Mountain Bikes) to allow athletes of any age or physical condition to enjoy the outdoors and scenery.

Adaptive Mountain Bikes (aMTB): are three or four wheeled cycles that provide a broad range of riders who may not otherwise ride a standard mountain bike due to physical, intellectual, neurological or sensory abilities.

Alteration: A change in the original purpose, intent, or function of the trail

All-Terrain Wheelchair: is a wheelchair or tracked chair that is designed to travel over uneven surfaces that standard wheelchairs cannot.

Electric Bicycle (E-Bikes): are electrical propelled bicycle that utilizes electric motors and battery packs. *See Electric Bicycle Classifications***

*****Electrical Bicycle (E-Bike) Classifications:** Electrical bicycles are classified by the TN Department of Transportation (TDOT). Those Classifications are as such:

(1) "Class 1 electric bicycle" means an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of twenty miles per hour (20mph);

(2) "Class 2 electric bicycle" means an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of twenty miles per hour (20mph);

(3) "Class 3 electric bicycle" means an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of twenty-eight miles per hour (28 mph); and

(4) "Electric bicycle" means a device upon which any person may ride that is equipped with two (2) or three (3) wheels, any of which is twenty inches (20") or more in diameter, fully operable pedals for human propulsion, and an electric motor of less than seven hundred fifty (750) watts, and meets the requirements of one (1) of the three (3) classes of electric bicycles defined in subdivision (1), (2), or (3).

*****Additional information regarding E-Bike Classification and Tennessee Bicycle Laws** please visit: <https://www.tn.gov/tdot/multimodal-transportation->

<resources/bicycle-and-pedestrian-program/resources11/tennesse-bicycle-laws.html>

Hiker/Pedestrian Trail: A trail that is designed, constructed, and maintained for hiker/pedestrian use.

Limiting Factor: An extreme, uncorrectable environmental barrier that makes the trail, beyond the barrier, unreachable for many people with mobility limitations.

Maintenance: Routine or periodic repair of trails, trail segments or trail structures to restore them to the standards to which they were originally designed and built. Maintenance does not change the original purpose, intent, or design of the trail.

Mobility Device: A device that is designated solely for use by a mobility-impaired person. This includes manual and battery-powered devices. Examples include but are not limited to manual Wheelchairs and All-Terrain Wheelchairs.

Other Power-Driven Mobility Devices (OPDMD): Are considered to be less traditional mobility devices, such as three and four wheeled Adaptive Mountain Bikes, Segway® PT, and any other mobility device that best suits the needs of the person, in accordance with Department of Justice ADA Standards. For more information, please refer to <https://www.ada.gov/opdmd.htm>

Outdoor Recreation Access Route (ORAR): A continuous, unobstructed path for pedestrian use that connects elements in an outdoor recreation area such as picnic areas, campgrounds, or trailheads.

Prominent Feature: A natural, cultural, or historical feature located along or adjacent to the trail that is determined by a trail designer or manager to have national, regional, or local distinction or significance. Examples include but are not limited to Land/Rock Features, overlooks, historical structures, waterfalls, etc.

Provisions: The sections of accessible guidelines and standards that explain the requirements for specific situations and facilities. Examples include but are not limited to requirements for parking lots, picnic tables, fire rings, etc.

Slope:

Cross Slope: The percentage of rise to length, which is the difference in elevation, when measuring the trail tread from edge-to-edge perpendicular to the direction of travel. This may be expressed as the percentage of change in

elevation or as a ratio of vertical distance to horizontal distance. The percentage is shown in parentheses throughout this guideline.

Running Slope (Grade): The ascent or descent of a trail segment expressed as a percentage of its length, which is the difference in elevation of a section of a trail measured parallel to the predominant direction of travel. This may be expressed as a ratio of vertical distance to horizontal distance or as the percentage of change in elevation. The percentage is shown in parentheses throughout this guideline.

Surface: The top layer of a trail.

Firm: A firm surface that resists deformation. Usually, a compressed surface but can also be manmade such as concrete/asphalt.

Stable: A surface that is not permanently affected by expected weather conditions and can sustain normal wear and tear from the expected use(s) of the area, between planned maintenance.

Technical Requirements: Are the specific numbers, conditions, and measurements that are required to be achieved (percent that must comply, dimensions, reach ranges, grades, trail width, etc.)

Technical Trail Feature (TTF): A feature often found on mountain biking trails designed as a challenge or test of a rider's skill. It can include log piles, log rides, wall rides, jumps, skinnies, and so forth. Difficult TTFs may have an optional bypass

Trail: A non-motorized travel route developed primarily for outdoor recreational purposes. A non-motorized route developed primarily to connect elements, spaces, or facilities within a site is not considered a trail, but an Outdoor Recreation Access Route (ORAR).

Trail Grade: The ascent or descent of a specific length of trail segment expressed as a percentage of its length. When expressed as a ratio of rise to length the term used is running slope.

Trailhead: The space that serves as the primary access point to the trail. The junction of two or more trails or the undeveloped junction of a trail and a road is not considered a trailhead.

Trail Segment: The portion of a trail being planned, evaluated, or constructed.

Trail Tread: The portion of the trail upon which traffic moves.

Tread Width: The visible trail surface measured perpendicular to the direction of travel.

Clear Tread Width: The width of the usable trail tread and adjacent usable surface.

Minimum Tread Width: The width of the usable part of the tread width at the narrowest point on a trail.

Minimum Trail Width: The width of the trail tread and the adjacent usable surface at the narrowest point on a trail.

Hiking Trail Technical Provisions:

Surface: The trail tread surface, including resting/passing spaces shall be both firm and stable.

Clear Tread Width: The Clear Tread width of the trail should be no less than 36 inches.

Exception: Where conditions prevent achieving 36 inches the trail may be reduced to 32 inches until the 36-inch width can be achieved.

Slopes:

Running Slope (Grade). The Running Slope or grade of trails shall comply with the following requirements and shall be consistent over the distances cited.

- Trail running slopes of up to 1:20 (5 percent) are permitted for any distance
- Running Slopes shall not be greater than 1:28 (12 percent).
- Where running slopes are greater than 1:20 (5 percent) the maximum length of the segment shall not exceed the distance provided in the following chart. In addition, resting intervals shall be provided at each end of the segment.

Running Slope of Trail Segment		Maximum Length of Segment Between Resting Intervals
Steeper Than	But Not Steeper Than	
1:20 (5 Percent)	1:12 (8.33 Percent)	200 Feet
1:12 (8.33 Percent)	1:10 (10 Percent)	30 Feet
1:10 (10 Percent)	1:8 (12 Percent)	10 Feet

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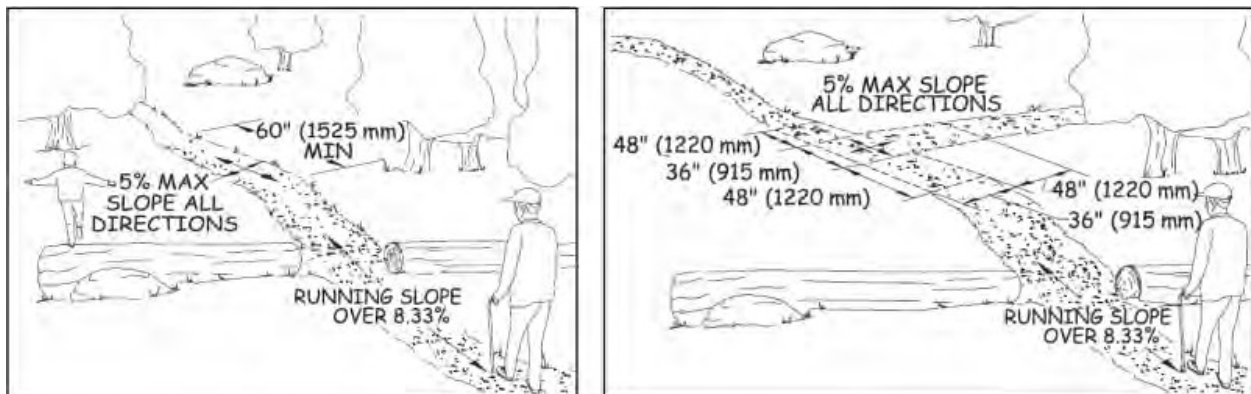
Cross Slope: The cross slope shall not exceed 1:20 (5 Percent) under natural conditions. If the surface is manmade (concrete, asphalt, wood, or other like material) the cross slope shall not exceed 1:48 (2 Percent).

Resting Intervals: Resting Intervals shall be provided when the Trail Grade exceeds 1:20 (5 percent) and shall be constructed as specified below.

Length: The resting interval length shall be no less than 60 inches.

Width: The resting interval length shall be the same dimension as the trail tread but no less than 36 inches.

Slope: The slope of a resting interval shall not exceed 1:20 (5 percent) in any direction. If the surface is manmade (concrete, asphalt, wood, or other like material) the cross slope shall not exceed 1:48 (2 percent) in any direction.

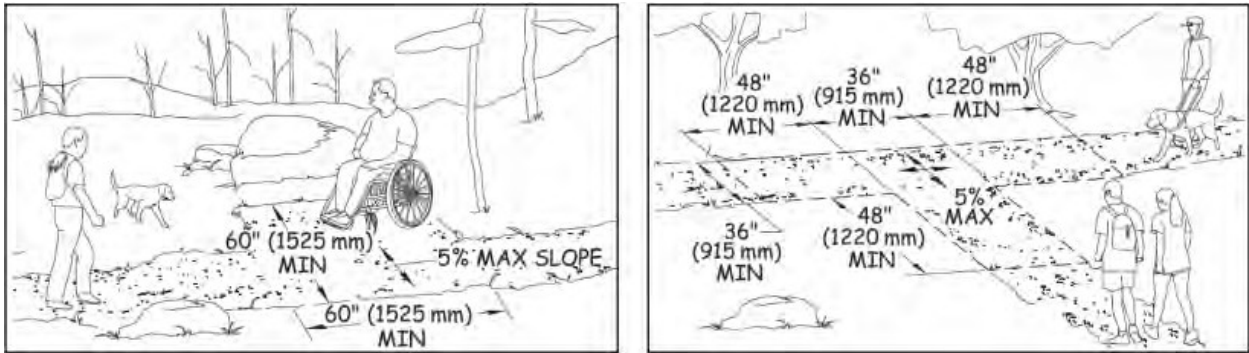


Passing Spaces: Trails with a clear tread width of less than 60 inches shall provide passing spaces at intervals of 1,000 feet maximum.

Size: The passing space shall be either:

1. A 60-inch by 60-inch minimum area
OR
2. If the passing space is at the intersection of two trails, a T shaped space that extends 48 inches minimum beyond each the intersection.

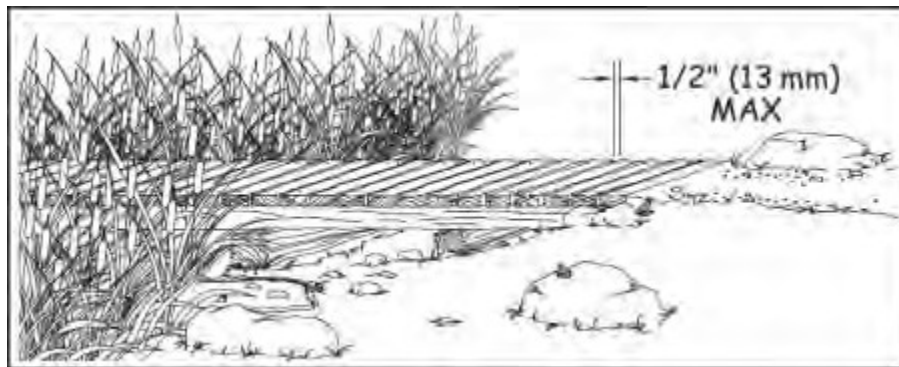
TRAIL ACCESSIBILITY GUIDELINES



Cross Slope: The cross slope of passing space shall not exceed 1:20 (5 percent). If the surface is manmade (concrete, asphalt, wood, or other like material the cross slope shall not exceed 1:48 (2 percent) in any direction.

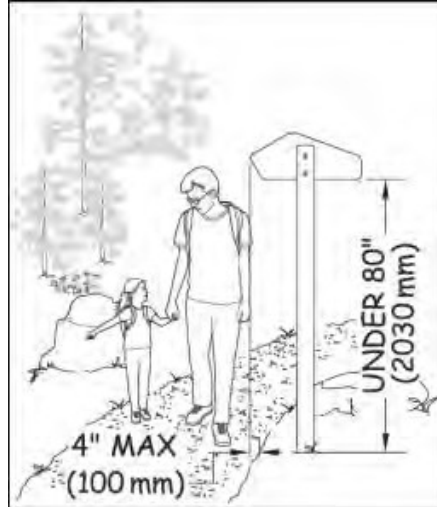
Tread Obstacles: Tread Obstacles shall not exceed 2 inches in height as measured vertically to the highest point. If the tread surface is manmade (concrete asphalt wood or other like materials) the tread obstacles shall not exceed 1/4-inch height as measured vertically to the highest point.

Openings: Openings in tread surfaces, trail resting spaces and trail passings spaces shall be no greater than 1/2-inch.



Protruding Objects: Constructed features including signs, shall not extend into the trail more than 4 inches and shall not be lower than 27 inches or maximum of 80 inches above the surface of the trail.

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Trail Facilities: Facilities that are provided on the trail shall comply with all provisions of this guideline. **Exception:** When the surface of the required clear ground space for the facilities is not manmade or elevated above the natural ground, slopes no steeper than 1:20 (5 percent) shall be allowed for proper drainage.

Trailheads: When parking, restrooms, or other structures are constructed at trailheads they must comply with all current state adopted codes and the ADA Standards for Accessible Design.

Trailhead Signs: Shall be provided at trailheads on newly constructed or altered trails that comply with the Tennessee State Parks Design Guidelines; in addition, to the following requirements:

Clear Space: Trailhead signs shall have a 30-inch-deep by 48-inch-wide minimum clear space around the sign. The slope of the clear space shall not exceed 1:20 (5 percent) in any direction.

Sign Contents: Accessible trails shall include at minimum the following information. (*A Sample Trail Access Information Summary located at the end of this document*)

- Length of the Trail or Trail Segment
- Surface Type
- Typical and Minimum Tread Width
- Typical and Maximum Running Slope
- Typical and Maximum Cross Slope
- Size of the largest obstacle and the total number of obstacles (i.e., 14 protruding obstacles (roots) with the tallest being 1.5 inches)
- A statement that the posted information reflects the conditions of the trail when it was constructed or date of last assessment.

Reach Ranges: If materials need to be obtained from the trailhead sign or kiosk the material shall not exceed 50 inches from the finished floor or ground level.

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Colors: All signage colors shall adhere to the Tennessee State Parks Design Guidelines and bright colors shall be avoided.

Accessible Trail Signage: The Trailhead Signage for an accessible hiking shall be:



All-Terrain Mobility Use Signage: The Trailhead signage for All-Terrain Mobility Devices shall be:



Gates and Barriers: Gates and other barriers that are constructed to control access shall comply with the following requirements:

Clear Width: Gate and other openings in barriers for hiker passage shall provide a clear tread width of 36 inches.

Gate Hardware: Gate hardware/locks designed to be used by guests shall be installed at a minimum of 34 inches and a maximum of 48 inches above the finished surface or ground. In addition, the door hardware shall accommodate persons who have a closed fist or loose grip.

Adaptive Mountain Biking Trail Technical Provisions:

Trail Width: The trail width shall be at least 48 inches wide, not including the safety shoulder.

Exception: Where terrain limitations apply trail may be narrowed to 40 inches until the 48-inch width can be achieved.

Trail Safety Shoulder: A trail safety shoulder of 8 inches minimum shall be installed on all areas.

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Surface: The trail surface shall be constructed of mostly compacted material (at least 95% of trail surface). Surface material can be widely variable, however must be predictable. (i.e. do not transfer from hard compacted dirt to pea gravel in the middle of a blind curve)

Running Slope: Running Slopes shall not exceed 20% (or 11 degrees) and must provide 8 feet or more between rollers.

Cross Slope: Cross Slope shall follow the chart below for specified areas:

Trail Location	Average Cross Slope	Max Allowable Cross Slope
Straightaways	8% (5 degrees) or less	14% (8 degrees)
Turns, Berms, Technical Trail Features (TTFs)	Less than 58% (30 degrees)	58% (30 degrees)
Safety Shoulders	Less than 33% (18.5 degrees)	33% (18.5 degrees)

Corner Radius: shall follow the chart below for specified areas:

Trail Location	Corner Length
Straightaways	No less than 20 feet
Turns, berms, TTFs	No less than 15 feet

*** In addition, the grade of the exit shall always be lower than the entry*

Obstacles: Full width TTFs shall be a minimum of 12 inches wide. Partial TTF's shall be at least 6 inches wide.

Bridges: Bridge shall be no less than 48 inches wide. Bridges that are not straight shall be widened to allow for the curves/turns. *Exception: if the bridge can be avoided than the bridge width can be less.*

Trailhead Signs: Shall be provided at trailheads on newly constructed or altered trails that comply with the Tennessee State Parks Design Guidelines; in addition, to the following requirements:

Clear Space: Trailhead signs shall have a 30-inch-deep by 48-inch-wide minimum clear space around the sign. The slope of the clear space shall not exceed 1:20 (5 percent) in any direction.

Sign Contents: Accessible trails shall include at minimum the following information. (A *Sample Trail Access Information Summary* is located at the end of this document)

- Length of the Trail or Trail Segment
- Surface Type

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- Typical and Minimum Tread Width
- Typical and Maximum Running Slope
- Typical and Maximum Cross Slope
- A statement that the posted information reflects the conditions of the trail when it was constructed or date of last assessment.

Reach Ranges: If materials need to be obtained from the trailhead sign or kiosk the material shall not exceed 50 inches from the finished floor or ground level.

Colors: All signage colors shall adhere to the Tennessee State Parks Design Guidelines and bright colors shall be avoided.

Adaptive Trail Sign: The Trailhead Signage for an adaptive mountain bike trail shall be



Trail Use Requirements:

Designated Uses of Accessible Hiking Trails: Accessible hiking trails shall allow the use of manual, all-terrain wheelchairs, or other approved mobility devices.

*** *E-Bikes are not an approved mobility device on accessible hiking trails.***

Designated Use of Non-Accessible Hiking Trails: Hiking Trails not deemed accessible by this guideline does not restrict the use of All-Terrain Wheelchairs. Park Managers or their approved designee can allow the use of All-Terrain Wheelchairs or other mobility device on other trails by posting the proper signage at the Trailhead.

**** *E-Bikes are not an approved mobility device on accessible hiking trails.***

Designated use of Adaptive Mountain Bike Trails: Adapted Mountain Bike Trails shall allow the use of three or four wheeled adapted mountain bikes, in addition to E-Bikes.

******Park Managers or their approved designee can allow the use of All-Terrain Wheelchairs on adaptive mountain bike trails by providing the proper signage at the trailhead.***

Designated use of Mountain Biking Trails: Mountain Bike Trails shall allow the use of non-motorized Mountain Bikes.

******However, this requirement does not restrict the use of E-Bikes or All-Terrain Wheelchairs on the trails. Instead, Park Managers or their designee can allow for the use with approved signage at the Trailhead.**

*******NOTE the Department of Justice ADA Center WILL classify an E-Bike as a mobility device under specific circumstances. While we have jurisdictional decision in most cases, the best**

practice will be to provide an Adaptive Mountain Biking Trail which will allow the use of E-Bikes.

TCA/DOJ ADA Response to E-Bikes and the use on mountain bike trails.

TCA 55-8-306

(2) A local government or state agency having jurisdiction over any part of any path or trail where bicycles are authorized to travel may regulate or prohibit, by resolution or ordinance if a local government or by rule or policy if a state agency, the operation of a class 1 electric bicycle or class 2 electric bicycle on that path or trail, if the local government or state agency determines that the regulation or prohibition is necessary, in the interest of public safety.

(3) No class 3 electric bicycle shall be operated on any part of a path or trail where bicycles are authorized to travel, unless the path or trail is within or adjacent to the street or highway, or the local governing body or state agency having jurisdiction over the path or trail permits, by resolution or ordinance if a local government or by rule or policy if a state agency, the operation of a class 3 electric bicycle on that path or trail.

DOJ ADA:

Requirements Regarding Mobility Devices and Aids

For some facilities -- such as a hospital, a shopping mall, a large home improvement store with wide aisles, a public park, or an outdoor amusement park -- covered entities will likely determine that certain classes of OPDMDs being used by people with disabilities can be accommodated. These entities must allow people with disabilities using these types of OPDMDs into all areas where members of the public are allowed to go.

Additional information can be found at:

<https://www.ada.gov/opdmd.htm>

Approved Mobility Devices: The only pre-approved mobility device are the All-Terrain Wheelchairs that are provided by TN State Parks. All other Mobility devices shall follow Department of Justice ADA Standards and be approved by the Park Manager or their designee. If additional assistance is needed, please contact the Accessibility Coordinator.

TRAIL ACCESSIBILTY GUIDELINES

Trail Access Information Summary

Park Name:

Trail Name

Type	Loop / Out & Back / Point to Point	
Length	1.2 mi (2.0 km)	
Elevation Gain	274.6 ft (83.7 m)	
Elevation Loss	277.1 ft (84.4 m)	
Trail Uses Allowed	Equestrian Hiking Bicycling - Mountain	
Trail Uses NOT Allowed	Dogs - Off Leash Motor Vehicles	
Typical Grade	Typical Grade	8.6%
	389 ft (119 m) is Standard Ramp Grade is 8.3%	20% to 29%
Typical Cross Slope	Typical Cross Slope	6.8%
	409 ft (125 m) is	18% to 29%
Typical Tread Width	Typical	55 in (138.5 cm)
	Minimum	22 in (55.9 cm)
Surface Type	Surface Type	Soil
Surface Category	100.0 % of Trail is	Firm

Obstructions:

Type:	Size (Height):	Remaining Tread:	Location distance from start or GPS:
Root	8 in (20.3 cm)	26 in (66.0 cm)	1398.9 ft (426.4 m)
Root	6 in (15.2 cm)	10 in (25.4 cm)	2665.7 (812.5 m)
Root	6 in (15.2 cm)	25 in (63.5 cm)	942.0 ft (287.1 m)

Warning: Trail conditions may have changed since XX-XX-XXXX when this trail was assessed.

Temporary obstacles were not mapped.

Maximum grades and cross-slopes may vary. Obstructions less than 3 in (7.6 cm) or outside of the tread area 60 in (152.4 cm) wide by 120 in (304.8 cm) high were not reported. Minimum clearance width boundaries were at least 3 in (7.6 cm) high

The information provided on this Summary is provided in accordance with the Tennessee State Parks



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