Vermont Electric-Assist Mountain Bike (eMTB) Attitudes and Knowledge Research Report

Produced by the Center for Rural Studies at the University of Vermont for People For Bikes

Authors: Kerry Daigle & Michael Moser



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Contents

Executive Summary	2
Background	2
Methodology:	2
Vermont Statewide Electric-Assist Mountain Bike Attitudes Survey	2
Local Multi-Use Trail Network Intercept Survey	2
Stakeholder Focus Groups	2
Key Findings:	3
Recommendations:	4
Combined Research Findings Trail Etiquette, Interactions	4 4
Overcrowding	6
Safety	7
Physical Trail Impacts	9
Accessibility	11
General eMTB Perceptions	13
References	14

Background:

Class 1 electric mountain bikes (eMTBs), categorized as mountain bikes that are pedal assist only, have no throttle, and have a maximum speed of 20mph, have been growing in popularity on mountain bike trails across the United States and in Vermont. While some trail networks have begun to set policies around Class 1 eMTB usage, directions of future policy around eMTB remain largely undetermined. In Vermont, more information is needed to understand perspectives around the introduction of eMTBs to mountain bike trails in the state.

The Center for Rural Studies at the University of Vermont, in collaboration with the national not-for-profit advocacy organization PeopleForBikes and the local not-for-profit mountain bike and multi-use trails organization- Fellowship of the Wheel, conducted this pilot study during the summer and fall of 2022. The goal of which was to develop knowledge around:

- The perceived impacts that Class 1 eMTBs have on physical trail conditions compared to analog MTBs
- The potential trail user impacts related to the introduction of eMTBs on non-motorized, multiuse trails
- Considerations for initiating education outreach opportunities about eMTBs
- Diversity and inclusion implications

As a pilot study, this research project sought to generate broad knowledge from across different rider and non-rider populations to understand the variety of perspectives Vermonters hold about eMTBs in the state. Results from this study are neither conclusive nor generalizable to all trail users and should be considered as an initial step to inform future education and outreach and additional research on eMTB integration into the recreational matrix.

Methodology:

Vermont Statewide Electric-Assist Mountain Bike Attitudes Survey

The statewide eMTB attitudes survey was designed collaboratively with the Center for Rural Studies (CRS) survey design experts, People for Bikes and Fellowship of the Wheel. Previous eMTB research studies were reviewed and provided context during development. The data collection tool was designed to gauge perceptions of eMTBs from across the Vermont mountain biking community. The knowledge generated through this preliminary statewide survey was designed to inform and compliment the development of the local multi-use trail system intercept study and the stakeholder focus groups that were each conducted at a later time.

The statewide survey was distributed through multiple channels including local and statewide mountain bike member networks. This survey was fielded on June 15th, with reporting based on results collected up to June 27th. A total of 271 completed responses were utilized in this analysis. Responses were confidential.

Local Multi-Use Trail Network Intercept Survey

The preliminary attitudes survey results informed the multi-use trails intercept survey. Researchers from the Center for Rural Studies collaborated with staff from Fellowship of the Wheel (FOTW) to conduct intercept-style data collection at the local multi-use trail network trailheads. CRS staff trained FOTW staff in the general guidelines for meeting trail users and asking them to take the trail user survey. CRS staff and FOTW staff conducted staggered intercept attempts throughout August and September and October 2022. Additionally, posters with information about the study and a QR code that could be scanned to take trail users directly to the study were affixed to trail head kiosks. A total of 67 confidential responses were collected through late October of 2022.

Stakeholder Focus Groups

Four stakeholder focus groups were held to develop a deeper understanding of the perceptions of eMTBs on Vermont trails. Two of the four focus groups were recruited from participants of the preliminary survey, who indicated they

would like to be contacted for future research participation. All respondents who provided contact information were sent an email providing information about the focus groups and times to sign up. The additional two focus groups were held with a citizen committee responsible for the management of a local multi-use trail network, and with staff from a local mountain bike member organization. Focus groups were conducted remotely using Microsoft teams during early November 2022. Each Focus Group lasted approximately 60-75 minutes and had between 2-13 participants.

Themes generated from the preliminary statewide survey and the local multi-use trails intercept survey were the subject of review and discussion during the focus group sessions. Focus group participants were asked if the emergent themes identified through the statewide and local trail user surveys were based more on reality or perception and were asked to provide ways to address any negative themes- whether they were considered to be based in reality or perception.

Key Findings:

This study provided important insight into perceptions of eMTB usage in Vermont. Overall, perceptions of eMTB usage were more positive than negative, and indicated a general willingness and even motivation to enable further integration of eMTBs into the sport. Emergent themes centered around aspects of trail safety, accessibility, physical trail impacts, rider etiquette, and numbers of users.

Key Findings include:

- The statewide survey respondents generally expressed more negative perceptions than intercept survey and focus group participants
- Respondents to the intercept survey described **trail etiquette** of eMTB riders as generally positive, though less positively than with analog mountain bike riders
- Respondents to the statewide survey also expressed concerns over increased **crowding** due to eMTB usage.
 - Focus group discussions noted increased usership generally, outside of any eMTB specific usership, and noted positive aspects of growth of the sport.
- Some respondents to the statewide survey shared concerns about the **safety** of eMTBs, but participants of the intercept survey were neutral over whether or not eMTB introduced added safety concerns.
 - Focus Group discussions reinforced the neutral perspective, which emphasized that it comes down to the decisions of the individual rider, regardless of the bike they are on
- Both statewide and intercept survey results highlighted rider concerns over the **physical impact** eMTBs have on trails.
 - In the Focus Groups, participants largely disputed the perception of negative trail impacts from eMTBs but noted that justification for their views was only anecdotal or hypothetical. Participants agreed that more data is needed to back up statements about physical trail impacts of eMTBs.
- Intercept survey participants neither agreed nor disagreed that eMTBing made the sport of mountain biking more or less **accessible**, indicating respondents may perceive "accessible" by both physical and financial means.
 - Focus group participants were largely against limiting eMTB riders to only those with a proven disability or designating them to specific trails only
- Some participants identified as having a bias toward eMTB riders or feeling "conflicted" about their place in the sport. Such results demonstrate that, for some, eMTBs introduce a cultural shift around inclusivity in outdoor recreation activities. Further research will need to understand the prevalence of this viewpoint and ways to mediate social conflicts

Recommendations:

- Education and communication can be an effective first line strategy for increasing understanding of what class 1 eMTB are and for dispelling misperceptions
 - \circ $\;$ This can be accomplished with local clubs, bike shops and in direct interactions at trail systems.
- Landowners should be engaged by the bike clubs with which they have agreements to understand knowledge about eMTBs. When relevant, conservation easements and other legal contracts must be reviewed in cases where these were written before eMTBs were in existence
- Increased signage, particularly on more difficult terrain, will be important to educate newer riders to make wise decisions on terrain that may be more readily accessible via eMTBs
- More data is needed on the impact of eMTB riding on physical trails
- More research (particularly by exploring other geographic areas) is needed to understand the percentage of increased ridership expected to be attributed to new eMTB riders vs new analog riders
- More research is needed to understand "who" rides eMTBs, particularly:
 - Whether eMTB riders are new to the sport altogether, or transitioned from analog bikes
 - Demographics of riders
 - Renters versus owners of eMTB

Combined Research Findings

The results presented below are generated from the statewide eMTB attitudes survey, the local multi-use trails network intercept survey and the subsequent focus groups. Results have been grouped into themed categories generated by the research that include **Physical Trail Impacts, Trail Safety, User Numbers, Accessibility and General & Landowner Perceptions.** Results from the two surveys are presented first in each section, with further description, agreement, or rebuttal from focus group data presented after.

Trail Etiquette, Interactions

Statewide Survey Results

Some respondents commented that they felt frustrated when seeing eMTBs on the trails, either because they were going much faster or because the rider had to move out of the way on uphills to let them pass. However, responses related to social conflicts were variable; some commented that they lived in areas with heavy eMTB usage and this wasn't an issue, while another pointed out it is the "type of rider" and not the bike that determines user conflicts.

Examples Quotes:

- "It's very frustrating when you are in an ascent and working hard to stay on the bike peddling then someone with an assist catches you and you have to stop to let them by and can't resaddle because it's steep."
- "Most user conflicts can be solved by using good trail etiquette. I ride eMTB often throughout the U.S. and Canada and have had no issues. I ride with courtesy and a great attitude. Most trail users have no idea I am riding anything but a bicycle."

Muti-use Trails Intercept Survey Results

For each activity you have seen others doing, what is your overall experience with the <u>trail etiquette</u> of those users? (Responses only from those that reported seeing that particular use)

Low pace walking/hiking was rated highest for trail etiquette among all trail use types (94% positive experience), while e-assist mountain biking received the third least positive rating after motorized uses and horse riding- 75% of respondents rated experiences with e-assist mountain bikers as positive.

Trail Etiquette Experience by Use Type



Do you have any specific comments about your experiences with user trail etiquette?

Bikers are the most polite I've ever encountered anywhere. I really appreciate that they typically let me know how many bikes are still coming
Cyclists are the best!!!
I feel like runners and walkers are less aware of trail etiquette when it comes to giving way to faster person. Who gets right of way on uphills.
I use the trails nearly every day Monday through Friday to hike with my dogs and occasionally some people who have aggressive dogs don't appreciate that my dogs are off leash. 95% of the time this isn't an issue.
It's always been positive.
Keep the Karen's out
Loose dogs not under owners control. Bikers at high speed not yielding or looking for pedestrians
My first time here. Seems great!
Everyone has been so nice!
Overall positive
People are generally very friendly and respectful!
Really think dogs should not be able to run up to me and bark growl etc.
Super friendly, feels like a close community

Focus Groups Findings

Focus group participants tended to comment on biking, generally (including analog and eMTB) when discussing trail etiquette, sharing the sentiment with survey takers that it is the rider and not the bike. As one participant put it, "my favorite saying is a jerk on a bike is a jerk on a bike. It doesn't matter what kind they're on." Overall, participants' experiences tended to be positive. While they did share stories of witnessing poor etiquette such as riders on closed trails or standing in the middle of trails, these experiences were generally not specific to negative experiences with eMTBs.

Participants who did share stories specifically about etiquette of eMTB riders, tended to share personal stories about individuals they know who are eMTB riders. One theme that was prominent among these discussions is that eMTB riders tend to be older and have spent many years on an analog mountain bike. Participants emphasized that these riders are well informed and have a respect for trail etiquette due to their longevity in the sport.

Two participants of the focus groups did share frustrations over eMTB usage privately via email after focus groups, citing that they didn't feel comfortable bringing up opinions they felt would be unpopular among the focus group. This

suggests that focus groups may not be the method of choice to encourage varying and diverse viewpoints on eMTB usage, and that there may be more concerns about user interactions than were shared during focus group discussions.

Overcrowding

Statewide Survey Results

Similar to social frustrations, overcrowding of trails was a concern for some respondents that noted already increasingly crowded parking lots and trail networks **through the growth of mountain biking during the COVID pandemic**. However, aside from parking overflow, most of the concerns about overcrowding related to the stress it put on the trails, rather than riders.

Example Quotes:

- "They are too fast and will attract too many people to trails, overloading them and making a worse experience for everyone."
- "I am concerned that eMTBs will be detrimental because of the increased impact on trail networks that are already seeing a lot of riders (I.e. full parking areas spilling over onto roadsides.)"

Muti-use Trails Intercept Survey Results

The intercept survey did not specifically ask about overcrowding, and no comments specific to overcrowding of trails, parking, etc. were received.

Focus Groups Findings

Focus group participants had a lot to say about overcrowding on trails. Similar to the above section, their comments related to biking overall, instead of being specific to eMTBs. There was a general sentiment of "we don't know" when it comes to how eMTBs will impact crowding on trails. Participants felt the eMTB riding in Vermont was too new to determine how it would impact trail numbers.

Of participants who shared their perspective of crowding on bike trails, two themes emerged. First, is that mountain biking (analog and electric) is experiencing a rapid growth in popularity. The majority of trail networks in the area were not designed for the volume of riders today, which is contributing to overcrowding on the trails. Regardless of whether or not eMTBs become popular in the area, the expansion of parking and trail networks will need to be addressed. The second theme that emerged from conversations was **whether or not growth of the sport was inherently positive or negative**. Many participants shared the opinion that more people in the sport should be viewed positively, as long as there is the infrastructure to support it. As one participant summarized,

"You bring up an interesting point, you know, the fear of having more users. Coming up in the mountain biking sport for so many years, I understand what they're saying. I get it. I share that lens I have for a long time, however, with that said, why is it a bad thing? More people are getting out and going this sport that they love, right? What there should be is more advocacy. There should be more funding. We should be better at educating and sharing and building trails. Over the last several years, I've actually just changed my perception on this whole thing."

This comment, along with others, suggests that increased ridership is not only in line with the value of inclusivity in the sport, but may increase the number of individuals engaged in trail work, education, and advocacy around the sport. The increase in users was specifically mentioned as one important solution to addressing new trail infrastructure development with more new volunteers able to be engaged for these activities.

Safety

Statewide Survey Results

Qualitative comments on the preliminary survey indicate a concern that introducing eMTBs on trails will increase risks to the safety of riders and other trail users. Some respondents felt that eMTBs were dangerous because the higher speeds would cause users to travel too fast on descents and injure themselves. Some respondents also commented that with the climbing assist, riders will be able to make it up more challenging ascents and access trails that they are not skilled enough to ride. Others also felt the high speed of eMTBs posed risks to other trail users, specifically citing risks to hikers/walkers and collisions with other riders from eMTBs climbing trails typically ridden downhill.

Example Quotes:

- "I think it's only a matter of time before someone uses an e-bike to access a trail they are not skilled enough to climb without assistance. And in turn, puts them on a trail they do not have enough skill to ride down."
- "They are too fast and endanger hikers and regular mountain bikers. I believe the users go way too fast!"

Muti-use Trails Intercept Survey Results

The majority of respondents (nearly 80%) agreed with the statement that electric-assist mountain biking is faster than human powered mountain biking, though the majority of respondents (nearly 60%) neither agreed nor disagreed (had no opinion) as to whether electric assist mountain biking was safer than human powered mountain biking.

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Electric Assist mountain biking is faster than human powered mountain biking	50.0	28.6	14.3	7.1	0.0
Electric Assist mountain biking is quieter than human powered mountain biking	0.0	16.7	66.7	8.3	8.3
Electric Assist mountain biking is safer that human powered mountain biking	0.0	16.7	58.3	16.7	8.3

What is your perception of how each of the following activities impacts <u>trail safety</u>? (Responses only from those that reported seeing that particular use)

Motorized vehicle use is perceived to be the least safe of all use types at the multi-use trail network with about 70% of respondents stating a negative impact on trail safety. Horse riding was the next use perceived to most negatively impact safety (54% negative), followed by electric assist mountain biking with 36% of respondents stating a perceived negative impact from this use.

Perceptions of Trail Safety by User Type



Do you have any specific comments about the trail safety of activities?

Be nice

Bidirectional trails can feel dangerous at times

Each activity listed has different positive and negative impacts. Overall, I believe any responsible trail use is net positive.

FOTW has been amazing, the trails are so much better now

I don't like that they close the forest for hunting season.

I feel that fast moving users (electric bikes) are dangerous on trails and I'm thrilled that I haven't encountered any here. As for horses, as a horse rider I have to say that bikes and horses don't mix well

I run on single track trails a lot and think I do a pretty good job of safely co-existing with mountain bikers. But not all walkers/runners are aware of the dangers. It might help to post signs at the trail heads encouraging suitable etiquette for all to share the trails. Some things that make it safer for walkers/runners include wearing bright colors, actively listening for bikes at all times and stepping off the trail to let them pass and avoiding running/walking up steep trails that bikers use to come down.

I think horseback riders and ATV riders should have separate trails to access

Moto bad, ebike fine

My only concern with E-bikes is potential of more user who do not know enough about the sport before entering and get in over their head since an ebike might give them more confidence.

Overall, I do not see any issues with trail etiquette. It should also be said that I rarely encounter others on the trails, maybe one or two other parties at most, if any when I'm out there.

The section that has multiple switchbacks crossing makes me nervous as this is a fast downhill trail. I have never had an issue, it just seems there is potential for it.

Trail map, expanding. It would be helpful to have an updated map because I often notice people aren't always sure which trail they are on. I specially noticed this with older walkers.

Focus Groups Findings

Focus group participants did not express significant safety concerns around eMTBing. Like all forms of biking, participants mostly felt that issues of safety came down to the rider and not the bike. There was some discussion that eMTBs might make it easier for folks to make dangerous decisions, but the riders who are currently on them tend to be older and using them for riding longevity instead of ease of speed. Others also added that on the downhills, when you are not using the throttle, they are not any faster than analog mountain bikes. For example, one participant states "yes, [an eMTB] is faster on an uphill, but none of those speeds will exceed what you would do on a downhill. If you're travelling on flat ground, it's pretty common that you can achieve the same max output speed on an analog. On

downhills, your downhill speed is always going to exceed the speed of the motor. I don't think the higher speeds uphill raise any safety concerns." One participant who was an eMTB'er also mentioned he felt "safer" on an eMTB, noting that the pedal assist helps him get over roots and rocks easier.

If any safety concerns arose from eMTB discussions, it was more from the technical skill it takes to control the bike. It can be challenging to pair the appropriate power with the area of trail you are on, and new users will need to learn to handle these changes.

For solutions, signage was a frequent suggestion made by focus group participants. Since eMTB riders may have easier access deeper into the woods, it is important to mark all terrain appropriately. One participant equated this to ski areas: "At ski areas, you must properly identify the potential dangers of an area (ex: avalanche) where risks exist. As you make things more accessible to riders, you have to make sure the signage is really clear and noticeable, so your riders have the information they need to make the best, safest decision for their skill level."

While adequate signage was considered important, it was also discussed that ultimately it comes down to the individual to pay attention to them and take the proper caution. As one participant put it, "we're talking about signage and I have to laugh because I [and another person on this call] will put up a sign in the park for a closed trail, and the sign either doesn't apply to that person, or they don't read it, so I'm not sure signage is the way to go, but education for sure." One suggestion that came up for encouraging folks to pay attention to signs was to encourage a "sense of ownership" through trail work and understanding what goes into maintaining trails. In these conversations, it became apparent that trail "safety" goes hand in hand with trail "etiquette" and that encouraging safety is about encouraging responsibility to oneself and other riders participating in the sport.

Physical Trail Impacts

Statewide Survey Results

Damage to trails was another frequent comment that came up. Some participants who commented felt confident that eMTBs didn't damage trails more than traditional mountain biking or that they didn't know enough to comment, while others felt that the weight, speed, and increased use (due to more riders and more laps) threatened the preservation of trails.

Example Quotes:

- "Soil erosion is one of the biggest problems on trails in Vermont. Irresponsible riding causes most erosion problems. Unfortunately, the torque and speed differences for ebikes have the potential to cause even more damage on crucial and especially sensitive portions of trail systems."
- "I think that allowing eMTBs for the general public will overwhelm our existing fragile trail resources. More people, more power and weight, more laps, more erosion, and destruction, etc."
- "Class 1 pedal assist ebikes do no more damage to trails than other bikes. On climbing there is very little spinning."

Muti-use Trails Intercept Survey Results

What is your perception of the impact each of the following activities has on the <u>physical quality</u> of trails? (Responses only from those that reported seeing that particular use)

High pace and low pace hiking/walking/running use types are most likely to be perceived as having no impact to physical trail quality. Respondents rated human powered (22%) and electric assist (21%) biking similarly for "no impact".

Perceived Trail Impact by Use



Do you have any specific comments about the physical impacts to trails at HTF?

I am probably wrong but I feel like electric bike folks have fewer bike skills than human powered bike folks and they fly off trails into bushes more often. They seem less in control

I believe with responsible use and proper trail maintenance no activity is a "negative impact". Trail use is part of maintaining the usability of trails.

Electric assist mtb's and dirt bikes have the capacity to tear up the trails and cause a larger amount of damage in a short amount of time, compared to runners/walkers/hikers and human powered bikers.

Moto and quad very bad

There are places where the mountain biking is causing significant erosion of the trail. I don't see how this is sustainable over the long haul.

When mountain bikers stay off the trails when they are wet, there is very little issue. I have seen evidence of much more erosion from motorcycles. I imagine the same would be true for electric bikes, as they are heavier and can go faster.

Focus Groups Findings

The physical impacts of eMTBs on trails were relatively uncontested among focus group participants. Most participants felt that comments about eMTBs damaging trails were perception based, though a small minority did feel otherwise.

There was general consensus among the group that trails were seeing physical impacts due to an increased number of riders, regardless of type, but that this couldn't be specifically attributed to the introduction of eMTBs. Participants largely agreed that the increased weight or distance ridden on eMTBs was not going to make a noticeable difference, and that trail impacts (beyond natural wear and tear) came mostly from a lack of rider consideration for when to stay off trails. In terms of which type of rider was causing these trail impacts, most disagreed that it was caused by riders on eMTBs. Many focus group participants indicated that eMTB riders tend to be more seasoned riders, whose longevity in the sport make them more aware of trail etiquette. Such riders were therefore more likely to follow proper protocols to protect the trail, such as letting them dry out after a rainstorm or in the early season.

Focus group participants mostly agreed that more (physical impact trail) data is needed on the impacts of trails due to eMTBs. Many participants expressed that trail impact could be less by eMTBs in comparison to analog mountain bikes, because the riders use less force to get up hills. For example, one participant shared "if you have a steep incline where you have to stand up out of the saddle, analog bikes are going to put more force on the rear wheel."

Even though many participants could speak from their own experiences of noticing minimal impacts, there was nowhere concrete to point toward when it came to advocacy. For example, one participant shared "I know from my perspective

and from folks that are managers of lands, I would say that hard data is really what's needed and if there's some organization that could come up with some actual firm data, I think that would go a long way in dispelling this."

Communication and outreach were obvious solutions brought up in the focus groups for addressing a lack of understanding around trail impacts, but members noted that the data has to come first. One participant did share some research they had come across in their own search, from the International Mountain Bike Association (IMBA), which described impacts of Class 1 eMTBs on soil displacement and erosion to be comparable to that of mountain biking (The International Mountain Bicycling Association, 2015).

In the meantime, while more data is awaiting collection, one participant shared they felt that more communication about the amount of effort that goes into trail building and maintenance could be an important step to keep riders attentive to making responsible decisions for trail conditions.

Accessibility

Statewide Survey Results

In the question that asks, "Is there anything else you would like to add about eMTBs," there was a lot of support for eMTBs' contributions to accessibility in the sport. Participants noted both that people who had never been able to mountain bike because of a physical disability, or had to retire from the sport, now had an opportunity to continue to enjoy mountain bike trails. Some did note the financial barriers given the high cost of an eMTB, but overall, respondents who were in favor of eMTBs felt they contributed positively to inclusivity within the sport and the community at large.

Example Quotes:

- "Anything that helps people get out to recreate outdoors is a win. Someday I too may need the assistance and wouldn't want to miss out. Let's determine what actual extra damage is caused before we act."
- "E-bikes allow for a wide range of people to ride / keep riding and from what I've seen are a huge and important part of our community, club and trail work & builders"
- "They greatly increase accessibility for those with limited physical abilities and improve the inclusivity of the sport. I think the negative opinions about them stem largely from a lack of familiarity and understanding of how they work, along with people's own fears about the possibility of changes in their own physical capabilities in their lifetime. I don't think people really understand that eMTBs are not like dirt bikes! The cost prohibitive nature of them is another major barrier to their adoption."
- "Vermont should be at the forefront of making this widely accepted. Vermont is already known for its trails but making the trails more readily for accessible for all would be huge benefit to the community as a whole."

Muti-use Trails Intercept Survey Results

An equal number of respondents (38.5%) agreed and disagreed with the statement that electric assist bikes make mountain biking more accessible for them. This finding is in context of a relatively high number of respondents that reported trying an eMTB for a demo or for fun.



What is your perception of how <u>physically accessible</u> each of the following activities is? (Responses only from those that reported seeing that particular use)

	Very Inaccessible	Somewhat Inaccessible	Neutral	Somewhat Accessible	Very Accessible
Hiking, Running or Walking (High pace exercise)	1.8	12.7	10.9	18.2	56.4
Hiking or Walking (Low pace exercise, wildlife viewing, foraging, etc.)	1.8	5.5	16.4	20.0	56.4
Human-only powered Mountain Biking	5.5	5.5	10.9	32.7	45.5
Electric Assist mountain biking	4.3	10.6	17.0	21.3	46.8
Horse Riding	12.1	21.2	24.2	15.2	27.3
4 Wheel, Dirt Bike	4.2	16.7	16.7	29.2	33.3

Do you have any specific comments about accessibility of activities?

I like the idea of opening trails up for adaptive equipment but don't know if it can accommodate that width given all the rocks and trees.

I'm not completely sure what this question is asking. The trails are challenging if you have stability issues or bad knees or are new to mountain biking. The trails are really for light hiking.

I'm not sure what you are asking. If I had disabilities, none would be accessible. If you are asking about signs and parking, they are great. If you are asking if I know if horses and electric bikes are allowed, I don't know

somewhat accessible for most because of limited parking areas, but inaccessible for ebikes because there is no clear definition of access

The essence of this location is a natural forest trail. Unfortunately, that doesn't make it somewhat accessible to people who have mobility issues. Well, I think there is room for looking at a small section of trail that could be made more accessible, I do not think that they should be looked at for the entire network.

As I get older, I want to keep on my biking. I'm 66

I would like to use an electric assist bike to make mtn biking easier on my body. I have asthma and a couple other chronic illnesses. Over the years mtn biking is increasingly difficult but it brings great joy. E assist bike allows me to continue to enjoy this sport and explore more places.

Focus Groups Findings

The accessibility question was the one that elicited the strongest push back among all the focus group questions. Participants were quick to answer that they don't think there is any reason to restrict e-bike access to only those who require an adaptive option. Multiple reasons were given for this by participants. First, participants noted the enforcement piece, that it wasn't practical to expect usage of eMTBs by only those with special status to be able to be monitored. Second, many participants noted privacy concerns, and that it feels like a "violation" to have to procure a doctor's note proving the necessity of an eMTB. One participant even discussed a negative interaction he had with his doctor when he tried to get a note for an eMTB: "my cardiologist actually refused to give me a note, he said 'stop riding a mountain bike.' Finally, participants noted that requiring proof of physical disability didn't fit within the inclusivity goals of mountain biking in Vermont. They note that other trail networks have been faced with challenging circumstances that have forced them to make a decision to require proof of disability.

When asked about having eMTB only trails, participants also provided negative responses. Participants noted that riders often switch to eMTBs so they can continue to ride at the pace of their friends or family members who may be younger or more able-bodied. By designating eMTB to only specific trails, it again excludes the eMTB rider from being able to participate in the group.

General eMTB Perceptions

Statewide Survey Results

There was sentiment from some respondents that eMTBs were disruptive to the essence of the sport. Some of this concern seemed to come from a misunderstanding of what Class 1 eMTBs were, and others wanted the sport to not move away from its original form.

Example Quotes:

- "They erode the purpose and simplicity of the sport. E-bikes are nothing more than electric dirt bikes. Mountain biking should be EARNED via pedal/human power, and e-bikes count as a cheat code (and should be banned on their entirety; both on-road and MTB use). "
- "eMTBs are not mountain bikes. They are motor-powered and motor driven. That is NOT mountain biking."
- "Landowners may not allow eMTBs on their properties"

Muti-use Trails Intercept Survey Results

The intercept survey received no comments equating eMTBs with other motorized vehicles, and no comments describing eMTBs as disruptive to the sport of mountain biking in general.

Focus Groups Findings

How do you think property owners might feel about allowing ebikes on properties?

Participants did describe concern that some property-owners might perceive eMTBs as similar to other types of motorized vehicles. Some property owners that allow mountain bike trails may not have any knowledge of mountain biking at all- making it easier for this type of misperception to occur.

• "One of our private landowners asked me about renewing our landowner agreement and they wanted to know about these electric bikes and were very uneducated, they spend no time in the woods. They're not hikers, they're not mountain bikers. They're actually a golfer, so you know, it's really hard to explain what a Class 1E mountain bike is to people like that."

Participants also described the use of conserved lands where the development of mountain bike trails is part of the agreement to maintain conservation easements, but where language in these easements may already be in place that directly limits or could be interpreted as limiting to eMTBs. Many of these legal agreements would have been put in place well before eMTBs were in existence.

• "You know, a lot of a lot of these easements were written before ebikes were even invented. ...it's not just the landowner that may have issues. The landowner could actually want E bikes on the property, but there could be additional legal interests that are involved that."

How do we address the conceptualization of eMTBs as being the same as motorized vehicles?

Participants described several ways to address the misconceptions around eMTBs with landowners and the greater mountain bike community in general. These suggestions aptly identified who could be engaging directly in these conversations, including grassroots individual interactions, local bike clubs and bike shops.

Example Quotes:

- "I just would like to add that I think one of the educational opportunities that could present itself would be through local bike shops.... So I just like to put that out there that you know our local bike shops are wonderful partners... I think that that's a great educational opportunity."
- "I've taken the role of it being an ambassador as far as e-bikes are concerned, wherever I ride and whenever there's a group of people stopped at some place, I stop and engage in conversation to see if well, first of all, I asked them outright. What do you think of ebikes?"

References

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