

Request for Approval to Build Singletrack Trails in Smith's Crossing Community Park



- Sun Prairie Bicycle Advisory Group
- Sun Prairie Youth Cycling Team
- Sun Prairie Composite MTB Team

Executive Summary

The *Sun Prairie Bicycle Advisory Group*, in co-operation with and *the Sun Prairie Youth Cycling Teams* is requesting permission to design, build & maintain recreational multi-use singletrack trails in the natural (wooded & prairie) portions of Smith's Crossing Community Park.

Throughout urban and suburban communities in Wisconsin, there is growing demand for natural trails. The development of natural trails in Smith's Crossing Community Park will help meet this demand and contribute to making Sun Prairie a desirable place to live and do business.

The proposed estimated 2.0 mile long singletrack trail system will be designed & built for the primary purpose of providing local youth and families with an opportunity to experience mountain biking locally. The trail will also be intentionally designed to be mixed-use and therefore will be accessible to and appreciated by people participating in a variety of outdoor activities, including running, hiking, snowshoeing, etc.

When completed, the trail system will consist of approximately two miles of natural, mixed-use '*singletrack*' trail suitable for beginner-level mountain bikers and other outdoor recreation (see "Defining Singletrack" section for more information). The proposed trail system will also connect with the existing multi-use, paved trail system in Smith's Crossing Community Park.

If contracted by a private trail building organization, it would cost approximately \$22,000 to build the proposed mountain bike trail system in Smith's Crossing Community Park.

Both Sun Prairie Cycling Teams, SPBAG and along with local volunteers will design, build and maintain the proposed trail system in Smith's Crossing Community Park **at no cost to the City of Sun Prairie.**

The fore mentioned groups will perform any necessary fundraising (for professional trail design, necessary signs, etc.) by soliciting funds from private donors, and fundraisers via corporate sponsorship and events. These funds will also allow us to provide ongoing trail maintenance at no cost to the City of Sun Prairie.

This document:

1. Introduces key stakeholders for the proposed trail system.
2. Defines '*singletrack*' trail and outlines the benefits of this type of trail.
3. Describes the growing demand for natural trails in Sun Prairie.
4. Provides specific details and a conceptual map of the proposed singletrack trail system in Smith's Crossing Community Park.
5. Outlines benefits of a singletrack trail system in Smith's Crossing Community Park
6. Addresses potential concerns about the proposed trail system.
7. Proposes a timeline for the installation of the trail system.
8. Provides photographic examples of singletrack trails.

Table of Contents

Executive Summary.....	1
Defining Singletrack Trails.....	4
Primary Advocates	5
Demand for Natural Trails.....	6
Benefits of Singletrack Trail System in Smith’s Crossing Community Park.....	8
Specifics of the Proposed Trail System in Smith’s Crossing Community Park	10
Conceptual Map of the Proposed Trail System in Smith’s Crossing Community Park	11
Necessary Signage.....	13
Proposed Timeline	14
Concerns Regarding Trails.....	15
Contact Information & Acknowledgements	16
Photographs of Singletrack.....	17

Defining Singletrack Trail

The term “mountain bike trail” is used to describe a lot of different types of trails, everything from a smooth, mellow & wide unpaved bike path (such as the local Glacial Drumlin Trail) to the extremely steep, rocky trails that traverse down the sides of mountain.

The proposed mountain bike trail system in Smith’s Crossing Community Park will consist of approximately two miles of natural, mixed-use ‘*singletrack*’ trail suitable for beginner-level mountain bikers (including children) and other activities such as hiking, running and snowshoeing.

Definition: Singletrack trails are low-impact trails that consist of local dirt, sediments, and terrain features found in the immediate vicinity of the trail. Singletrack trails tend to wind around obstacles such as trees, large rocks and bushes. Singletrack trails typically blend into the surrounding environment and have a very small footprint in terms of both the amount of space occupied and the actual ecological impact.

Construction: Singletrack trail construction begins by clearing the trail ‘corridor’ of brush, foliage and low-hanging limbs that are in the immediate path of the trail. This ‘corridor’ (the area cleared of brush) of a singletrack trail is typically 2-6 ft. wide by 8 ft. tall and focuses on minimizing ecological impact. After the trail corridor is cleared, the ‘tread’ of the trail is created by clearing a narrow area of leaves, grass, moss, etc. to expose the dirt below. Typically, the ‘tread’ of a singletrack trail is 12 to 18 inches wide and is natural dirt surface (rather than gravel, grass or woodchips).

Maintenance: Singletrack requires regular maintenance to keep the corridor clear of foliage and the tread clear of leaves/debris, but maintenance costs are remarkably low, and seldom involves specialized tools or equipment. Usually, a weed whacker, a leaf blower (or rake) and a hand saw are all that is required to perform singletrack trail maintenance.

Contrasts with Doubletrack Track Trails: In contrast to singletrack trails, doubletrack trails are wider (usually wide enough for four-wheeled vehicles), but require more labor to build and maintain. Singletrack trails are preferred by mountain bikers (and some trail runners, hikers & snowshoers) because they provide a more immersive experience in nature and the tight twists and turns of singletrack offer greater technical challenge.

To see example photos of singletrack see pages 17 through 22 at the end of this document.

Primary Advocates

1) Sun Prairie Bicycle Advocacy Group (www.sunpraiemoves.org), founded in spring of 2014, is a volunteer-based, citizens' group that seeks to improve bicycle and pedestrian experiences by working with the local government and community. The group's mission is:

"To advocate bike path and trail development enabling residents to reach 90% of the City on paths and trails, foster awareness of cycling through community outreach, and achieve recognition from local and national organizations for our efforts."

2) 'Red Fury' Sun Prairie Youth Cycling Team (<https://www.facebook.com/SunPrairieYouthCyclingTeam>) is a group of 40+ children from Sun Prairie, (ages 7-18, from 28 families) who compete in the Wisconsin Off-Road Race Series (www.WORS.org). WORS is America's largest state mountain bike racing series. WORS promotes twelve races, May through October. WORS offers competitive mountain bike races for all ages and promotes youth racing as one of its many initiatives in the series. WORS averages over 600 participants at each event and over 8,000 participants annually.

3) 'Sun Prairie Composite' High School & Middle School interscholastic mountain bike team was among 20 teams to compete in the first official season of the Wisconsin High School Cycling League. The Wisconsin High School Cycling League (www.wisconsinmtb.org) is a non-profit organization dedicated to the establishment of school-based mountain bike clubs in communities throughout Wisconsin and is an affiliate of the National Interscholastic Cycling Association (www.nationalmtb.org)

Demand for Natural Trails

Locally, regionally, nationally and even internationally, demand for mixed-use, natural trails is growing, especially in expanding urban and suburban environments, and Sun Prairie is no exception.

As a growing number of people live, work and recreate in urban/suburban communities, there is a corresponding growth in the demand for natural areas and natural trails within these communities.

It is in Sun Prairie's best interest to establish policies for allowing, managing, and maintaining mixed-use, natural trails in and around the city. The development of natural trails is essential in making Sun Prairie a desirable place to live and/or run a business, and will help keep Sun Prairie competitive with surrounding communities.

The following data helps illustrate the growing demand for natural trails:

Popularity of cycling & trail sports in Wisconsin

According to a 2006 report from the Outdoor Industry Foundation, in Wisconsin, biking and trail sports are two of the most popular outdoor activities. In terms of participation, both biking and trail sports exceed the popularity of hunting and fishing, two activities more traditionally associated with the Wisconsin outdoors.

Additionally, a 2010 study by UW-Madison's Nelson Institute for Environmental Studies showed that cycling has a \$1.5 billion annual contribution to Wisconsin's economy. This exceeds the economic impact of deer hunting, \$1.4 billion (according to the most recent report from the Wisconsin Department of Natural Resources, 2006).

	ACTIVITY CATEGORY	# OF PARTICIPANTS*	% OF POPULATION*
	BICYCLING <ul style="list-style-type: none">• Paved-road bicycling• Off-road bicycling	1,524,056	36%
	CAMPING <ul style="list-style-type: none">• RV camping at a campsite• Tent camping at a campsite• Rustic lodging	1,133,121	27%
	FISHING <ul style="list-style-type: none">• Recreational fly• Recreational non-fly	909,947	20%
	HUNTING <ul style="list-style-type: none">• Shotgun• Rifle• Bow	578,004	13%
	PADDLING <ul style="list-style-type: none">• Kayaking (recreational, sea, or whitewater)• Rafting• Canoeing	786,937	19%
	SNOW SPORTS <ul style="list-style-type: none">• Downhill skiing, including telemark• Snowboarding• Cross-country or Nordic skiing• Snowshoeing	530,253	13%
	TRAIL <ul style="list-style-type: none">• Trail running on an unpaved trail• Day hiking on an unpaved trail• Backpacking• Rock climbing (natural rock or ice)	1,040,242	25%
	WILDLIFE VIEWING <ul style="list-style-type: none">• Bird watching• Other wildlife watching	2,159,000	48%

Demand for Natural Trails (continued)

2013 Sales of Dane County Parks Mountain Bike Trail Permits (required for mountain biking at CamRock Park)

- 673 daily passes
- 549 annual permits (does not include combined bike/ski/horse permits)
 - Since 2008, sales of annual mountain bike permits have more than doubled.

Trek Bicycle Employees living in Sun Prairie

As of the summer of 2014, Trek Bicycle (headquartered in Waterloo, WI) employs 78 people who live in Sun Prairie. Of those 78 Trek employees, at least 26 describe themselves as mountain bikers. In those 26 households, approximately 11 have at least one other member of the household who participate in mountain biking.

USA Cycling Licenses

USA Cycling is the governing body for competitive cycling in the United States and issues the licenses necessary for individuals to participate in *USA Cycling* sanctioned event or race. Although most cyclists don't compete (and therefore don't require *USA Cycling* Licenses), the number of licensed off-road cyclists can be used as an indicator of the popularity of off-road cycling in Sun Prairie and the surrounding area. *USA Cycling* issues two different types of licenses for off-road cycling, one for mountain biking & cyclocross, another for BMX. Note: mountain bikes, cyclocross bikes and BMX bikes are all suitable for riding on singletrack trails.

2015 *USA Cycling* License Holders in Sun Prairie:

- 24+ mountain bike/cyclocross
- 12 BMX

2014 *USA Cycling* License Holders in Surrounding Communities (within 45-minute drive from Sun Prairie):

- 563 mountain bike/cyclocross
- 238 BMX

Emergence of Mountain Biking as a Scholastic Sport

Within the last decade, at least 13 states have established high school mountain bike leagues. Fall of 2014 marked the inaugural season of the Wisconsin High School Mountain Bike League with 20 teams and over 130 high school and middle school students participating. Three local communities fielded teams for the 2014 and 2015 season:

- Sun Prairie (15 kids)
- CamRock Composite (21 kids)
- Madison West High School (21 kids)

Additionally, Monona Grove, Verona and Middleton high schools have expressed their intentions to establish teams for the 2016 season. With an estimated 10 kids per team, that's another 40 local youth seeking trails to ride and train on.

Benefits of a Singletrack Trail System in Smith's Crossing Community Park

- **Promotes healthy, active, outdoor recreation:** Getting outside isn't just fun. It's essential to our well-being. Countless studies show that both exercise and spending time outdoors help promote physical and mental health. Access to singletrack trails in Smith's Crossing Community Park will help community members to engage in activities that contribute positively to their health and quality of life.

- **Multi-use versatility:** The versatility of singletrack trails makes them appreciated by a wide assortment of user groups and skill levels. Singletrack trails increase the accessibility of natural areas for wide a variety of nature-based, activities, such as hiking, bird-watching, trail running, snow shoeing, etc. Singletrack trails within Smith's Crossing Community Park will increase the appeal of the park by providing families with a variety of options for activities within the park. Parents will be able to walk, run or ride the trails while kids participate in organized sports. Children can enjoy the trails with their parents and then visit the playgrounds or nearby aquatic center, etc.

- **Economic Benefits:** Singletrack attracts new residents, improves retention of residents in community and facilitates commerce at local businesses. Local retailers with opportunity to directly benefit from singletrack trails in Sun Prairie include:

- Sun City Cyclery & Skates (Bicycles & Accessories)
- Fleet Feet (Trail Running Shoes & Apparel)
- Cabela's (Hiking boots, snowshoes, apparel, etc.)

- **Youth Mountain Bike Team Practices:** Currently, the "Red Fury" and "Sun Prairie Cards" youth mountain bike teams hold half of their practice sessions at CamRock Park, near Cambridge (appr. 60 min drive from Sun Prairie round trip). The other half of their practice sessions are held on a one-mile loop of homemade trails, located on private property of a Sun Prairie resident who provides the team with exclusive access to the property. (Unfortunately, the terrain of this property is susceptible to erosion and therefore is not well-suited for mountain bike trails). A mountain bike trail system in Smith's Crossing Community Park will allow these young athletes to practice on trails in their own community and help avoid unnecessary expenses in time, fuel and money to travel to other communities for practice. Not only will this help keep money in Sun Prairie, but it also lowers the barrier for participation on the teams for youth who may not be able to afford the time or money commitment to travel to team practices in Cambridge.

- **Low Installation & Maintenance Costs:** As mentioned prior. The maintenance will be provided by volunteers.

- **Low Ecological Impact:** Singletrack trails are an intentionally-designed immersive experience in nature. A key purpose of these trails is to provide access to the beauty of nature. Additionally, singletrack trails can help improve the ecological health of natural public areas by providing greater access to hard-to-reach areas and allow public employees and volunteers to remove invasive plant species (i.e. buckthorn, garlic mustard, etc.).

- **Small footprint:** Singletrack trails tend to wind around on themselves, which allows for a substantial amount of recreational trail within relatively small areas. The layout of the singletrack trail system in Smith's Crossing Community Park will be intentionally designed to have minimal negative impact on other recreational spaces in the park. There will be essentially zero impact on the existing playground and athletic fields.

- **Utilize Existing Assets:** The natural areas within Smith's Crossing Community Park are a natural getaway in a community that is seeing ever expanding development. These areas are a great asset to the community, and will become even more important as the City of Sun Prairie continues to grow. Currently, without trails to access these areas, they are difficult to fully appreciate and represent an under-utilized asset to the community. A singletrack trail system in Smith's Crossing Community Park will provide the community with greater access to the wooded & prairie sections of the park.

- **Lower Crime:** Unused space in a community can serve as a haven for illicit activities. The installation of trails draws unwanted attention to those conducting illicit activities and often causes them to pursue their activities elsewhere. Many communities find that by building recreational trails through urban/suburban woodlands, they bring more people into the woods, and reduce the amount undesirable and illicit activities that occur in those areas.

Benefits of a Singletrack Trail System in Smith's Crossing Community Park (continued)

- **Year-round accessibility:** The growing popularity of "*fatbikes*" (a.k.a. "*snowbikes*") has been one of the most important trends in cycling during the past two years. Fatbikes are specialty mountain bikes that utilize extra-large (4 to 5 inch wide) tires with very low air pressure (appr 10 psi) to increase surface area of the tires and provide floatation over snow. The extra-wide tires of fatbikes act similar to snowshoes and allow off road cyclists to enjoy their sport through the snowy winter months. Although some trail systems in the upper Midwest perform snow grooming for fatbikes (similar to grooming for cross-country skiing) grooming of the trails is not necessary for winter cyclists to enjoy the trails. In many locations, fatbikers and snowshoers enjoy a symbiotic relationship in which snowshoers hike the trails and sufficiently pack down the snow which allows for fatbike riding. As a sign of the growing popularity of fatbikes, especially in the upper Midwest, in January 2014, the small town of Cable, WI played host to the first ever US National Championship Snow Bike Race.

Proposed Trail System for Smith's Crossing Community Park

The following pages contain *conceptual* maps of a possible route for singletrack trails in Smith's Crossing Community Park.

This map was designed with the intention of communicating the general idea of the proposed trail system, and should not be considered the actual route of the completed trail system.

The primary intention of this conceptual map is to demonstrate that the trail will be located in the wooded and prairie sections of the park and will have minimal, if any, negative impact on the developed portions (i.e. athletic fields, playgrounds) of the park

Since singletrack trail conforms to the natural terrain, it is very difficult to provide an accurate map of the trail prior to the on-the-ground design.

Once the design phase of trail development begins, it will be possible to create an accurate map of the actual route of the trail and submit the map to the Department of Parks and Recreation before beginning actual construction of the trail.

Additionally, until the design process is completed, it is difficult to determine the distance of trail that can be built within Smith's Crossing Community Park, but the goal is approximately two miles of singletrack within the park boundaries.

Installation Cost

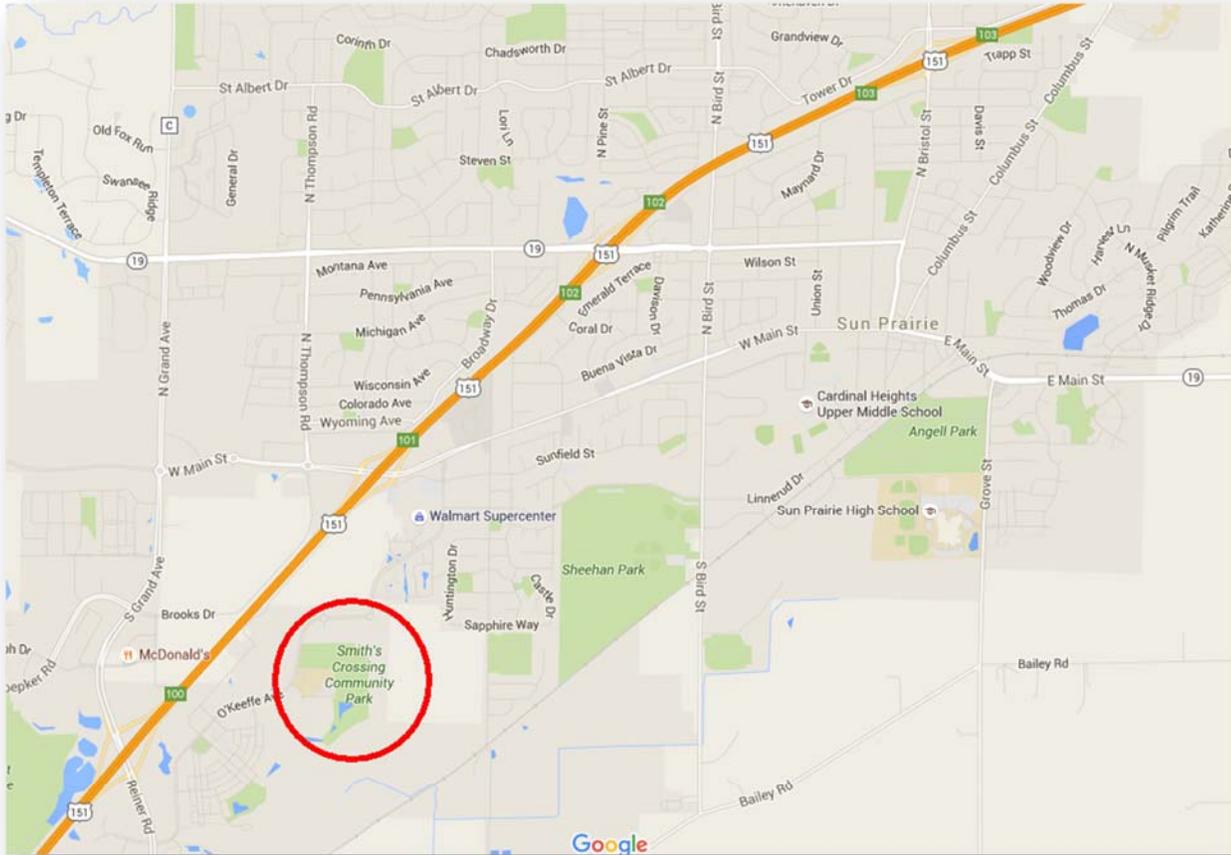
Singletrack trail installation is a labor-intensive activity that, when contracted by a private trail building organization, can cost tens of thousands of per mile of trail. The premier trail building firm in the USA (Trail Solutions) charges approximately \$11,000 per mile to design and build beginner-level trail.

Installation Phases

Work on the proposed trail system will be divided into phases allowing volunteers to work on one section at a time.

Difficulty level

Mountain bike trail systems often utilize a difficulty rating system similar to those used in cross country & downhill skiing. According to the scale used by IMBA, the proposed trail system in Smith's Crossing Community Park will have a difficulty rating in the *Green Circle* ("Easy"). Learn more about the IMBA (International Mountain Bike Association) trail rating system here: <http://bouldermountainbike.org/content/trail-difficulty-guide>





Necessary Signage

Volunteers will utilize sponsorships and other fundraising vehicles to pay for the costs of trail marking and signage. All proposals will be submitted to the Department of Parks & Recreation prior to production and installation of signs. This will give the Department opportunity to ensure that signs and trail markings adhere to design, safety and aesthetic requirements.

The proposed trail system in Smith's Crossing Community Park will require a variety of types of signs. Signs will be utilized to address the following:

Trailhead: A large sign (or kiosk) will provide users with a large-scale map of the trail system and guidelines regarding the use of the trails, such as:

Multi-use trails: These trails are intended for mountain biking, hiking, running, snowshoeing, etc. People of all ages and abilities use these trails. Be mindful, be careful and be respectful of other users.

Yield Appropriately: Strive to make each pass a safe and courteous one— a friendly greeting or bell ring are good methods of letting others know of your presence on the trail. Try to anticipate other trail users as you ride around corners. Bicyclists should yield to other users.

Trails Closed When Wet: Riding, running or walking on wet trails will damage trails. Wait approximately 24 hours after significant rain before using the trail. Trails may be closed for a few weeks during the spring thaw in (March and early-April).

Control Your Bicycle: Inattention for even a moment could put yourself and others at risk. Pay special attention at intersections. Ride within your limits.

Non-Motorized Trail: This trail system is for non-motorized traffic only.

Animal Rules: No horses. Keep dogs leashed and pick-up any waste. Respect wildlife. Animals are easily startled by an unannounced approach, a sudden movement or a loud noise. Give animals enough room and time to adjust to you.

Directional use: This is singletrack trail, which means you must travel the direction it was intended to prevent head on collisions.

Major Intersections: Warning signs will be posted where the trail approaches significant intersections (such as those with the existing paved multi-use path). Since major intersections could also be used as entrance points to the trail system, signs will be posted at these locations directing users to the trailhead where they can access additional information about the trail.

Unexpected or potentially-risky obstacles: Signs will be placed well in advance of any unexpected or potentially-risky obstacles in the path of the trail (i.e. bridge or log-crossing) thus giving users the opportunity to slow down and dismount if necessary.

Note on Sign Material:

Flexible Composite Sign Posts are a popular and suitable material for affixing signs and markings on trails used by cyclists. These posts are typically 4 inches wide, approximately one-half inch thick and will bend if they are pushed on. Although the composite material is substantially more expensive than natural materials, the composite stands up to the elements for much longer and requires much less maintenance.

Proposed Timeline

- February, 2016: Introduced Proposal to Sun Prairie Parks and Recreation Committee
- March, 2016: Development of Memorandum of Understanding (MOU) for building & maintenance

Concerns Regarding Trails

A number of concerns arise surrounding the installation and use of singletrack. This section seeks to provide accurate and research-based information about those concerns:

• **Trail Costs:**

One concern is whether the City of Sun Prairie will need to pay for trail construction and maintenance. Volunteers will arrange for trail design, complete construction utilizing a volunteer workforce and perform routine trail maintenance.

• **Environmental Concerns:**

There are some misconceptions that trail construction damages trees or creates erosion. Volunteers will abide by IMBA trail building standards to prevent damage to the environment. IMBA standards have been scientifically tested and have been proven to minimize ecological impact. These standards also allow nature to quickly recover the space were future trail modifications needed or the singletrack trail system to be abandoned.

• **Impacts to Wildlife:**

Some fear that the use of the trail will scare away the wildlife. Singletrack trails marginally impact the environment and research suggests that this disruption has minimal effect on wildlife; often wildlife will actually utilize the trails.

• **Liability Concerns:**

Some Sun Prairie officials and citizens will be rightfully concerned about liability in the event of a user injury. Wisconsin's "Recreational Use Law" provides significant protection to the landowner (i.e. the City of Sun Prairie) when a trail user is injured on the trail. The Wisconsin "Recreational Use Law" [Wis. Stats. 895.52; 895.525; & 895.523] defines negligence in the context of recreational activity on both private and public property. This law applies to a wide range of recreational activities, including all of the activities that would be allowable on the proposed trails (e.g. hiking, biking, trail running, snow shoeing).

"...a participant in a recreational activity...accepts the risk inherent in the recreational activity of which the ordinary prudent person is or should be aware. A participant in a recreational activity...is responsible to do all of the following:

- 1. Act within the limits of his or her ability*
- 2. Heed all warnings regarding participation in the recreational activity*
- 3. Maintain control of his or her person and the equipment, devices, or animals the person is using while participating in the recreational activity*
- 4. Refrain from acting in any manner that may cause or contribute to injury to himself or herself or to other persons while participating in the recreational activity.*

A violation of this law constitutes negligence."

• **Automobile Parking & Bicycle Accessibility:**

The existing automobile parking lots at Smith's Crossing Community Park will provide more than enough space for trail users who choose to drive to the Park to access trails. Therefore, there is little concern of parked vehicles clogging up residential streets around the park. Additionally, there are existing paved bike trails and marked cycling routes on the local roads which provide local cyclists with the opportunity to ride from home to access the singletrack trails in Smith's Crossing

Community Park. The City of Sun Prairie may wish to consider the installation of additional bike racks in the park to provide a safe place for cyclists to lock their bikes while enjoying other recreational activities at the park.

Contact Information:

For additional information, please contact:

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Rider on singletrack trail in pine forest.



Singletrack trail in deciduous forest during fall.



Singletrack trail through pine forest.



So called 'fat bikes' utilize extra-large, low-pressure tires to enable riders to explore snow-covered singletrack trails.



Fat bike in freshly fallen snow.



Snowshoe racing on singletrack trail.



Snowshoe hiking on singletrack trail.



Singletrack trail at CamRock Park, built by Capital Off-Road Pathfinders (CORP)



Singletrack trail in CamRock Park, built by Capital Off-Road Pathfinders (CORP)



Singletrack trail in CamRock Park, built by Capital Off-Road Pathfinders (CORP)



Sun Prairie Composite Interscholastic Mountain Bike Team.