

CONTENTS

OVERVIEW

BACKGROUND

Regulations

Other Jurisdictions

Other E-devices

E-BIKE LITERATURE REVIEW

Literature Review Key Findings

E-BIKE PILOT PROGRAM PAVED TRAIL OVERVIEW

SUMMARY OF SURVEY RESULTS

Perceptions Regarding E-bikes on Paved Trails

Trail experiences

Perception of Safety

E-bike Owners Specific Questions

SUMMARY OF SPEED SNAPSHOTS

Methods

Results

INCIDENT REPORTS

Trail Ranger Reports

Feedback from Police Services

Access Fort Collins Reports

E-BIKE USE

Trail Counts

Travel Behavior Survey

Bike Shop Input

RECOMMENDATIONS

Staff Recommendation for E-bike Regulations

Addressing Challenges and Concerns

Recommendations from City Boards and Commissions

OVERVIEW

In April 2019, Fort Collins City Council approved a one-year pilot program to allow Class 1 and Class 2 e-bikes on paved trails in Fort Collins. E-bikes were already legal on streets and treated like conventional bicycles under City Code, but prior to the pilot program were not allowed to be used on trails in Fort Collins except for users with a temporary or permanent disability under ADA regulations. The one-year paved trail pilot program began May 1, 2019 and ends April 30, 2020. Between April and December 2019, City staff and partners collected data and public input to assess perceptions and impacts associated with allowing e-bikes on paved trails in Fort Collins. Public outreach and education about trail etiquette and relevant laws were conducted during the pilot program as well. The primary pilot program goals were:

- Assess public opinions and perceptions around allowing e-bikes on paved trails
- Collect data to understand impacts to trail user experience and safety
- Measure changes to bicycle utilization on trails
- Increase awareness of proper trail etiquette and trail use laws
- Collect comprehensive data to report back to decision makers in areas of concern

The following report summarizes the results of the pilot program and recommendations for next steps. Key takeaways from the pilot program include:

- Staff recommends allowing Class 1 and Class 2 e-bikes on paved trails in Fort Collins following the completion of the pilot program.
- Research and the pilot program indicate e-bikes provide mobility, sustainability, and health benefits, and can help achieve Fort Collins' Climate Action and transportation goals.
- The pilot program did not result in any major safety incidents associated with allowing e-bikes on paved trails.
- Public feedback and input from City Boards and Commissions indicated more support for allowing e-bikes on paved trails than opposition, particularly Class 1 e-bikes.
- Speed snapshots showed an average bicycle speed of just under 12 miles per hour (total of 1,157 bikes). Only 16 e-bikes were observed during the speed snapshots with an average speed of 15.63 mph.
- E-bike use is increasing though it remains a relatively small percentage of users on the trails. Based on paved trail counts conducted in September, 1.2% of bicyclists observed were using e-bikes.
- Most e-bike owners reported bicycling more and replacing car trips with their e-bike.

As the demand for e-bikes continues to increase around the country and world, Fort Collins can expect to see more people opting to purchase and utilize e-bikes on the trail system. In conjunction with staff's recommendation to continue allowing e-bikes on paved trails, staff is also recommending the following primary strategies to address broader concerns related to trail safety, and remain proactive in anticipation of increased trail use in the coming years (additional strategies detailed in the recommendations section).

- Conduct ongoing monitoring of trail utilization and experience, including the use of e-bikes, and safety behaviors. With e-bikes representing a small percentage of total bicycle use on trails, staff proposes to continue annual trail assessments to address safety issues if they arise. In addition, staff will use City surveys (e.g., the Annual Community Survey) to evaluate changes in overall satisfaction with the trail system.
- Conduct trail user education to promote safe and legal use of the trail system. Bicycle user speed and trail safety remain concerns among trail users based on input received during the pilot program. Fort Collins has a courtesy trail speed limit of 15 mph; while this is not an enforceable speed limit, it is an important education tool. To continue to promote safe trail use and foster positive trail experiences, staff recommends ongoing trail user education in partnership with FC Moves, Parks, Natural Areas, Police Services, and community organizations to emphasize this courtesy speed limit, trail laws, and proper etiquette.
- Staff recommends utilizing upcoming Plan updates (e.g., Parks Master Plan and Trails Master Plan) as the platform to engage in broader conversations around future trail system vision, the use of other e-devices, and trail management and design strategies to accommodate increased use.

BACKGROUND

In August 2017, Colorado passed House Bill 17-1151 concerning the regulation of e-bikes; this law established three classes of e-bikes, defines e-bikes as bicycles, and allows the operation of Class 1 and Class 2 e-bikes on bike or pedestrian paths unless local governments prohibit such use (which at the time was the case for Fort Collins).

Following adoption of the new state law in 2017, the City’s Bicycle Advisory Committee (BAC) researched the topic of allowing e-bikes on Fort Collins’ paved trail system. In April 2018, the BAC submitted a recommendation to the Transportation Board in support of a pilot program to allow and evaluate the use of Class 1 and Class 2 e-bikes on Fort Collins paved trails. Following this recommendation, the Transportation Board requested staff develop a framework for an e-bike pilot program for their consideration.

Staff from FC Moves, Natural Areas, Parks, and Park Planning & Development developed a proposed framework for this pilot program, which was subsequently presented to nine City Boards, Commissions and Committees for their consideration and action; eight voted in favor of a pilot program to allow e-bikes on paved trails for one year. In April 2019, Fort Collins City Council adopted Ordinance No. 045, which enacted a one-year exemption from certain restrictions in the City Code to allow Class 1 and Class 2 e-bikes on paved designated trails in Fort Collins.

Table 1: Classification of E-bikes (Colorado and Fort Collins regulations)

Electric Bicycle Definition: A bicycle with two or three wheels, fully operable pedals, and an electric motor that does not exceed 750 watts.	
Class 1	An electrical assisted bicycle that is equipped with an electric motor that provides assistance while the rider is pedaling up to 20 miles per hour.
Class 2	An electrical assisted bicycle equipped with a motor that provides assistance regardless of whether the rider is pedaling but ceases to provide assistance when the bicycle reaches a speed of 20 miles per hour.
Class 3	An electrical assisted bicycle equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the bicycle reaches a speed of twenty-eight (28) miles per hour. Class 3 e-bikes include age restrictions and require the use of helmets for people under the age of 18.

REGULATIONS

Under **Colorado state law**, E-bikes are classified as and have the same rights as traditional bicycles. E-bikes are defined and categorized in three classes as outlined in Table 1. State law allows Class 1 and Class 2 e-bikes on trails unless explicitly prohibited by the local jurisdiction. Under the state law, local jurisdictions have the authority to regulate the use of e-bikes on bicycle and pedestrian trails.

Consistent with Colorado law, Fort Collins’ **City Traffic Code** defines e-bikes as a bicycle with two or three wheels, fully operable pedals, and an electric motor that does not exceed 750 watts. City and Colorado Traffic Code require e-bikes to conform to one of three classifications outlined in Table 1 and to be labeled accordingly. E-bikes and E-bike riders are exempt from motor vehicle registration and license requirements.

Except as authorized by the 2019 pilot program ordinance, the Fort Collins City Code prohibits the use of e-bikes on a bike or pedestrian path or on a recreational trail unless the user has a temporary or permanent mobility disability.

Table 2: E-bike regulations (paved trails), snapshot of Colorado jurisdictions

Colorado	Class 1 and Class 2 e-bikes allowed
Colorado State Parks	Class 1 and Class 2 e-bikes allowed
Larimer County	Class 1 and Class 2 allowed
Boulder County	Class 1 and Class 2 allowed
Jefferson County	Class 1 and Class 2 allowed
City & County of Denver	Class 1 allowed during 2019 temporary rule
Loveland	Class 1 and Class 2 allowed
Boulder	Class 1 and Class 2 allowed
Greeley	Not currently allowed, in process of updating City Code to allow
Grand Junction	Class 1 and Class 2 allowed
Colorado Springs	Class 1 allowed on urban trails
Durango	Class 1 and Class 2 allowed

OTHER JURISDICTIONS

Since 2015, other states have been updating outdated laws regarding e-bikes, for example where e-bikes may have been classified as mopeds or scooters and required licencing, registration and other restrictive requirements. The majority of states now define e-bikes in their code and many have created the three-tiered e-bike classification as is the case in Colorado and Fort Collins.

Since the 2017 state law was passed in Colorado, many Colorado jurisdictions have updated their e-bike regulations or by default of the new law, now allow Class 1 and Class 2 e-bikes on multi-use trails. Table 2 highlights a handful a Colorado jurisdictions and their current regulations. Some Colorado jurisdictions only allow Class 1 e-bikes on paved trails, but most allow Class 1 and Class 2 e-bikes on paved trails.

OTHER E-DEVICES

In 2019, Fort Collins also launched a one-year e-scooter share pilot program with the private scooter company *Bird*. E-scooters and other e-devices (except for Class 1 and Class 2 e-bikes) are not currently allowed on Fort Collins' recreational trail system and are being managed separately from e-bikes. The timing of the 2017 state law regarding e-bikes and the clear definition of e-bikes as bicycles in city and state statutes prompted staff to approach the e-bike paved trail pilot program independently of other e-devices. As the use of e-scooters and other e-devices increases and these modes become more established, staff will utilize the upcoming Parks Master Plan and subsequent Trails Master Plan updates to determine future management strategies and policies for such devices as part of Fort Collins trail system.

E-BIKE LITERATURE REVIEW

During the pilot program, the City of Fort Collins joined Boulder County, Larimer County, and the City of Boulder as a funding partner in the completion of a Literature Review to provide a snapshot of relevant research related to e-bikes and how they are being addressed in other jurisdictions. The literature review also assessed broader topics related to recreation conflict and emerging technology. The key findings from the literature review were:

LITERATURE REVIEW KEY FINDINGS:

- E-bikes provide increased access to recreation and transportation; older adults are more likely to use e-bikes for recreation and fitness whereas younger adults are more likely to use e-bikes for commuting, utilitarian trips, and to replace car trips.
- The addition of the electric-assist encourages people to take more and longer trips by bike, and offers individual health benefits.
- E-bike users indicate feeling safer on an e-bike than a conventional bike given the ability to travel through an intersection quickly or traverse challenging terrain.
- Safety, speed, crowding, and user conflict are common concerns related to bicycles, and even more so for e-bikes. However, e-bike research has shown that people tend to view e-bikes more favorably once they are exposed to or become familiar with e-bikes.
- The literature review found little research to suggest that e-bikes have greater negative impacts on trails or wildlife than regular bikes.
- Many Colorado jurisdictions have acted to allow some or all classes of e-bikes on their trails.



Photo: e-trike on Poudre Trail

E-BIKE PILOT PAVED TRAIL PROGRAM OVERVIEW

The development, implementation and final recommendations of the E-bike pilot program were done in partnership with multiple City Departments, including FC Moves, Parks, Park Planning and Development, and Natural Areas. Police Services and Traffic Operations were consulted for data and feedback as well. Community and regional partners, including local bike shops, Colorado State University, bicycle organizations, and neighboring jurisdictions also played a role in the pilot program. Students from the Colorado School of Public Health were integral to the implementation of the e-bike pilot program. The following summarizes the primary methods used to collect data and input during the pilot program.



Photo: e-bike demos with Bicycle Advisory Committee

PUBLIC SURVEYS AND QUESTIONNAIRES: The pilot program included extensive data collection through surveys and questionnaires. Surveys were administered on the trails, online, and during events. Combining all surveys, over 1,100 responses were received, offering a good indicator of the perceptions and experiences related to allowing e-bikes on Fort Collins paved trails. Trail surveys were conducted on multiple days, during different time periods, and across the trail system to reach as many individuals as possible. Over 650 surveys were completed by people on the trails and the online survey received 382 responses.

BICYCLE SPEED SNAPSHOTS: Bicyclist speeds were captured during the pilot program using hand-held pocket radar units with trained students. Speeds snapshots were captured on 19 different days in April, July, August, September and October. Different locations and time periods were included in the analysis on the following trails: Spring Creek Trail, Poudre Trail, Long View Trail, Mason Trail, and Power Trail. A total of 1,157 bicyclists were included in the speed assessments with only 16 e-bikes observed.

ANNUAL TRAIL COUNTS INCLUDING E-BIKE

OBSERVATIONS: Bicyclist and pedestrian counts were collected at 13 trail locations in September. These counts were used to track the percentage of bicyclists using e-bikes.

OBSERVATIONS AND FEEDBACK FROM CITY RANGERS:

During the Pilot Program, Staff requested feedback from City Rangers regarding observations and reported conflicts with people utilizing e-bikes.

FEEDBACK FROM CITY DEPARTMENTS: Multiple City departments were involved in the pilot program with feedback or data collected from Police Services, FC Moves, Natural Areas, Parks, Park Planning and Development and Traffic Operations.

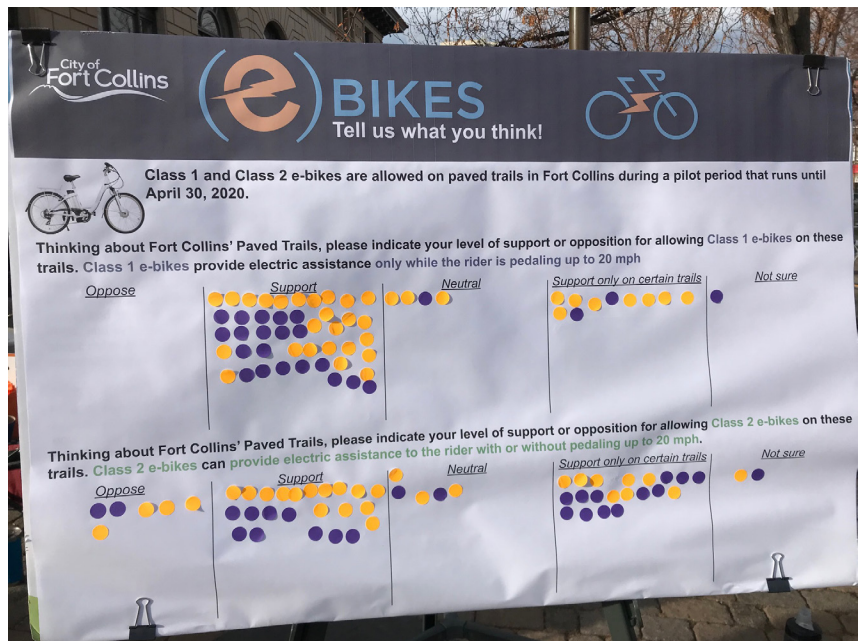


Photo: E-bike feedback from Bike to Work Day

ACCESS FORT COLLINS AND INCIDENT REPORTS: Community members were encouraged to report issues or comments using the City’s Access Fort Collins application, email, or report directly to Police Services.

OTHER FEEDBACK (COMMUNITY PARTNERS, BIKE SHOPS): In addition, Staff reached out to partners including local bike shops, Colorado State University, and local bicycle organizations, to seek input regarding the pilot program.

LITERATURE REVIEW (LED BY BOULDER COUNTY WITH FUNDING PROVIDED BY THE CITY OF FORT COLLINS): During the pilot program, the City of Fort Collins joined Boulder County, Larimer County, and the City of Boulder as a funding partner in the completion of a Literature Review to provide a snapshot of relevant research related to e-bikes and how they are being addressed in other jurisdictions.

EDUCATION AND OUTREACH: In addition, the following education and outreach was conducted during the pilot program:

- Educational handouts distributed through retailers and at events
- Temporary signage placed on the trails with information about the pilot program and the courtesy speed limit of 15 mph
- Press release
- Website information
- Social media and email communications
- Trail “pop-up” education events
- E-bike specific outreach at major events including Open Streets, Bike to Work Day, Earth Day, and the Bike Fix-it Bonanza
- E-bike demos
- Distribution of hundreds of bike bells in partnership with Bike Fort Collins to emphasize safe passing

SUMMARY OF SURVEY RESULTS

While not all surveys were fully completed, Table 3 outlines the number of responses to the primary questions by survey / feedback form, with 1,174 responses summarized. It is likely there is some duplication across surveys, but the overall percentage of this duplication is expected to be low.

MODE DURING TRAIL SURVEY: Overall, more bicyclists stopped to complete the trail surveys, with 35% walking or jogging, and 62% bicycling or e-bicycling. Only 17 survey respondents were traveling by e-bike during the survey. **See Graph 1.**

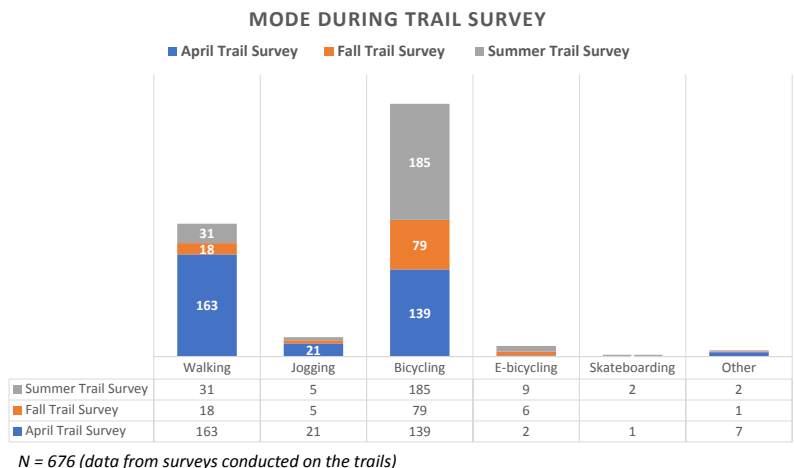
Survey	Total Responses
Trail Survey (April)	315
Open Streets Survey	73
Online Survey	382
Trail Survey (Summer)	235
Trail Survey (Fall)	109
Winter Bike to Work Day Survey	60
TOTAL	1,174

PERCEPTIONS REGARDING E-BIKES ON PAVED TRAILS

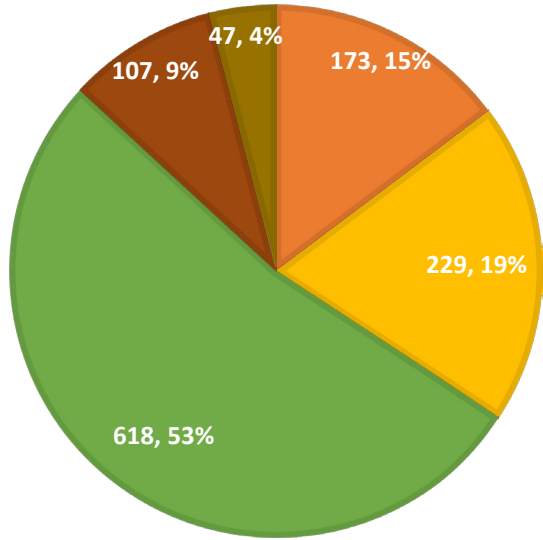
Graph 1: Mode during trail survey

LEVEL OF SUPPORT FOR CLASS 1 AND CLASS 2 E-BIKES ON PAVED TRAILS: All surveys included the same two questions asking respondents to indicate their level of support for allowing Class 1 and Class 2 e-bikes on paved trails (questions separated by Class of e-bike). All surveys showed clear support for allowing Class 1 e-bikes on paved trails. The responses for Class 2 e-bikes were more varied, but overall still indicated slightly higher levels of support than opposition. **See Graphs 2-4.**

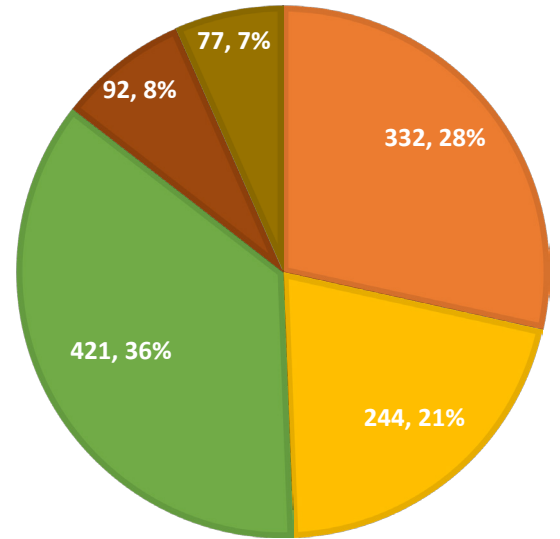
Respondents were asked to explain why they responded the way they did to the two questions indicating level of support. With hundreds of comments received, the primary reasons people indicated support for e-bikes on paved trails were as follows:



INDICATE LEVEL OF SUPPORT FOR CLASS 1 E-BIKES ON PAVED TRAILS



INDICATE LEVEL OF SUPPORT FOR CLASS 2 E-BIKES ON PAVED TRAILS



N = 1,174 (data from trail, online, and event surveys)

- Provides support for those needing additional assistance
- No difference from a regular bike
- Supports alternative transportation

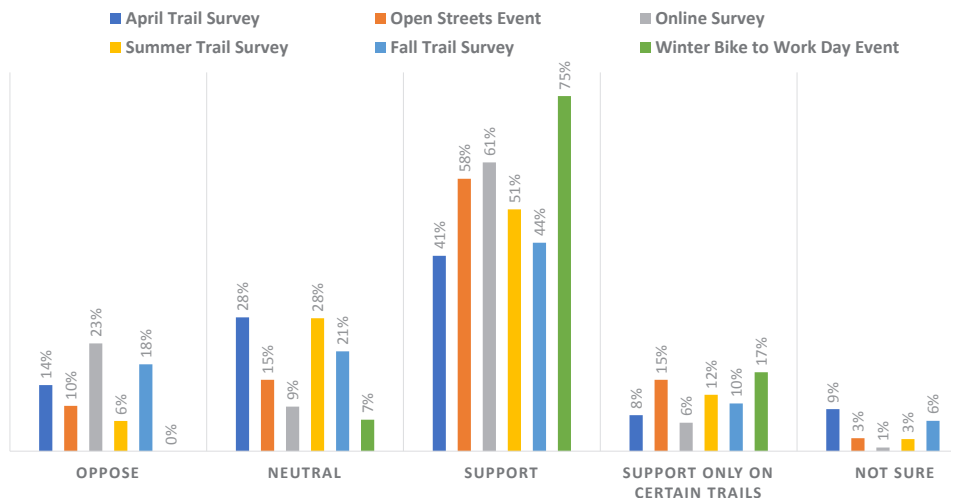
The primary reasons people indicated opposing e-bikes on paved trails were:

- Concerns over safety and speed
- Perspectives of e-bikes being a motorized vehicle (especially for Class 2 e-bikes)
- Impact to trail experiences

PERCEPTIONS REGARDING COMPATIBILITY WITH VULNERABLE TRAIL USERS, INCLUDING SENIORS AND YOUTH: The online survey and trail surveys conducted in the fall asked people to indicate their feeling about the compatibility of having e-bikes on paved trails with vulnerable users. With a total of 463 responses, 52% felt it was compatible, 33% felt it wasn't, and 15% were unsure.

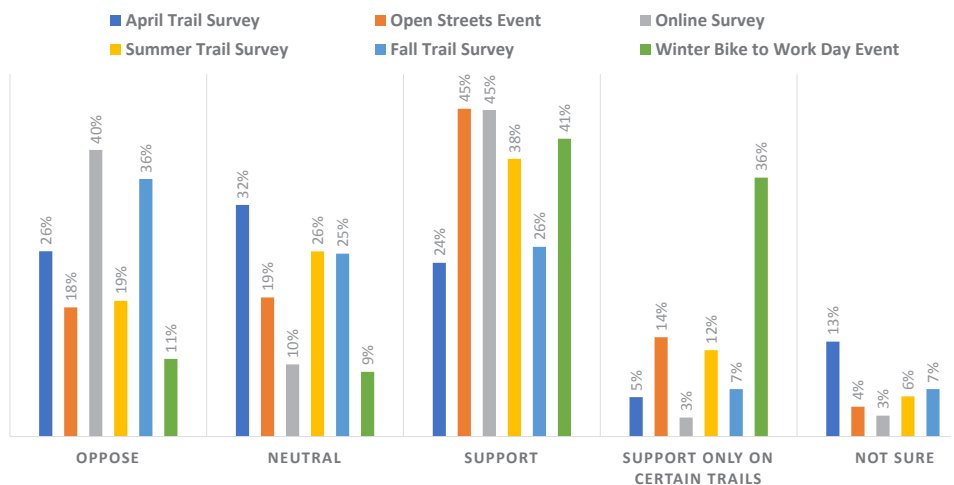
PERCEPTIONS REGARDING REQUIRING AGE RESTRICTIONS FOR THE USE OF E-BIKES: The online survey and trail surveys conducted in the fall asked people to indicate their level of support for

LEVEL OF SUPPORT FOR CLASS 1 E-BIKES BY SURVEY TYPE



Graphs 3 & 4: Position on allowing e-bikes on paved trails by survey

LEVEL OF SUPPORT FOR CLASS 2 E-BIKES BY SURVEY TYPE



N = 1,174 (data from trail, online, and event surveys)

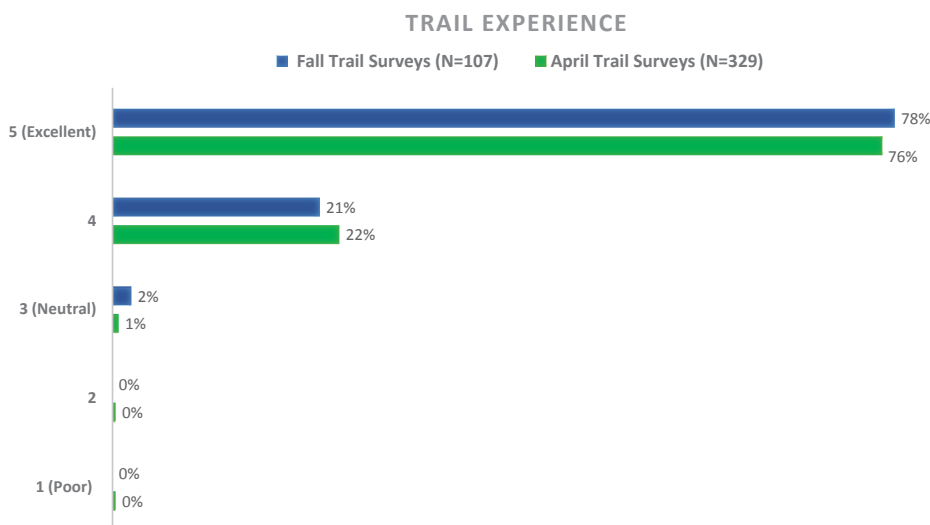
establishing age restrictions for the use of Class 1 and Class 2 e-bikes (currently Class 3 e-bikes have age restrictions given the higher speed capability). Responses were mixed with 21% indicating “no restrictions”, 22% indicating “restricted to 16+”, 20% indicating “restricted to 18+”, 20% indicated “other”, and 17% indicated “not sure”.

TRAIL EXPERIENCES

Several survey questions were used to assess overall trail experience as well as the impact of e-bikes to users’ trail experience. Overall trail experience was rated very high by trail users. For trail users who observed e-bikes during the day of the trail survey, very few survey respondents rated those encounters as negative. Survey respondents who had experienced e-bikes on the paved trails were asked to indicate how that has impacted their overall experience using the paved trails – between 72% and 86% of respondents rated the impact as Neutral/No Impact to Positive (this percentage varied by survey and was higher for trail surveys conducted in April).

HOW WOULD YOU RATE THE OVERALL QUALITY OF YOUR EXPERIENCE USING THE PAVED TRAILS TODAY? (SCALE OF 1-5 - POOR, NEUTRAL, EXCELLENT). The trail surveys conducted in April and in the fall asked people to rate the overall quality of their experience using the paved trails that day. 98-99% of respondents rated their experience a 4 or 5 on a scale of 1 to 5. **See Graph 5.**

Graph 5: Rating overall quality of experience using trails.



N = 436 (data April and Fall Trail Surveys)

DID YOU FEEL CROWDED BY THE NUMBER OF OTHER VISITORS ON THE PAVED TRAILS TODAY? A low percentage of people indicated feeling moderately or extremely crowded by other visitors on the trails during their trip that day. When asked whether the respondent felt crowded by the number of bicyclists on the trails that day, 92% rated their experience between “not at all crowded” and “slightly crowded”; this percentage was consistent for surveys conducted in April and during the fall.

HOW OFTEN HAS EACH OF THE FOLLOWING HAPPENED TO YOU PERSONALLY DURING THIS VISIT TO THE PAVED TRAILS? When asked how often survey respondents had observed unsafe or discourteous behaviors on their paved trail trip that day, between 87% and 95% of respondents indicated that they “never” or “rarely” observed people on e-bikes behaving unsafely or being discourteous. When asked about bicyclists in general, these percentages were slightly lower ranging from 76% to 85%. **See Graph 6.**

DID YOU ENCOUNTER AN E-BIKE USER DURING YOUR VISIT TO THE PAVED TRAILS TODAY?

During the April and fall trail surveys, people were asked if they encountered an e-bike user during their visit to the trails that day. A higher percentage of people indicated encountering an e-bike user when the trail surveys were conducted in the fall (20%, N=21 out of 106) as compared to April (6.5%, N=21 out of 321). For those who had encountered an e-bike user, they were asked to rate the interaction on a scale of 1-5. Between 81% and 88% rated those interactions as Neutral to Positive, with only a few rating the interaction on the negative end of the spectrum.

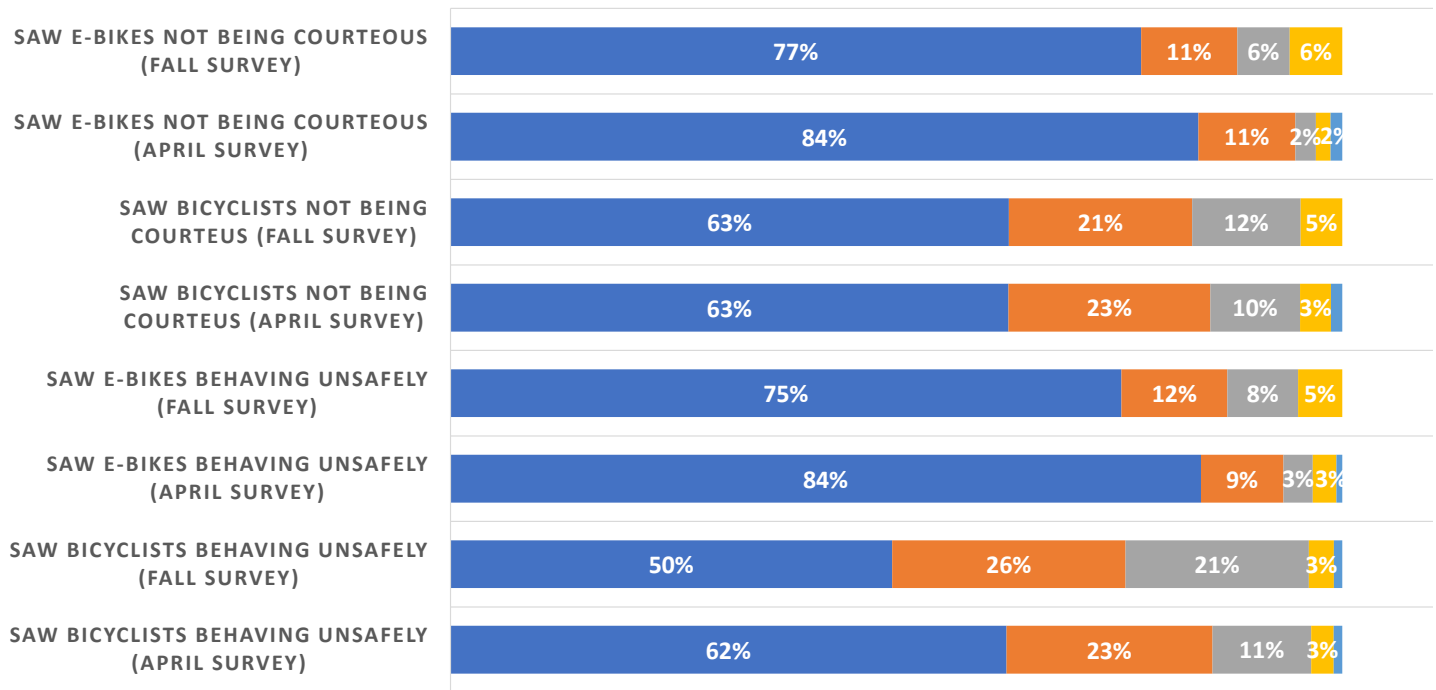
HOW OFTEN DO YOU ENCOUNTER E-BIKE USERS WHEN USING FORT COLLINS PAVED TRAILS?

Survey respondents were asked how often in general they encounter e-bike users on Fort Collins paved trails. The trail surveys conducted in the fall and the online surveys indicated higher percentages of e-bike encounters, as compared to the trail surveys conducted in April. Nevertheless, the percentage of people responding “Often” or “Almost Always” remained relatively low at 15% or lower. **See Graph 7.**

Graph 6: How often did you observe the following during your trip on the paved trails today?

OBSERVED BEHAVIORS

■ Never ■ Rarely ■ Sometimes ■ Often ■ Almost Always

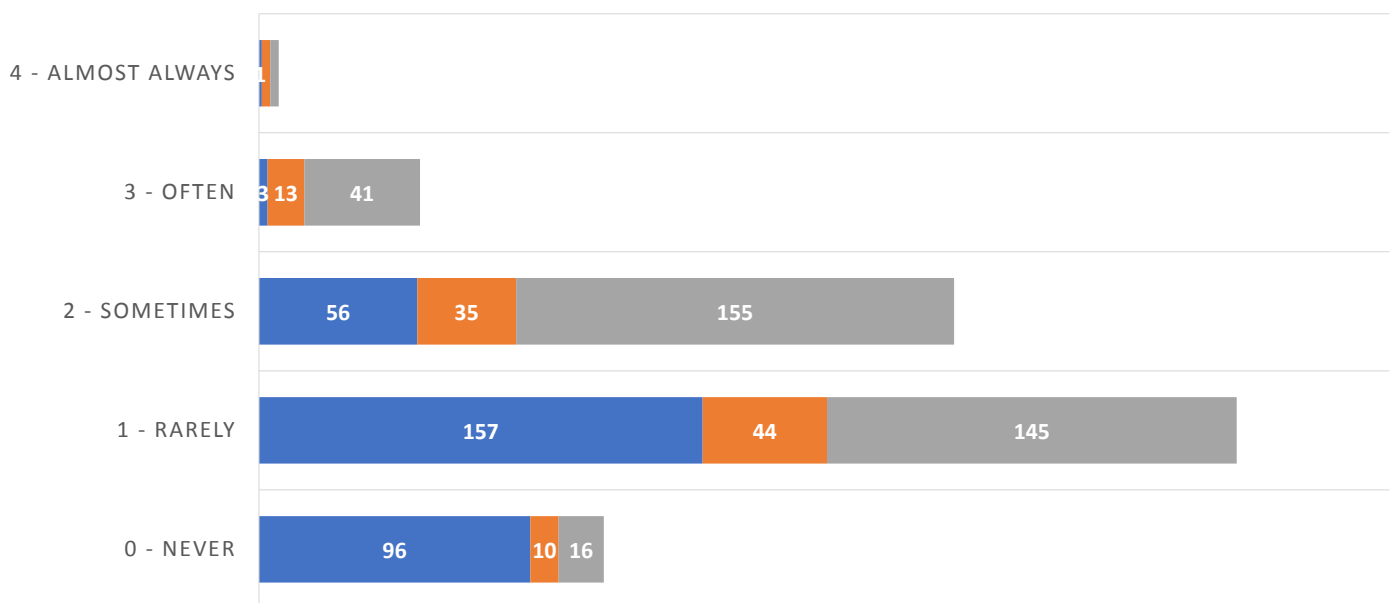


April Surveys: N = 307-318; Fall Surveys: N = 101-107

Graph 7: How often do you encounter e-bike users on Fort Collins Paved Trails?

HOW OFTEN DO YOU ENCOUNTER E-BIKE USERS ON FORT COLLINS PAVED TRAILS?

■ April Trail Survey ■ Fall Trail Survey ■ Online Survey

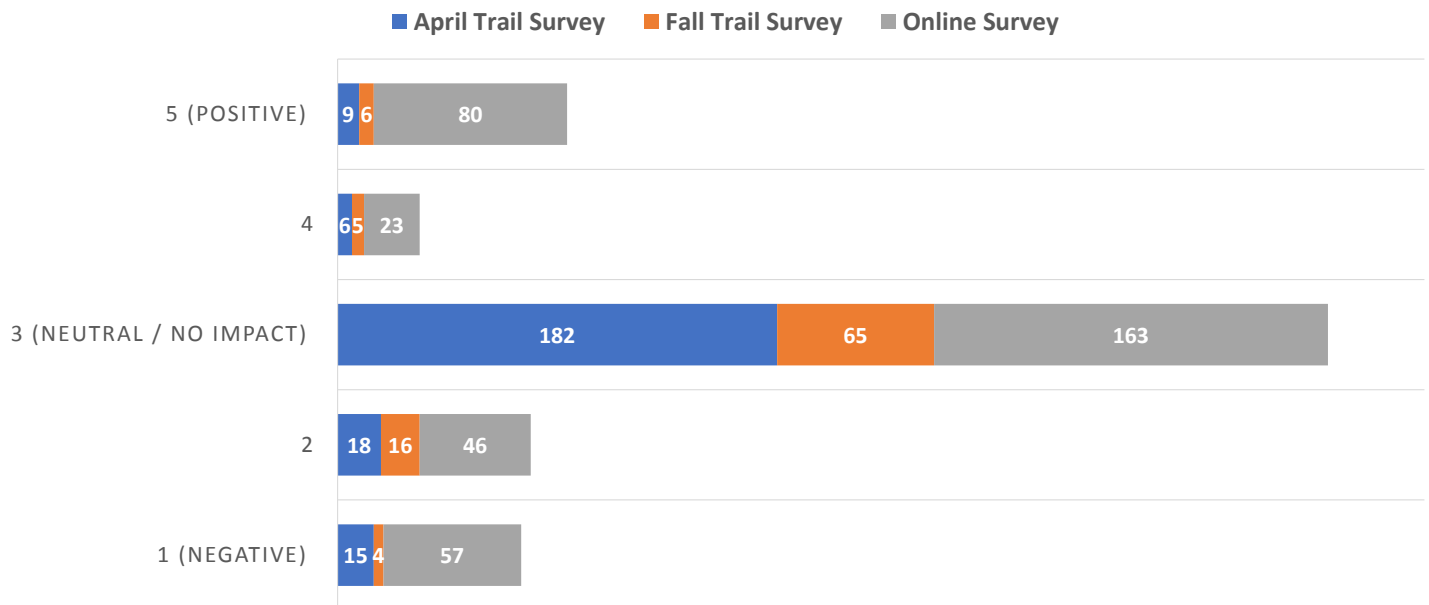


N = 778 (data from April & Fall Trail Surveys and Online Survey)

IF YOU HAVE ENCOUNTERED E-BIKE USERS WHEN USING FORT COLLINS PAVED TRAILS, HOW HAS THAT IMPACTED YOUR OVERALL EXPERIENCE USING THE TRAILS? Based on responses to three surveys, between 72% and 86% of respondents rated the impact of encountering e-bike users on the paved trails as Neutral/No Impact to Positive (combined 77%). See Graph 8.

Graph 8: How have e-bike users impacted your experience on the paved trails?

IF YOU HAVE ENCOUNTERED E-BIKE USERS WHEN USING FORT COLLINS' PAVED TRAILS, IN GENERAL, HOW HAS THAT IMPACTED YOUR OVERALL EXPERIENCE USING THE TRAILS? (SCALE 1 - 5)



N = 695 (data from April & Fall Trail Surveys, and Online Survey)

SOMETIMES TRAIL USERS INTERFERE WITH ONE ANOTHER'S GOALS ON THE TRAIL, CAUSING UNPLEASANT EXPERIENCES. THIS IS GENERALLY REFERRED TO AS "CONFLICT." DID YOU EXPERIENCE CONFLICT DURING YOUR TRIP ON THE PAVED TRAILS TODAY? Based on 235 responses to this trail survey question, 90% of respondents indicated not experiencing conflict on the trails during their trip that day. For those who had experienced conflict, 3 respondents indicated that conflict involved an e-bike user (1.3% of the total number of responses).

PERCEPTION OF SAFETY

A couple survey questions were used to evaluate overall trail safety and safety related to e-bikes. Trail survey respondents were asked to rate, during daylight hours, how safe they felt (typically) when using Fort Collins Paved Trails. Very few respondents reported feeling unsafe. 98-99% of respondents reported feeling somewhat or very safe when using Fort Collins Paved Trails. This is a question that can be asked in the future to determine changes in perception of safety.

In addition, trail survey respondents were asked to indicate if they had experienced a crash on the trails in the past 6 months. Of 427 respondents, 29 indicated that they had experienced a bicycle-related crash in the past 6 months; only one respondent indicated that it had involved an e-bike.

E-BIKE OWNERS SPECIFIC QUESTIONS

HAVE YOU RIDDEN AN E-BIKE / DO YOU OWN AN E-BIKE? Out of 1,120 survey responses, 66% indicated "no" they hadn't ridden an e-bike, 22% indicated they had ridden one, and 12% indicated they owned an e-bike. See Graph 9. Of those who indicated owning an e-bike, approximately 64% indicated being 50 years of age or older.

DOES YOUR E-BIKE ENCOURAGE YOU TO RIDE MORE?

Out of 112 survey responses (those who indicated owning an e-bike), 92% reporting bicycling more because of their e-bike.

DO YOU USE YOUR E-BIKE TO REPLACE CAR TRIPS?

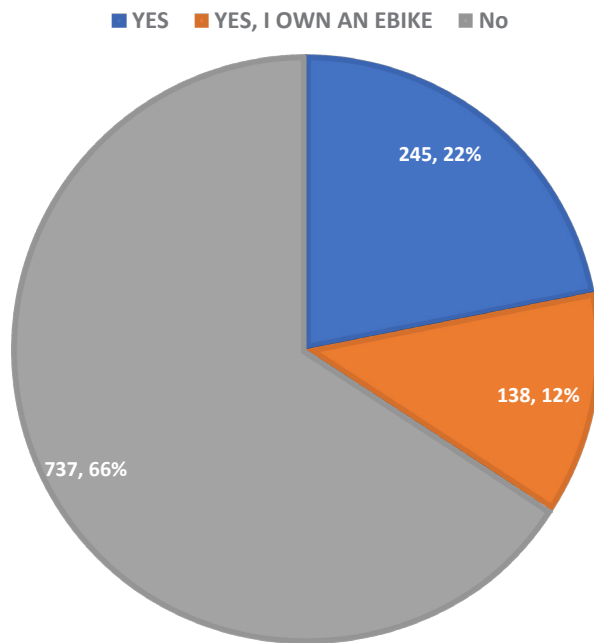
Out of 112 survey responses (those who indicated owning an e-bike), 84% reporting using their e-bike to replace car trips.

DO YOU ANTICIPATE PURCHASING AN E-BIKE IN THE NEXT 3 YEARS?

Out of 674 survey responses, 10% indicated “yes” they anticipate purchasing an e-bike in the next 3 years. 18% indicated “I don’t know / unsure”.

Graph 9: E-bike ownership and experience

HAVE YOU RIDDEN AN E-BIKE?



N = 1,120 (Trail surveys, Online survey)

SUMMARY OF SPEED SNAPSHOTS

METHODS

Bicyclist speeds were capturing prior to and during the pilot program using hand-held pocket radar units with trained students. Speeds snapshots were captured on 19 different days in April, July, August, September and October. Different locations and time periods were included in the analysis on the following trails: Spring Creek Trail, Poudre Trail, Long View Trail, Mason Trail, and Power Trail. A total of 1,157 bicyclists were included in the speed assessments with only 16 e-bikes observed.

RESULTS

The average speed for all bikes was just under 12 miles per hour (11.93 mph), with an observed range of 1 - 24 miles per hour. For the 16 e-bikes observed, the average speed was 15.62 miles per hour, with an observed range of 10 - 23 miles per hour. Table 4 summarizes the average speed by trail location. The low sample size for e-bike observations suggests a need to continue monitoring speeds while also conducting education on safe trail speeds for all bicyclists.

INCIDENT REPORTS

TRAIL RANGER OBSERVATIONS

During the pilot program, Parks and Natural Areas Rangers were asked to provide reports of incidents involving e-bikes. While Rangers did observe e-bikes on the paved trails, no e-bike safety incidents were reported by the Rangers on the paved trails.

FEEDBACK FROM POLICE SERVICES

Fort Collins Police Services was asked to provide feedback regarding their experience during the pilot program and if they had received reports regarding

Location	Average bicycle speed	Number of bicyclists included in observation
Long View Trail near Scenic Drive	12.28	46
Mason Trail north of Harmony	12.69	61
Mason Trail north of Horsetooth	12.68	53
Poudre River Trail near Lee Martinez Park	12.83	112
Poudre Trail east of Linden	10.41	104
Power Trail north of Drake	12.72	103
Power Trail south of Drake	10.21	70
Spring Creek Trail at Creekside Park	10.23	99
Spring Creek Trail at Edora Park	10.79	169
Spring Creek Trail at Rolland Moore Park	13.72	163
Spring Creek Trail at Spring Canyon Park	10.17	24
Spring Creek Trail west of Mason	13.12	104
Spring Creek Trail west of Taft Hill Rd	11.74	50

issues with e-bikes on paved trails. Police Services indicated that allowing e-bikes on paved trails has not been an issue from their experience and they support continuing to allow them.

ACCESS FORT COLLINS REPORTS

Staff encouraged the public to submit comments and concerns using Access Fort Collins and email. During the pilot program, approximately 25 emails or Access reports were submitted with some indicating support for e-bikes and some expressing concerns or negative experiences with e-bikes on the trails. Some of the comments received indicated experiences with illegal devices on the trails (e.g., gas-powered bikes), which were not included in the pilot program. The City’s Safe Routes to School Program reported an interaction with an e-bike user riding at high speed and behaving inconsiderately near a group of youth (it’s unclear if this was a legal e-bike allowed on the paved trails). These reports indicate additional education and signage are warranted to inform trail users of what is legally allowed on the trails, and emphasize safe trail behaviors.

E-BIKE USE

The use of e-bikes has increased in Fort Collins, but still represents a small percentage of bicycle users. During the pilot program, e-bike use increased slightly (based on trail counts). In addition, bike shop owners reported increased e-bike sales from 2018 to 2019. It is expected the use of e-bikes will continue to increase.

TRAIL COUNTS

The City conducts annual bicycle and pedestrian counts on the trails and at street intersections every September. Volunteers have been asked to record e-bikes when collecting their counts. Since 2015, the percentage of e-bike users has remained less than 1.5% of all bicyclists, but has increased slightly over the years. In 2019, 1.15% of bicyclists counted on the trails were using e-bikes.

TRAVEL BEHAVIOR SURVEY

The Fort Collins 2017 Travel Diary Study asked respondents to report if they owned an e-bike: 2% of respondents indicated their household has one or more e-bike. If this survey is funded in the future, it will provide a good indicator as to the growth in e-bike ownership locally.

BIKE SHOP INPUT

At the end of 2019, City staff reached out to local bike shop owners seeking their input on e-bike sales and trends. Of those who responded, they reported increased e-bike sales between 2018 and 2019 and reported selling almost entirely Class 1 e-bikes. They also indicated support for allowing e-bikes on paved trails and predicted steady growth of e-bike sales in the future.

RECOMMENDATIONS

The information collected during the pilot program and relevant research informed staff’s final recommendations for next steps with e-bike regulations on paved trails in Fort Collins. The recommendations were developed in partnership with multiple City Departments, including FC Moves, Parks, Park Planning and Development, Natural Areas and Police

Table 5: Summary of annual bicycle counts

Year	Type	Cyclists	E Bikes	% E Bikes
2019	Trails	3561	41	1.15%
2019	Intersections	4559	65	1.43%
2019	Total	8120	106	1.31%
2018	Trails	4947	24	0.49%
2018	Intersections	5553	22	0.40%
2018	Total	10500	46	0.44%
2017	Trails	6409	34	0.53%
2017	Intersections	7389	36	0.49%
2017	Total	13798	70	0.51%
2016	Trails	3027	8	0.26%
2016	Intersections	3781	3	0.08%
2016	Total	6808	11	0.16%
2015	Trails	10448	14	0.13%
2015	Intersections	6315	12	0.19%
2015	Total	16763	26	0.16%

Services. Feedback and recommendations from City Boards and Commissions, as well as community and regional partners, also played a role in the final recommendations.

STAFF RECOMMENDATION FOR E-BIKE REGULATIONS

The pilot program and relevant research has supported **Staff's recommendation to allow Class 1 and Class 2 e-bikes on paved trails following the completion of the pilot program.**

- E-bikes provide mobility, sustainability, and health benefits, and provide a strategy for achieving Fort Collins' Climate Action and transportation goals. Although the use of e-bikes in Fort Collins remains relatively low, it is expected use will increase as the price point for e-bikes comes down and more people recognize the benefits e-bikes can provide.
- Regional consistency: Most communities surrounding Fort Collins allow or will be allowing Class 1 and Class 2 e-bikes on paved trails. As Fort Collins continues to connect to the region through a robust trail system, and more people live in surrounding communities, allowing e-bikes on trails fosters regional connectivity as well as legal consistency, and increases opportunities for recreation and sustainable transportation.
- Public acceptance of e-bikes continues to grow as more people have individual experiences with them. The pilot program results also suggest higher levels of acceptance of e-bikes among community members as compared to previous efforts to gain input locally.

Staff will also present City Council with an alternative ordinance option of allowing just Class 1 e-bikes on paved trails as a result of certain City Board recommendations, and the differences in public opinions and some staff opinions.

ADDRESSING CHALLENGES AND CONCERNS

While the staff recommendation and recommendation from most City Boards consulted is to proceed with allowing the use of e-bikes on paved trails, the following broader concerns were raised by some staff members and Board members during the review process:

- **Slippery slope:** If e-bikes are allowed, this may result in a public perception that other e-devices are or should be allowed.
- **Enforcement:** If the recommendation to allow e-bikes on paved trails comes with an expectation for increased trail enforcement, the ability for staff to meet this expectation is of concern given existing resources and other safety priorities.
- **Future impacts to trail system:** The use of e-bikes is currently low in Fort Collins. Concerns were raised regarding the current design and capacity of the trail system, and how the system will accommodate increased e-bike use in the future.
- **Trail safety and experience:** Concerns were raised around the potential future impact to trail user experience and overall safety if the use of e-bikes on paved trails continues to increase.
- **Impacts to youth and vulnerable populations:** While staff and partners did not find research to suggest increased e-bike use would have a negative impact on youth and other vulnerable populations, this was raised a concern and may warrant additional monitoring and research.

In addition to the public feedback received during the pilot program, the input from staff and board members has informed staff's additional recommendations for continued trail user education, ongoing monitoring, and addressing broader trail use, design, and management questions through upcoming Plan updates (additional details below).

RECOMMENDED STRATEGIES TO ADDRESS CONCERNS AND MAINTAIN A POSITIVE USER EXPERIENCE FOR ALL TRAIL USERS:

- **Conduct trail user education to promote safe and legal use of the trail system.** Bicycle user speed and trail safety remain concerns among trail users based on input received during the pilot program. Fort Collins has a courtesy trail speed limit of 15 mph; while this is not an enforceable speed limit, it is an important education tool. To continue to promote safe trail use and foster positive trail experiences, staff recommends ongoing trail user education in

partnership with FC Moves, Parks, Natural Areas, Police Services, and community organizations to emphasize this courtesy speed limit, trail laws, and proper etiquette.

- **Conduct ongoing monitoring of trail utilization and experience, including the use of e-bikes, and safety behaviors.** With e-bikes representing a small percentage of total bicycle use on trails, staff proposes to continue annual trail assessments to address safety issues if they arise. In addition, staff will use City surveys (e.g., the Annual Community Survey) to evaluate changes in overall satisfaction with the trail system.
- **Trail signage:** with the proposed changes to e-bike regulations, staff plans to install permanent signage at key trail locations (e.g., at existing kiosks and trail access points) to notify the public which devices are allowed and where along with safety information. This signage may be installed as part of a larger trail signage effort planned by Park Planning & Development.
- **Trail enforcement:** A common comment regarding safe and legal trail use is for increased enforcement. The City currently employs 8 Natural Area (patrol) Rangers and 3 Parks (patrol) Rangers who cooperatively patrol the City's the trail system. While Rangers are able to enforce certain violations on the trails, including reckless riding, they are not fully commissioned officers and therefore do not have the ability to pursue or "pullover" individuals. Further, staff believes enhanced education can address the majority of concerns raised by the public with regard to the behaviors experienced on trails.
- **Staff recommends utilizing upcoming Plan updates** (e.g., Parks Master Plan and Trails Master Plan) as the platform to engage in broader conversations around future trail system vision, the use of other e-devices, and trail management and design strategies to accommodate increased use.

RECOMMENDATIONS FROM CITY BOARDS AND COMMISSIONS

Staff presented the results of the pilot program to the following City Boards, Commissions and Committees; seven voted in favor of allowing both Class 1 and Class 2 e-bikes on paved trails, or just Class 1 e-bikes.

- Senior Advisory Board (January 8 – subsequent action, voted in favor of Class 1 e-bikes on paved trails in conjunction with a requirement that e-bike users have insurance)
- Land Conservation & Stewardship Board (January 8 – subsequent action, voted in favor of Class 1 e-bikes on paved trails)
- Commission on Disability (January 9 – no action taken)
- Transportation Board (January 15 – voted in favor of allowing Class 1 and Class 2 e-bikes on paved trails)
- Parks & Recreation Board (January 23 – voted in favor of allowing Class 1 and Class 2 e-bikes on paved trails, and recommended ongoing monitoring)
- Bicycle Advisory Committee (January 27 – voted in favor of allowing Class 1 and Class 2 e-bikes on paved trails)
- Youth Advisory Board (February 5 - voted in favor of allowing Class 1 and Class 2 e-bikes on paved trails, and supported allowing Class 3 e-bikes if they can be programmed to a 20 mph top speed)
- Natural Resources Advisory Board (February 19 – voted in favor of allowing Class 1 e-bikes on paved trails)
- Air Quality Advisory Board (March 16 – canceled until further notice)



What's the deal with e-bikes?

Electric-assist bicycles, or e-bikes, are bicycles that include a small electric motor and aid the rider. For one year starting May 2019, Fort Collins will allow Class 1 and Class 2 e-bikes on paved multi-use trails as part of a pilot program.

- Class 1 and Class 2 e-bikes provide electric assistance up to 20 miles per hour.
- Class 3 e-bikes are not allowed on any trails in Fort Collins.
- E-bikes must be labeled by the manufacturer according to their class and top speed.
- E-bikes are allowed on streets but not allowed on unpaved trails in Fort Collins.*
- Class 1 and Class 2 e-bikes are also allowed on paved trails in Larimer County and other Colorado jurisdictions.

Happy Trails for All

Riding an e-bike, regular bike, skateboard or walking your dog? Whatever you do, the trails are for everyone and should be shared with respect. Follow these important tips to

keep you safe, legal and friendly when traveling trails.

- **Buzzing is for Bees Not Trail Users:**
Use an audible signal (a bell or your voice) and give at least three feet when passing. Make sure to pass on the left!
- **Use Safe Speeds:**
The trails have a courtesy speed limit of 15 mph, and less when passing or where congested. Control your speed to create comfortable trails for all!
- **Do the "Right" Thing:**
Keep your dogs, kids, strollers and whatever else you bring along to the right side of the trail, allowing two-way traffic and safe passing.
- **Be Seen:**
At night or when visibility is poor, bicyclists are required to use a white front light and rear red reflector. When walking, jogging or using another mode, wear visible clothes or reflective gear so other trail users can see you.

**In Fort Collins, e-bikes can be used as personal mobility devices for people with disabilities. For more information on these regulations, please visit the website below.*

The E-bike Pilot Program is your opportunity to provide input!

Learn more and provide feedback at
fcgov.com/ebikes

