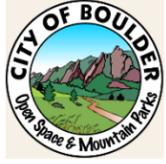


E-biking Alternatives Evaluation

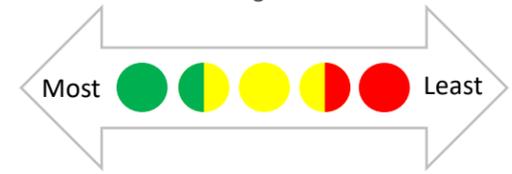


This presents an evaluation of alternatives under consideration for allowing e-bikes on city open space trails. Information was gathered from representative visitor and resident surveys, monitoring, observation, a 2019 literature review, and staff expertise.

What we know includes data gathered and staff expertise.

What this means includes staff's analysis guiding a rating for each alternative.

The alternatives ratings are a gradient from most to least in terms of meeting the criteria assessed



Criteria	Considerations	Alternative A All Trails that Allow Bikes	Alternative B Plains Trails & Boulder Canyon Trail	Alternative C Interconnected Trails	Status Quo Existing Conditions
Community Support	<ul style="list-style-type: none"> The community engagement window (questionnaire) from early July until early-August gathered information about public perceptions and learn more about which alternative(s) are most supported by stakeholders and why. Community feedback helped staff refine the proposal and develop a preferred alternative for the Open Space Board of Trustees to consider in making a recommendation to City Council. Multiple stakeholder groups are following the process OSMP is leading to consider e-bike use on open space trails, each with a different opinion about what is appropriate. All potential outcomes are likely to be debated by stakeholders. <p>OSMP is sought community feedback on alternatives to allow e-biking on portions of the OSMP trail system, and a preliminary proposal by staff on Alternative B and other alternatives considered.</p>				
Equitable access to open space lands	<p>What we know:</p> <ul style="list-style-type: none"> A 2018 nationwide study of nearly 1,800 new e-bike owners found that older adults and those with physical limitations use e-bikes mostly for fitness and recreation (BCPOS 2019 Literature Review). Approximately 24% of visitors are 60 years or older. There has been a general increase in the age of people visiting open space with a median age of 48 (2016-2017 Visitor Survey). 1 in 4 Americans experience disability. Visitors experiencing disabilities may use e-bikes on open space as an Other Power/Driven Mobility Device (OPDMP). E-bikes for any other purpose are currently not allowed. OSMP has received increased community inquiries from aging visitors expressing a desire to use e-bikes to continue accessing open space, most of whom cite physical limitations due to age. <p>What this means:</p> <ul style="list-style-type: none"> OSMP regulations that don't allow e-bikes is a potential barrier for Boulder's aging population who may not identify their physical limitations as a disability or are uncomfortable using an e-bike where regulations otherwise prohibit their use. E-bike use may improve access for more ages and physical abilities. <p>Alternative A provides the most access allowing e-bikes on 54 miles or 35% of the 154 miles of OSMP's trail network. Alternative B would allow e-bikes on 34 miles (22%), while alternative C would provide the least increase in access for e-bikes on trails with 25 miles or 15% of OSMP trails.</p>				
Consistency with Boulder County and other City interconnected trails	<p>What we know:</p> <ul style="list-style-type: none"> E-bikes are allowed City of Boulder paved greenway multi-use paths. Boulder County Parks and Open Space (BCPOS) allows e-bikes on Plains trails except those with joint ownership interest by OSMP (Coalton Trail, Boulder Canyon Trail and Mayhoffer Singletree Trail (north of Coal Creek Drive). OSMP asked BCPOS to exclude these until the city evaluates e-bike use on OSMP trails, otherwise BCPOS would allow e-bikes on these trails. OSMP lands are naturally linked with adjacent agency lands coming together to form an interconnected open space trail system. Some trails, such as the Longmont to Boulder (LOBO) regional trail switch back and forth between agency jurisdictions. Some County residents have requested BCPOS consider allowing e-bikes on their Mountain trails, this effort is not on BCPOS work plan. <p>What this means:</p> <ul style="list-style-type: none"> Allowing e-bikes on OSMP trails would improve connectivity with adjacent trails managed by other departments and Boulder County. <p>Alternative A would allow more access than BCPOS by including Foothills trails that allow bikes. Alternative B would result in allowing e-bikes on all OSMP and BCPOS plains trails and provide consistent regulations. Alternative C would restrict e-bike use on some OSMP plains trails.</p>				
Disposal of Open Space	<p>What we know</p> <ul style="list-style-type: none"> Current city policy necessitates OSMP to dispose of land along OSMP trails if/when e-bike use is provided or contemplated. <p>What this means</p> <ul style="list-style-type: none"> Unless there is a policy change, disposal action is needed if paths on OSMP are to allow e-bikes. <p>All three alternatives offer a flexible adaptive management approach that would minimize disposal of open space.</p>				

See summary of [community input comparison and key findings](#)

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Criteria	Considerations	Alternative A All Trails that Allow Bikes	Alternative B Plains Trails & Boulder Canyon Trail	Alternative C Interconnected Trails	Status Quo Existing Conditions
Effectiveness of regulations	<p>What we know:</p> <ul style="list-style-type: none"> Some OSMP trails comprise a system of loops particularly in south Boulder, that cross the Plains/Foothills geographic boundary. Some trails, like the LOBO trail, cross back and forth between BCPOS and OSMP lands. Observations by OSMP Rangers indicate that e-biking is present on OSMP trails. As the technology evolves, it has become more difficult to distinguish some e-bikes from conventional bikes. <p>What this means:</p> <ul style="list-style-type: none"> Current regulations are confusing to community members who may not know which portions of interconnected trails are on OSMP managed lands vs. adjacent agency partner managed lands. Regulating e-bike use trail by trail would be complex, and difficult to message and raise awareness. A defined geographic boundary would improve an ability to use messaging to raise awareness. Allowing e-bikes on only a sub-set of OSMP trails that allow bikes would increase need for education, outreach, and enforcement. <p>Alternative A provides uniform rules and Alternative B defines a geographic boundary to simplify rules and increase the ability to raise public awareness and compliance by OMSP visitors. There is concern around visitor’s understanding and compliance with Alternative C.</p>				
	<p>What we know</p> <ul style="list-style-type: none"> In a Boulder County observation study of bikes, the average e-bike speed was less (13.8) than the average conventional bike speed (14.9). Uphill e-bike speeds were faster than conventional bikes speeds at 13.8 and 12.9 mph respectively. For average downhill speeds, conventional bikes traveled at 15 mph on average, while e-bikes traveled at a slower average speed of 13.5 mph (BCPOS E-bike Pilot Study Report). In the past five years, there have been 152 reported medical incidents on open space lands. Of these 16 (11%) involved a cyclist. OSMP trails that allow bikes average 1.8 miles in length and are reasonably accessible for emergency responders. Average daily conflict between visitors on OSMP trails has ranged between 5-7% for close to two decades (2016-2017 Visitor Survey). Of all respondents to the 2016-2017 survey, 6% (on average) reported conflict with other users on the day of the survey, with a third of these indicating conflict was with a biker. This means, on average, 2% of visitors reported conflict with a biker and 98% did not on the day of the survey. There is very little difference in average daily conflict between trails that allow cycling and trails that don’t. Lightweight lithium-ion batteries have become the norm in e-bikes. OSMP trails that allow bikes are designed to accommodate multi-use activities, including bicycling. Visitor studies across different agencies have observed a positive correlation between perceived e-bike familiarity and support. Visitors less familiar with e-bikes also noted more misperceptions suggesting that more exposure to e-bikes leads to more acceptance (BCPOS 2019 Literature Review). <p>What this means</p> <ul style="list-style-type: none"> Trail design techniques can effectively minimize user conflicts by influencing speeds and sightlines. Research regarding fires caused by e-bike batteries indicated that there is little data on the frequency or risk of the battery catching on fire. A potential hazard is leaving the battery too long on the charger. <p>OSMP does not anticipate allowing e-biking on existing bike trails would result in a significant change in conflict or safety related concerns.</p>				
Aligned with city climate initiatives	<p>What we know:</p> <ul style="list-style-type: none"> While 64% of hikers arrive to OSMP by car, just 16% of bikers arrive by car (2016-2017 Visitor Survey). <p>What this means</p> <ul style="list-style-type: none"> Allowing e-bike use on select OSMP trails could increase the percent of visitors who arrive to open space trails by bike. <p>Allowing e-bike use on open space trails may shift trips away from single occupant vehicles, which may contribute to a reduction in greenhouse gas emissions typically caused by motor vehicles.</p>				

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Protection of natural resources	<p>What we know</p> <ul style="list-style-type: none"> Off-trail bicycling activity is not allowed on OSMP lands Multi-use trails that allow cycling are designed to a standard that minimizes impacts on soils, plants, and water quality. The jointly funded 2019 Literature Review and federal land management agencies findings support the conclusion that e-bikes have comparable resource impacts to traditional bikes. <p>What this means</p> <ul style="list-style-type: none"> Given that e-bikes are very similar to conventional bikes in terms of noise, trail impact, and speed, it is anticipated that their impact on wildlife and habitats would be like other non-motorized bicycles (BCPOS 2019 Literature Review) Cyclists and e-cyclists generally stay on trail, which tends to minimize possible negative effects on natural resources. <p>Most research suggests that e-bikes won't have greater negative impacts on trails or wildlife than regular bikes and mountain bikes. Overall research on e-bike specific use impacts on natural resources is limited; the ½ yellow rating for A, B and C reflects this limited data.</p>				
Visitor displacement	<p>What we know</p> <ul style="list-style-type: none"> A 69% majority of encounters between bikers and other users on open space trails are positive (2016-2017 Visitor Survey). During the 2016-2017 Visitor Survey, 14% of respondents reported being displaced. Of those 14%, ten percent reported biking as a reason why they no longer visit an area. This means 1% of visitors reported displacement due to biking and 99% did not. The two primary areas no longer visited were Marshall Mesa and Doudy Draw. Of the 14% of respondents that reported displacement, the two most frequently mentioned OSMP areas that respondents no longer visit are Chautauqua (22%) and Sanitas (22%), due to perceived crowding, dogs, and parking issues (not bikes). Several studies show that trail users unfamiliar with e-bikes express a preference to not share the trail with them, but the majority did not notice that they were sharing the trail with e-bikes. Similarly, once trail users were exposed to e-bikes, concerns about them decrease. <p>What this means</p> <ul style="list-style-type: none"> E-biking is not anticipated to significantly displace other visitors however staff will continue evaluating displacement trends. <p>OSMP does not anticipate a significant change in visitor displacement would result from allowing e-biking on existing trails that allow bikes.</p>				
Trail maintenance	<p>What we know</p> <ul style="list-style-type: none"> OSMP trails that allow bikes are overall in better condition than trails that do not allow bikes. Trails that allow bikes have an average condition index of 71. Trails that prohibit bikes have an average condition index of 53. The trail condition index is updated systemwide every 5 years on a 100-point scale, 100 meaning the trail is in perfect condition. <p>What this means</p> <ul style="list-style-type: none"> Trail staff do not anticipate that allowing e-bikes on trails where bikes are currently allowed will increase the need for maintenance. OSMP current standards for the design of multi-use trails consider as well as reduce long-term trail maintenance. <p>OSMP does not anticipate e-bike use would impact trail conditions more than regular bikes. Overall, trails that allow bikes are in good condition, and better condition than legacy trails that do not allow bikes.</p>				
Visitation	<p>What we know</p> <ul style="list-style-type: none"> In the 2019 OSMP master plan survey, 6% of respondents said their household owned or normally had use of electric assist bicycles. This is almost three times the percentage of respondents to a 2019 Boulder County resident survey who said they own an e-bike (2.3%), half of these owners said they use their e-bike for recreation. Cycling represents 10% of all visitors to open space, and approximately 20% of visitors on multi-use trails that allow bikes (2016-2017 Visitor Survey). <p>What this means</p> <ul style="list-style-type: none"> Not all e-bikes are designed to travel on the soft surface or mountain bike trail terrain that OSMP manages. If e-biking is allowed on OSMP trails, it would be added as a new category in future visitor surveys to track change in activity distributions over time. Any change in visitation numbers would be detected through OSMP's long-term visitation count program. It is unknown whether there would be an increase in visitation or if existing bikers on OSMP would shift to e-biking. <p>OSMP does not anticipate e-bike use would result in a significant increase in visitation based on trends from other front range agencies that have allowed e-bikes, but this will be monitored over time.</p>				
References	<p>City of Boulder OSMP 2016-2017 OSMP Visitor Survey Report PDF BCPOS E-bike Pilot Study Report BCPOS Literature Review of Bicycle and E-bike Research, Policies & Management</p>				