



Midpeninsula Regional
Open Space District

R-19-155
Meeting 19-29
November 20, 2019

AGENDA ITEM 5

AGENDA ITEM

Electric Bicycle Policy

GENERAL MANAGER'S RECOMMENDATIONS

Review and provide feedback on options related to electric bicycle use on Midpeninsula Regional Open Space District lands and select one or more of the following options for further consideration and environmental review.

1. Limit class 1 and 2 electric bicycles to designated paved trails and roadways.
2. Allow class 1 electric bicycles on all paved and unpaved trails and roadways that allow bicycles and limit class 2 electric bicycles to designated paved trails and roadways.
3. Allow class 1 and 2 electric bicycles on all paved and unpaved trails and roadways that allow bicycles.

The General Manager would return at a later date with environmental review findings for the Board of Directors to make a final decision and if required, a change to the District Land Use Regulations.

SUMMARY

Over the last few years, sales of electric bicycles have grown steadily across the country. Electric bicycles include both electric road bicycles and electric mountain bicycles. The Midpeninsula Regional Open Space District (District) currently prohibits the use of electric bicycles unless they function as an Other Power-Driven Mobility Device (OPDMD) for a person with a mobility disability. Local advocacy groups have reached out to land managers to promote the technology, benefits, and compatible use of electric bicycles. The District has seen an increase in requests from the public to allow electric bicycle use. The General Manager recommends reviewing the potential options for allowing electric bicycles and selecting one or more options to analyze the potential environmental impacts under the California Environmental Quality Act and to conduct any additional research, as directed by the Board, for further consideration at a later date.

BACKGROUND

When electric bicycles (e-bikes) were introduced, most municipal and regional park and open space agencies, including the District and Federal land management agencies (i.e. National Park System, National Wildlife Refuge System, Bureau of Land Management) categorized them as motorized vehicles and prohibited them on trails along with traditional motorized vehicles and devices like scooters and motorcycles.

In 2014, the Board updated its Land Use Regulations (R-14-06), which included the enactment of Section 409.9, prohibiting the possession or use of e-bikes on trails unless the trail was designated for such use. Currently there are no trails or locations designated for e-bike use on District lands. However, under the District's Other Power-Driven Mobility Devices (OPDMD) policy and consistent with the Americans with Disabilities Act (ADA), e-bikes are authorized for persons with a mobility disability where bicycles are allowed, including narrow-width unpaved trails.

In recent years, e-bike advocates have worked with manufacturers and land managers to improve relations and general acceptance of e-bikes. The American e-bike manufacturers led a successful effort to create three categories of e-bikes, including electric mountain bikes (eMTBs). This classification system was accepted by all manufacturers and has been adopted by 22 states, including California in 2016, when this classification system was incorporated into the California Vehicle Code (CVC). This classification system places strict requirements on e-bike design and capabilities along with a distinction between an electric bicycle and motorized bicycles/mopeds. These new laws prompted many local agencies to revisit and revise their policies for e-bike use on bike paths and trails, as they are no longer categorized as motorized vehicles.

District Board Policy 4.07 – Trail Use prohibits the use of motorized vehicles and sets guidelines for designating trails appropriate for bicycle use. It also sets a guideline target use designation of 60% to 65% multi use trails (including bicycles). Of the 244 miles of trails open to the public, 157 miles (64%) are open to bicycles. While the District does not currently allow e-bikes, there is no signage specifically prohibiting e-bike use on preserves. The prohibition of e-bikes is listed on the District website.

DISCUSSION

In response to an increase in questions and calls from preserve visitors and trail patrollers about e-bike use, and in recognition of the growing popularity and sale of e-bikes, a 2018 District Leadership Academy group researched and analyzed District and peer agency e-bike policies and experiences. The findings of this analysis reflect an opportunity for the Board to reassess the District's e-bike policy. The most recent Board review of the District Land Use Regulations occurred in 2014, when a clarification in the language was included regarding the prohibition of motorized devices. Subsequently in 2016, the State of California adopted a new classification system that no longer categorizes e-bikes as a motorized device. Given this change, and the recognition that e-bikes appeal to a growing demographic with physical limitations and represent an opportunity to reduce emissions along bicycle commute routes, many agencies like the District are reviewing their e-bike policy.

E-Bike Description

Section 312.5 of the California Vehicle Code (CVC) defines an e-bike as having fully operable pedals and an electric motor of less than 750 watts. American e-bike manufacturers created a classification system that designates three categories of e-bikes: class 1, class 2, and class 3. This classification system and model legislation has been adopted by 22 states, including California. (see Attachment 1). Below are descriptions for each class of e-bike.

- Class 1 electric bicycle: a “low speed pedal-assisted bicycle” with an electric motor that provides assistance only when the rider is pedaling, up to 20 mph.

- Class 2 electric bicycle: a “low speed throttle-assisted bicycle” that may be propelled exclusively with an electric motor (without pedaling) up to 20 mph.
- Class 3 electric bicycle: a “speed pedal-assisted electric bicycle” with an electric motor that provides assistance only when the rider is pedaling, up to 28 mph.

CVC section 21207.5 (b) prohibits the use of class 3 e-bikes on recreational trails and paths unless the public agency with jurisdiction chooses to permit them and provides that a public agency may prohibit class 1 and 2 e-bikes on trails within the agency’s jurisdiction.

Electric Mountain Bike (eMTB) Description

Many bicycle manufacturers make e-bikes, but not all make a electric mountain bikes or the eMTB version. An eMTB is functionally different from an e-bike (which is intended primarily for use on paved or improved surfaces) in that an eMTB is designed for the rigors of trail use. Typically outfitted with mountain-bike-specific technology, such as disc brakes, suspension, and a wide gear range, eMTBs like all e-bikes are electric-powered (not gas-powered), quiet, and emissions-free. Most eMTBs from major manufacturers are also categorized as class 1 electric bikes.

Sales Trends and User Profile

Sales of eMTBs has grown steadily over the last few years, particularly in Europe. In general, the overall e-bike category in the U.S. has grown about 450% since 2013, with year-over-year growth averaging around 50%.¹ Sales data reflect that most e-bikes sold are in the class 1 category. The only difference between class 1 and class 2 is that with a class 2, the electric motor can be used exclusively to power the bicycle using a throttle; in other words, pedaling is not required.

Over the last couple of years, inquiries from the public and staff regarding District policy on e-bikes, and more specifically eMTBs, have increased. Most of the people contacting the District are local riders transitioning from a regular mountain bike to an eMTB due to age or physical limitations and are looking for opportunities to extend their enjoyment for riding on District preserves. Advocates, such as PeopleForBikes, promote that e-bikes and eMTBs are designed to be as safe as traditional bikes, do not compromise consumer safety, and benefit bicyclists who may be discouraged from riding a traditional bicycle due to limited physical fitness, age, disability, or convenience.

Regional Policies and Feedback from Peer Agency Survey

As with any type of interruptive technology, the increase in e-bike use has not come without controversy and debate among public land managers, trail users, and eMTB advocates. Locally, there is mixed support and varying restrictions on its use. Many restrictions have not been updated since the CVC updated the definition of e-bikes and are based on laws and definitions of

¹ People for Bikes, eMTB Land Manager Handbook

motorized vehicles or devices. Personal perceptions and philosophical objections are another basis for restricting e-bikes.

Thirteen local and regional park agencies were surveyed by the Leadership Academy group in 2018, including California State Parks; Cities of East Palo Alto, Palo Alto, Menlo Park, and San Jose; Counties of Santa Clara, Marin, and Sonoma; East Bay Regional Parks District; Marin Municipal Water District; Santa Clara Valley Open Space Authority; and Soquel Demonstration Forest (CalFire) on their policies and experiences with e-bikes. (see Attachment 2). Many of the agencies are currently reviewing their policies or have recently amended them.

- Eight of the agencies allow e-bikes on paved roadways and paths, while four do not. (Option 1).
- All agencies treat class 1 and class 2 e-bikes the same (Option 2).
- Four agencies (Santa Clara and San Mateo County Parks, State Parks and Santa Clara Open Space Authority) allow them on unpaved roads, trails and paths, while eight agencies do not (Option 3).

Survey results from peer agencies related to e-bike use are summarized below.

Top Three Concerns:

1. Trail User Experiences / Potential User Conflicts
 - Although there is a perceived conflict where e-bikes are allowed, very few complaints have been received by other user groups.
 - Biggest issue reported is the exceedance of speed limits (this is also a common complaint with non-electric MTB use in general)
 - There appears to be a disconnect between perceptions and reality of e-bike use.
 - E-bike usage has been minimal to date.
2. Potential for Trail Condition Impacts
 - Although peer agencies raised concerns about potential trail condition impacts (different wear patterns and soil displacement because e-bikes are heavier), no increase in trail maintenance was reported and few trail condition issues were noted.
 - Biggest issue reported: illegal trails (also a common complaint with MTB in general).
3. Potential for Natural Resource Impacts
 - Although peer agencies raised concerns about the potential for natural resource impacts, no specific issues were reported.
 - No formal studies have been completed to date.

Reasons cited for policies that do not allow e-bikes:

- Unknown Environmental Impacts
- Non-compatible use
- Classified by local ordinance or policy as motorized devices
- Increased need for emergency medical response
- Concern about batteries sparking a fire
- Concerns raised by organizations and communities

Benefits of allowing e-bike use

- Accessibility (e.g. a majority of e-bike users at EBRPD are over 50 years old)
- Adapt to evolving technologies and ways of enjoying open space
- Increasing level of public interest and use
- E-bikes are generally accepted and go unnoticed after use is allowed
- May allow more people to bike to preserves
- Consistency with neighboring land management agencies

E-bike Use on Federal Lands - National Park System (NPS), National Wildlife Refuge System (NWRS), Bureau of Land Management (BLM)

On August 29, 2019 the Secretary of the Interior issued executive order #3376, directing all federal land management agencies to revise their rules and regulations to allow e-bikes where other types of bicycles are allowed (see Attachment 3). The overarching purpose behind this order was to “increase recreational opportunities for all Americans, especially those with physical limitations and to encourage the enjoyment of lands and waters managed by the Department of Interior” and to “simplify and unify regulation of e-bikes on federal lands managed by the Department.”

Department of Interior land management agencies were given a 30-day timeframe to submit a summary of policy changes in response to the order and a timeline to seek public comment. All Department Directors have complied with the directive and have issued orders establishing policy changes allowing e-bikes where traditional bicycles have been allowed and prohibited them in other locations.

Perception vs Reality

A perception of negative trail impacts related to ebike use was cited by some land managers as a concern. In 2015, the International Mountain Bicycling Association (IMBA) conducted a study designed to compare the relative levels of soil displacement and erosion between traditional mountain bicycles, electric mountain bicycles (eMTBs), and traditional off-road motorcycles. Results show that soil displacement and tread disturbance from class 1 eMTB and traditional mountain bicycles were not significantly different (statistically) and are much less compared to a gasoline-powered motorcycle use (see Attachment 4).

Many visitors with a negative perception of eMTBs tend to think of them more like a motorcycle than a bicycle. Two separate intercept studies conducted in 2017 in Colorado by Jefferson County Colorado Open Space and PeopleForBikes/Bicycle Product Suppliers Association reported similar findings regarding perceptions. Most people who demo-ed an eMTB reported a positive experience and their perceptions of eMTBs changed for the better (see Attachments 5 and 6). However, the PeopleforBikes study also noted that many of those who demo-ed an eMTB believe that eMTBs, because of their motor, belong on motorized trails.

FISCAL IMPACT

The FY19-20 adopted budget includes sufficient funds in the Visitor Services operating budget to cover the onetime costs related to replacing or updating signs if the Board chooses option 3. Options 1 and 2 are not anticipated to incur costs other than staff time to update District information and change the Land Use Regulations. No new signage would be required.

BOARD COMMITTEE REVIEW

This item was not previously reviewed by a Board Committee.

PUBLIC NOTICE

Public notice was provided as required by the Brown Act.

CEQA COMPLIANCE

District staff will conduct CEQA review to evaluate the potential environmental impacts, if any, of the option(s) selected by the Board that merit further consideration and evaluation.

NEXT STEPS

District staff will conduct CEQA review of the selected Board option(s) and any additional research, as directed by the Board. The findings and any additional information will be presented to the Board at a later date for a final decision. Depending on the final decision, changes to the District Land Use Regulations and/or signage may be required.

Attachments

1. California's E-Bike Law
2. Table of Peer Agencies Policies
3. Secretary of the Interior Order No. 3376 - Electric Bikes
4. IMBA e-bike Environmental Impact Study
5. Jefferson County Co. Open Space Survey
6. PeopleforBikes eMTB Intercept Survey
7. Written Public Comments submitted prior to noon on November 14, 2019

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LAW ENFORCEMENT INFORMATION MEMO
MEMO: 16-02
SUBJECT: NEW LAWS CONCERNING ELECTRIC BICYCLES
Memo Date: February 10, 2016

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Purpose

To provide information to law enforcement regarding new laws establishing three classes of electric bicycles and changes in the definition of a motorized bicycle.

Background

Prior law defined a motorized bicycle or moped as a two or three-wheeled device with pedals, or powered solely by electrical energy, and an automatic transmission and a motor that is capable of reaching a maximum speed of 30 miles per hour (MPH).

New Information

Effective January 1, 2016, Assembly Bill 1096 makes the following changes to the **California Vehicle Code**:

§312.5 defines an electric bicycle as having fully operable pedals and an electric motor of less than 750 watts. Class 1 electric bicycles are assisted by a motor-pedal device; class 2 bicycles have a throttle-assist device. Neither shall be capable of providing assistance once the bicycle reaches the speed of 20 MPH. The class 3 electric bicycle has a motor-pedal device that shall cease to provide assistance when it reaches 28 MPH and will have a speedometer.

§406 defines a motorized bicycle or moped as a two or three wheeled device with fully operative pedals for human propulsion, or having no pedals if powered solely by electrical energy, with an automatic transmission and a motor producing less than four gross brake horsepower that is incapable of exceeding 30 MPH.

§12804.9 excludes all classes of electric bicycles described in California Vehicle Code §312.5 from being defined as a Class M2 vehicle.

§21113(f) allows a transit development board to adopt ordinances to restrict or specify the use of electric bicycles on property controlled by or used by the board.

§21113(g) allows a public agency, such as the Regents of the University of California and the Trustees of the California State University, to adopt rules to restrict or specify the conditions for the use of electric bicycles on public property under the jurisdiction of that agency.

§21207.5 prohibits the use of class 3 electric bicycles on a bicycle path or trail, bikeway, bicycle lane, equestrian trail, or hiking or recreational trail, unless it is within or adjacent to a roadway or unless the local authority or governing body of a public agency having jurisdiction over the trail permits. In addition, a local authority or governing body of a public agency having jurisdiction over a trail described above may prohibit class 1 and 2 electric bicycles on that trail.

**New
Information
(Cont.)**

§21213 prohibits a person less than 16 years of age from operating a class 3 electric bicycle. A person shall not operate a class 3 electric bicycle or ride as a passenger upon a street, bikeway, bicycle path or trail, unless that person is wearing a properly fitted, fastened, and approved bicycle helmet, which further applies to a passenger while in a restraining seat or trailer attached to the bicycle.

§24016 requires electric bicycles to meet the following criteria:

- Comply with equipment and manufacturing requirements adopted by the United States Consumer Product Safety Commission.
- The electric motor must disengage or cease to function when the brakes are applied.

Additionally, operators are subject to the following criteria:

- A person operating an electrical bicycle is not subject to financial responsibility, driver license, registration, and license plate requirements.
- A person shall not tamper with or modify an electric bicycle to change the speed capability unless the person appropriately replaces the manufacturer label indicating the classification change.

Contact

Questions regarding the information contained in this memo or changes to the e-mail distribution list may be directed to the Justice and Government Liaison Branch at (916) 657-7732 or via e-mail at jaglaw@dmv.ca.gov.



RICO RUBIONO, Deputy Director
Communication Programs Division

Attachment No. 2

Regional Policies

Thirteen local and regional, park agencies were surveyed including California State Parks, Cities of East Palo Alto, Palo Alto, Menlo Park, and San Jose. Counties of Santa Clara, Marin, Sonoma. East Bay Regional Parks District, Marin Municipal Water District, Santa Clara Valley Open Space Authority, Soquel Demonstration Forest (CalFire).

Eight of the agencies allow ebikes on paved roadways and paths, four do not. Four agencies allow them on natural roads, trails and paths, eight do not. One agency is in the process of allowing class 1 and 2 on paved surfaces and considering class 1 and 2 for unpaved trails.

Agency	Allow on Paved Trails	Allow on Unpaved Trails	Comments
California State Parks*	Yes	Yes	Class 1 and 2 only where bikes are permitted. Individual units can have different rules.
City of East Palo Alto*	No	No	They are in the process of amending their municipal code to allow e-bikes on paved bicycle paths which includes a section of the Bay Trail south of Bay Rd which is managed by the City of Palo Alto.
City of Palo Alto*	No	No	Currently only allow e-bikes under ADA but will consider amending ordinance to be consistent with neighboring agencies for Bay Trail management.
City of Menlo Park*	Yes	No	Allows all classes of e-bikes on paved trails, including Bay Trail.
City of San Jose	Yes	No	Class 1 and 2 only where bikes are permitted
East Bay Regional Parks District	Yes	No	Allows all classes of e-bikes on selected paved trails only.
Marin County Parks and Open Space			Policy being revised to allow class 1 and 2 e-bikes on paved bicycle and multi-use pathways. Class 3 allowed only on roadways and parking lots. Considering study to allow class 1 and 2 on unpaved trails.

Marin Municipal Water District	No	No	Have formed a citizens advisory committee to provide a citizen perspective on the potential usage of e-bikes on MMWD's watershed lands.
San Mateo County Parks *	Yes	Yes	Class 1 and 2 only where bikes are allowed. However, allowed bicycle use is limited.
Santa Clara County Parks*	Yes	Yes	Class 1 and 2 only where bikes are permitted, paved and unpaved.
Santa Clara Valley OSA *	Yes	Yes	No formal policy for or against, do not see a lot of them. Gathering more info to make policy recommendation. Considering class 1, possibly 2. No class 3.
Sonoma County Parks	Yes	No	Class 1 and 2 only where bikes are permitted
Soquel State Demonstration Forest (CalFire)	No	No	Does not allow e-bikes.

* These agencies manage lands with local and regional trail connections to District lands

Attachment No. 3

THE SECRETARY OF THE INTERIOR
WASHINGTON



ORDER NO. 3376

Subject: Increasing Recreational Opportunities through the use of Electric Bikes

Sec. 1 Purpose. This Order is intended to increase recreational opportunities for all Americans, especially those with physical limitations, and to encourage the enjoyment of lands and waters managed by the Department of the Interior (Department). This Order simplifies and unifies regulation of electric bicycles (e-bikes) on Federal lands managed by the Department and also decreases regulatory burden.

Sec. 2 Authorities. This Order is issued under the authority of section 2 of Reorganization Plan No. 3 of 1950 (64 Stat. 1262), as amended, as well as other relevant statutes.

Sec. 3 Background. Bicycling is an excellent way for visitors to Federal lands to experience America's rich natural heritage. Bicycling has been popular in America since the early nineteenth century. Since then, innovation in the design and production of bicycles has dramatically increased mechanical efficiency, opening bicycling to a greater number of people in a larger number of environmental and geographical conditions.

A relatively recent addition to the design of some bicycles is a small electric motor which can provide an electric power assist to the operation of the bicycle. Reducing the physical demand to operate a bicycle has expanded access to recreational opportunities, particularly to those with limitations stemming from age, illness, disability or fitness, especially in more challenging environments, such as high altitudes or hilly terrain.

While e-bikes are operable in the same manner as other types of bicycles and in many cases they appear virtually indistinguishable from other types of bicycles, the addition of a small motor has caused regulatory uncertainty regarding whether e-bikes should be treated in the same manner as other types of bicycles or, alternatively, considered to be motor vehicles. This uncertainty must be clarified. To resolve this uncertainty the Consumer Product Safety Act (Act) provides useful guidance. That Act defines a "low-speed electric bicycle" to include a "two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 mph", subjecting these low-speed e-bikes to the same consumer product regulations as other types of bicycles (15 U.S.C. § 2085). A majority of States have essentially followed this definition in some form.

Uncertainty about the regulatory status of e-bikes has led the Federal land management agencies to impose restrictive access policies treating e-bikes as motor vehicles, often inconsistent with State and local regulations for adjacent areas. The possibility that in some cases e-bikes can be propelled solely through power provided by the electric motor, a function often used in short duration by older

or disabled riders as an assist, has contributed to confusion about e-bike classification. Further, Federal regulation has not been consistent across the Department and has served to decrease access to Federally owned lands by e-bike riders.

Sec. 4 Policy. Consistent with governing laws and regulations:

a) For the purpose of this Order, “e-bikes” shall mean “low-speed electric bicycle” as defined by 15 U.S.C. § 2085 and falling within one of the following classifications:

i) “Class 1 electric bicycle” shall mean 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 20 miles per hour;

ii) “Class 2 electric bicycle” shall mean 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 20 miles per hour; and

iii) “Class 3 electric bicycle” shall mean 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 28 miles per hour.

b) E-bikes shall be allowed where other types of bicycles are allowed; and

c) E-bikes shall not be allowed where other types of bicycles are prohibited.

Sec. 5 Implementation. I direct the Assistant Secretaries for Fish and Wildlife and Parks, Land and Minerals Management, and Water and Science, as appropriate, to do the following:

a) Within 14 days of the date of this Order, unless otherwise prohibited by law or regulation:

i) To the extent existing regulations allow, adopt a Bureau/Service-wide policy that conforms to the policy set forth in Sec. 4 of this Order;

ii) Amend or rescind any prior written policies as appropriate;

iii) Instruct the Director, Fish and Wildlife Service (FWS) to develop a proposed rule to revise 50 CFR § 25.12 and any associated regulations to be consistent with this Order, add a definition for e-bikes consistent with 15 U.S.C. § 2085, and expressly exempt all e-bikes as defined in Sec. 4a from falling under the definition of off-road vehicle;

iv) Instruct the Director, National Park Service (NPS) to develop a proposed rule to revise 36 CFR § 1.4 and any associated regulations to be consistent with this Order, add a definition for e-bikes consistent with 15 U.S.C. § 2085, and expressly exempt all e-bikes as defined in Sec. 4a from the definition of motor vehicles;

v) Instruct the Director, Bureau of Land Management (BLM) to develop a proposed rule to revise 43 CFR § 8340.0-5 and any associated regulations to be consistent with this Order, add a definition for e-bikes consistent with 15 U.S.C. § 2085, and expressly exempt all e-bikes as defined in Sec. 4a from the definition of off-road vehicles or motorized vehicles; and

vi) Instruct the Commissioner, Bureau of Reclamation (BOR) to develop a proposed rule to revise 43 CFR § 420.5 and any associated regulations to be consistent with this Order, add a definition for e-bikes consistent with 15 U.S.C. § 2085, and expressly exempt all e-bikes as defined in Sec. 4a from the definition of off-road vehicles.

- b) Within 30 days of the date of this Order, submit a report to the Secretary including:
- i) A summary of the policy changes enacted in response to this Order;
 - ii) A summary of any laws or regulations that prohibit the full adoption of the policy described by this Order; and
 - iii) A timeline to seek public comment on changing any regulation described above.

c) Within 30 days of the date of this Order, provide appropriate public guidance regarding the use of e-bikes on public lands within units of the National Park System, National Wildlife Refuge System, lands managed by BLM, and lands managed by BOR.

Sec. 6 Effect of the Order. This Order is intended to improve the internal management of the Department. This Order and any resulting reports or recommendations are not intended to, and do not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person. To the extent there is any inconsistency between the provisions of this Order and any Federal laws or regulations, the laws or regulations will control.

Sec. 7 Expiration Date. This Order is effective immediately. It will remain in effect until its provisions are implemented and completed, or until it is amended, superseded, or revoked.



Secretary of the Interior

Date: AUG 29 2019

A Comparison of Environmental Impacts from Mountain Bicycles, Class 1 Electric Mountain Bicycles, and Motorcycles: Soil Displacement and Erosion on Bike-Optimized Trails in a Western Oregon Forest



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Table of Contents

Abstract	3
Introduction	5
<i>What is an eMTB?</i>	5
<i>What's Needed</i>	6
<i>Where to Start</i>	6
<i>IMBA's Role in Studying eMTBs</i>	7
<i>Study Goals</i>	7
<i>Study Hypotheses</i>	7
Study Area	9
<i>Test Trail</i>	10
Study Methods	12
<i>Site Preparation</i>	12
<i>Controlled Variables</i>	12
<i>Cross-Sectional Area "CSA" Measurements</i>	13
<i>Condition Class Assessment ("CCA")</i>	14
<i>Data Analysis</i>	15
Study Results	16
<i>Change in Tread Surface</i>	16
<i>Class 1 eMTBs vs. Traditional Mountain Bicycles</i>	18
<i>ANOVA & Tukey HSD Test</i>	19
<i>Condition Class Assessment</i>	20
Discussion	21
<i>Study Limitations</i>	21
<i>Access Implications for Land Managers</i>	21
Conclusion	23
Appendix A: Throttle Test	24
<i>Throttle Observations: Mini Test</i>	Error! Bookmark not defined.
Appendix B: Literature Review	25
Literature Cited	27



Abstract

In the fall of 2015, under contract with the Bicycle Product Suppliers Association (BPSA), with counsel from a field of recreation management experts, and through a review of existing studies of erosional impacts from trail users, the International Mountain Bicycling Association (IMBA) conducted a scientifically controlled field study designed to measure relative levels of soil displacement and erosion resulting from traditional mountain bicycles, electric mountain bicycles (eMTBs), and traditional off-road motorcycles (i.e. dirt bikes). The observations were compiled in controlled environmental conditions, with each type of bike making multiple passes on separated sections of the same trail within a single test site.

IMBA developed these hypotheses for this small initial study:

- Soil displacement and erosion caused by mountain biking will be consistent with existing studies showing relatively low impact as with other types of non-motorized travel on this type trail (a bike-optimized trail also considered a sustainable trail) and this set of local conditions.
- Soil displacement and erosion from Class 1 eMTBs will likely fall somewhere between those caused by mountain bikes and motorcycles. It is expected that they will much more closely resemble those of mountain bikes.
- It is expected that Class 1 eMTBs may lead to greater soil displacement under certain conditions, such as through turns, including bermed turns; on ascents and descents; and where there are abrupt changes in trail conditions.

Results from the field experiment show that, under this set of conditions, soil displacement and tread disturbance from Class 1 eMTBs¹ and traditional mountain bikes were not significantly different, and both were much less than those associated with a gasoline-powered motorcycle.

Understanding the potential resource impacts of trail-based recreation is a necessary and important first step for formulating management strategies. This is especially important for new types of recreational pursuits, such as the fast emerging power-assisted vehicles like eMTBs. Additional research is needed to further assess the range of environmental and social impacts for successful eMTB use on public lands.

Mountain bicycling is a solely muscle-powered activity, and is thus regulated as a non-motorized use, along with hiking, trail running, and horseback riding. eMTBs are not entirely muscle-powered. IMBA recognizes that eMTBs, particularly Class 1 eMTBs, are substantially different from other motorized uses, and may warrant a separate category and new management strategies. IMBA does not have an advocacy interest in this Class 1 eMTB study, but is leading this study

¹ A “Class 1 electric bicycle,” or “low-speed pedal-assisted electric bicycle,” is a 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 20 miles per hour.



as a respected partner of land management agencies; to further knowledge about recreational trails; and to inform future discussions with members, chapters, land managers, the bike industry, and other user groups.



Introduction

The emergence of electric bicycles, commonly known as e-bikes, is a rapidly growing component of the bicycle market in the US (MacArthur and Kobel, 2014). As a transportation option, they represent an opportunity to reduce vehicle use and emissions, as well as the physical barriers to cycling. For use on trails, they present similar opportunities to reduce barriers to cycling but, as a new use, present new challenges for trail management.

While already popular in Europe, the use of eMTBs is on the rise in North America, and their increased presence is sparking controversy within the trail user community. Electric mountain bikes are generally defined as motorized vehicles for the purposes of trail use on federal lands, with states and municipalities expected to make their own decisions.

All trail users affect the trail surface and surrounding environment, especially when trails are poorly constructed. Those impacts range from vegetation loss to soil erosion, and related water quality problems. However, there is no evidence that traditional mountain bicycling causes greater environmental impact than other recreational trail uses. In fact, current research suggests that mountain bicycling impacts are similar to hiking, and less damaging than equestrian and motorized users.

There have been no studies of the environmental impacts of eMTBs specifically, but there exist numerous studies on the impacts of both mountain bicycles and off-road motorcycles, which provide a basis for developing research protocols. One could speculate that the impacts of eMTBs on trails would fall somewhere between the two modes, but this is a rather wide span, particularly regarding soil displacement under certain trail conditions, e.g., turn exits, steep grades, and/or non-cohesive soils.

The lack of existing data may contribute to poor trail management decisions that may either unnecessarily ban eMTBs from trails or allow them where their impacts will be disproportionate to their use. An understanding of how eMTBs affect the environment and trail management is needed so that land managers and the communities that support them can make informed access decisions.

The purpose of this study was not to decide whether eMTBs should be regulated as bicycles or motorcycles, or whether they are appropriate for shared-use on non-motorized trails. These decisions are for land managers to make in consultation with their recreation community. This report provides an understanding of some of physical impacts to trails associated with this use, and how these might differ from those associated with traditional mountain bicycles.

What is an eMTB?

A Class 1 eMTB is an e-bike that can be pedaled under human power alone as well as pedaled with the assistance of a battery-powered electric motor. eMTBs are capable of and primarily designed for off-road use, with wider, lugged tires, a sturdier frame, and front or dual suspension



systems. State traffic codes and regulations apply to transportation routes (e.g. streets and bike paths) only and have no bearing on recreational routes (e.g. singletrack trails), so it is up to land management agencies at each level of government to define their own rules and regulations regarding eMTB use.

The current definition of eMTBs defines them as motorized vehicles for the purposes of recreational trail use on federal lands, with states and municipalities looking to federal agencies for guidance. However, states and municipalities generally have greater flexibility in defining trail access than federal agencies.

What's Needed

An understanding of how eMTBs affect the environment and trail management is needed so that land managers and the communities that support them can make informed decisions about trail design, construction, and management. In order to achieve a better understanding of the impacts of eMTBs on the trail landscape, several factors need to be studied:

- Test Riding: Comparison of eMTBs alongside mountain bicycles and motorcycles helps understand how eMTBs perform and are used on trails, what the experience is, and how that might affect other trail users.
- Test Trails: It is likely that impacts to trails are somewhere between mountain bikes and motorcycles, but this is unknown. Test trails are needed to understand and measure the effects on trails directly and to the surrounding environment. Future efforts should focus on developing and testing eMTB-specific trails.
- Special considerations for trail design, construction, and maintenance
 - Grade, turns, jumps, and trail direction are some of the trail design and management characteristics that could be affected.
 - Weight: eMTBs are considerably heavier than mountain bicycles but as technologies improve, weight may become less and less of a factor and may ultimately be indistinguishable from regular mountain bicycles.
 - Ascending trails: eMTBs make ascending even very steep and technical trails easier. Power and ability to keep weight over rear wheel can help to maintain traction.
- How the trail experience is similar to and differs from mountain bicycling

Empirical study is the best way to understand the impacts and make reasonable assertions regarding environmental and social effects.

Where to Start

There are a host of potential environmental impacts to the landscape from any trail user, from soil erosion to the spread of invasive species and wildlife impacts. For this initial study, it was important to select a project suitable for the scope and that would provide meaningful initial data



for future studies. Soil displacement and erosion were selected as the best choice for this first small-scale study.

“Soil erosion is the single most important, managerially significant trail degradation indicator.” (Jewell & Hammitt, 2000)

IMBA’s Role in Studying eMTBs

IMBA has an interest in continuing to deliver best practices in trail construction and management. IMBA does not directly gain from this study. A cursory look at IMBA’s eMTB user survey, along with the comments on blog posts and magazine articles, suggests that IMBA risk the ire of a share of its members in engaging in this study.

While eMTBs are motorized, they most closely resemble traditional mountain bicycles and have the potential to impact mountain bicyclists more than other users. As such, IMBA has an obligation to provide information to land managers, its members, and trail communities in managing and creating experiences appropriate for this evolving use.

As the leader in trail design, construction, and management, IMBA possesses the requisite set of skills to provide technical assistance to study the effects of eMTBs on trails. Likewise, IMBA’s role in providing user management resources to land managers makes it imperative that IMBA take a leadership role in identifying conflicts and opportunities presented by the advent and evolution of eMTBs.

Study Goals

The goals of the study are to:

- Further IMBA’s overall knowledge base regarding trail design, trail construction, and environmental impacts related to mountain biking and other trail uses.
- Provide an objective analysis of the physical impacts of Class 1 eMTBs relative to traditional mountain bikes and traditional dirt bikes by measuring soil displacement after hundreds of passes on a controlled course.
- Gather information regarding possible social impacts associated with Class 1 eMTBs.
- Provide land managers with data and analysis to assist them in making informed decisions regarding appropriate access.
- Create a baseline of data about the impacts of Class 1 eMTBs, which will inform what types of additional studies are warranted.

Study Hypotheses

- Soil displacement and erosion caused by mountain biking will be consistent with existing studies showing relatively low impact as with other types of non-motorized travel on this



type of trail (a bike-optimized trail is also considered a sustainable trail) and this set of local conditions.

- Soil displacement and erosion from Class 1 eMTBs will likely fall somewhere between those caused by mountain bikes and motorcycles. It is expected that they will much more closely resemble those of mountain bikes.
- It is expected that Class 1 eMTBs may lead to greater soil displacement under certain conditions, such as through turns, including bermed turns; on ascents and descents; and where there are abrupt changes in trail conditions.



Study Area

The study took place on existing trails on Bureau of Land Management (BLM) lands in Northwest Oregon. The BLM and IMBA have a regional assistance agreement to cooperate in trail related planning, design, and research. The test trail sections were on low-use bike-optimized trails, designed and constructed using IMBA best management practices, with short sections of former extraction roads used to create short loops for each mode.

Topography of the test site is generally north-facing aspect with moderate slopes ranging from 20-50%, at elevations ranging from 2,100-2,300 feet (640-700 m). Average rainfall is 80 inches per year (203 cm), with a temperate climate characterized by wet winter and spring, and dry summer months. Soils in the area are well draining, comprised of volcanic Zygoré gravelly loams, with parent material of volcanic ash over colluvium derived from basalt and andesite. (NRCS, 2016.) Prior to testing, soils were consistently very dry across the test site, the area having experienced lower than average spring precipitation.

The vegetation is typical of Western Cascade foothills, dominated by a Douglas fir-Western hemlock forest community, with Western red cedar, red alder, and big leaf maple also common. Understory is comprised primarily of Oregon grape (*Mahonia sp.*), salal (*Gaultheria shallon*), and sword fern (*Polystichum minutum*); with grasses and blackberry (*Rubus discolor* and *R. ursinus*) dominating along open roadbeds.



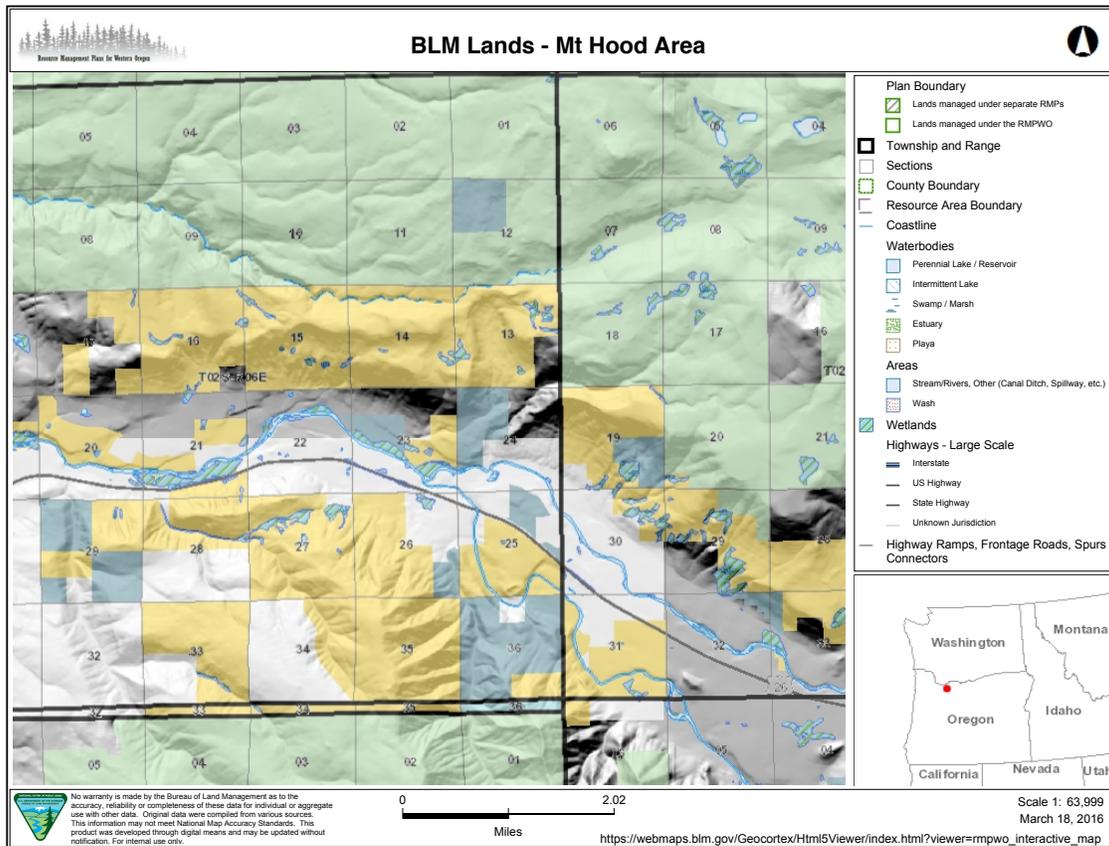


Figure 1. Study Area: BLM Managed Lands near Sandy, Oregon. BLM lands are shown in yellow.

Test Trail

The section of trail was selected for several reasons:

- It has several bermed turns and runs, connected by an old access road up the middle. This was used to break the trail into short loop sections that have similar conditions for testing of each mode efficiently.
- It sees relatively low use, compared with most other trails in the area, meaning closures during testing periods were accomplished with minimal impact to users.
- IMBA staff designed and constructed the trails and were familiar with the terrain and soil conditions.
- Vehicle access is restricted, so it was unlikely that any unauthorized users, especially motorized users, would access the trail.
- Trail users are accustomed to the sounds of motorized machinery (in this case, dirt bikes) and trail closures for trail construction.
- The test site was not visible from trail closure points at intersections.



The trail was closed during preparation and testing. Trail construction warning and temporary closure signs were placed at access points to this trail section and at key decision points within the trail system in order to restrict use outside of test laps. Given the potential for controversy regarding eMTBs among the mountain bicycling community, care was taken in not disclosing the location of the test site prior to and during field testing to avoid tampering with the test site.



Study Methods

Site Preparation

- Test trails were along the same section of trail, with no intersections.
- Test loops ranged from 1900 to 3100 feet (~600 to 950 m) in length, comprised of a contour singletrack descending section, with rollers, dips, and a bermed turn. Singletrack trail sections were connected into loops using an old roadbed. Each roadbed climb had two at-grade steep turns (20-25% grade) and a straight run at 12-15% grade.
- Ten permanent sample sites were set up on each loop to observe and record cross-sectional areas (CSA). Seven sample sites were established on each singletrack section, with three sample sites on each roadbed section.
- Sample sites were paired to match trail conditions for each loop (e.g. each had sample sites at comparable locations on bermed turns, road bed climbs, trail grade, tread texture, etc.). Sample sites were selected to capture a range of trail conditions.
 - Two plastic survey stakes (16" x 2") were placed at each sample location, perpendicular to the trail tread, 51.2 inches (130 cm) apart (the span of the CSA measurement tool), as measured from the center of the stake head. Stakes were placed into the ground so that the head was flush with the surface. Efforts were made to keep stake heads as close to level as possible, in some cases meaning that part of the head of the stake was countersunk.
 - Each stake was identified with the sample site number and a letter indicating whether it was on the uphill ("A") or downhill ("B") side of the tread. For roadbed locations, or where uphill and downhill was not obvious, the left side marker (as one faced the trail in the direction of travel for the test) was labeled as "uphill" ("A").
 - In order to ensure that the sampling location could be relocated in the event of tampering or other damage to the placement of the markers, survey marker locations were measured from reference tree markers (round pre-numbered aluminum tags, affixed to trees using aluminum nails). The distance (to 0.1 cm) and bearing to two tree markers was recorded for each survey marker location.

Controlled Variables

To the extent feasible given the study scope, effort was made to control for environmental, equipment, and rider variables. Environmental variables controlled across sample sites include:

- Soil type
- Soil moisture
- Vegetation type and canopy cover
- Level of use
- Tread texture and surface stability



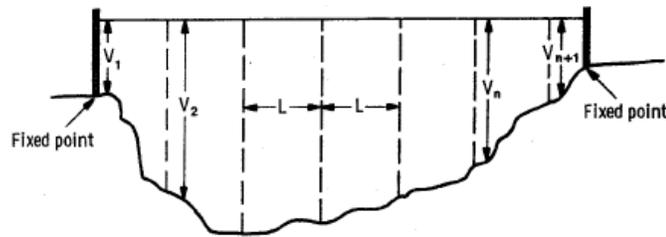
- Trail feature (e.g. roller, dip, insloped turn)
- Trail grade

Equipment and rider variables controlled:

- Wheel size (for MTB and Class 1 eMTB)
- Tire make and model (for MTB and Class 1 eMTB)
- Tire pressure (for MTB and Class 1 eMTB)
- Rider skill and weight

Cross-Sectional Area “CSA” Measurements

- A CSA tool was created to allow for consistent, replicable measurements at each sample station (Figure 2). The CSA tool was placed at a fixed height on the uphill side, at 30 cm above the survey marker surface. The downhill side was adjusted in height until level along the horizontal.
- Three levels were monitored (1 horizontal axis and 2 vertical axes) throughout the sampling to maintain consistent measurements. Measurements were replicable to +/-1 mm at each interval.



$$A = \frac{V_1 + 2V_2 + \dots + 2V_n + V_{n+1}}{2} \times L$$

Where A = cross-sectional area

$V_1 - V_{n+1}$ = Vertical distance measurements, starting at V_1 , the first fixed point, and ending at V_{n+1} , the last vertical measurement taken.

L = Interval on horizontal taut line

Figure 2: Layout of trail transect and formula for calculating CSA. (From: (Cole, 1983))

- CSA was measured at each sampling station. Vertical measurements were captured using the CSA tool at 10 cm intervals across the trail tread, up to 120 cm from the uphill side fixed marker.
- Measurements were taken at 0 (prior to test), 50, 100, 200, and 500 laps for Class 1 eMTB and mountain bike modes. Motorcycle mode was measured at 0, 50, 100, and 200 laps.
- Motorcycle laps were discontinued after 200 laps due to concerns regarding tread damage.



- All test riders were advanced to expert riders and were asked to ride as they normally would.
- CSA measurements and photos were taken at 0, 50, 100, 200, and 500 laps.
- Soil moisture was captured at each sample location twice daily during testing (in the morning and afternoon) using a HydroSense soil moisture meter (volumetric water content measured at 6-12 cm depth).
- Additional observations captured include disturbance area and condition class along the entire tread (not just at sample sites).



Figure 3. CSA measurements along the test trail loops at permanent sampling stations.

Condition Class Assessment (“CCA”)

A CCA was used to assess the overall impact of experimental treatments along the full length of each trail segment (not exclusively at sampling sites). CCAs are commonly used in trail assessments to provide rapid, qualitative evaluations of site conditions. Classes were modified to reflect the range of disturbance conditions at this test site. (Jewell & Hammitt, 2000; J. L. Marion & Leung, 2001)

Condition Class Assessment			
	Description	Depth (loose soil), cm	Trench depth, cm
CC1	no to minimal disturbance, not visibly different from start condition	<0.5	<0.5
CC2	minor disturbance, less than half tread width, noticeable soil/litter movement	0.5-2	<0.5
CC3	moderate disturbance, greater than half of tread width, noticeable soil movement, loose soil evident	2.0-4.0	0.5-2.0
CC4	high disturbance, loose soil common throughout tread, accumulation evident, some trenching/breaking tread evident	4.0-6.0	2.0-4.0
CC5	severe disturbance, trenching and piling of soil	>6cm	>4.0



Data Analysis

- Data preparation: Any soil movement or change in the tread surface is important to capture, not just soil loss. Loose soil is often pushed to the side such that no change in total CSA would be measured, but this loose soil is available for erosion. Total change in soil surface is used, whether an increase or decrease was recorded (absolute value of change from 0-lap measurement).
- For group pairs, t-tests (two-sample and Welch) were used to compare sample means. Analysis of Variance (ANOVA) was used to compare sample groups, with a Tukey Honest Significant Difference test (Tukey HSD) as a post-hoc test to determine significance for group pairs.
- Data were transformed as needed to meet test assumptions.
- Data analysis was conducted using R (The R Foundation, version 2.15.1).



Study Results

This small study represents a very limited set of site and user conditions, the results of which may or may not be replicated in other locations and test conditions. No broad conclusions should be made from the observations presented.

Change in Tread Surface

One way to visualize soil movement (displacement and/or erosion) is to show a profile of trail sample sites. In order to compare paired sites (sample sites with similar trail conditions: slope, grade, texture, and feature), only the change in tread surface is shown and absolute values are used so that both soil increases and decreases can be illustrated, as any soil movement was important to capture. This allows for side-by-side comparison of sample sites by trail condition. A few selected sample sites are shown below (*Figures 4-6*).

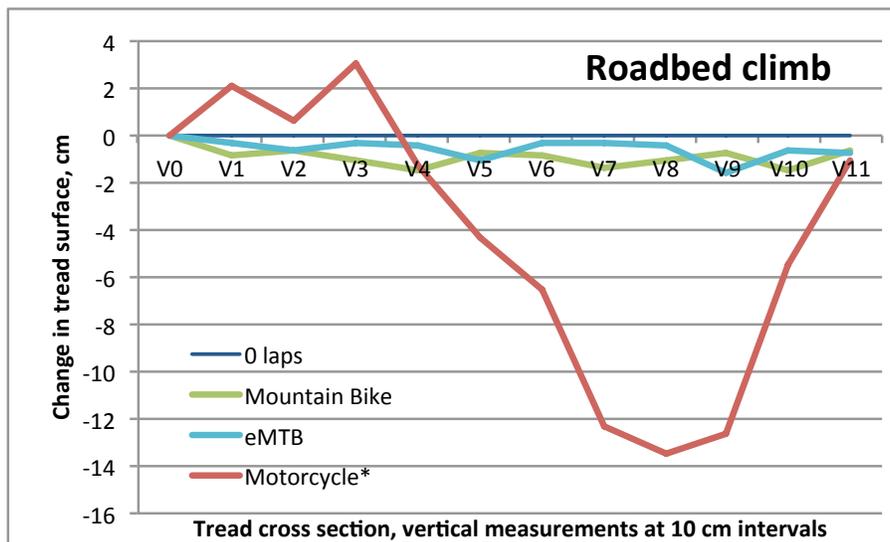


Figure 4. Trail profiles at 0 and 500 laps (200 laps for motorcycle). These show change in tread surface from the 0 lap measurement. For the motorcycle, you can see both trenching and piling of soil material as soil is displaced side-to-side and pushed downslope. These are from comparable sample sites on the roadbed.

The sample site illustrated in *Figure 4* is for a short steep climb on a roadbed. Under these site conditions, the mountain bicycle and Class 1 eMTB show similar soil movement (low), while the the motorcycle showed much greater soil displacement and erosion (large dip). The motorcycle engages a throttle for propulsion that moves the wheels even in the event of a loss of traction. This can lead to considerable soil movement, as is seen in *Figure 4*.



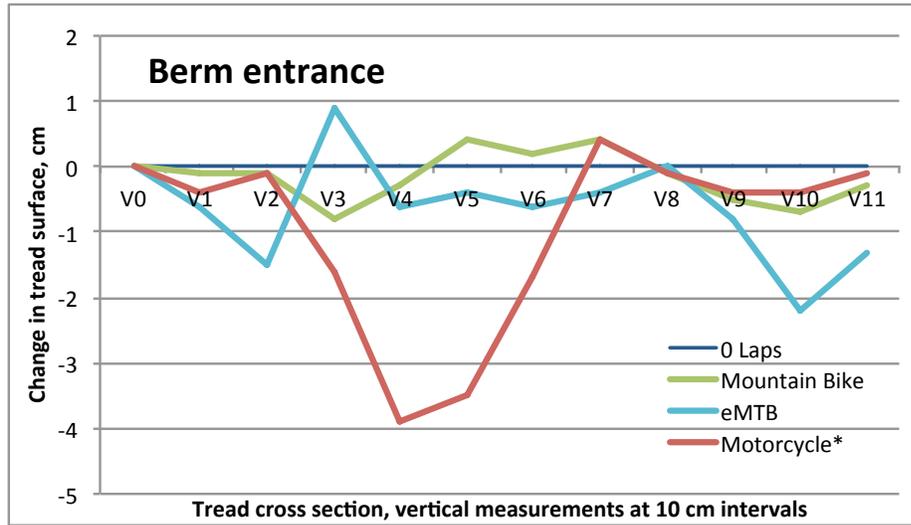


Figure 5. Trail profiles at 0 and 500 laps (0 and 200 for motorcycle). These show change in tread surface from the 0 lap measurement. Measurements taken at 10 cm intervals across each sample site, perpendicular to the trail. Greater soil displacement is seen for the Class 1 eMTB than for the mountain bicycle (some tread holes were observed forming), but much less than for the motorcycle. These are from comparable sample locations at the upper leg of a bermed turn.

The sample site illustrated in *Figure 5* is at a berm entrance, in the descending direction. Under these site conditions, the mountain bicycle showed the least amount of soil movement and the Class 1 eMTB showed slightly greater soil movement (both at 500 laps). However, both modes represent relatively little soil movement compared to the motorcycle (at 200 laps). As in *Figure 4*, there is a large dip in the tread, showing soil loss at the tread center from the motorcycle. All modes are likely braking while approaching a turn, though the inslope of the berm allows users to carry more speed than in other kinds of turns (e.g. switchbacks). In this situation, the combination of approaching speed and the mass of the vehicle could be affecting the soil movement differently: The Class 1 eMTB could allow users to approach the turn more quickly leading to greater soil movement upon braking and/or simply the weight difference (approximately 8 kg/20 lbs) could be sufficient to produce this result. Similarly, but on a much greater scale, the motorcycle can both approach the turn more quickly and has a much greater mass than either the Class 1 eMTB or the mountain bike (motorcycle weight plus protective equipment is roughly 250 lbs; engine output ranges approximately 100-200 times that of the potential output for this 350W Class 1 eMTB motor).



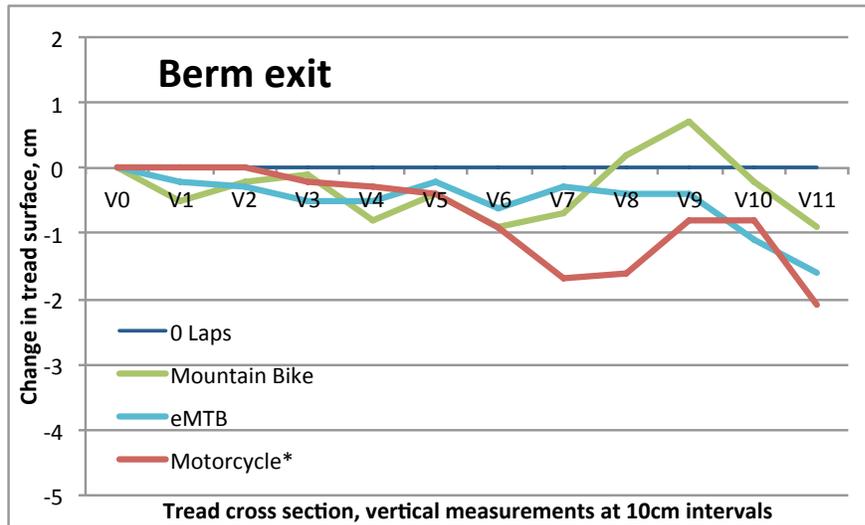


Figure 6. Sample site: Exit from bermed turn, descending direction

The sample site illustrated in *Figure 6* is for an exit from a bermed turn, in the descending direction. Under these site conditions, all modes show little soil movement. A typical wheeled user under these trail conditions would be simply rolling through the site, using little to no braking and no pedaling or throttle engagement. With a durable tread, as was the case for this study, no soil movement was measurable under these user conditions (simply rolling along the tread).

Class 1 eMTBs vs. Traditional Mountain Bicycles

Because the motorcycle was only tested to 200 laps, a direct comparison could not be made with the Class 1 eMTBs and mountain bicycles at 500 laps. However, this data point still provides valuable information for the study. While the average change in tread surface across all 10 sample sites was greater for Class 1 eMTBs than for mountain bicycles, there was considerable site to site variability, especially for mountain bicycle sites, as shown by the error bars in *Figure 7*. When comparing Class 1 eMTBs to mountain bicycles, a simple t-test could be used for analysis (*Table 1*).

Table 1. Comparison of average change in tread surface for Class 1 eMTBs and mountain bicycles at 200 and 500 laps using Two Sample t-test. There was no significant difference between the modes ($\alpha=0.05$) at either 200 or 500 laps.

pair	laps	t	p-value
eMTB-MTB	200	0.3638	0.7202
eMTB-MTB	500	-1.1122	0.2807



In considering average change in tread surface by mode after 200 laps, a difference between motorcycle impacts and those associated with Class 1 eMTBs and mountain bicycles is readily apparent (*Figure 8*). However, there is high variability among the motorcycle group of sample sites (note the span of error bars for “DB200”), as some sites experienced large amounts of soil displacement and rutting, while others showed little to no soil movement.

ANOVA and Tukey HSD Test

An analysis of variance (ANOVA) was conducted to determine if there was a significant difference between groups where more than two groups are compared, in this case: Change in tread surface for motorcycle, Class 1 eMTB, and mountain bicycle after 200 laps. Data were log transformed in order to meet test assumptions. The ANOVA showed that there was a significant difference between groups ($F=5.822$, $p\text{-value}=0.0079$), but this test cannot show which groups were different. The Tukey HSD Test is a post-hoc test, used following the ANOVA to identify which groups had significant differences. This test revealed that there was a significant difference between change in tread surface from motorcycles (DB) and that of both Class 1 eMTBs and traditional mountain bicycles (MTB) ($p=0.0173$ and $p=0.0169$, respectively; see *Table 2*). There was no significant difference between Class 1 eMTBs and mountain bicycles ($p=0.9999$).

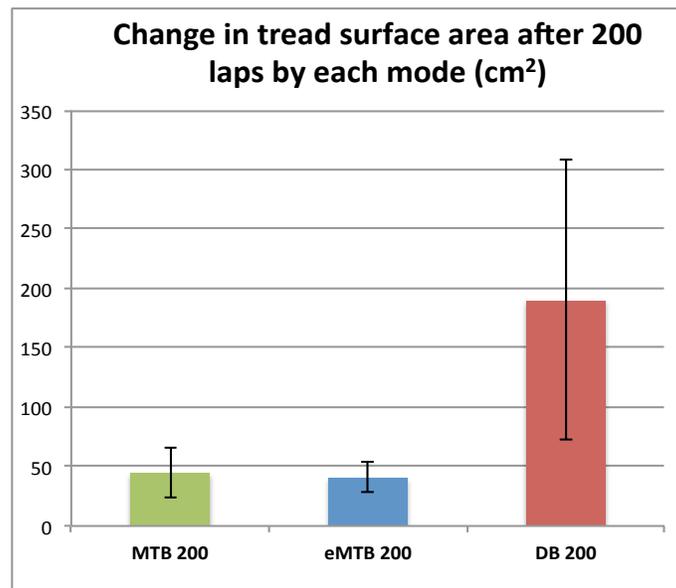


Figure 8. Average change in tread surface (absolute value) per sample site transect (cm²) after 200 laps. Error bars represent 95% confidence intervals.



Table 2. Tukey HSD Test results following significant ANOVA result. Fields highlighted in blue show significant results by mode pairs.

Mode pair	Difference in means	95% Confidence Interval		p-value (adjusted)
		lower	upper	
eMTB-DB	-0.9931	-1.8282	-0.1580	0.0173
MTB-DB	-0.9976	-1.8327	-0.1625	0.0168
MTB-eMTB	-0.0045	-0.8396	0.8306	0.9999

Condition Class Assessment

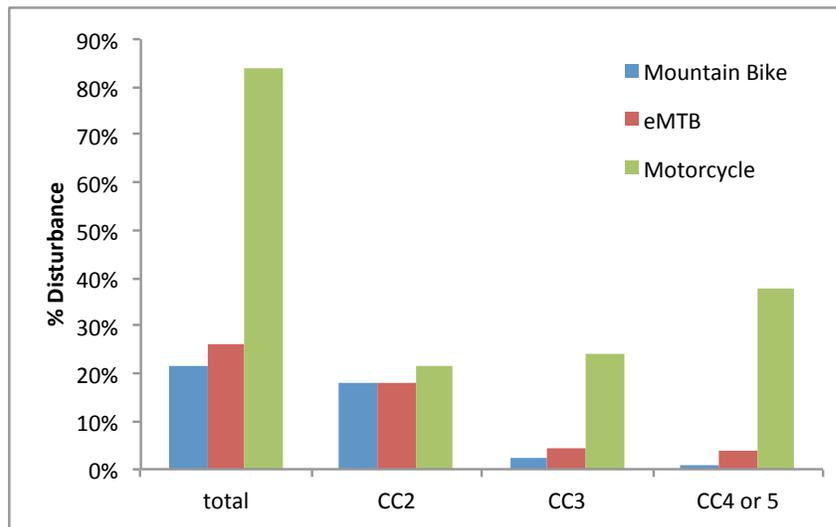


Figure 9. Tread disturbance by mode, after 500 passes. Total represents any disturbance (CC2 or greater; CC1 is no noticeable disturbance and is not included here).



Discussion

All trail users affect the trail surface and surrounding environment, especially when trails are poorly constructed. Those impacts range from vegetation loss to soil erosion, water-quality degradation, and disruption of wildlife. However, there is no evidence that mountain bicycling causes greater environmental impact than other recreational trail uses. In fact current research suggests that mountain bicycling impacts are similar to hiking, and less damaging than equestrian and motorized users. An emerging body of research suggests that when it comes to impacts to soils, water quality, and vegetation, the primary issue is not the type of user, but the way the trail is designed and constructed.

IMBA conducted a small trail impact study that measured soil displacement and erosion from traditional mountain bicycles, Class 1 eMTBs, and motorcycles under the same environmental conditions on separated sections of the same trail, within a single test site. Analysis of data from this small-scale field experiment showed support for the hypotheses. Some differences between the impacts of Class 1 eMTBs and mountain bicycles were observed, particularly at turns and grade changes. However, the soil displacement measured in this study was not significantly different (statistically) from that associated with mountain bicycles, and was much less than that associated with motorcycle use.

Electric-powered mountain bikes (eMTBs) are a new category of recreational use on public lands, a hybrid of muscle and electric power that falls between traditional motorized and non-motorized uses. Defining eMTBs as new category of recreation access will minimize impacts on access for mountain bikes and protect against an increase of motorized use on non-motorized trails.

Study Limitations

This was a small study, under a limited set of environmental and trail conditions, and user behavior. This study does not, and should not be interpreted to represent consensus on the environmental impacts of Class 1 eMTB. However, it is a first step in better understanding the physical impacts to tread surfaces from their use, and how these impacts may be similar to or different from other two-wheeled uses.

Environmental impacts are only part of understanding how a new use, like eMTBs, on public lands may affect the environment, user management, and experiences for other trail users. Social and regulatory factors may be of greater importance in determining appropriate use and should also be studied.

Access Implications for Land Managers

IMBA strongly recommends that trail management decisions for any recreational user have a foundation in science. The impact of mountain bicycling on trails and the environment has been a leading management concern since the activity's inception. Mountain bicyclists know acutely the experience of arbitrary decision-making based upon anecdotal observations of user behaviors



and environmental impacts. As a new use, eMTBs will likely face similar scrutiny.

Perception of impacts – both social and environmental – is an issue that Class 1 eMTBs face, in part because there are relatively few eMTBs currently on trails. Trail users and land managers have limited opportunity to observe and interact with this new use and may assume the worst in terms of impacts. Land managers should not just weigh environmental impacts, but should honestly address the social factors that also contribute to access decisions.

While the environmental impacts of a particular trail use are an important consideration in management, social and regulatory factors also play a critical role. For good or bad, access is not based upon a hierarchy of environmental impacts. Equestrian use has much greater environmental impacts than mountain bicycling, but it is managed quite differently for social, historical, and regulatory reasons. It is important to keep this in mind when evaluating this new use.



Conclusion

This study found that the impacts from Class 1 eMTBs and traditional mountain bicycles were not significantly different, while motorcycles led to much greater soil displacement and erosion. Observations suggest that Class 1 eMTBs may lead to more displacement under certain trail conditions. More research is needed before conclusions can be drawn regarding the environmental impacts of Class 1 eMTBs as compared with traditional mountain bicycles.

Understanding the potential resource impacts of Class 1 eMTBs is a necessary and important first step for formulating management strategies. Additional research is needed to further assess the range of environmental and social impacts for successful Class 1 eMTB use on public lands. IMBA's initial study suggests that, with conscientious management and attention to trail design, Class 1 eMTBs may have the potential to offer a beneficial use of public lands with acceptable impacts.



Appendix A: Throttle Observations: Mini Test

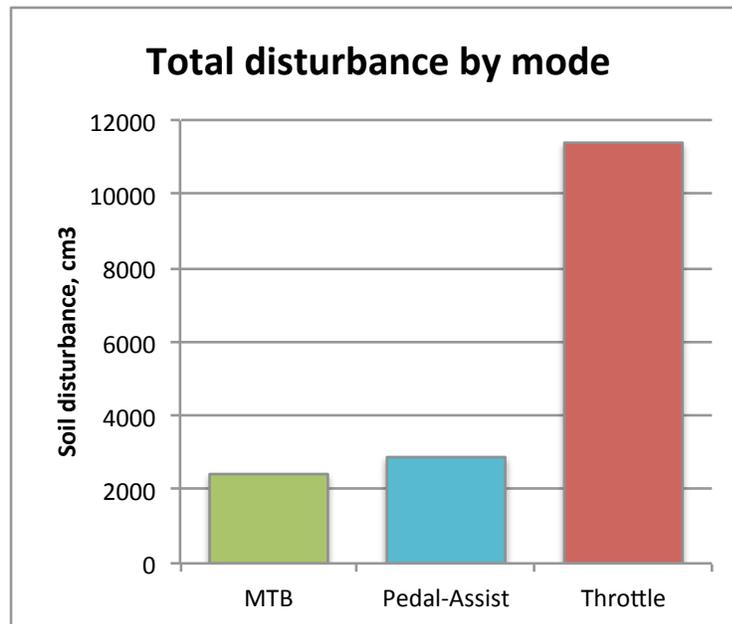
This was a very limited test to begin to understand the differences between pedal-assist and throttle eMTBs.

- Modes: MTB, pedal-assist eMTB, throttle-assist eMTB
- Pedal/throttle assist eMTBs at highest power setting
- Steep uphill: 40-45% grade over 4.5 m
- All modes start from full stop 4 m before grade change
- 50 laps each

MTB vs. Pedal-Assist: Greater area of disturbance, but less depth.

Throttle: Much greater area of disturbance, equal depth to Pedal-Assist.

- Most impact at crest of climb



Appendix B: Literature Review

A literature review was conducted in developing the methods for this study. While no studies have looked at the effects of eMTBs explicitly, there have been numerous studies of mountain bicycles and motorcycles, presumably encompassing the range of potential environmental impacts associated with eMTBs. Other studies characterizing soil displacement and erosion in general, regardless of use, also informed the study design.

- Wilson & Seney, 1994 – Erosion from experimentally applied mountain bicycling and motorcycles (also horses and hikers) on trails in Montana. Used existing trails, varying slopes, in wet conditions and dry. Applied rainfall to assess wet conditions and immediately following user passes to assess erosion. (Wilson & Seney, 1994)
- Thurston & Reader, 2001 – Impacts of experimentally applied mountain bicycling on vegetation and soils in a deciduous forest (also hikers). Not on existing trails, but on designated tracks on varying slopes, applied varying user passes (25 to 1000), then measured vegetation and soil compaction. Assessed recovery after 1 year. (Thurston & Reader, 2001)
- White et al, used point measurement of max incision and width in their observational study. ‘Cessford (1995a) discussed ecological impacts and presented several astute observations, though the majority of his conclusions were derived from other forms of recreation, such as hiking and off-road motorcycling. His most notable inference was that mountain bikes will generate the most torque during uphill travel, but considerably less pressure on the trail in comparison to other users when moving downhill, although degradation is possible “in extremely wet conditions, on uncompacted surfaces, or due to poor braking practices” (Gordon R. Cessford, 1995; White, Waskey, Brodehl, & Foti, 2006)
- Existing mountain bicycle studies show greatest erosion at turns and on steep downhill. (Goefl and Alder, 2001; White, 2006). For motorcycles, turns are also an area of higher erosion, as are uphill. Check other citations for additional information. (Goefl & Alder, 2001; White et al., 2006)
- All uses have greatest potential to cause damage to soils and vegetation in wet conditions. (B. J. Marion & Wimpey, 2007)
- Olive & Marion (2009) – Variable CSA approach. Observational study, but methods useful. (Olive & Marion, 2009)
- Wallin and Hardin 1996 – trail erosion using rainfall simulator. Insufficient resources for this study, but worth exploring for a future study to test under varying soil moisture conditions. (Wallin & Harden, 1996)
- SA MTB study (Clement, 2010) – used CSA method to monitor and assess mountain bicycling trails in South Australia for Mountain Bike Australia. These trails were building using BMPs for mountain bicycling trails. CSA for 20 randomly placed points along each of two trails (under different soil and rainfall conditions). (Clement, 2010)



- USFS comparison of trail erosion evaluation methods ranked CC Assessments highest overall when combining training required, efficiency, accuracy, precision, and management utility. (Jewell & Hammitt, 2000)
- 2nd and 3rd ranked methods: census of erosional events and CSA (tied with Max Incision Post-construction). – CSA probably best for experiment versus an observational study. CSA –highest precision and accuracy, but low efficiency.
- Cross-Sectional Area Method: “Soil erosion is the single most important, managerially significant trail degradation indicator. The cross-sectional method is probably the most frequently used, replicable method for monitoring purposefully located trail segments. This method may also be applied to systematically sampled locations for monitoring entire trail systems. The erosion or deposition of soil can be measured with very high precision and accuracy with this method. it involves a number of assumptions, including ability to relocate the fix points precisely, reference line elevated above surrounding vegetation, the line is kept taut, a level is used for the vertical measurements, the taut line is repositioned the same height above the fixed points, vertical measurements are taken at the same interval, and the vertical measurements are taken starting from the same side. For these reasons, training is the single most important factor in the proper application of this method. Adequate training is costly and thus a major limiting factor for managers.” (Jewell & Hammitt, 2000)



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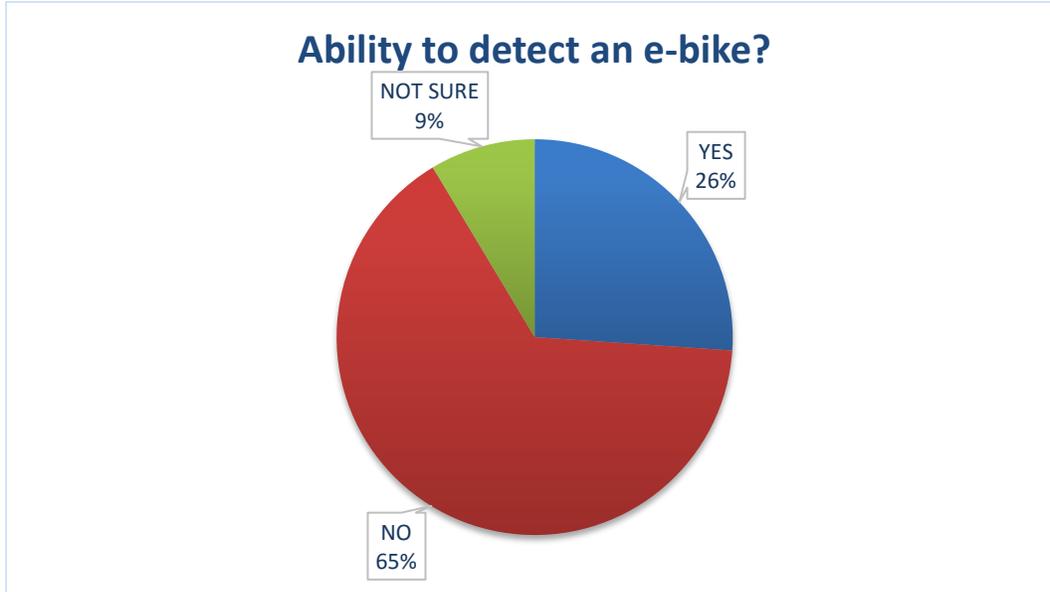
Summary of JCOS e-bike Study Findings to Date

10/15/2017

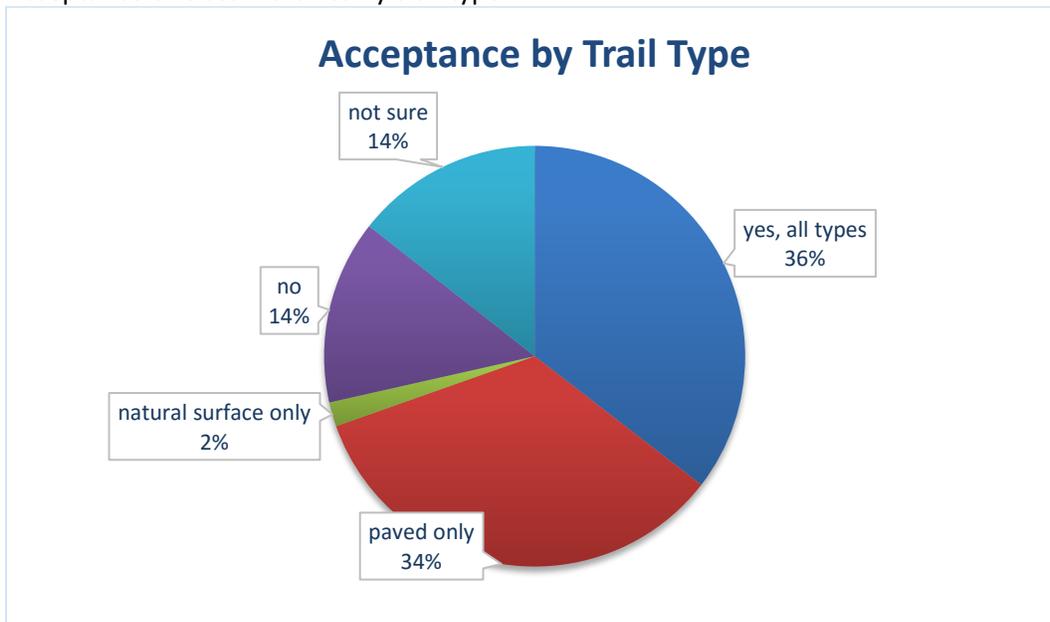
Eight events in five locations: Crown Hill Park, North Table Mountain Park, Matthews/Winters Park, Apex Park and Lair o' the Bear Park

Visitor Intercept Survey n= 375

65% of park visitors are unable to detect the presence of a Class 1 e-bike.

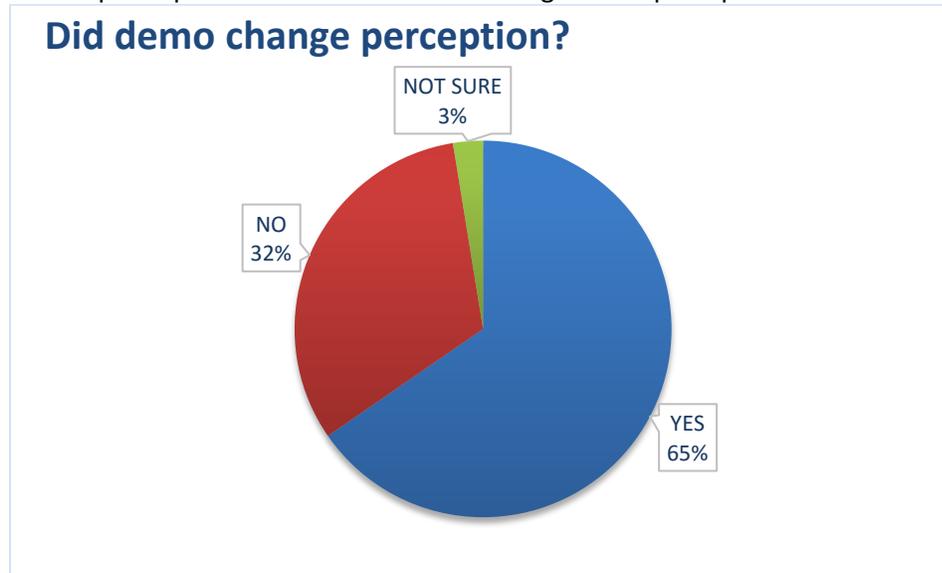


Acceptance of Class 1 e-bikes by trail type:



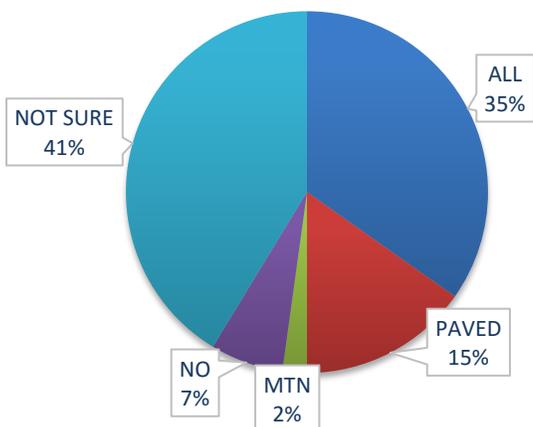
Summary of Pre- and Post-demo Survey: n = 92

65% of participants indicated the demo changed their perception of e-bikes.

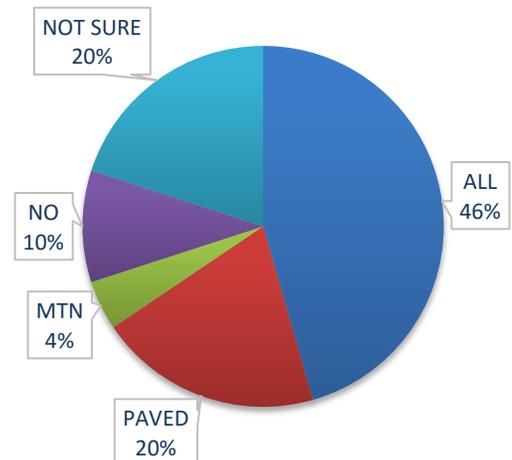


Overall, demo improved acceptance.
Overall, demo reduced uncertainty.

Approve use by trail type BEFORE



Approve use by trail type AFTER



**PeopleForBikes / Bicycle Product Suppliers Association
eMTB Intercept Study
April 2017**

Overview

In April 2017, a study was conducted by the national non-profit bicycling advocacy group PeopleForBikes, with support from the industry association the Bicycle Product Suppliers Association to provide the Bureau of Land Management information that could guide decision-making about where, when, and how to manage e-MTBs.

The study took place at four trailheads in the Fruita, CO area – one that provides access to motorized recreation (or “motorized” trail: Rabbit Valley), and three that provide access to non-motorized recreation (or “non-motorized” trails: 18 Road, Lunch Loops, Kokopelli).

Specifically the study sought to answer the following questions:

- What is your familiarity with, perception of, support of, and perceived benefits and barriers of eMTBs?
- What would the social impacts be at the cycling areas that do not allow e-bike use if trails were opened for e-bike use?
- Would people who currently do not use BLM bike trails start using those trails if e-bikes were allowed?

Methodology

Survey questions – one for the motorized trail users (<http://bit.ly/2oZk2ew>), and one for the non-motorized trail users (<http://bit.ly/2qqTNIU>) – were developed in partnership with the BLM, City of Fruita, PeopleForBikes, and the International Mountain Bicycling Association.

These ten-minute intercept surveys were conducted among those local to and those visiting trails in Fruita, CO. The interview locations and timing (i.e. sampling plan) were designed to yield a representative sample of trail users:

- Trailheads where motorized vehicles (including eMTBs) are not permitted and where they are permitted;
- Visitors to the area and local residents;
- Weekday and weekend users; and
- Demographics (e.g., age, gender, etc.)

The study was conducted on the following days and times:

- Motorized trail:
 - Saturday, April 8, 2017, from 8 a.m. – 6 p.m.
 - Sunday, April 9, 2017, from 8 a.m. – 6 p.m.
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The following number of interviews was conducted at each trailhead:

- Rabbit Valley: 64 surveys
- 18 Road: 55 surveys
- Lunch Loops: 38 surveys
- Kokopelli: 19 surveys

Top-Level Takeaways

- **Education and experience are important**, i.e. it is difficult to formulate an educated opinion of eMTBs without first seeing and riding one. Riding an e-MTB changes perceptions from the negative or neutral, to neutral or positive.
- **Messaging is key**. One of the main concerns with allowing eMTBs on non-motorized trails is that someone's favorite trail may become too crowded and their experience will be diminished. If eMTB access changes, communicating why and where the changes are being made will dissipate some of the concerns. With the appropriate level of outreach and education, the social impact of allowing eMTBs on non-motorized trails can be minimal. Specific outreach to mountain biking advocates, in particular, may help build support and collaboration around revised access.
- **More research** on the relative trail impacts of eMTBs vs. standard MTBs is needed, and more research on the actual attitude changes before and after a demo (instead of asking participants to self report after).
- **A short-term pilot test** to allow eMTB access on non-motorized trails along with data collection may provide the necessary information to consider revised eMTB access.

Topline Findings

Familiarity with, perception of, support of, and perceived benefits and barriers of e-MTBs:

- Familiarity with eMTBs:
 - Just under one-third of respondents reported high familiarity with eMTBs.
 - Fruita "locals" are particularly familiar with eMTBs.
 - Those who report high familiarity with eMTBs, and users at non-motorized trailheads are particularly concerned about conflict and trail damage.
- Perception of eMTBs:
 - Generally, people at the motorized trailhead are more positive about eMTBs than non-motorized trail users.
 - For those who demo'd an eMTB, nearly all reported a positive experience and 62% reported that it changed their perceptions about eMTBs for the better. *(Note: These results are consistent with findings from Jefferson County, CO that 71% of demo participants reported a change in their perceptions of eMTBs after trying one.)*
 - Trail users estimated that eMTBs go 18-20 MPH.
 - On a scale of 1-10 (1 = traditional MTB; 10 = dirt bike), users at the motorized trailhead rated an eMTB on average a 3.5; users at the non-motorized trailheads rated an eMTB a 4.9.
- Support for eMTBs:
 - Nearly all motorized trail users agree that eMTBs should be permitted on motorized trails, especially those who have ridden an eMTB.
 - Motorized trail users are especially likely to be supportive of policies that support e-MTB access to non-motorized trails.
 - About 40% of users surveyed at non-motorized trails believe that eMTBs should be allowed on non-motorized trails and 26% support policies toward that end.

- Those who have ridden an eMTB are especially favorable to revised eMTB access to non-motorized trails.
- IMBA members and advocates are less likely to agree that e-MTBs should be allowed on non-motorized trails
- Perceived benefits and barriers of e-MTBs:
 - Many of those surveyed consider two key benefits of eMTBs: encouraging new mountain bikers/getting more people outside and extending someone's ability to mountain bike into older age.
 - Some benefits of eMTBs that were listed are that they are quiet, simulate a MTB trail experience, require just as much work as a regular MTB, and have similar trail impacts as traditional MTBs.
 - The main barriers cited, in answer to whether or eMTBs should be allowed on non-motorized trails are that eMTBs might require higher rates of rescue, decrease healthy lifestyles, jeopardize MTB access victories by blurring the lines between non-motorized and motorized travel; and that there are enough motorized trail areas to satisfy eMTB riders.

What would the social impacts be at the cycling areas that do not allow e-bike use if trails were opened for e-bike use?

- Those that do not want eMTBs to be allowed on non-motorized trails primarily say that it is because eMTBs are motorized.
- The top concerns about e-MTBs include crowding, trail damage, and potential user conflict.

Would people who currently do not use BLM bike trails start using those trails if e-bikes were allowed?

- **Nearly all non-motorized trail users would continue to use the trails if eMTBs were permitted.**
- Almost 40% of non-motorized trail users think that eMTBs should be allowed on those trails, especially those who have ridden an eMTB.

Conclusion

When someone has demo'd an eMTB, their perceptions of a Class 1 eMTB improve, and they realize that an eMTB is more similar to a traditional mountain bike than a dirt bike. However, many of those who demo'd an eMTB believe that eMTBs, because of their motor, belong on motorized trails. This does not preclude the fact that many people who have ridden an eMTB believe that they have similar social and environmental impacts as a regular bike, but people are still concerned about trail crowding and user conflict. If Class 1 eMTB to a non-motorized trail is desired, this access should be preceded by a pilot project on a few selected trails, accompanied with proper signage, education, and user etiquette information.

In response to the concerns expressed in this study, the following should be noted:

- Trail crowding will occur with or without eMTBs. The solution is not to restrict access, but to build more trails.
- User conflict will occur with or without eMTBs. eMTBs allow someone to climb a trail faster, although concerns are only expressed in terms of downhill speeds.
- Technology cannot be blamed for some riders going riding a trail that they are not fit or skilled enough to ride. This also occurs with or without eMTBs.

Appendix 1: Selected Feedback from Surveys

Chosen quotes from "Advice to Land Managers:"

- I think non-motorized trails should be non-motorized, without exception. There are plenty of motorized trails for eMTBs to use.
- eMTBs should be allowed on specific trails separate from MTBs and hikers.
- Open selected trails to e-bikes, clearly mark which trails are open to e-bikes, and solicit feedback from trail users.
- I worry about the speed of the bikes and how that might impact the perception and experience of other users.
- Allow Class 1eMTBs on non-motorized.
- I do not like the idea of assist and motors on trails where motors are not allowed. I am however excited about e-bikes for my parents to ride around the neighborhood.
- Ride one before you judge them.
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- Signage, guidelines, education.
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- It was really impressive how it kicks in. I really like how there are different power levels.
- Super fun through a steep up hill.
- This was great! I'd love to do it again, but don't think there are a lot of opportunities, I'd worry about changing the nature of the multi-use trails that I already use if eMTBs were allowed, and the cost feels a little high for me to add as a new hobby. But I could totally see myself renting at a riding destination.
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Attachment No. 7

- They get people outside.
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- There is still a lot of research that needs to be done, but there are certain riders that would greatly benefit from e-bikes.
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Appendix 2: Demographics

	Motorized trail users	Non-motorized trail users
% Who mountain bike weekly or more often	78%	87%
Average # of years mountain biking	13.92	15.08
% Involved in mountain bike advocacy	45%	43%
% IMBA members	28%	23%
% Local	27%	42%
% Male	78%	69%
% White/Caucasian	94%	90%
Average Age	40	39

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Attachment No. 6

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- There is still a lot of research that needs to be done, but there are certain riders that would greatly benefit from e-bikes.
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**Public Comments
received prior to noon
on November 14, 2019**

Adrian L. Della Porta, PhD
California License PSY 15893

Madera, California 93637
Telephone: [REDACTED]

November 4, 2019

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

Re: District Board Meeting 11/20/19 - Preserve E-Bike Use

Gentlemen:

I understand that your preserve e-bike policy is under review for an upcoming meeting.

My wife and I are avid ebike riders and especially enjoy riding in our bikes in mountain areas, primarily on fire roads.

Since we both have knee problems, ebiking has opened a whole new world to us to explore and go further on trails and/or fire roads. As we are in our 60's, we putt along and park at trail heads and walk, and then continue biking. We do not spin donuts or do burnouts on the trails! We are frequently passed by other bike riders, whizzing by with great speed. We just want to enjoy the scenery, get some exercise, and explore.

Although we do not qualify as DMV disabled persons, we could not enjoy the preserves without some kind of assistance that we get from the ebikes.

As such, I am hopeful that you will consider approval of ebike use on preserve fire roads and whatever else is approved for mountain biking. We respect the rules and understand that a few bad apples can wreck it for all. Thank you for your consideration.

Very truly yours,



Adrian Della Porta, PhD

ADP/yt

From: [Matthew Anderson](#)
To: [REDACTED]
Cc: [Brian Malone](#); [Jennifer Woodworth](#)
Subject: RE: Pete Siemens - Ward 1 - Board Contact Form
Date: Friday, October 4, 2019 7:24:21 AM
Attachments: [image001.png](#)
[image002.jpg](#)

Attachment 7

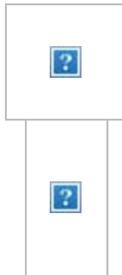
Dear Ms. Holden,

Thank you for your feedback and observations. Saint Joseph's hill is a very popular and challenging ride up or down for Mt. bikes however e-bikes are not currently permitted there or on any District lands. The trail is signed to encourage riders to use caution on the steeper sections and there is personal responsibility for riders to ride within their ability. Rangers do provide patrols of the area and use radar guns to enforce the speed limit.

E-bikes have become very popular and with that popularity many local, state and Federal land management agencies, including Midpen have begun to revisit their rules and regulations. Many that had prohibited them as motorized vehicles are now allowing them where bicycles are permitted with the overall mission to increase recreational opportunities for all Americans.

Our review of our e-bike policy will be presented to Midpen's Board of Directors on Wednesday, November 20 at 7 pm. The presentation will be held at our office at 330 Distel Circle, Los Altos. Please feel free to attend and provide your comments. You can find out more about the meetings here: <https://www.openspace.org/about-us/board-meetings>

Sincerely,



Matt Anderson
Chief Ranger
Badge # 1050
manderson@openspace.org
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
P: Direct (650) 625-6557
P: Main (650) 625-1200
C: (408) 209-5902
www.openspace.org

From: [REDACTED]
Sent: Wednesday, October 2, 2019 6:55 AM
To: web <web@openspace.org>; Clerk <clerk@openspace.org>; General Information <info@openspace.org>
Subject: Pete Siemens - Ward 1 - Board Contact Form

EXTERNAL

Name *	barbara holden
Select a Choice *	Pete Siemens - Ward 1

Email *

Attachment 7

Location: (i.e. City, Address or District Ward) los gatos

Daytime Phone Number (if you wish to be contacted by phone)

Comments: *

I hiked up St Joseph's 10/1 between 845 & 1045 AM. There were more ebikes than regular bikes, and the ebikes were going to the top. I think this is dangerous. Please comment thank you

The riders were respectful, and interactions with mountain bikers have been worse, but if the ebike loses control going downhill, that could be bad.

here is an excerpt from

<https://www.ocregister.com/2018/09/12/are-they-cheaters-a-danger-or-simply-enjoying-the-outdoors-battles-and-confusion-heat-up-over-e-bike-riders-on-local-trails/>

"The parks director allows, for example, that a mountain biker who has the strength and skill to get up a hill generally has the strength and skill to get down. That, however, may not be the case for an e-biker who manages a hill climb only because he or she is on a motorized bicycle.

Even in this nation's mountain biking mecca in Moab, Utah, tourists on e-bikes are banned in the backcountry. But Utah goes one step further than California. In Moab, there are signs depicting e-bikes with a slash through them."

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Tuesday, November 12, 2019 12:22:42 PM

Attachment 7

EXTERNAL

Name * Corey Kronkhte

Select a Choice * Full Board of Directors and District Clerk

Email * [REDACTED]

Location: (i.e. City, Address or District Ward) Los Gatos

Daytime Phone Number (if you wish to be contacted by phone) [REDACTED]

Comments: *

I vote no on any ebikes on any trail in the Bay Area. It's a motorcycle with an electric motor. There's always been a fragile balance between the speed of uphill and downhill riders and ebikes throw that balance out of wack. They're going uphill much faster in an ebike making a collision with a downhill rider much more likely. The bottom line is - they're a motorcycle. I have no problem with disabled people on ebikes.
Corey Kronkhyte

From: [General Information](#)
To: [Brian Malone](#); [Jane Mark](#)
Cc: [Matthew Anderson](#); Ada@openspace.org
Subject: Fw: Electric Mountain Bikes
Date: Monday, March 25, 2019 2:20:42 PM

Attachment 7

FYI.

Thank you,

Jordan McDaniel
Public Affairs Administrative Assistant
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
P: (650) 691-1200 F: (650) 691-0485
www.openspace.org | twitter: [@mrosd](#)

From: General Information
Sent: Monday, March 25, 2019 2:17 PM
To: David Wilfinger
Subject: Re: Electric Mountain Bikes

Hi David,

Thank you for your email and feedback regarding the use of e-bikes on District trails. In compliance with the Americans with Disabilities Act, **people with mobility-related disabilities are allowed to use Other Power-Driven Mobility Devices (OPDMD), including e-bikes, on District trails where bike use is permitted.** The OPDMD policy was approved by the District's Board of Directors to establish guidelines for use of OPDMDs on District Preserves and describes the verification process for users.

While the use of e-bikes is allowed by people with mobility disabilities on District trails where bikes are permitted, the policy restrictions on general e-bike use are in place to ensure that their use does not pose a significant safety risk due to greater uphill speeds, impact the Preserve's sensitive natural resources, or fundamentally alter Preserve user's expectation of a non-motorized visitor experience. For more information about the District's policy you can read the OPDMD Board Report, Policy and Assessment Factors [here](#).

Thanks again for reaching out to us and sharing your perspective. I will share your feedback with appropriate staff for review. If you are interested in being added to our biking interested parties email list, please let us know. You would get notified of upcoming meetings regarding e-bikes and more general bike issues. If you have any further questions or feedback please feel free to contact Midpen's American Disabilities Act Coordinator and Planning Manager, Jane Mark, at adacoordinator@openspace.org or call [\(650\) 691-1200](tel:6506911200).

Thank you,

Jordan McDaniel
Public Affairs Administrative Assistant
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
P: (650) 691-1200 F: (650) 691-0485
www.openspace.org | twitter: [@mrosd](#)

From: David Wilfinger [REDACTED]
Sent: Monday, March 25, 2019 2:02 PM
To: General Information
Subject: Electric Mountain Bikes

Hello,

On Sunday I received a written warning by a ranger in Montebello Open Space Preserve for riding my electric mountain bike on a trail open to bicycles. I was surprised and at first could not believe it when the ranger told me that electric mountain bikes are not permitted anywhere in the midpeninsula open space district. I honestly was not aware that I was doing anything wrong.

Following up I did some online research and found blog entries that stated that the topic of allowing electric bikes has already been brought to the attention of the open space district's administration.

I can understand that there are concerns regarding electric bikes on bike trails because of potential conflicts between hikers, other bikers, and electric bike riders. However I have been riding a class 1 electric bike for a while and have not once encountered any problems with other trail users because of the type of bike. Riding this MTB I have the exact same footprint as someone on a regular mountain bike. I do not ride faster, I do not require more space and I do not cause more damage to the trails as anyone else. All a class 1 electric MTB does is adding a little extra push when I am paddling. Without noticing the battery pack, one would not know I am riding an electric MTB.

The reason why I am riding such a bike is not speed. Due to the support it provides it allows me to go on different trails with more elevation change. Using an electric bike I can ride directly from my home at sea level into the preserves around skyline boulevard and do not have to take my car first to get up on the mountains. Also I do not go on trails that exceed my skill level, just because I have an electric motor that supports me.

After some research online I find that over the last years many areas have permitted electric bikes, I hope that the midpeninsula open space district can follow their example.

I am aware that the rapid development in the area of electric recreational vehicles requires some restrictions – I also would not want to see all latest gadgets being used on the trails. Therefore I propose allowing a certain group of electric supported bikes on the trails. The state of California introduced a good qualification system for electric bicycles, I would propose permitting class 1 electric bikes on bicycle trails in the open space district. As stated above, those have the same footprint and behave similar to standard mountain bikes (see for example <https://currentebikes.com/ebike-classes-california/>).

I was born in Austria where people love to ride their bikes on the mountains. In Austria there is a peaceful co-existence between electric mountain bikes and standard MTBs. This works because there are strict rules that define which types of electric bikes are allowed to use bicycle infrastructure (watts, maximum speed). I am convinced that California regulations allow the same co-existence here.

Please let me know if this topic is already in a decision-making process and if there is a way for me to support this process.

Thank you for the great work you do on the open space district. I really enjoy spending my time there!

Best,
David Wilfinger

--

Cupertino

Attachment 7

E bikes

Peter Huston [REDACTED]

Attachment 7

Tue 8/27/2019 2:17 PM

To: General Information <info@openspace.org>

EXTERNAL

Hello,

I'm seeing an increase of E bike use in the preserves. Last Saturday my wife and I were riding bikes in Monte Bello preserve where we were passed from behind in an unsafe manner by an E bike exceeding the 15 mph speed limit, in the uphill direction. I was in Summit Bicycles recently where I overheard a sales person tell a customer they could ride E mountain bikes in the preserves. My understanding is what I read in section 409.9 Segways and Electric Bicycles. No person shall possess or use a Segway, electric powered bicycle, or similar device on District Lands including off road versions of all the listed devices, except on trails or locations specifically designated for such use. Is this correct or has this been amended? I worry that these motorized bicycles will mess up access for us human powered cyclists.

Peter Huston

Class 1 E-bike operation

Brian Mullins [REDACTED]

Attachment 7

Fri 8/9/2019 3:51 PM

To: General Information <info@openspace.org>

I'm 70 years old and ride Skeggs frequently but finding it more and more difficult to negotiate the climb out. I am considering an E-bike but notice they are prohibited on open space land but under your OPDMD section E-bikes are authorized for use by some users. I would like to know if I qualify for this program. Any info you can provide would be appreciated. Thank you. Brian

Full Board of Directors and District Clerk - Board Contact Form

fatirerider1@gmail.com <no-reply@wufoo.com>

Attachment 7

Tue 8/13/2019 2:13 PM

To: web <web@openspace.org>; Clerk <clerk@openspace.org>; General Information <info@openspace.org>

Name * Brian Mullins

Select a Choice * Full Board of Directors and District Clerk

Email * 

Location: (i.e. City, Address or District Ward) San Bruno

Daytime Phone Number (if you wish to be contacted by phone) 

Comments: * Good day Board Members

I'm 70 years old and bike ride El Corte de Madera and other open space on the peninsula frequently but finding it more and more difficult to negotiate the climb out. I am considering an E-bike but notice they are prohibited on open space land. I heard there is talk of considering approval of ebikes for open space use, I think this would be great and would encourage a yes vote on this matter. If all board members are not on board with this you may consider approving it for seniors an see how it works out. Thanks for your time. Brian

ebikes

David Bressie [REDACTED]

Attachment 7

Wed 10/2/2019 2:36 PM

To: General Information <info@openspace.org>

EXTERNAL

Good afternoon! I recently purchased an e-mountain bike and am really looking forward to finding some nice trails to ride on. I was very disappointed to learn that e-bikes are not allowed on the mid peninsula trails. Why is this? As a 50 year old rider, I simply don't have the time to stay in good enough shape to ride a non e-bike. I really enjoy the outdoors and mountain biking and an e-bike allows me to still go riding. I would request that more research is done on allowing e-bikes on the trails. I know that they are becoming a lot more popular in the area. They are already super popular in Europe and most of their trails are open to them.

Have their been discussions about allowing them on the trails?

Thank you for your time.

David Bressie

eBikes

John Clayton Kunz [REDACTED]

Attachment 7

Tue 10/15/2019 1:57 PM

To: General Information <info@openspace.org>

EXTERNAL

Hi. I am a decades-long hiker and mountain biker through MROSD and a supporter of the organization. Now 76, I can continue to be out and enjoy when using my eBike, but honestly (and sadly for me) my mobility is dramatically limited without it. A ranger told me this weekend that you are considering regulations regarding eBike use. Please welcome their use with some limits. My bike is "class 1", which means no throttle and limited speed. Hopefully they will be open to all who use them appropriately, but surely they should be available to us of an older age or who are otherwise mobility impaired.

thanks for your consideration

john kunz

Re: E bikes

Peter Huston [mailto:petehuston@att.net]
Sat 10/26/2019 3:32 PM
To: General Information <info@openspace.org>

Attachment 7

EXTERNAL

Hello Jordan,

Seeing a lot of e bikes in Fremont-Older. Also today at Montebello I took a few pictures of three e bikers in the parking lot who just finished unloading a Chevy Suburban. There was no handicap placard visible in this car. I've included pictures of signage used up in bend Oregon as well. I've noticed the preserves lack proper signs.

Pete

Attachment 7

On Aug 27, 2019, at 4:11 PM, General Information <info@openspace.org> wrote:

Hi Peter,

Thank you for your email and report. Allow me to share your report of recent e-bikes at Monte Bello Preserve with our area superintendent for review.

In compliance with the Americans with Disabilities Act, **people with mobility-related disabilities are allowed to use Other Power-Driven Mobility Devices (OPDMD), including e-bikes, on District trails where bike use is permitted.** The OPDMD policy was approved by the District's Board of Directors to establish guidelines for use of OPDMDs on District Preserves and describes the verification process for users.

While the use of e-bikes is allowed by people with mobility disabilities on District trails where bikes are permitted, the policy restrictions on general e-bike use are in place to ensure that their use does not pose a significant safety risk due to greater uphill speeds, impact the Preserve's sensitive natural resources, or fundamentally alter Preserve user's expectation of a non-motorized visitor experience. For more information about the District's policy you can read the OPDMD Board Report, Policy and Assessment Factors [here](#).

If you are interested in being added to our biking interested parties email list, please let us know. You would get notified of upcoming meetings regarding e-bikes and more general bike issues. If you have further questions or feedback regarding this policy, please contact Midpen's American Disabilities Act Coordinator and Planning Manager, Jane Mark, at adacoordinator@openspace.org or call (650) 691-1200.

Kind regards,

Jordan McDaniel
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
P: (650) 691-1200 F: (650) 691-0485
www.openspace.org | twitter: [@mrosd](https://twitter.com/mrosd)

From: Peter Huston [REDACTED]
Sent: Tuesday, August 27, 2019 2:17 PM
To: General Information <info@openspace.org>
Subject: E bikes

EXTERNAL

Hello,

I'm seeing an increase of E bike use in the preserves. Last Saturday my wife and I were riding bikes in Monte Bello preserve where we were passed from behind in an unsafe manner by an E bike exceeding the 15 mph speed limit, in the uphill direction. I was in Summit Bicycles recently where I overheard a sales person tell a customer they could ride E mountain bikes in the preserves. My understanding is what I read in section 409.9 Segways and Electric Bicycles. No person shall possess or use a Segway, electric powered bicycle, or similar device on District Lands including off road versions of all the listed devices, except on trails or locations specifically designated for such use. Is this correct or has this been amended? I worry that these motorized bicycles will mess up access for us human powered cyclists.

Peter Huston

Pedal assist bikes

Jim Farney [redacted]

Mon 5/6/2019 4:03 PM

To: General Information <info@openspace.org>

Attachment 7

I have long ridden the bike trails of Midpeninsula Regional Open Space and loved them. At 67, it has become too difficult to enjoy many of the rides due to the amount of steep climbing involved. I recently purchased a Class 1 bike (low-speed pedal-assisted electric bicycle) and would like to ride on your trails. This bike does not travel under electric power only, it just assists when the rider is pedaling. This is also a low speed bike.

May I ride this on your trails?

Jim

Fw: E-Bikes - El Corte de Madera Creek

Jordan McDaniel

Mon 8/12/2019 3:53 PM

To: General Information <info@openspace.org>

Attachment 7

From: Chris Barresi <cbarresi@openspace.org>
Sent: Monday, August 12, 2019 3:38 PM
To: gcuti@yahoo.com <gcuti@yahoo.com>
Cc: Jordan McDaniel <jmcdaniel@openspace.org>
Subject: RE: E-Bikes - El Corte de Madera Creek

Hello Greg,

Jordan provided you great information regarding e-bikes on District preserves. I can add that additional signage would be a huge undertaking as we would need to be consistent throughout the District preserves and not just at one preserve.

I will ensure that our rangers are addressing e-bikes when they encounter them and also look at the possibility of posting something more prominently on our website.

Thank you,
 Chris



Chris Barresi
 Area Superintendent
cbarresi@openspace.org
 Midpeninsula Regional Open Space District
 330 Distel Circle, Los Altos, CA 94022
 (650) 625-6595 Direct (650) 691-1200 Main
www.openspace.org | Twitter: [@mrosd](https://twitter.com/mrosd)
*A greenbelt system in the San Francisco Bay Area
 comprised of over 60,000 acres in 26 preserves*

From: General Information <info@openspace.org>
Sent: Monday, August 12, 2019 2:44 PM
To: Chris Barresi <cbarresi@openspace.org>
Subject: Fw: E-Bikes - El Corte de Madera Creek

Good afternoon Chris,

FYI - please see report below about ranger staff and e-bikes at ECdM.

Kind regards,

Jordan McDaniel
 Midpeninsula Regional Open Space District
 330 Distel Circle, Los Altos, CA 94022
 P: (650) 691-1200 F: (650) 691-0485
www.openspace.org | twitter: [@mrosd](https://twitter.com/mrosd)

From: General Information <info@openspace.org>
Sent: Monday, August 12, 2019 2:13 PM
To: greg cuti [REDACTED]
Subject: Re: E-Bikes - El Corte de Madera Creek

Hello Greg,

Thank you for your email and interest in e-bikes on District trails. We appreciate your feedback regarding ranger staff, signage and our website. Allow me to share your comments with appropriate staff for review and follow up.

In compliance with the Americans with Disabilities Act, **people with mobility-related disabilities are allowed to use Other Power-Driven Mobility Devices (OPDMD), including e-bikes, on District trails where bike use is permitted.** The OPDMD policy was approved by the District's Board of Directors to establish guidelines for use

of OPDMDs on District Preserves and describes the verification process for users.

While the use of e-bikes is allowed by people with mobility disabilities on District trails where bikes are permitted, the policy restrictions on general e-bike use are in place to ensure that their use does not pose a significant safety risk due to greater uphill speeds, impact the Preserve's sensitive natural resources, or fundamentally alter Preserve user's expectation of a non-motorized visitor experience. For more information about the District's policy you can read the OPDMD Board Report, Policy and Assessment Factors [here](#).

If you are interested in being added to our biking interested parties email list, please let us know. You would get notified of upcoming meetings regarding e-bikes and more general bike issues. If you have further questions or feedback regarding this policy, please contact Midpen's American Disabilities Act Coordinator and Planning Manager, Jane Mark, at adacoordinator@openspace.org or call (650) 691-1200.

Kind regards,

Jordan McDaniel
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
P: (650) 691-1200 F: (650) 691-0485
www.openspace.org | twitter: [@mrosd](https://twitter.com/mrosd)

From: greg cuti [REDACTED]
Sent: Monday, August 12, 2019 11:26 AM
To: General Information <info@openspace.org>
Subject: E-Bikes - El Corte de Madera Creek

Hi,
It is my understanding that E-bikes are not allowed in any Mid-Pen open space, yet I see a significant and increasing number of e-bikes at El Corte de Madera Creek. There is no signage and no reference on the website with the exception of the Access Guidelines page, which is probably not visited frequently. Additionally, I have seen several e-bikes pass rangers, yet there was no warning or ticket given. What is Mid-Pen's position on e-bikes and is there any plans to add signage to clarify?

Thanks,
Greg

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Larry Hassett - Ward 6 - Board Contact Form
Date: Saturday, November 2, 2019 6:49:38 PM

Attachment 7

EXTERNAL

Name * Kirsten Kingdon

Select a Choice * Larry Hassett – Ward 6

Email * [REDACTED]

Location: (i.e. City, Address or District Ward) Portola Valley

Daytime Phone Number (if you wish to be contacted by phone) [REDACTED]

Comments: *

I understand that the Board will be considering whether to change the rules in District OSPs about use by eBikes. I hope that whatever you do, you do not do anything that would greatly increase the use of bikes of any kind on OSP trails.

I am an avid hiker who lives at the base of the Windy Hill OSP in the Sequoias–Portola Valley. I hike the trails there and in many of the OSPs in our area. Access to them is one of the many benefits of living in this area and is a reason that we moved here. I also have been a bike commuter in the past and our two sons are bikers. In general I find that the number of bikes on the trails is very manageable.

One of the trails that I like to hike is the Alpine Trail that goes between Alpine Road in Portola Valley and Page Mill Road near Skyline. I almost always encounter a lot of bikers on that trail. While they are generally courteous, their frequency—especially on Saturdays—is sufficient that I often avoid that trail because there are enough of them to make it a less pleasant hiking experience. One of the reasons for that is that that trail is narrow enough in many spots that I have to step off the trail to avoid them—and I'm very cognizant of the amount of poison oak and ticks in the brush there. That is a distinction between that trail and Spring Ridge Trail, which I also hike frequently, and where I do not remember the bikes ever being an issue.

I do so appreciate MidPen and your careful management of the OSPs, and I wish you all wisdom as you balance the needs and preferences of your many devoted trail users.

Sincerely,
Kirsten Kingdon

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Jed Cyr - Ward 3 - Board Contact Form
Date: Tuesday, November 12, 2019 12:11:02 AM

Attachment 7

EXTERNAL

Name * Liehann Loots

Select a Choice * Jed Cyr - Ward 3

Email * [REDACTED]

Location: (i.e. City, Address or District Ward) Sunnyvale

Daytime Phone Number (if you wish to be contacted by phone) [REDACTED]

Comments: *

Hi Jed,

I'm a Sunnyvale resident and frequent user of MidPen Open Space as a hiker and MTBiker. I'd like to voice my support of permitting class 1 ebikes on MidPen MTB trails.

Class 1 ebikes are pedal assist up to 20 mph. These bikes do not have more trail impact than regular MTBs (their weight is not much more) and 20mph is similar to the speed a rider can achieve on a non-motorized MTB. In other words, use of an ebike does not imply less safe riding. I'm both a cyclist and a father of a 2yo and appreciate safe sharing of open space trails between all trail users. I do not believe class 1 ebikes are less safe than non-motorized MTBs.

Allowing class 1 ebikes would permit cyclists with wide ability gaps to ride together (for example, it would allow me to ride with my wife), and it will allow older riders to keep enjoying our trails. Many of our trails are also very steep and require a high level of fitness. Permitting ebikes would increase accessibility on these trails.

Thanks,
Liehann Loots

[REDACTED]

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Monday, November 4, 2019 10:55:29 AM

Attachment 7

EXTERNAL

Name * Marcus Cullen

Select a Choice * Full Board of Directors and District Clerk

Email * [REDACTED]

Location: (i.e. City, Address or District Ward) Santa Clara, CA

Daytime Phone Number (if you wish to be contacted by phone) [REDACTED]

Comments: *

Hi, I wanted to share my opinion on the discussion related to e-bikes in the preserves.

1) Any permission for e-bikes should be limited to pedal-assist only, and this needs to be enforced to prevent our beautiful trails from turning into OHV trails.

2) Permission should be limited to certain trails. The population of e-bikers will grow considerably over time.

3) e-Bikers are not mountain bikers. They are much closer to motorcycles. It would be negligent to lump them into the same category as mountain bikes, and it would be irresponsible to make policy on the topic without riding one to understand potential impacts. This is a decision about allowing users to drive motorized vehicles on hiking and bicycling trails (at 24mph up hills).

About me: I'm a passionate cyclist who doesn't own an e-bike. e-Bikes have allowed me to share my passion with out of shape family members, and when I'm too old and weak to mountain bike I'll ride an e-MTB and hope to have access to trails. While I think e-bikes are great, I think it's critical we restrict their use to trails that can handle the abuse of a motorized vehicle and where they don't pose a threat to the safety of hikers and regular cyclists.

Thanks for all the hard work!

-Marcus Cullen

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Saturday, November 9, 2019 11:54:33 AM

Attachment 7

EXTERNAL

Name * Marian Goldeen
Select a Choice * Full Board of Directors and District Clerk
Email * [REDACTED]

Location: (i.e. City, Address or District Ward) San Jose

Comments: *

Greetings MROSD Board Members,

I hear that the board is considering allowing e-bikes on MROSD trails where bicycles are currently permitted.

Please don't.

I've been a committed bicyclist for 40 years, mountain biking for 20 years, and bicycling weekly (weather permitting) at Fremont Older for over 10 years. I think e-bikes are a terrific alternative for commuting and for dirt-road or off-road where other motorized (gas- or electric-powered) vehicles are already permitted. But including motorized vehicles (even low powered) on trails designed for non-powered use (hiking, biking, horseback riding) will exacerbate any existing trail-sharing problems and introduce new ones.

Here is are three problems I foresee if e-bikes and pedal-assist are permitted on these trails.

1. Speeding: Speed-limit enforcement is already necessary for mountain bikers on downhill sections of trail during peak-use times. E-bikes can speed where human-powered bikes cannot, more than doubling the risk for a speed-related crash and severe injuries
2. Poor skills: A non-powered mountain biker has a greater time and energy commitment to the experience than an e-biker. As a result, by the time a non-powered biker is fit enough for several miles of hilly mountain biking they have a greater chance of having developed appropriate trail skills than an e-biker. I have absolutely seen specific cases of the analogous issue with e-bike commuters and traffic-bicycling skills. Fortunately, I haven't yet had to deal with it at Fremont Older, because e-bikes aren't allowed, and the rule is generally respected. The extra speed possible with e-bikes only makes the poor skills more problematic.
3. Increased trail conflict: Hiker/biker/horseback-rider trail sharing leads to some conflict, and it's an ongoing challenge to minimize that conflict. Adding speedier and probably less-skilled powered bicyclists to the mix can only make the trail conflict worse.

Finally, on vacation this summer I had the treat of a week of mountain biking in the Deschutes National Forest just outside of Bend, OR. On those heavily used, popular mountain-biking trails,

every trail entrance had a conspicuous No E-Bikes/No Pedal Assist sign. Please look to other trail organizations, such as the Central Oregon Trail Association (I'm sure there are more), to learn more about problems with low-powered, motorized vehicles on trails designed for non-powered use. Attachment 7

Thank you for your consideration, and also for your part in supervising the wonderful open spaces in the Bay Area where I'm privileged to refresh mind and body every week.

Marian Goldeen

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Friday, November 1, 2019 3:32:18 PM

Attachment 7

EXTERNAL

Name * Mike Vandeman
Select a Choice * Full Board of Directors and District Clerk
Email * [REDACTED]

Location: (i.e. City, Address or District Ward) San Ramon

Comments: *

Re: E-Bikes

What were you thinking??? The presence of people prevents animals from the full use of their habitat. It's called the "human footprint". E-bikes expand the human footprint, because they allow people to travel much farther. The same goes for bicycles: there is no good reason to allow bicycles – especially e-bikes – on any unpaved trail.

Mountain biking and trail-building destroy wildlife habitat! Mountain biking is environmentally, socially, and medically destructive! There is no good reason to allow bicycles on any unpaved trail!

Bicycles should not be allowed in any natural area. They are inanimate objects and have no rights. There is also no right to mountain bike. That was settled in federal court in 1996: <https://mivande.info/mtb10.htm> . It's dishonest of mountain bikers to say that they don't have access to trails closed to bikes. They have EXACTLY the same access as everyone else -- ON FOOT! Why isn't that good enough for mountain bikers? They are all capable of walking....

A favorite myth of mountain bikers is that mountain biking is no more harmful to wildlife, people, and the environment than hiking, and that science supports that view. Of course, it's not true. To settle the matter once and for all, I read all of the research they cited, and wrote a review of the research on mountain biking impacts (see <https://mivande.info/scb7.htm>). I found that of the seven studies they cited, (1) all were written by mountain bikers, and (2) in every case, the authors misinterpreted their own data, in order to come to the conclusion that they favored. They also studiously avoided mentioning another scientific study (Wisdom et al) which did not favor mountain biking, and came to the opposite conclusions.

Mountain bikers also love to build new trails – legally or illegally. Of course, trail-building destroys wildlife habitat – not just in the trail bed, but in a wide swath to both sides of the trail! E.g. grizzlies can hear a human from one mile away, and smell us from 5 miles away. Thus, a 10-mile trail represents 100 square miles of destroyed or degraded habitat, that animals are inhibited from using. Mountain biking, trail building, and trail maintenance all increase the number of people in the park, thereby preventing the animals' full use of their habitat. See <https://mivande.info/scb9.htm> for details.

Mountain biking accelerates erosion, creates V-shaped ruts, kills small animals and plants on and

next to the trail, drives wildlife and other trail users out of the area, and, worst of all, teaches kids that the rough treatment of nature is okay (it's NOT!). What's good about THAT? Attachment 7

To see exactly what harm mountain biking does to the land, watch this 5-minute video:
<http://vimeo.com/48784297>.

In addition to all of this, it is extremely dangerous: https://mjvande.info/mtb_dangerous.htm .

For more information: <https://mjvande.info/mtbfaq.htm> .

The common thread among those who want more recreation in our parks is total ignorance about and disinterest in the wildlife whose homes these parks are. Yes, if humans are the only beings that matter, it is simply a conflict among humans (but even then, allowing bikes on trails harms the MAJORITY of park users -- hikers and equestrians -- who can no longer safely and peacefully enjoy their parks).

The parks aren't gymnasiums or racetracks or even human playgrounds. They are WILDLIFE HABITAT, which is precisely why they are attractive to humans. Activities such as mountain biking, that destroy habitat, violate the charter of the parks.

Even kayaking and rafting, which give humans access to the entirety of a water body, prevent the wildlife that live there from making full use of their habitat, and should not be allowed. Of course those who think that only humans matter won't understand what I am talking about -- an indication of the sad state of our culture and educational system.

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Monday, November 4, 2019 11:27:19 AM

Attachment 7

EXTERNAL

Name * Naren Mehta

Select a Choice * Full Board of Directors and District Clerk

Email * [REDACTED]

Location: (i.e. City, Address or District Ward) San mateo

Comments: *
Folks,
I would like to voice my opinion with regards to e-bikes. I think they should NOT be allowed in trails due to the damage done to the trail systems.

Thanks,
Regards,
Naren

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Monday, November 11, 2019 9:06:56 PM

Attachment 7

EXTERNAL

Name *	Peter Huston
Select a Choice *	Full Board of Directors and District Clerk
Email *	[REDACTED]

Comments: *

Hello MidPen Directors,

Thank you for doing an amazing job preserving our public lands. I would like to make you aware of some things regarding E bikes for your upcoming policy review. While the speed limit in the preserves is 15 MPH class 1 & 2 E bikes have a top speed of 20 MPH by law. I was recently passed by one of these in Monte Bello OSP. My wife and I were riding our bikes in the uphill direction on a narrow section of the trail when the E biker passed us at a high rate of speed unannounced on the right side almost forcing us off the trail. Seemed like he was going faster than 20. How is this possible? A good friend of mine recently purchased one with a Yamaha motor and told me it was really easy to fool the limiter by moving the sensor from the wheel to the crank. With a little research I discovered it's not hard to make these bikes go a lot faster than 20 MPH. I'd like to provide a few links for you to view showing how easy it is to "hack" one of these bikes.

This one has some great products.

<https://www.ebiketuning.com/>

This one shows what my friend did.

<https://youtu.be/8feemzxKS1U>

I was surprised there were so many ways to derestrict these bikes.

Heres another one

<https://www.youtube.com/watch?v=yxlvD0luW58>

A simple web search would reveal many more. These machines are also heavier and would have more impact on trails. I urge you to consider this carefully. Currently all park users have equal access be it by foot, horse or bike. I see E bikes as motorized vehicles and they should be treated as such. The preserves have always been a sanctuary to me. An escape from the fast paced high tech valley. Please don't let these motorized vehicles intrude on our open spaces.

Respectfully,
Peter Huston

From: [REDACTED]
To: [Matthew Anderson](mailto:Matthew.Anderson@openspace.org)
Subject: Re: FW: For review - draft response: Open the Bike path to Electric Bikes
Date: Saturday, September 7, 2019 3:57:08 PM
Attachments: [image005.png](#)

Attachment 7

EXTERNAL

Thanks Matthew

I love that area and have been riding them for over twenty years at least once or twice a month minimum all year around. But over time my knee are wearing out, and I had stopped biking both as commuter and for recreation. Since I have gotten an ebike, I have gotten my bike mobility back and I do ride lot more than before. However I do miss all my favorite trails that are part of the mid peninsula open space reserve.

Now I have to go to any California state park which are 45 to an hour away just to ride my mountain e-bike. Ironic that skyline ridge is only 15 minutes away from my house.

Looking forward so that I can get back on those trails.

Please include me in all notification, presentation or any town hall meetings

You can reach me at

Pejman Khosropour
[REDACTED]

If u need any other information please let me know

Cheers

Pejman

On Fri, Sep 6, 2019, 3:02 PM Matthew Anderson <manderson@openspace.org> wrote:

Hello Pejman,

Thank you for your continual interest in electric bikes on trails in Midpeninsula Regional Open Space District (Midpen) preserves. Your email was forwarded to me for a response.

I am currently evaluating Midpen policies and ordinances related to the use of e-bikes (class 1, 2, &3) on Midpen lands. I hope to present to the Board of Directors and receive direction by the end of the year. Your participation and comments at the future policy presentation would be welcome.

If you would like to be included in the notification list for this presentation, please let us know and your name and contact information can be added to the interested parties list.

On another note, Midpen allows e-bikes for individuals with disabilities under the 2015 Other Power-Driven Mobility Devices Policy which can be found on our website:

https://www.openspace.org/sites/default/files/Policy_4.10_Other_Power-Driven_Mobility_Devices.pdf

Regards,

Matt Anderson

Chief Ranger/Visitor Services Manager



Matt Anderson

Chief Ranger

Badge # 1050

manderson@openspace.org

Midpeninsula Regional Open Space District

330 Distel Circle, Los Altos, CA 94022

P: Direct (650) 625-6557



P: Main (650) 625-1200

C: (408)209-5902

www.openspace.org

From: Pejman Khosropour [REDACTED]

Sent: Thursday, September 5, 2019 11:07 AM

To: General Information <info@openspace.org>; Ana Ruiz <aruiz@openspace.org>

Subject: Open the Bike path to Electric Bikes

EXTERNAL

Hi Open Space Reseve.

I like to know if there are future plans to open to Mid Pennusila Open space reserved Bike Path to Class 1 Electric Bike?

If not how do we go about file a petition to do so.

Please let me know

Thanks

Pejman

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Thursday, November 14, 2019 10:13:05 AM

Attachment 7

EXTERNAL

Name *	R. Adams
Select a Choice *	Full Board of Directors and District Clerk
Email *	[REDACTED]

Comments: *

E-bikes in MROSD preserves (11/20 Board agenda)

(Please include this correspondence in the Board packet for the discussion of e-bike use within MROSD preserves)

I am writing to request that the MROSD Board allow the use of pedal assist e-bikes on trails currently open to bicycle use in open space preserves.

I have ridden standard (non-electric) mountain bikes in MROSD preserves for over 35 years. Back in the mid-1980s there was a great deal of concern over bicycle use on trails and potential conflicts with hikers and horses. In the past three plus decades, these different user groups have been able to work together to share the trails effectively and safely. Those first mountain bikes had heavy steel frames with rigid forks, rubber rim brakes, and clunky gearing (making for a slow and rough ride on natural surface trails and much less control on downhills). Over the years, each new improvement in bicycle technology (lighter and sturdier frame materials, front and rear suspension, disc brakes, improved drive systems and gearing) have each allowed mountain bikers to ride faster and more comfortably over rough terrain than each generation of bikes that came before.

These continuous improvements in mountain bike technology have not resulted in additional trail conflicts between the different user groups. Courteous trail use, and a desire to share trails with others, are what I typically experience when visiting MROSD preserves on bike or on foot (discourteous, fast, or rude riding behavior can occur, but it is not the norm). These have been my observations, even with a noticeable increase in recreational mountain bikers and trail users of all kinds over the passing decades.

Pedal assist e-bikes follow the same path of mountain bike evolution, by making it easier for riders to climb hills and to experience the outdoors with less physical strain on their bodies. As we age, this allows older riders to continue to enjoy riding the trails that we love.

For anyone opposed to pedal assist e-bikes, and who has not yet ridden one on steep hills, I recommend that they try the experience. They are not excessively fast like motorcycles or scooters, they simply assist with pedaling and make it easier to climb. For anyone with physical pain, injuries, or disabilities (including health conditions that may not qualify for an accessible placard) this assistance with climbing is very much appreciated – as some hills in the preserves are quite steep.

When it comes to flatter terrain, or downhills, even non-electric mountain bikes have no problem exceeding the 15 MPH speed limit in the preserves and speed control is easily managed with disc

brakes (on both e-bikes and non-electric bikes). The rules of common courtesy (as well as the speed limits within the preserves) will result in the vast majority of mountain bikers riding responsibly and sharing the trails without additional user conflicts – the same result as with prior improvements in mountain biking technology. Attachment 7

The State of California identifies three classes of e-bikes. Class 1 (Pedal assist) and Class 2 (Throttle operated) are allowed on all bicycle paths in the state (unless otherwise restricted by the local land use manager) and are considered as bicycles in the vehicle code (and not as motorized vehicles – even though an electric motor is included in the bicycle mechanism). The County of Santa Clara has allowed Class 1 & 2 e-bikes in all of their preserves and on all trails open to bicycles. California State Parks and the Department of the Interior (US Park Service/BLM) have allowed e-bikes on bicycle trails as well. I am not aware of any major conflicts that have occurred in these areas as a result of these policy decisions, and would assume that the majority of e-bike riders have been riding responsibly, the same as with non-electric mountain bikes.

As e-bikes are a new technology, it is understood that some people may be concerned with potentially higher speeds and a possible increase in trail use conflicts or damage to natural resources. However, mountain bike technology has been improving for decades (allowing faster speeds and ease of riding over rougher terrain) and this is simply another step in that forward trajectory. From my perspective (as a trail user for the past three plus decades), we will not see a substantial increase in trail user conflicts or damage to natural resources if e-bikes are operated responsibly in open space preserves. The formal authorization of pedal assisted e-bike use in MROSD preserves by your Board will allow continued enjoyment of open spaces by people who are aging, injured, or otherwise in need of some additional assistance in climbing.

Please consider allowing pedal assisted e-bikes in MROSD preserves.

Thank you,

R. Adams

From: [REDACTED]
To: [web; Clerk; General Information](#)
Subject: Full Board of Directors and District Clerk - Board Contact Form
Date: Friday, November 1, 2019 9:57:28 AM

Attachment 7

EXTERNAL

Name * Rich Laczko
Select a Choice * Full Board of Directors and District Clerk
Email * [REDACTED]

Location: (i.e. City, Address or District Ward) Fremont

Comments: *

Dear Board,
I am excited to learn you are discussing E-bike usage throughout your system. As an aging mountain biker recovering from an on the job work injury I have taken my orthopedic doctor's advice and switched to riding an electronic assisted bicycle.

During my first few years of taking up the sport some twenty years ago I frequented your parks because of the beginner friendly trails and the beauty of the surroundings. I now enjoy hiking with my family on these trails but I have not ridden the trails for some time now.

I hope you will allow E-bikes soon since Santa Clara Parks have allowed them after studies have shown no adverse effects on the trail systems or conflicts with other user groups a few years ago. I have since met many other enthusiasts in E-bike user groups and they would love to access your trails.

I have have also been able to help other riders (on non motorized bicycles) on trails when they have mechanical issues by towing them back to trailheads or offering them spare tubes or use of additional tools or even nutritional energy bars that I take with me because I can now carry a larger hydration pack and not worry about the additional weight penalty.

Please consider the positive aspects E-bikers can offer rather than the unfounded fears by those resistant to change.

Best Regards,
Rich Laczko

From: [Matthew Anderson](#)
To: [Mike Kahn](#)
Cc: [Jennifer Woodworth](#)
Subject: FW: Volunteer comments/ Board email - Ebikes
Date: Wednesday, November 6, 2019 9:48:46 AM

Attachment 7

From: Strether Smith <[REDACTED]>
Sent: Tuesday, November 5, 2019 3:32 PM
To: Jennifer Williams <jwilliams@openspace.org>
Subject: Re: Fyi.,ss Outside: Riding an E-Bike Is Not Cheating

EXTERNAL

I am going to try to get there too.. although the few times I have gone I always have wound up pissed..

Please make sure that I know about it.

FYI... Here is a note I sent to Jed:

Jed,

I have swapped a couple of notes with Jen and she tells me that the E-bike issue will be discussed by the board soon.

I thought that you might like to hear my spin on the issue.

First, they are already out there. In the past few weeks I have seen 3 in district preserves. All have been in pedal assist mode and were riding responsibly.

I am in favor of allowing these bikes. It allows users that might not otherwise be able to (like me who would have one if it were not for balance issues). They also would allow wimps to enjoy the preserves in a new way.

The question is how to regulate them.

A possibility is to only allow bikes that fall in a "capability type" (1, 2, or 3). However, I think that it will be impossible to restrict them based on this. There are too many makes and too many variations. Some would be fine but others are not.

To illustrate the problem, my neighbor just bought an electric "bike" Attachment 7 that is more motorcycle than bike. It has "vestigial" pedals that are obviously to used only in desperation. It will go 50 mph. It has a switch that makes it "class 3" but who would use it? It was obviously designed to be a rule cheater. Fortunately, he has no intention of riding it off road.. but others might.

So, how do you keep this monster out of the preserves? Is there a reasonable (and simple) rule based on bike type that is easily applied by the rangers and VTPs? I don't think so.

I think the only rule you can use is the one you have already: 15 mph speed limit. In the end, that is really all that matters from a rider and other-user standpoint.

Thanks for all you do.. It is appreciated.

..SS

Strether Smith

