POLICY STATEMENT

ASSOCIATION OF PEDESTRIAN & BICYCLE PROFESSIONALS

Expertise for Active Transportation

POLICY STATEMENT: ELECTRIC BICYCLES

Overview of APBP Policy Statements

The Association of Pedestrian and Bicycle Professionals (APBP) supports the community of professionals working to create more walkable, bikeable places through facilitating the exchange of professional and technical knowledge and by promoting fundamental positions that are broadly acknowledged and acted upon by APBP members.

APBP Policy Principles:

1. APBP represents the professional expertise and practical experience of its members in transportation policy discussions to advance active and healthy communities.
2. APBP endorses active transportation as an integral part of transportation systems through all stages of planning, design, funding, and implementation.
3. APBP supports connected, convenient, and safe streets and pathways in every community and planning with the input of every member of a community.
4. APBP advances street designs that make walking and bicycling a viable option for everyone in every place.

[NOTE: With apologies to our North American colleagues, this discussion focuses on e-bike regulation in the US]

APBP believes that electric bicycles provide an innovative transportation option that should be considered as part of an overall transportation strategy. Changing technology, new business models, and rapid deployment are creating both opportunities and challenges for the use and regulation of these devices. APBP encourages government, advocacy, and private sector pedestrian and bicycle professionals, elected officials, and policy makers to consider the following issues in conjunction with the deployment of electric bicycle technologies:

What is an "electric bicycle" (often referred to as "e-bike")?

The terms "electric bicycle" and "e-bike" (as well as other terms) generally mean a bicycle with an electric motor. The specific configuration of the bicycle, the type of electric motor, how the motor interfaces with the drivetrain of the bicycle, and how the motor is controlled varies widely. For purposes of this policy discussion, an e-bike is a bicycle with an electric motor that may assist a pedaling rider or propel the bicycle independent

of pedaling. For more detailed discussion on the types and configurations of e-bikes, see the following resources:

https://en.wikipedia.org/wiki/Electric_bicycle

https://peopleforbikes.org/our-work/e-bikes/

Current Federal Regulation of E-bikes

Federal law defines "low-speed electric bicycle" and regulates them as bicycles, but federal regulation applies only the manufacture and first sale - not the operation - of e-bikes that meet the definition.

Congress, in 15 U.S.C. sec. 2085, defined a "low-speed electric bicycle" according to the following parameters:

- two- or three-wheeled vehicle
- fully operable pedals
- electric motor of less than 750 watts (1 h.p.)
- 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 mph

Note that while the e-bike must have operable pedals, the statute is silent on whether the bike may be pedal-assist only, throttle-controlled, or controlled by other means (such as a smartphone app). The federal definition explicitly supersedes any more stringent definition at the state level. The U.S. Consumer Product Safety Commission, in 16 CFR sec. 1512.2, further defined a "bicycle" as either (1) a two-wheeled vehicle having a rear drive wheel that is solely human-powered, or (2) meeting the definition of a low-speed electric bicycle.

To read the full statute and regulation, see the following resources:
https://www.law.cornell.edu/uscode/text/15/2085

https://www.cpsc.gov/PageFiles/93295/low.pdf

The U.S. regulation permits e-bikes that are substantially faster and more powerful than those allowed in Europe, which are limited to 250 watts and 25 kph (about 15.5 mph) for pedal-assist e-bikes in order to be regulated as bicycles.

Current State Regulation of E-bikes

States, not the federal government, have the authority to regulate the operation of e-bikes. They may adopt the federal definition for this purpose, but may also choose to broaden the definition of e-bikes (meaning that states may allow e-bikes that have more powerful motors and can go faster than allowed under the federal definition). APBP believes that e-bikes have a place in both transportation and recreation, and recommends that states and municipalities update their legal and regulatory frameworks to allow context-appropriate e-bike use.

State regulation of e-bikes varies widely and is extremely inconsistent among states. Some states neither define nor regulate the operation of e-bikes. Some regulate mopeds or motorized bicycles, which may be gas-powered, as distinct from bicycles and it is not always clear whether those laws apply to e-bikes. Other states

treat e-bikes generally the same as bicycles, with some imposing additional regulations or restrictions. State and local laws and regulations vary as to whether e-bikes may operate on shared use paths or sidewalks. Many state and local parks agencies currently prohibit e-bike operation on shared use paths and natural surface trails, but some are considering how to accommodate e-bike use.

The most comprehensive resource on state-by-state e-bike regulation is https://peopleforbikes.org/our-work/e-bikes/policies-and-laws/.

Safety Benefits and Challenges

Adding a new user group into the existing built environment opens up the possibility of new safety benefits and challenges. This is clear from existing interactions among bicyclists, pedestrians, and motorists. E-bikes have the potential to increase the number of people bicycling, which can increase safety through the principle of "safety in numbers;" however, additional bicyclists may also increase the frequency of conflicts. E-bikes may bring new challenges into the mix, as they can accelerate more quickly and achieve higher speeds than a rider may be able to achieve unassisted.

Areas of concern include:

- conflict with pedestrians on sidewalks and shared use paths
- conflict with human-powered bicyclists in bicycle facilities (particularly as it relates to speed differential)
- higher-speed conflicts with motorists at intersections and driveways (particularly on side paths and separated bike lanes)

While the potential for conflict between motorists and e-bike riders is not fundamentally different from human-powered bicyclists, it is possible that e-bike riders may more easily mix with traffic flow due to their higher speed and faster acceleration, though those same factors may increase the danger at conflict points like intersections.

Municipalities should consider e-bike usage when designing bicycle and pedestrian infrastructure. Anticipated growth in e-bike use may indicate assigning a higher priority to facilities that better accommodate bicyclists of varying speeds and degrees of skill, as well as facilities that better separate user groups.

Research into e-bike usage and safety is at a relatively early stage, particularly in North America. See the following resources:

https://journals.sagepub.com/doi/10.3141/2468-14

https://www.sciencedirect.com/science/article/pii/S0966692316301934

E-bikes on Natural Surface Trails

One policy area that has not received sufficient attention in many states is the use of e-bikes on natural surface trails (such as mountain bike or hiking trails). While much of the attention on e-bike regulation has focused on transportation, roads, and paved paths, changes to the regulatory framework may, intentionally or unintentionally, affect the use of natural surface trails. Any discussion of changing statutes or regulations to

accommodate e-bikes should include consideration of how such changes might affect the use of natural surface trails. Parks departments, mountain bike advocates, and other trails advocates should be part of those discussions. In particular, advocacy for mountain bike trail access in the United States has long depended on a clear distinction between motorized and non-motorized use, a distinction which is blurred by the introduction of e-bikes. Mountain bike advocates are not in agreement about how to address e-bikes on natural surface trails; consequently, pedestrian and bicycle professionals must exercise caution when engaging around this issue.

To better understand the differing approaches to this issue, see the following resources:

https://www.imba.com/resource/emtb-access-and-management

https://www.imba.com/education/emtb

http://www.nemba.org/news/where-can-electric-mountain-bikes-be-ridden-new-england

http://www.nemba.org/news/dealers-guidance-regarding-issue-electric-mountain-bikes

Public Health Implications

Public health agencies and public health advocates have been important partners in efforts to improve bicycle infrastructure and increase participation in bicycling in the United States. The public health focus on bicycling is as a means of increasing physical activity to reduce the incidence of chronic diseases. While there is some concern that widespread use of e-bikes may reduce physical activity relative to human-powered bicycling, early research appears to show that riding e-bikes is significantly beneficial to health:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644161/

https://www.ncbi.nlm.nih.gov/pubmed/28446180

https://www.ncbi.nlm.nih.gov/pubmed/29095201

https://www.ncbi.nlm.nih.gov/pubmed/29649069

Enforceability

What types of e-bikes are allowed? Should they be classified by power, or speed, or other factors? What power capacity or speed is considered appropriate and safe? Federal law includes both power (750 watts) and speed (20 mph) limits for e-bikes to be considered bicycles, but these limits are significantly higher than currently allowed in Europe.

How are e-bikes of different types identified? The People for Bikes model legislation calls for stickers with 9-point type. This type of identification is clearly not visible at any distance.

How easy is it to distinguish an e-bike from a human-powered bicycle, or different types of e-bikes from each other? As of this writing, most e-bikes are visually distinguishable from human-powered bicycles to a person with a modest amount of knowledge about bicycles. However, within a few years, it is likely that many e-bikes will be indistinguishable from human-powered bicycles without close examination by a person with current

and specific knowledge about e-bike technology. It is already difficult to determine the type of e-bike by visual inspection of the bike itself.

Outreach and Education

At present, it is not clear who is responsible for informing e-bike users of operating laws and legal places to ride. The outreach and education responsibilities of retailers, manufacturers, government, law enforcement, and advocates should be considered as part of any proposed regulatory scheme.

Any educational program designed to reach e-bike riders should recognize that there will be a spectrum of educational needs, ranging from experienced bicyclists transitioning to e-bikes who need information only on the legal differences, to inexperienced e-bike riders may need basic information on bicycle safety, bicycle infrastructure, rules of the road, and interactions with other road users.

Existing agencies and organizations focused on motorist education and safety should add information about safely interacting with e-bikes, especially raising awareness that e-bikes may go faster and accelerate more quickly than human-powered bicycles.

Equity

Bicycle planners and advocates are grappling with a growing range of equity issues, and the widespread deployment of e-bikes will bring both benefits and challenges from an equity perspective. Some examples include:

- New User Groups: E-bikes can allow older adults and people with mobility challenges to consider biking.
- Cost: The relatively high cost of e-bikes may discourage e-bike ownership among lower-income riders, but bikeshare with e-bikes may help close this gap.
- Discriminatory Impacts: Regulation of e-bikes may affect certain groups of users disproportionately, leading to potentially discriminatory impacts, such as the ban on throttle-controlled e-bikes in New York City disproportionately affecting delivery workers who are predominantly people of color.
- Pretextual Traffic Stops: Police cannot necessarily tell the type of e-bike (or if it even is an e-bike) without stopping the bicyclist, so any regulation of e-bikes distinct from human-powered bicycles or by class of e-bike potentially creates a pretext for police to stop anyone on a bicycle. Such pretextual stops (in general, not only bicycle-specific) have historically disproportionately affected people of color.

Planning for deployment or regulation of e-bikes should include careful consideration of equity implications.

APBP's policy statement development process/member participation

APBP sought comments on a draft policy statement from its Policy Committee members. APBP's Board of Directors approved the policy statement on January 3, 2019. APBP members can suggest changes to any policy statement by contacting the association's executive director, policy committee chair, or board member. For more information, contact: Melanie Bowzer, Executive Director, at mbowzer@amrms.com.