



# people**for**bikes

## **Summary Report: Vermont eMTB Pilot Project Study on Perceptions + Attitudes**

### **BACKGROUND**

In 2022, the Center for Rural Studies (CRS) at the University of Vermont, in collaboration with national advocacy organization PeopleForBikes and local mountain bike and multi-use trail organization Fellowship of the Wheel (FOTW), conducted a pilot study on the use of Class 1 pedal-assist electric mountain bikes (eMTBs) on natural surface singletrack trails on public land in Vermont. The goal of the pilot was to study and develop knowledge around:

- Perceived impacts of Class 1 eMTBs on physical trail conditions compared to traditional mountain bikes
- Potential trail user impacts related to the introduction of eMTBs on non-motorized, multi-use trails
- Considerations for initiating education outreach opportunities around eMTBs
- Diversity and inclusion implications

Class 1 eMTBs, categorized as mountain bikes that are pedal-assist only, have no throttle, and have a maximum assisted speed of 20 mph, are growing in popularity on mountain bike trails across the United States. While some trail networks have begun to set policies around Class 1 eMTB usage, the direction of future policies around eMTBs remains largely undetermined. This study was introduced to gather more information to understand perspectives around the introduction of eMTBs to mountain bike trails in Vermont.

### **METHODOLOGY + SURVEY INSTRUMENTS**

CRS used three different survey and data collection tools to conduct their research on user perceptions and eMTBs. First, it conducted an online, statewide eMTB attitudes survey designed to inform and compliment the development of the local multi-use trail system intercept study and 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, with a total of 271 responses.

During the trail season, a local multi-use trail network intercept survey was conducted by researchers from CRS and staff from FOTW to collect user intercept data at local multi-use trail network trailheads, with a total of 67 responses.

Finally, four stakeholder focus groups were held to develop a deeper understanding of the perceptions of eMTBs on Vermont trails. Themes generated from the preliminary statewide survey and local multi-use trails intercept survey were the subject of review and discussion

during the focus group sessions. Participants were asked if the emergent themes identified through the surveys were based more on reality or perception and asked to provide ways to address any negative themes, whether they were considered to be based on lived experience or perceived threat. Each focus group lasted approximately 60-75 minutes and included between 2-13 participants.

## **KEY FINDINGS**

The 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 the number of users. Key findings include:

- The statewide online survey respondents generally expressed more negative perceptions than intercept survey and focus group participants. This could be due to the general “keyboard warrior” or “disinhibition effect” trends documented with online-only responses.
- **TRAIL ETIQUETTE:** Respondents to the intercept survey described the trail etiquette of eMTB riders as generally positive, though less positively than traditional mountain bike riders.
- **OVERCROWDING:** Respondents to the statewide survey also expressed concerns over increased crowding due to eMTB usage. However, focus group discussions noted increased usership generally, outside specifically eMTB use, and noted positive aspects of growth of the sport.
- **SAFETY:** 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 introduction 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.
- **TRAIL IMPACTS:** Both statewide and intercept survey results highlighted rider concerns on 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 the physical trail impacts of eMTBs.
- **ACCESSIBILITY:** Intercept survey participants neither agreed nor disagreed that eMTBs make 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 is needed to understand the prevalence of this viewpoint and ways to mediate social conflicts.

## **RECOMMENDATIONS FROM CRS**

- Education and communication can be an effective first-line strategy for increasing understanding of what Class 1 pedal-assist eMTBs are and dispelling misperceptions. This can be accomplished through local mountain bike organizations, bike shops, land managers, and direct interactions at trail systems.
- Landowners should be engaged by bike organizations with which they have agreements to understand knowledge about eMTBs. When relevant, conservation easements and other legal contracts must be reviewed in cases where they were written before eMTBs existed.
- 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 riding eMTBs on natural surface 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 traditional riders, and how this compares to general trail usership increases.
- More research is needed to understand who rides eMTBs, particularly:
  - Whether eMTB riders are new to the sport entirely or transitioned from traditional riding
  - Demographics of riders
  - Renters vs. owners of eMTBs

## **COMBINED RESEARCH FINDINGS**

### **Trail Etiquette**

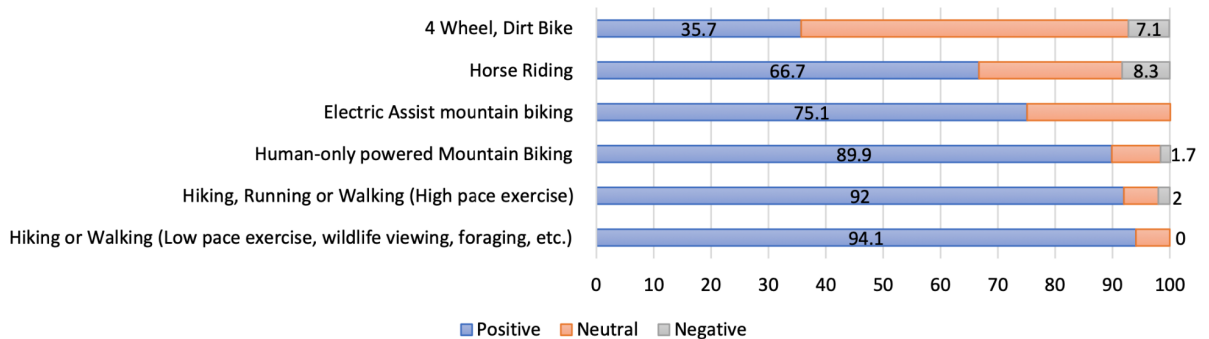
#### *Statewide Survey Results:*

Responses related to social conflicts were variable; some commented on frustrations about seeing eMTBs on the trails while others pointed out it is the behavior of the individual rider and not the bike that determines user conflicts.

#### *Multi-Use Trails Intercept Survey Results:*

Low-pace walking/hiking was rated highest for trail etiquette among all trail-use types (94% positive experience), while 75% of respondents rated experiences with e-assist mountain bikers as positive. Motorized users and horse riders received the least positive responses, with only 35.7% and 66.7%, respectively, of respondents rating their experience with these user groups as positive.

## Trail Etiquette Experience by Use Type



### *Focus Group Findings:*

Focus group participants tended to comment on biking generally (including traditional and eMTB) when discussing trail etiquette, sharing the sentiment with survey takers that it is the rider and not the bike. 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 eMTBs.

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

## **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 due to the growth of mountain biking during the COVID-19 pandemic. However, aside from parking overflow, most of the concerns about overcrowding are related to stress put on the trails rather than riders.

### *Multi-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 Group Findings:*

Similar to above, focus group comments related to biking overall, instead of being specific to eMTBs. There was a general sentiment of "we don't know" when it came to how eMTBs will impact crowding on trails. From participants who shared their perspective on crowding on bike trails, two themes emerged:

- The first is that mountain biking (traditional and electric) is experiencing 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. 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 was whether or not the 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 infrastructure to support it.

The comments received suggest that increased ridership is not only in line with the value of inclusivity in the sport but also 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 in these activities.

## **Safety**

### *Statewide Survey Results:*

Qualitative comments on the preliminary survey indicated 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 of the perception that 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 they are not yet 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.

### *Multi-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.

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 use.

	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 than human powered mountain biking	0.0	16.7	58.3	16.7	8.3

*Focus Group Findings:*

Focus group participants did not express significant safety concerns around riding eMTBs. 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 currently ride them tend to be older and use them for riding longevity instead of ease of speed. Others also added that on downhills, when you are not using the pedal-assist, eMTBs are not any faster than traditional mountain bikes.

Most safety concerns that arose from eMTB discussions were around 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 to deeper parts of trail networks, 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 (i.e., avalanche terrain, exposed rocks) 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.”

**Physical Trail Impacts**

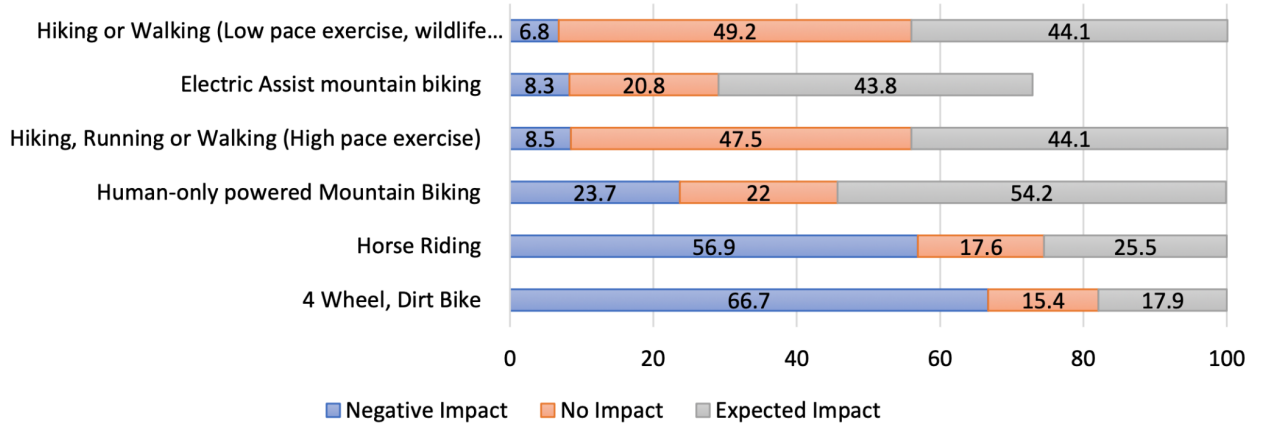
*Statewide Survey Results:*

Damage to trails was another frequent comment. Some participants felt confident that eMTBs didn’t damage trails more than traditional mountain bikes 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.

*Multi-Use Trails Intercept Survey Results:*

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

Perceived Trail Impact by Use



*Focus Group 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 it 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 makes 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.

**Accessibility**

*Statewide Survey Results:*

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 enjoying mountain bike trails. Some did note financial barriers given the high cost of eMTBs, but overall, respondents in favor of eMTBs felt they contributed positively to inclusivity within the sport and the community at large.

*Multi-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. This finding is in the 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 physically accessible 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

*Focus Group Findings:*

The question on accessibility elicited the strongest pushback among all 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.

- First, participants noted enforcement and 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 require a doctor's note proving the necessity of an eMTB.
- Finally, participants noted that requiring proof of physical disability didn't fit within the inclusivity goals of mountain biking in Vermont. They noted that other trail networks have been faced with challenging circumstances that forced them to make a decision on requiring 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 eMTBs to only specific trails, it again excludes eMTB riders from being able to participate in a group.

**General eMTB Perceptions**

*Statewide Survey Results:*

There was a 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, while others wanted the sport to not move away from its original form.



*Multi-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:*

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 misperception to occur.

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

*For a copy of the full Vermont Pilot Project study and final report prepared by the University of Vermont Center for Rural Studies, please contact Rachel Fussell at [rachel@peopleforbikes.org](mailto:rachel@peopleforbikes.org).*