

Electric Bicycles: City of Durango Staff Summary

November 2016

INTRODUCTION

The City of Durango is revisiting an ordinance passed in April 2016 that prohibits electric bicycles (e-bikes) on City trails and recreation areas, due to public concerns and comments regarding the usage of e-bikes to assist with mobility-impairments, aging in place and for safety. City staff has compiled this summary and a public presentation to inform and educate the public on the usage of e-bikes, how they compare to traditional bicycles, and with information on electric bicycle technical and safety data.

City of Durango Electric Assist and Electric Bike Policy

An electric assist or electric bicycle is defined by the City of Durango as tandem wheeled cycle that has an electric motor. The City defines electric bicycles as motorized and therefore allows their use on City property only where other motorized vehicles are allowed. E-bikes are not allowed in the City Open Space, Parks or Trail systems (Source: [City of Durango Electric Assist and Electric Bike Policy, by Sara Humphrey, Parks, Open Space, Trail Crew Leader](#)).

Background of City Process for Electric Bicycles

In April 2016 the City of Durango Code of Ordinances was revised to clarify the language on electric bicycles and other motorized vehicles within City open space, parks and trails systems. The adopted ordinance prohibits the following conditions:

Sec. 18-34(j) To drive or park any motorized vehicle on any park, playground, trail, recreational facility or city owned open space except in an area established and maintained as a public street, driveway or public parking area. The exception would include the authorized use of maintenance and/or emergency response vehicles as well as disabled individuals requiring motorized use for access in accordance with the Americans with Disabilities Act. As used in this section the term "motorized vehicle" shall include motorcycles, motor-driven cycles, motor vehicles, motorscooters, motorbicycles, motorized bicycles, neighborhood electric vehicles and electric bicycles as defined in the Model Traffic Code.

Status

The issue brought forth by the prohibition of e-bikes on City trails and recreation areas clarifies the requirement that all motorized vehicles, including electric bicycles, may only be utilized on City of Durango streets and bike lanes. Members of the community have requested consideration for the use of e-bikes on City trails as a personal mobility vehicle, for the mobility-impaired, and aging populations. City trails are heavily utilized by residents and visitors and safety concerns have been identified by the community with the proposed introduction of e-bikes on the on the basis of the perceived higher rates of speed on trails and heavier weight in the event of a collision. To assist in further community dialogue regarding the City Council's decision to prohibit e-bikes on City trails and recreation areas, City staff completed research on the benefits of e-bikes, the usage of e-bikes on roads and bicycle pathways, and health and safety information.

Process

In order to effectively provide a recommendation to the Durango City Council based on an understanding of facts, the City of Durango Parks and Recreation Advisory Board, Natural Lands Preservation Advisory Board and the Multi Modal Advisory Board will hold a joint public meeting to discuss City policy of electric bicycles on City trails on **Monday, September 19, 2016 at 5:00 p.m.** at the Durango Community Recreation Center.

Following the joint public meeting, City staff and the Advisory Boards will formulate a recommendation to the City Council on the existing e-bike regulations in a future Council Study Session in early 2017.

RESEARCH HIGHLIGHTS

What is an e-bike?

An electric bicycle (e-bike) is almost identical to a traditional bicycle in appearance, however it has a small electric motor and battery to provide electrical motorized assistance, through a pedal or throttle, to propel the bicycle up hills and along roadways. Below are two e-bike examples, the left e-bike with the electric motor above the rear tire and the e-bike on the right with an electric motor along the interior bike frame (Source: [Electric Bicycle Law Basics, by The People for Bikes](#)).



The Consumer Product Safety Commission (CPSC) defines a low-speed electric bicycle as “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 miles per hour.” The CPSC adopted this definition in 2003 and vehicles that meet its definition are subject to the CPSC’s regulations for bicycles that are solely human powered. The effect of this definition is that low speed electric bicycles that comply with the definition are regulated by the CPSC for their production, initial sale, and recall. There is not a well-developed regulatory scheme for electric bicycles that do not meet the CPSC definition (Source: [Consumer Product Safety Commission: Requirements for Low-speed Electric Bicycles](#)).

E-BIKE CLASSES

In order to modernize electric bicycle law in the United States, the Bicycle Product Suppliers Association (BPSA) devised a three-class system to categorize electric bicycles and properly regulate them based on their maximum assisted speed. The BPSA class system has the following categories of electric bicycles (Source: [Electric Bicycle Class Label Information](#) and [Electric Bicycle Law Basics, by The People for Bikes](#)):

- 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.
- 2) A “**class 2 electric bicycle,**” or “**low-speed throttle-assisted electric bicycle,**” is a 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.
- 3) A “**class 3 electric bicycle,**” or “**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 28 miles per hour, and is equipped with a speedometer. For all classes, the maximum power output is 750 watts (1 h.p.), and manufacturers and distributors of electric bicycles would be required to apply a class identification label to each electric bicycle.

The BPSA system also creates rules governing the use of electric bicycles, with safety as the top priority. Class 1 and 2 electric bicycles would be permitted to travel anywhere traditional bikes are permitted, as the maximum assisted speed of these devices is closely aligned with speeds traveled by traditional bicycles. Class 3 electric bicycles could be ridden on streets and roadways where traditional bicycles are permitted, including bicycle lanes, but would be restricted from slower speed areas such as multi-use paths. Class 3 electric bicycles would also be subject to additional requirements, such as a minimum user age and helmet mandate. Electric bicycles would not be subject to any licensing, registration, or insurance requirements (Source: [Electric Bicycle Law Basics, by The People for Bikes](#)).

The League of American Cyclists compiled a list of electric bicycles including both lowspeed electric bicycles, as defined at the federal level by the Consumer Products Safety Commission (CPSC), and vehicles marketed as “electric bicycles,” but which exceed the power limit for CPSC-compliant electric bicycles. The League of American Cyclists include a diverse array of “electric bicycles” in order to learn whether the CPSC definition reflected what people thought of as an “electric bicycle” (Source: [Electric Bicycles: Public Perceptions and Policy, by Ken McLeod, League of American Bicyclist, Legal Specialist \(January 2015\)](#)).

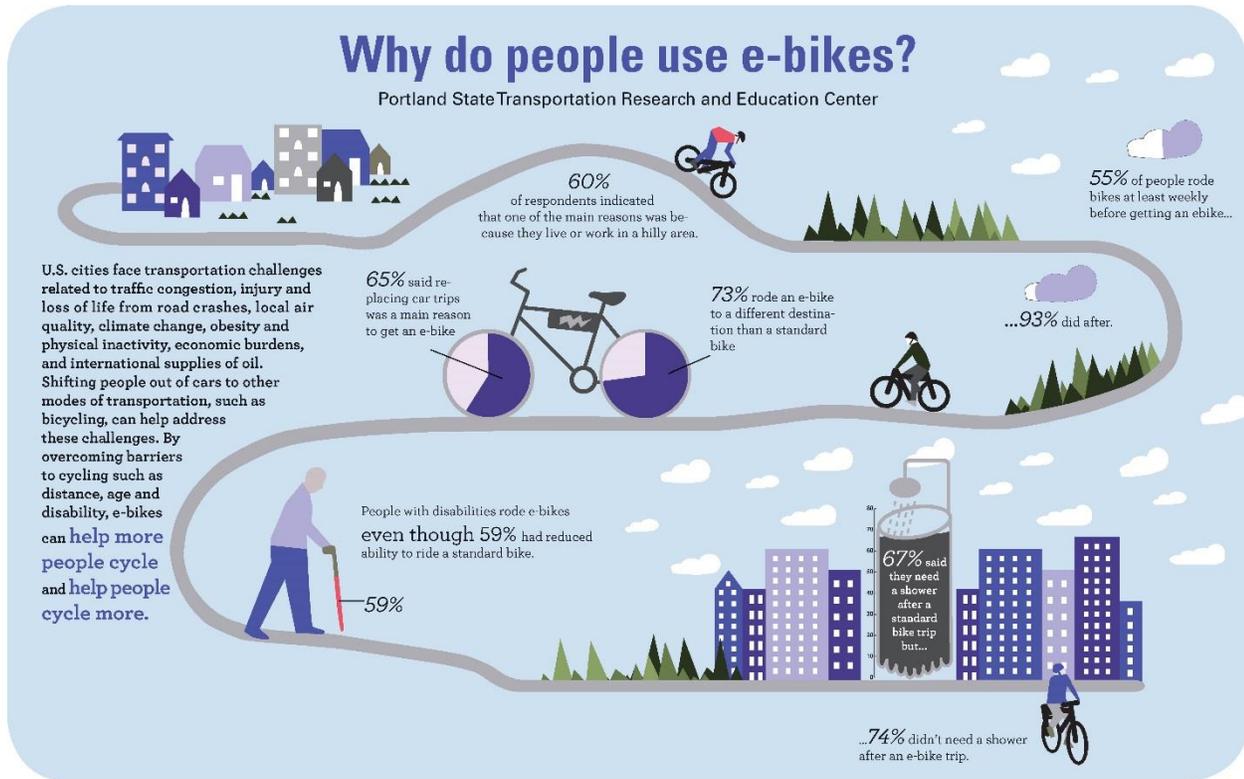
The class distinction, however, continues to be debated (Source: [Community Discussion on Separated Bike Paths and the Class Distinction](#)).

E-BIKE USAGE

The bike industry estimates more than 400,000 electric bicycles may be sold in the United States by the end of 2016. Data suggests that electric bicycles are experiencing steady growth in worldwide markets, and some people predict that electric bicycles may one day account for one out of every two adult bicycles sold. People choose to buy and use electric bicycles for a variety of reasons Source: [Electric Bicycles in North America Market Behavior, by LEVER, November 3, 2014](#)).

According to data from Accell North America, which manufactures bicycle brands, including Raleigh and Diamondback, economics are driving some people to buy electric bicycles: 34% of buyers hope to save on commuting and/or parking costs, and 18% hope to save money or replace a family car (Source: [State of E-bike Industry, October 2014, by Edward Benjamin](#)).

In 2015, the e-bike market saw 34 percent growth, and the market is expected to continue to grow 16 percent annually for the next six years (Source: [Getting A Charge Out of Touring, by Nick Legan from Adventure Cyclist April 2016](#)).



Source: "E-bikes in North America: Results from an Online Survey," John MacArthur, <http://otrec.us/project/564>

Source: [Why Do People Use E-Bikes? by Portland State Transportation Research and Education Center](#)

Mobility

A survey conducted by the Transportation Research and Education Center at Portland State University concluded e-bikes have the potential to get more people on bikes, especially older adults, people with physical limitations and women. The survey found the e-bike can encourage more people to bike more often and to more distant locations (Source: [European Electric Vehicle Congress Brussels: Can Electric Bicycles Get More People in the United States to Cycle? By John MacArthur](#)).

With an e-bike, older or inexperienced cyclists can go on rides knowing that if the terrain becomes too difficult, or if they start feeling tired, they can rely on the motor to help them get back home. Similarly, an electric bike can be helpful to a person trying to get back into shape, allowing them to gradually transition from lighter, primarily motor-assisted workouts to more intensive workouts that rely less and less on motor-generated power. Urban commuters can also use the motor to help them pedal up hills without breaking a sweat so they can arrive at the office clean, refreshed, and ready to work (Source: [Complete Electric Bike Buyer's Guide by EVELO Electric Bikes](#)).

Momentum Magazine prepared a guide for purchasing an e-bike, with technical information on all classes of e-bikes. The guide gives examples of using e-bikes for mobility and accessibility (Source: [E-bike Guide by Momentum Mag](#)). The Electric Bike Book provides a similar buyers guide (Source: [Electric Bike Book, by Jim Turner](#)).

Accessibility

E-bikes can provide mobility options for commuting for an urban family to move from a two car household to one. Colorado municipalities can decide at the local level to opt-in to allowing e-bikes on paved bike trails (Source: [Colorado E-bike Advocates Hope to Spark a Quiet Commuter Revolution, by Jason Blevins, Denver Post, July 17, 2016](#)).

According to survey data from the Transportation Research and Education Center at Portland State University, people use e-bikes in different ways, particularly to increase their range and speed, to ride with less effort or more easily on hills, and to boost their health through increased physical activity. While e-bikes don't provide the same health benefits as normal cycling, research from the University of Tennessee-Knoxville suggests riding an e-bike provides health benefits similar to walking (Source: [E-bike Online Survey Results for North America - Poster, by John MacArthur, Jennifer Dill, Ph.D. and Mark Person](#), [E-bike Online Survey Results for North America - Report, by John MacArthur, Jennifer Dill, Ph.D. and Mark Person](#), [E-bike Online Survey Results for the United States - Poster, by John MacArthur, Mark Person and Jennifer Dill, Ph.D.](#), and [University of Tennessee, Knoxville, E-bike Safety Research](#)).

Health

It is well documented that Americans are becoming increasingly overweight and obese. Physical activity is essential to health and wellness. A University of Colorado Boulder study shows that using an electrically-powered bicycle on a regular basis can provide riders with an effective workout while improving some aspects of cardiovascular health, especially for riders who previously had been sedentary (Source: [Colorado, Boulder, Univ of Colorado, Electric Assist Bikes Provide Meaningful Exercise, Cardiovascular Benefits, July 7 2016](#)).

Riding a bicycle can provide good movement for exercising without the stress to knees and legs other forms of exercise give. An electric bike can ease the pain of exercise and make it enjoyable again (Source: [E-bikes: Impact on Physical Activity and Health, by David R. Bassett, Jr. \(40 MB File\)](#)).

E-bike training in Brighton, England encourage people to cycle via the promotion of e-bikes. "The bikes require the rider to pedal at all times and they are likely to provide at least moderate levels of physical activity for most people" explains Nanette Mutrie, Professor of Physical Activity for Health at the University of Edinburgh. She is a member of the 'smart e-bikes' project's advisory panel and adds: "Use of such bikes will therefore be of potential health benefit to all those who need to increase their levels of physical activity and who use them in preference to undertaking less active types of travel or activity" (Source: [E-cycle Training: Electric Bikes Brighton Experience by Dr. Frauke Behrendt, University of Brighton and Maria Robinson, M's Cycles, Shoreham](#)).

A life cycle cost analysis was conducted to determine if the addition of batteries and electricity only adds to the environmental costs of a bicycle (Source: [Energy Cost of Electric and Human Powered Bicycles by Justin Lemire-Elmore, April 13, 2004](#))

Safety

Several studies have shown that e-bikes result in higher speeds, particularly higher average speeds, but that maximum speeds are usually lower than 20 mph. A naturalistic study in Sweden, where speeds were collected along with comprehensive visual and other telemetry data for both traditional bicycles

and e-bikes collected the following speed data (Source: [Naturalistic Data to Assess E-cyclist Behavior - Report, by Marco Dozza, Giulio Francesco, Bianchi Piccinini and Julia Werneke](#) and [E-bikes, Electric Assist Bikes and Transportation Presentation by Association of Pedestrian and Bicycle Professionals \(November 19, 2014\)](#)).

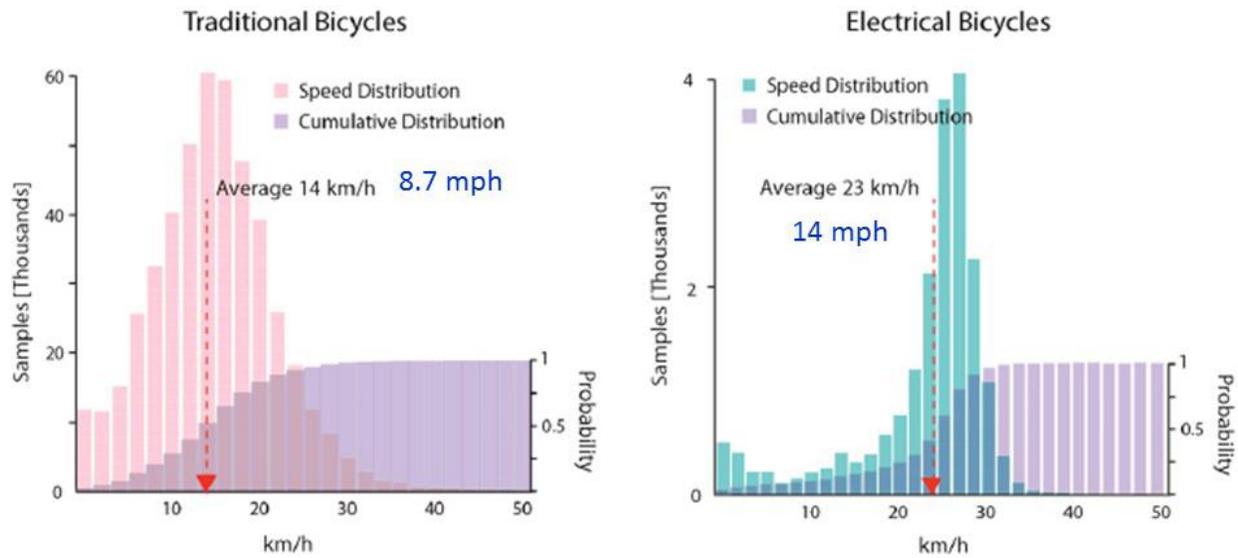


Figure 1: Comparison of e-bike and conventional from a naturalistic-cycling study in Sweden (Source: [Bike Speed Comparison Between E-bikes and Regular Bikes](#))

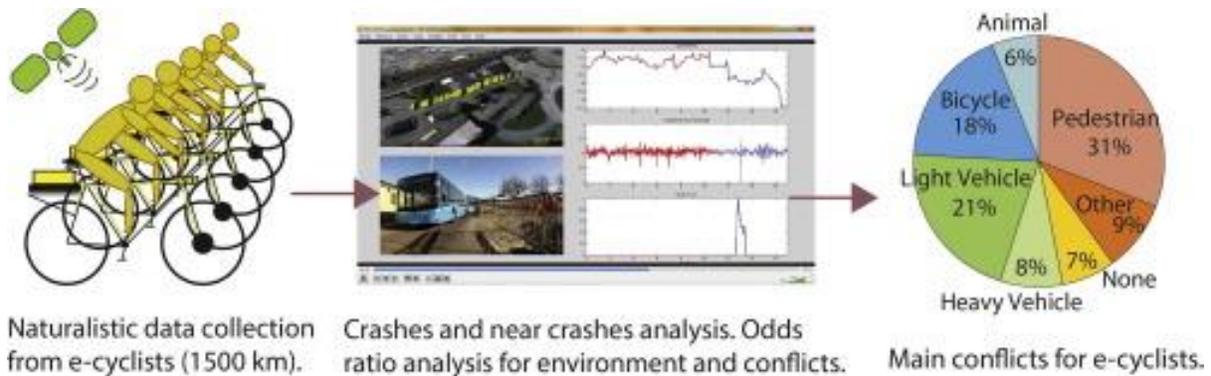


Figure 2: Main conflicts for e-cyclists from a naturalistic-cycling study in Sweden (Source: [Naturalistic Data Collection From E-cyclists - graphic](#)).

An e-bike has specific safety considerations that are unique from a regular pedal bicycle. Eric Hicks with ElectricBike.com compiled 10 Dangers Unique to Electric Bikes (Source: [10 Dangers Unique to Electric Bikes, by Eric Hicks July 26, 2012, Electric Bike Website](#))

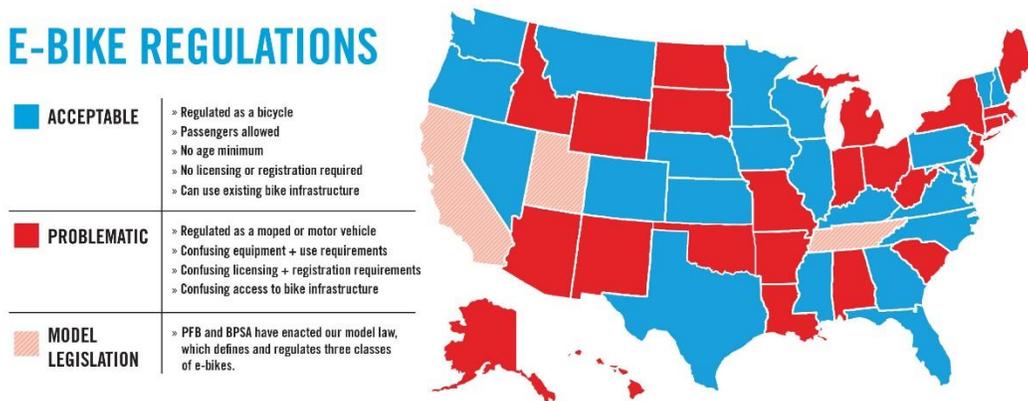
A study published in August 2016 in Transportation Research suggests that e-bikes have a specific set of safety implications, and that transportation policy needs to adapt as e-bikes have the potential to be a breakthrough in energy-efficient transportation (Source: [Are E-bikes Less Safe? by Laura Bliss, From the Atlantic City Lab](#)).

In the last six years, 12 people have died in South Lake Tahoe while cycling or walking. In that same time, 42 people were injured while riding bikes on the road while 37 pedestrians were hurt. Electric

bikes can go almost everywhere human pedaled ones do, except on US Forest Service shared use trails (Source: [Lake Tahoe Pedestrian and Bicyclist Safety Concerns](#)).

E-BIKE LAWS

E-bike laws are different in every state. People for Bikes and the Bicycle Product Suppliers Association (BPSA) are working to update and clarify state laws governing the use of electric-assisted bicycles across the United States, and created the following graphic to see where e-bikes are acceptable, problematic and have model legislation (Source: [Electric Bicycle Class Label Information](#) and [Electric Bicycle Law Basics, by The People for Bikes](#)):



Federal Law Governing Low-Speed E-bikes

Electric-assisted bicycles have been defined and regulated at the federal level since 2002. Public Law 107-319 established that e-bikes are regulated as consumer products under the Consumer Product Safety Act, and more specifically, subject to the same regulations that govern traditional, human-powered bicycles. Thus, e-bikes are regulated by the Consumer Product Safety Commission, and must comply with the bicycle safety standards at 16 C.F.R. Part 1512. In addition, e-bikes are explicitly not “motor vehicles” for the purposes of federal law, and are not subject to National Highway Traffic Safety Administration vehicle standards. As a practical matter, Public Law 107-319 ensures that e-bikes are designed, manufactured, and tested like traditional bicycles for the purposes of consumer product safety law. The main provisions of Public Law 107-319 are codified at 15 U.S.C. § 2085 (Source: [Regulations for E-bikes in North America, National Institute for Transportation and Communities Report August 2014](#), [Regulations of E-bikes in the United States - A Policy Review Poster, by John MacArthur and Nicholas Kobel](#) and [Wikipedia United States Federal Consumer Product Safety Act Definition of a "Low Speed Electric Bicycle" and US Bicycle Laws by State.](#)).

To view a comparison of e-bike laws by state and province, the Transportation Research and Education Center for Portland State University created a snapshot reference list of all 50 United States and the provinces in Canada (Source: [Appendix A Electric Bicycle Laws by State and Province](#)).

Arizona

Arizona has proposed reforms to its motorized bicycle law. The proposed reforms are suggested to include standard federal definitions of e-bikes, a limit to the miles per hour (mph) and a clarification of a

definition of a moped in regards to speed and licensing requirements (Source: [Arizona Motorized Bicycle Law Reform Proposed and Comments](#)).

Arizona's motorized bicycle bill seeks to clarify engine power by setting a standard limit on wattage output, with a suggestion to go with the adopted U.S. Consumer Product Safety Commission (CPSC) definition of "low speed e-bike at 750 watts, however other states, like California, have already set the limit at 1,000 watts (Source: [Arizona Public Comments on Clarification Motorized Bike Engine Power](#)).

Scottsdale, Arizona's revised code includes the prohibition of any motorized vehicle on multiuse paths, "(a) No person shall operate, use or place any vehicle or device with an attached motor or power unit, whether or not it is in operation, upon a multiuse path or within three (3) feet of a multiuse path." The code gives definitions for path users and restrictions (Source: [Arizona, Scottsdale Revised Code: Bicycles, Skateboards, Motorized Skateboards and Multi-use Paths](#)).

Tucson, Arizona's motorized bicycle ordinance regulates electric motors to be less than 750 watts or 1 horsepower, and clarifies consistency with CPSC federal law superseding state and local law. According to Tucson City Manager, "under federal law, state and local authorities are preempted from imposing any additional equipment requirements (e.g. speedometers) than what is required of a bicycle" (Source: [Arizona, Tucson Motorized Bicycle Ordinance and Comments](#)).

The operation of a motorized bicycle in the City of Tucson stipulates if a bicycle exceeds 20 mph it is no longer considered a motorized bicycle, the vehicle then is treated as a moped and subject to license, registration, insurance and other operational conditions. In Tucson, motorized bicycles may be ridden in rights-of-way designated for the exclusive use of bicycles (bike paths) as long as the motorized bicycle operates in compliance with the speed restrictions (Source: [Arizona, Tucson Operation of Motorized Bicycles in the City](#)).

E-bikes in Tucson, Arizona are subject to local jurisdictions for law enforcement. The City of Tucson passed an ordinance banning gas-powered and e-bikes from shared use pathways. (Source: Operation of Motorized Bicycles in the City of Tucson https://www.tucsonaz.gov/files/bicycles/moto_bikes.pdf)

California

The state of California regulates the use of e-bikes by defining an "e-bike" as a bicycle with fully operable pedals and an electric motor of less than 750 watts, and would create 3 classes of e-bikes, as specified (Source: [California Assembly Bill No. 1096 on Electric bikes](#)).

People for bikes guide to e-bike laws in California includes a brief question and answer synopsis on e-bikes (Source: [California's New E-bike Law: Guidance for Agencies, by People for Bikes](#)).

People for Bikes clarifies California state e-bike law in the following graphic (Source: [California Electric Bicycle Policy, by the People for Bikes](#)):

CALIFORNIA ELECTRIC BICYCLE POLICY



VEHICLE TYPE	VEHICLE		USER				BIKEWAY ACCESS			
	PEDAL OPERATED	MAXIMUM MOTOR-ASSISTED SPEED (MPH)	MINIMUM AGE (YEARS)	DRIVER'S LICENSE	LICENSE PLATE	HELMET	CLASS I BIKE PATH	CLASS II BIKE LANE	CLASS III BIKE ROUTE	CLASS IV PROTECTED LANE
BICYCLE 	YES	N/A	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 1 E-BIKE* 	YES	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 2 E-BIKE* 	NO	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 3 E-BIKE* 	YES	28	16	NO	NO	YES	NO	YES	YES	YES
MOPEL 	NO	N/A	16	YES	YES	YES	NO	YES	YES	NO

*PENDING AB-1096



Colorado

The State of Colorado passed rules in 2009 that allow low-powered electrical assisted bikes, those limited to 750 watts, or about one horsepower, in bike lanes and on streets without the license, registration and insurance that motorcycles, scooters and mopeds are required to carry (Source: [Colorado Revised Statutes 2013, Title 42, Vehicles and Traffic](#)).

The City of Boulder used the authority granted by Colorado law to allow e-bikes to engage their engines on multi-use paths for a trial period that ended on December 31, 2014. Since January 2015, Electric Assisted Bicycle (e-bike) use is permitted on certain multi-use paths within the City of Boulder (Source: [Colorado, Boulder, City Ordinance No. 8007 to Continue Allowing E-Bike Use on Certain Multi-Use Trails](#)).

During peak cycling and walking season, the City of Boulder works closely with Community Cycles Bicycle Ambassadors to raise awareness on path etiquette and rules through a campaign called The Way of the Path (Source: [Colorado, Boulder, Article: Electric Assisted Bicycles on Multi-Use Paths](#) and [Colorado, Boulder, The Way of the Path: The Rules of Multi-Use Paths](#)).

Throughout fall 2014, Boulderites pledged to follow The Way of the Path by learning the rules, accepting their responsibilities, and being a part of The Boulder Way to GO. Findings were gathered from the fall 2014 campaign (Source: [Colorado, Boulder, The Way of the Path: Summer/Fall 2014 Statistical Findings on Boulder's Multi-Use Paths](#)).

Boulder has a map of existing multiuse paths that allow e-bike use (Source: [Colorado, Boulder Map of Existing Paths and E-Bike Exclusions](#)).

The Vail Town Council considered an ordinance that would allow the operation of electric assisted bicycles on designated recreation paths in Vail on a trial basis in June (Source: [Colorado, Vail to Consider E-bike Touring](#)).

Indiana

Indiana code for allowing e-bikes is consistent with federal CPSC standards (Source: [Indiana amendment code for motorized bicycles](#)).

Oregon

Oregon law considers e-bikes to be bicycles, but forbids using e-bikes on sidewalks. Electric-assisted bicycles are defined to Oregon State Law as a bicycle, rather than a motor vehicle, for purposes of the Oregon Vehicle Code, except when otherwise specifically provided by statute. Electric-assisted bicycle has fully operative pedals for human propulsion and an electric motor with power output not more than 1,000 watts and is not capable of going faster than 20 mph on level ground. Approved lighting must be used when operating under limited visibility (Source: [Oregon Moped, Motorized Scooter, Pocket Bike Guide](#) and [Oregon Vehicle Code, Department of Transportation, Salem](#)).

In 2014, the City of Eugene repealed a ban on the use of e-bikes on off-street paths that had been in place for all motorized devices since 2005. In the City of Eugene, people may ride an electric assisted bicycle on off-street paths with the electric motor engaged except within the East Alton Baker Park Plan boundary (Source: [Oregon, Eugene, City Code Bicycle Laws](#)).

Utah

A one-year pilot project (January 2015 to December 31, 2015) took place to test the usage of e-bikes on paved, multi-use pathways within Park City limits (Source: [Park City E-bike Pilot Program Evaluation by Fehr & Peers November 2, 2015](#) and [Park City Implements E-bike Rules Under Pilot Program, by Ryan Summerlin, April 21, 2015](#)).

Washington

The state of Washington defines e-bikes as “electric-assisted bicycles.” The electric bike must have two or three fully operational pedals for human propulsion, the electric motor must be no more than 1,000 watts and the device must be designed to have a maximum speed of 20 mph (Source: [Washington State Electric Bike Laws, Definition and Legal Operation](#)).

Europe

Europe classifies and defines e-bikes based on technical information, including detailed battery directives. Full technical rules for EU regulations are detailed by Bike Europe (Source: [Bike Europe: EU Regulations for E-bikes, Pedelecs, Speed Pedelecs](#)).

E-BIKE MOUNTAIN BIKING GUIDELINES

In general, trails designated only for non-motorized use are off-limits to electric-assist mountain bikes (eMTBs). Trails and natural-surface paths designated for both motorized and non-motorized use are open to eMTBs (Source: [Electric Mountain Bike Etiquette by International Mountain Bicycling](#)

[Association \(IMBA\), Electric Mountain Bike Fact Sheet For IMBA's Electric Mountain Bike Field Study and Electric Mountain Bike Motorized/Non-motorized Recreation Policy](#)).

E-BIKE FORUMS

The Capital Crescent Trail in Maryland is soliciting comments from the public as to whether e-bikes are appropriate on the Capital Crescent Trail. The Coalition for the Capital Crescent has an e-bike forum to collect comments (Source: [Electric Bike Forum on Whether E-Bikes Are Appropriate on the Capital Crescent Trail in Montgomery County, MD, Jan 2014 - January 2015](#)).

The electric bike review forum collects public comment on safety and perception of e-bikes (Source: [Electric Bike Review Forum](#)).

An open e-bike forum is provided by the National Recreation and Parks Association Connect (Source: [National Recreation and Parks Association Connect, Open Forum E-Bike Discussion](#)).

CONCLUSION

City of Durango staff and the Parks and Recreation Advisory Board, Natural Lands Preservation Advisory Board and Multi Modal Advisory Board will engage the community in a discussion and explore alternatives regarding the use of e-bikes on City trails and recreation areas. A recommendation will be provided to the Durango City Council at a future Council Study Session on this topic.

Public Comments and Community Discussion

- [Public Comments Submitted to Durango Parks and Recreation as of September 9, 2016](#)
- [Multi Modal Transportation Master Plan Update Meeting on July 25, 2016 Public Comments](#)
- [People for Bikes Letter to the Durango City Council 7-19-16](#)

WORKS CITED

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- [Appendix A Electric Bicycle Laws by State and Province](#)
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- [Arizona Motorized Bicycle Law Reform Proposed and Comments](#)
- [Arizona Public Comments on Clarification Motorized Bike Engine Power](#)
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- [Electric Mountain Bike Fact Sheet For IMBA's Electric Mountain Bike Field Study](#)
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- [Energy Cost of Electric and Human Powered Bicycles by Justin Lemire-Elmore, April 13, 2004](#)
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- [Indiana amendment code for motorized bicycles](#)
- [Lake Tahoe Pedestrian and Bicyclist Safety Concerns](#)
- [National Recreation and Parks Association Connect, Open Forum E-Bike Discussion](#)
- [Naturalistic Data Collection From E-cyclists - graphic](#)
- [Naturalistic Data to Assess E-cyclist Behavior - Report, by Marco Dozza, Giulio Francesco, Bianchi Piccinini and Julia Werneke](#)
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