

April 30, 2021

Chair Matt Claman
House Judiciary Committee
Alaska State Legislature
State Capitol
Juneau AK, 99801

Dear Chair Claman and Members of the House Judiciary Committee:

On behalf of the PeopleForBikes Coalition, we write to testify in support of House Bill 87 and offer suggested amendments that we think would improve the bill.

The PeopleForBikes Coalition is the national advocacy group and trade association that works for better policies and infrastructure for bike riding. Our coalition includes nearly 300 companies and brands that manufacture, distribute, or sell bicycles and related products, including electric bicycles.

Electric bicycles are a still emerging technology that need clear rules to regulate their use and create stability in the marketplace. Our goal at PeopleForBikes has been to harmonize terminology and regulation at all levels of government so electric bicycles have consistent rules throughout the United States. Recognition of electric bicycles in state traffic laws is critical so that electric bicycle riders, retailers, and local communities all understand how they should be used on streets. Broadly speaking, they should be treated like traditional bicycles.

An electric bicycle is designed similarly to a traditional bicycle but has three additional components – a small motor that provides assistance to the bike rider, a battery to provide power to the motor, and electronics that enable the rider to control the system. Beyond these components, electric bicycles are equipped just like traditional bicycles. They look, ride, and handle almost identically to traditional bicycles.

Recent advances in electronic and battery technology have made electric bicycles more affordable and more enjoyable to ride. As technology has developed, the broad category of electric bicycles has divided into three types or classes of electric bicycle based on their speed and type of motor engagement. These are known as Class 1, 2, or 3 electric bicycles. They can quickly be summarized as follows:

- Class 1: Pedal-assist electric bicycle (the rider must be pedaling for the motor to engage), top speed of 20 miles per hour.

- Class 2: Throttle-assist electric bicycle (the motor can provide power independently of whether the rider is pedaling), top speed of 20 miles per hour.
- Class 3: Pedal-assist electric bicycle, top speed of 28 miles per hour.

Electric bicycles are enjoyed by people from all walks of life, and they are being widely adopted by Americans from all age groups. Older Americans often report using electric bicycles for recreational purposes and that the electric assist features of an electric bicycles have enabled them to ride their bike for more of their life than they otherwise would have. Younger people are increasingly riding electric bicycles for transportation. Electric bicycles are also a dependable option for people limited by fitness, age, or disability; as well as for those who make frequent trips of less than 10 miles.

Until recently, the regulation of electric bicycles in the United States had evolved in a piecemeal and uncoordinated manner. The federal government has regulated electric bicycles since 2002, when legislation was passed clarifying their product safety standards. Under this federal law, electric bicycles are treated identically to bicycles for these purposes. They are regulated by the United States Consumer Product Safety Commission and they must comply with the federal safety standards for bicycles.

During the last 20 years, some state legislatures passed laws to recognize electric bicycles. Other states, such as Alaska, have never addressed their use. Some states borrowed the federal consumer product safety definition, others altered it, and some created entirely new definitions for what an electric bicycle is. As a result, manufacturers were faced with inconsistent and often unclear rules that governed what an electric bicycle was and where electric bicycle purchasers could use their product.

Recognizing the need for greater consistency as the market for electric bicycles grew, the U.S. bike industry developed the three-class system to specify the different types of bicycles on the marketplace. This helps local governments make better decisions regarding where electric bicycle should be ridden and what their capabilities are. Electric bicycles sold in the U.S. are labeled according to these classes, and the classes are well-known by consumers and retailers. The three-class system for electric bicycle regulation has now been adopted in 31 states¹; and bills are progressing in 10 other states this year. It has also been adopted by four federal agencies.

There are many aspects of HB 87 that we fully support. It is crucial that electric bicycles be defined, clearly separated from laws that apply to motor vehicles, and regulated like bicycles. HB 87 achieves many of these aims.

¹ Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Maine, Maryland, Michigan, Mississippi, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming

However, we believe the bill would benefit from using the class-based definitions that have been widely adopted in the U.S. Critically, by not using these definitions, the current language appears to exclude Class 2 electric bicycles from the definition of an electric bicycle. This will continue to leave owners of these bicycles – perhaps the most popular type of electric bicycle in the U.S. – in a grey area of the law. Class 2 electric bicycles have been sold and regulated as bicycles for more than 20 years under federal law, and the overwhelming majority of other states in the U.S. (at least 44) treats them as an electric bicycle.

We also believe the bill could be improved with some additional language clarifying that in the absence of specific rules for electric bicycles, the laws for traditional bicycles will apply to their use, and that local communities may regulate electric bicycles based on their class. Proposed revisions are included in this letter.

PeopleForBikes supports House Bill 87, but we do believe some additional changes are needed. We would urge that the bill be amended to address the issues we have identified and passed.

Sincerely,



Alex Logemann
Policy Counsel

Proposed Amendments to HB 87

HB 87: "An Act relating to electric-assisted bicycles."

HOUSE BILL NO. 87

"An Act relating to electric-assisted bicycles."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* **Section 1.** [AS 19.10.399](#)(9) is amended to read:

(9) "motor vehicle" means a vehicle that is self-propelled except a vehicle moved by human or animal power; **"motor vehicle" does not include an electric-assisted bicycle as defined in [AS 28.90.990\(a\)](#);**

* **Sec. 2.** [AS 19.10.399](#)(16) is amended to read:

(16) "vehicular way or area" means a way, path, or area, other than a highway or private property, that is designated by official traffic control devices or customary usage and that is open to the public for purposes of pedestrian or vehicular travel, and which way or area may be restricted in use to pedestrians, bicycles, or other specific types of vehicles as determined by the Department of Public Safety or other agency having jurisdiction over the way, path, or area; **in this paragraph, "bicycle" has the meaning given in [AS 28.90.990\(a\)](#).**

* **Sec. 3.** [AS 28.05.011](#)(a) is amended to read:

(a) The commissioner of public safety shall, unless otherwise provided by statute, adopt regulations in compliance with [AS 44.62](#) (Administrative Procedure Act) necessary to carry out the provisions of this title and other statutes whose administration is vested in the Department of Public Safety. The regulations must include

(1) rules of the road relating to the driving, stopping, standing, parking, and other conduct of vehicles, to pedestrians, and to official traffic control devices; regulations adopted under this paragraph may not prohibit the use of an electric personal motor vehicle **or an electric-assisted bicycle** on a sidewalk, bike path, or vehicular way or area restricted to the use of pedestrians; limitations on regulation of electric personal motor vehicles **or electric-assisted bicycles** imposed under this paragraph do not apply to a municipal ordinance regulating electric personal motor vehicles, **or electric-assisted bicycles, or specific classes of electric-assisted bicycles,** enacted to meet local requirements; **unless otherwise specified by regulations addressing electric-assisted bicycles, electric-assisted bicycles or users of electric-assisted bicycle shall be afforded the same rights and be subject to the same duties as bicycles or users of bicycles, and they shall not be regulated as another type of vehicle;**



- (2) minimum equipment for vehicles, including minimum standards of compliance to be met by manufacturers and vehicle sales and repairs businesses;
- (3) inspection of vehicles other than commercial motor vehicles, and the removal of vehicles from areas of public use when they are found to be in a defective or unsafe condition;
- (4) abandonment of vehicles;
- (5) management of records of the Department of Public Safety required for that department's administration of this title and its regulations adopted under this title, including provisions for ensuring the accuracy of information contained in automated and manual information retrieval systems;
- (6) definitions of words and phrases used in this title and in regulations adopted under this title unless otherwise provided by statute;
- (7) certification and regulation of junk yards.

* **Sec. 4.** [AS 28.10.011](#) is amended to read:

Sec. 28.10.011. Vehicles subject to registration. Every vehicle driven, moved, or parked **on** [UPON] a highway or other public parking place in the state shall be registered under this chapter except when the vehicle is

- (1) driven or moved on a highway only for the purpose of crossing the highway from one private property to another, including an implement of husbandry as defined by regulation;
- (2) driven or moved on a highway under a dealer's plate or temporary permit as provided for in [AS 28.10.031](#) and 28.10.181(j);
- (3) special mobile equipment as defined by regulation;
- (4) owned by the United States;
- (5) moved by human or animal power;
- (6) exempt under 50 U.S.C. App. 501-591 (Soldiers' and Sailors' Civil Relief Act);
- (7) driven or parked only on private property;
- (8) the vehicle of a nonresident as provided under [AS 28.10.121](#);
- (9) transported under a special permit under [AS 28.10.151](#);
- (10) being driven or moved on a highway, vehicular way, or a public parking place in the state that is not connected by a land highway or vehicular way to
 - (A) the land-connected state highway system; or
 - (B) a highway or vehicular way with an average daily traffic volume greater than 499;
- (11) an implement of husbandry operated in accordance with the provisions of [AS 19.10.065](#);
- (12) an electric personal motor vehicle;
- (13) an electric-assisted bicycle.**



* **Sec. 5.** [AS 28.90.990](#)(a)(12) is amended to read:

(12) "electric personal motor vehicle" means an electric personal assistive mobility device that is a self-balancing vehicle with two nontandem wheels, designed to transport only one person, has an electric propulsion system, and has a maximum speed of not more than 15 miles an hour; **"electric personal motor vehicle" does not include an electric-assisted bicycle;**

* **Sec. 6.** [AS 28.90.990](#)(a)(18) is amended to read:

(18) "motor vehicle" means a vehicle **that** [WHICH] is self-propelled, except **for** a vehicle moved by human or animal power; **"motor vehicle" does not include an electric-assisted bicycle;**

* **Sec. 7.** [AS 28.90.990](#)(a)(19) is amended to read:

(19) "motorcycle" means a vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground; the term does not include a tractor **or an electric-assisted bicycle;**

* **Sec. 7.** [AS 28.90.990](#)(a)(20) is amended to read:

(20) "motor-driven cycle" means a motorcycle, motor scooter, motorized bicycle, or similar conveyance with a motor attached and having an engine with 50 or less cubic centimeters of displacement; **"motor-driven cycle" does not include an electric-assisted bicycle;**

* **Sec. 8.** [AS 28.90.990](#)(a) is amended by adding new paragraphs to read:

(33) "bicycle" includes an electric-assisted bicycle;

(34) "electric-assisted bicycle" means a bicycle that

(A) is designed to travel with not more than three wheels in contact with the ground;

(B) has fully operative pedals for human propulsion; **and**

(C) **has a seat or saddle for use of the rider;**

(D) is equipped with an electric motor that **has a power output of not more than 750 watts;**

(E) **meets the requirements of one of the following three classes:**

(i) "class 1 electric-assisted bicycle" means an electric-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 the speed of 20 miles per hour.

(ii) "class 2 electric-assisted bicycle" mean an electric-assisted 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.

(iii) "class 3 electric bicycle" means an electric-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 the speed of 28 miles per hour.

(i) has a power output of not more than 750 watts;

(ii) provides assistance only when the rider is pedaling;

and

(iii) stops providing assistance to the rider when the bicycle reaches a speed of 28 miles per hour.

; and

(F) a label, permanently affixed in a prominent location, shall contain the classification number, top assisted speed, and motor wattage of the electric-assisted bicycle.

* **Sec. 9.** [AS 41.23](#) is amended by adding a new section to article 1 to read:

Sec. 41.23.300. Definitions. In [AS 41.23.010](#) - 41.23.300,

(1) "bicycling" includes the operation of an electric-assisted bicycle;

(2) "electric-assisted bicycle" has the meaning given in

[AS 28.90.990\(a\)](#).

Class 2 Electric Bicycle Information

As you consider House Bill 87, please consider the following information related to Class 2 electric bicycles, which are currently not covered by the bill. Class 2 electric bicycles are equipped with throttles and can travel up to 20 miles per hour with motorized assistance.

1. Throttle-powered electric bicycles have been recognized as electric bicycles by the federal government and other states for nearly 20 years. They have been widely used by Americans on bicycle facilities without any safety problems. Prior to the creation of the class system (which was designed to address a different issue as explained below), no state or the federal government distinguished between pedal-assist and throttle-powered bicycles that traveled up to 20 miles per hour. These products have long been afforded identical treatment in both product safety and traffic laws.
2. Failing to address Class 2 electric bicycles will place Alaska out of sync with the federal government and other states that regulate throttle-powered electric bicycles as a form of electric bicycle. The Consumer Product Safety Commission, Federal Highway Administration, Department of the Interior, and 44 states¹ recognize throttle powered electric bicycles as a type of electric bicycle within their regulations.
3. The primary reason for distinguishing “Class 1” pedal-assist electric bicycles that provide motorized assistance up to 20 miles per hour from “Class 2” throttle-assist electric bicycles that provide motorized assistance up to 20 miles per hour is not related to traffic laws or on-road use. We see no reason to distinguish these products for regulations pertaining to riding on streets and improved bicycles facilities such as bike lanes or paved bicycle paths. The primary reason to distinguish these products is for trail-based use, where the use of a throttle on a soft-surface environment may not be appropriate.²
4. Class 2 electric bicycles are a significant portion of the marketplace, and purchasers of these products expect that they will be subject to the same traffic laws as other bike riders. While our industry is not able to break down electric bicycle sales by class, we estimate that 30%-50% of electric bicycle sales are Class 2. It is likely that there are a significant number of Class 2 electric bicycles in use in Alaska today.
5. Class 2 electric bicycles can be particularly appealing to older bike riders that need additional assistance to continue bike riding, or mobility impaired people.³

¹ Thirty-one states utilize the class system definitions and another 13 states use definitions based on the Consumer Product Safety Commission definition that recognize throttle powered electric bicycles.

² See, e.g., electric bicycle regulations for Jefferson County, Colorado, which allow Class 1 and Class 2 electric bicycles on paved bicycle paths, but only Class 1 electric bicycles on natural surface trails used for mountain biking: <https://www.jeffco.us/3618/e-bikes>.

³ Respondents to an electric bicycle survey conducted by Boulder County, Colorado commented:



Approximately 43 million Americans (13%) live with a mobility disability.⁴ Failing to recognize Class 2 electric bicycles will place these people at a disadvantage and force them to utilize procedures under the Americans with Disabilities Act to ride their bicycles.

6. Class 2 electric bicycles are often some of the most affordable electric bicycles. They frequently use hub driven motors that are less expensive than the mid-drive systems used on Class 1 or Class 3 electric bicycles. Omitting Class 2 electric bicycles from an update to Alaska's traffic statutes risks placing lower-income people at a disadvantage when trying to purchase an electric bicycle that will comply with Alaska law.
7. Class 2 electric bicycles are fundamentally bicycle-like in the manner in which they are equipped. Other than the throttle, their equipment is identical to other bicycles and electric bicycles. They look, feel, and can be ridden like traditional bicycle and pedal-assist electric bicycles. Though they have a throttle, they can be fully utilized by pedaling and are in practice.
8. The most important safety parameter for electric bicycles is speed. The motor-assisted speed of a Class 2 electric bicycle and Class 1 electric bicycle is the same, and comparable to that of a regular bicycle rider. While we cannot point to any studies specifically isolating Class 2 electric bicycle speeds, existing research demonstrates that the average speed of Class 1 electric bicycles is within 1.8 miles per hour (3 kilometers per hour) of regular bicycles, with the faster speed generally occurring on uphill segments where the motor can make the biggest difference.⁵

"The electric-assist gives me the confidence to take longer jaunts to pearl street in Boulder (17 miles from home) or even to Lyons. The throttle is the thing that has surprised me the most. If I were to have to stop at a light or stop sign even on a weak incline, I might have difficulty getting started."

"As a senior with a disability, being able to use my e-bike is allowing me to go outside, exercise, use my car less, and enjoy life!"

"I have been replacing at least 50% of my car trips. I run errands, go out to dinner, go grocery shopping, and visit friends and family on my bike when I used to take my car."

Literature Review: Recreation Conflicts Focusing on Emerging E-Bike Technology, Boulder County Parks & Open Space (Dec. 19, 2019).

⁴ Centers for Disease Control and Prevention, "Disability Impacts All of Us Infographic | CDC," Centers for Disease Control and Prevention, 2019.

⁵ Cherry, C. & MacArthur, J., E-bike safety, A review of Empirical European and North American Studies (Oct. 15, 2019) (Finding "[a]cross all studies, Class 1 e-bikes travel about 3.0 km/hr faster than conventional bicycles," and [electric bicycle] riders tend to ride at higher speeds on uphill segments, but not flat or downhill segments.").



Electric Bicycle FAQ

What other states use the classification system for electric bicycles?

Thirty one (31) states have passed electric bicycle laws using the class system: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Maine, Maryland, Michigan, Mississippi, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

Are other states advancing electric bicycle legislation in 2021 using the three classes?

Legislation using the class system has been introduced in the following states: Delaware, Iowa, Kansas, Massachusetts, Minnesota, Missouri, Montana, Nevada, Rhode Island, and Vermont.

Why is the top speed for Class 3 electric bicycles 28 MPH?

In Europe, the classification that is equivalent to a class 3 electric bicycle is “speed pedelec.” Under European rules, speed pedelecs are limited to a top assisted speed of 45KPH, which is equivalent to 28MPH. Therefore, these rules provide uniform product standards between the European and U.S. markets.

The federal definition of an electric bicycle says that the top speed is 20MPH. How are class 3 electric bicycles legal given the federal definition?

The 20 MPH threshold in federal law (15 U.S.C. § 2085) applies when the electric bicycle is being operated “solely” under motor power – commonly referred to as “throttle” power. However, many electric bicycles do not utilize a throttle, and are always operated under a combination of human and motor power – referred to as “pedal-assist.” The federal definition does not provide a top speed for when an electric bicycle is being operated under combined human and motor power. The class 3 definition clarifies this important ambiguity by specifying the maximum assisted speed for electric bicycles at 28 MPH. The class system aligns the definition of a Class 2 e-bikes – which utilizes a throttle – with federal law.

Does the rider have to be pedaling for the electric bicycle’s motor to be engaged?

It depends on the type of electric bicycle. For Class 1 and Class 3 electric bicycles, the rider must be pedaling for the motor to be engaged. For Class 2 electric bicycles, the motor can propel the electric bicycle without the rider pedaling.

Can electric bicycles be safely operated on bike paths?

Yes. Researchers who have compared riders of electric bicycles and regular bikes at the University of Tennessee observed that electric bicycles riders exhibit similar safety behavior as riders of traditional bicycles. Perhaps most importantly, electric bicycle riders traveled at similar speeds to riders of human-powered bicycles. They rode slightly faster when riding on the road (1.8 mph), but actually slower than regular bikes riders when on bicycle paths (1 mph). Observations regarding the safe use of electric bicycles on existing bike infrastructure are consistent with the results of a pilot study in Boulder, Colorado from 2013, where no safety issues emerged after a lengthy trial period.

Why not regulate electric bicycles at the federal level?

Electric bicycles have been regulated federally since 2002. However, as with other consumer products, the federal regulations are limited to manufacturing and product safety. They do not specify where electric bicycles may be ridden or what rules of the road govern their use. While the federal government can intervene in these matters in rare situations, the rules of the road are generally a matter of state law. Other emerging technologies have followed the same path of creating new state traffic laws to address the use of these devices on our streets. This includes segways, autocycles, and commercial quadricycles.

How can anyone tell what an electric bicycle is?

Electric bicycles are becoming more and more difficult to distinguish from regular bicycles. The labeling requirement is a proactive measure on behalf of the industry to ensure that law enforcement or land managers can easily tell that a bicycle is in fact an electric bicycle, and quickly assess which type of electric bicycle it is.

Can people tamper with electric bicycles?

Like other mechanized or motorized devices, it is possible that a user could tamper with an electric bicycle. We have inserted a tampering provision in the legislation that will place the onus on the owner to have a properly labeled bike if that were to occur. If someone was to tamper with an electric bicycle and create a machine that can travel faster than any of the specified classifications of electric bicycles, they would likely be operating an unlicensed and unregistered motor vehicle, and would be subject to any applicable penalties. Manufacturers are also taking measure to making tampering more difficult or have consequences such as voiding the warranty.

Who is the typical purchaser of an electric bicycle?

While all types of people purchase and use electric bicycles, the typical demographics are couples and households, urban dwellers, aging bicyclists, and people with physical or cognitive limitations.

How many electric bicycles are sold each year in the U.S.?

While data on this are imperfect, at least 300,000 electric bicycles are sold annually in the U.S. They are the fastest growing segment of the bicycle sales. The real figure is likely higher, as we are not able to capture all direct-to-consumer sales in our industry data.

How much do electric bicycles cost?

The average price of an electric bicycle is \$2,000. Entry-level electric bicycles are about \$1,000. High-end electric bicycles can cost \$6,000 or more.

Why distinguish between classes of electric bicycles in the bill if the rules are the same?

The distinction between these classes of electric bicycles provides for greater local flexibility. Some municipalities have demonstrated an interest in prohibiting some classes of electric bicycles from certain types of infrastructure, and this bill provides the flexibility to take those measures if they are desired on a local level. The definitions could serve as the foundation for future determinations that will need to be made by land managers for natural surface use.

May 1, 2021

To: House Judiciary Committee, Chair Claman, Vice Chair Snyder, and members Drummond, Kreiss-Tomkins, Eastman, Kurka and Vance

From: Wayne Aderhold, representing myself ... (noting I am a member of League of American Bicyclists (LAB), was certified in 2015 as a LAB League Cycling Instructor (LCI); also member, Homer Cycling Club ... and also participate in the Statewide Active Transportation Group)

I am testifying in partial support of HB-87: I support the need for recognition but believe the bill, as written is faulty and in need of amendment.

I am 71 years of age, and accomplish the bulk of my transportation on foot or bicycle (I own 6 bikes, all strictly traditional “pedal” for specific uses from road to gravel to “fat”). I consider myself a “utilitarian cyclist”. I am very aware of the booming popularity of “E-Bikes” and the need for State law to recognize them. Perhaps someday I will desire to own one.

Regarding HB-87, I will focus my comments on urban & roadway issues (not off-road/trail/MTB) :

- The **recognition of “E-bikes” in Statute** is needed, **however classification is also needed**. I support the **“3 Class” system** (per People For Bikes). The definition (“electric-assisted bicycle”) per the current version of HB-87 is defective – it only recognizes Class 1, which applies to few, if any, E-bikes currently sold and used in Alaska (most, if not all, have a throttle which makes them “motor-driven”, not “pedal assist” when operated in that mode)
- In general, I believe and practice the LAB philosophy: “Bicyclists fare best when they act, and are treated, as operators of slower-moving vehicles”
- [Sec 3 (a) (1)]: In general, bicycles (whether pedal-only or E-bike) do **NOT belong on sidewalks**. This is for their own safety as well as pedestrians (who should always have the right-of-way whether on sidewalk or shared-trail). AK law (13 AAC 02.420.g) unless changed recently, prohibits riding a bicycle on a sidewalk in a “business district” for good reason.
- The above section attempts to exclude areas where municipal ordinance imposes restriction (sidewalk, bike path, etc) – however many sidewalks within municipalities are contained within State rights-of-way where the municipality has no jurisdiction (such as Pioneer Ave., Lake St. Sterling Hwy in Homer). The existing prohibition (13 AAC 02.420.g) should be maintained for all bicycles, whether on a sidewalk or shared-use pathway. **Pedestrian safety should always be paramount** in any bicycle-pedestrian shared situation.
- Regulation of E-bikes in “off road” (trail) situations should be up to the jurisdiction of the appropriate entity and will be facilitated by the adoption of the “3 Class” system as proposed by People for Bikes (the advocates for the bicycle industry).

E-Bikes are not “the same” as pedal-only bicycles and their capabilities of significantly higher speeds for longer periods require appropriate classification and regulation. Where a roadway exists, that is generally the preferred place for any bicycle to be – even more so for E-bikes.

Wayne Aderhold
Homer

