

**TO:** Chair Mazza and the Senate Transportation Committee  
**FROM:** Alex Logemann, Policy Counsel, PeopleForBikes Coalition  
**DATE:** March 9, 2021  
**SUBJECT:** S 66 - An act relating to electric bicycles

Dear Chair Mazza and the Senate Transportation Committee,

On behalf of PeopleForBikes, we encourage passage of Senate Bill 66.

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. As electric bicycle adoption continues to grow and these products mature, manufacturers, retailers, and bike riders need clear rules that define these products and state what rules apply to them when they are being used. 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.

Before discussing the changes that this legislation would make to the law, I'd like to provide some general information about electric bicycles and who rides them. 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. 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 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 traditionally making short trip of up to 10 miles.

I can personally attest to the value that an electric bicycle can provide for short range transportation. I own a fairly basic Class 1 electric bicycle. I frequently use my electric bicycle with a small child trailer attached to make trips to the park with my daughter, go to the grocery store, or even pick up home repair supplies from the hardware store. I would have never been able to achieve the same level of practicality and functionality without the assist that my electric bicycle provides.

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 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. Critically, some state laws, like Vermont, allowed electric bicycles with power outputs that exceeded the federal standards.

Recognizing the need for greater consistency as the market for electric bicycles grew, U.S. electric bicycle manufacturers came together to develop the three-class system six years ago, reflected in Senate Bill 66, to update regulations around critical issues like speed, wattage, and operation. On the local level, bike retailers in states that have passed this law claim that having a three-class electric bicycle system helps their team clearly explain where electric bicycles are and aren't allowed to go. In their retail shops, electric bicycle sales have helped stores offset the loss of sales due to other declining categories of traditional bicycles.

The three class system for electric bicycle regulation has now been adopted in 28 states (Arizona, Arkansas, California, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Maine, Maryland, Michigan, New Hampshire, New Jersey, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Washington, Wisconsin and Wyoming); and bills are progressing in 16 other states in addition to Vermont this year. It has also been adopted by four federal agencies.

The legislation before the Committee would implement the three-class system in Vermont. It would bring Vermont's definition of an electric bicycle into alignment with federal standards, and provide additional clarity regarding where electric bicycles can be ridden and what rules apply to people who use them. It would also facilitate local regulation of electric bicycles on bicycle paths so that local entities can make the best decision for their communities. A uniform labeling standard for all electric bicycles will help law enforcement and public safety officials easily identify the class of electric bicycle in the event of enforcement issues.

PeopleForBikes supports Senate Bill 66, and we believe it is the proper way to regulate the use of electric bicycles in Vermont. We urge the Committee to advance Senate Bill 66. Thank you for your time.

Sincerely,  
Alex Logemann  
Policy Counsel

**What other states use the classification system in this bill?**

At the end of 2020, 28 states (Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Maine, Maryland, Michigan, New Hampshire, New Jersey, New York, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming) had passed laws that define three classes of electric bicycles in their traffic statutes.

**Are you working to advance similar legislation elsewhere in 2021?**

Yes. Aside from Vermont, similar legislative efforts are underway in 16 states: Alabama, Alaska, Delaware, Iowa, Kansas, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nevada, North Dakota, Oregon, Pennsylvania, Rhode Island, and South Carolina.

### **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 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 a 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.

### **Does the bill regulate electric bicycles off-road?**

The bill regulates the use of electric bicycles streets and on bicycle paths. The bill does not regulate the use of electric bicycles on trails, where land management agencies maintain their authority to regulate. The bill specifically provides that such authority rests with the applicable land management agency.

### **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 bicycle are sold each year in the U.S.?**

While data on this are imperfect, approximately 300,000 electric bicycles are sold annually in the U.S. They are the fastest growing segment of the bicycle sales.

### **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.