

**\* Consumer Federation of America \* Kids In Danger \* National Center for Health Research \***

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Office of the Secretary  
Consumer Product Safety Commission  
4330 East West Highway, Room 820  
Bethesda, MD 20814  
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**Comments of Consumer Federation of America, Kids In Danger, and National Center for Health Research to the Consumer Product Safety Commission on the Advance Notice of Proposed Rulemaking on Electric Bicycles (Docket No. CPSC-2024-0008)**

Consumer Federation of America (CFA), Kids In Danger (KID), and National Center for Health Research (NCHR) submit the following comments in response to the U.S. Consumer Product Safety Commission’s (“CPSC” or “Commission”) request for comments in the above-referenced matter.<sup>1</sup>

**Introduction**

E-bikes are bicycles with an electric motor, and the product can be sold for children or adults. The motor may partially or fully power the e-bike. In recent years, there has been an increase in injuries and deaths associated with e-bike falls and collisions, including children.<sup>2</sup> From 2017 to 2022, CPSC staff estimates 53,100 emergency department-treated injuries associated with e-bikes.<sup>3</sup> CPSC staff is aware of at least 100 fatalities associated with e-bike mechanical hazards from 2017 to 2022, with an increase from zero deaths in 2017 to 41 in 2022.<sup>4</sup>

Under the Federal Hazardous Substances Act (FHSA), CPSC regulates bicycles, which is defined at 16 CFR 1512.2(a). After Congress added low-speed e-bikes to Section 38 of the Consumer Product Safety Act, the Commission amended its regulations so that requirements for human-powered bicycles also applied to low-speed e-bikes. Section 38(c) provides the Commission with the ability to promulgate new requirements for low-speed e-bikes. The Commission may also regulate e-bikes under the Consumer Product Safety Act as a “consumer product.”

No safety standard adequately addresses e-bike mechanical hazards. There are no U.S. voluntary standards with mechanical safety requirements for e-bikes. While ASTM has a voluntary standard for bicycles, there

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<sup>1</sup> Advance Notice for Rulemaking for Electric Bicycles, <https://www.regulations.gov/document/CPSC-2024-0008-0001> (Mar. 15, 2024).

<sup>2</sup> See Goodman LF, Birnbaum Flyer Z, Schomberg J, Maginas M, Wallace E, Vukceovich O, Awan S, Gibbs D, Nahmias J, Guner YS. Electric bicycles (e-bikes) are an increasingly common pediatric public health problem. *Surg Open Sci.* 2023 Jun 21;14:46-51. doi: 10.1016/j.sopen.2023.06.004.

<sup>3</sup> U.S. Consumer Product Safety Comm’n, *Micromobility Products-Related Deaths, Injuries, and Hazard Patterns: 2017–2022*, (Sept. 2023), <https://www.cpsc.gov/Newsroom/News-Releases/2024/E-Scooter-and-E-Bike-Injuries-Soar-2022-Injuries-Increased-Nearly-21>.

<sup>4</sup> *Supra* note 1, pg. 18863.

are no standards specific to e-bikes. There are international standards that only apply to a smaller subset of products.

The Commission now seeks to collect information related to the risk of injury associated with mechanical hazards of e-bikes.

## Recommendations

### *1. The CPSC should expand and improve its definition of e-bikes to reflect the marketplace.*

Our organizations recommend that CPSC expand its bicycle definition to include Class 3 e-bikes so that the agency may adequately regulate the hazards associated with this consumer product. Currently, e-bikes are subject to the same regulations as traditional bicycles despite significant differences in weight, power, and speed capabilities.

The CPSC’s current definition for “bicycle” includes: “two-wheeled vehicle having a rear drive wheel that is solely human-powered” or “two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts, 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 mph.”<sup>5</sup>

The Bureau of Land Management<sup>6</sup> and bicycle industry<sup>7</sup> currently uses a class system:

- Class 1 includes analog bikes or low speed e-bikes limited to a top speed of 20 mph, and the motor only works when the rider is pedaling;
- Class 2 includes low-speed throttle-assisted e-bikes with a top speed of 20 mph; and
- Class 3 includes e-bikes with the highest top speed of all classes at 28 mph and is equipped with a motor that does not require assistance when it reaches top speed.

To adequately regulate the mechanical hazards associated with e-bikes, CPSC should expand its bicycle definition.

### *2. The CPSC should adopt separate requirements for children’s e-bikes, consistent with the developmental capacity and risk associated with younger users.*

From 2011 to 2020, the incidents of e-bike injuries for children two to 18 years old increased.<sup>8</sup> Further, there were 2.4 times greater odds of severe injury for e-bikes compared to pedal bicycles.<sup>9</sup> Given the increased rate of severe injury, e-bikes marketed towards and intended for use by children require additional regulations. The CPSC should implement strong rules for children’s e-bikes that specifically addressed size, weight, speed, brakes, and power. The CPSC should also develop strong safety standards

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<sup>5</sup> 16 CFR § 1512.2

<sup>6</sup> BLM Final E-bike Rule - Questions and Answers. U.S. Dept. of the Interior, Bureau of Land Management. <https://www.blm.gov/programs/recreation/e-bikes/faq#:~:text=Class%203%20e%2Dbikes%20are,the%20speed%20of%2028%20mph>.

<sup>7</sup> *What Are Ebike ‘Classes’ and What Do They Mean?* Wired. Oct. 5, 2023. <https://www.wired.com/story/guide-to-ebike-classes/>.

<sup>8</sup> *Supra* note 2.

<sup>9</sup> *Id.*

for visibility to ensure rider safety, and to consider the most effective means to promote protective gear wearing.

We also urge the CPSC to adopt age gradings that restrict e-bike use by young children who do not possess the ability to use the product safely. Specifically, we support restricting youth e-bikes to pedal assisted products and ensuring that handlebar throttle-powered electric bicycles are not marketed to children or sold for their use.<sup>10</sup> Our organizations know from other consumer products, like off-highway vehicles, that a major cause of incidents is a child using a product too large for the child or beyond the child's developmental capacity to control. There is a great gap in developmental understanding and maturity that poses risks to children and their surrounding community. Data from the Marin County Health and Human Services Department in California indicates a fivefold increase in e-bike-related accidents among 10 to 15-year-olds compared to traditional bike accidents.<sup>11</sup>

The CPSC should also develop strong safety rules for electric balance bikes. Electric balance bikes are marketed for younger users, and the products do not have pedals and the electric motor propels the rider when the rider pushes their feet against the ground. Because electric balance bikes are marketed for younger children, but present serious safety risks to its users, the CPSC should ensure strong requirements regarding maximum speed, age grading, and warnings.

- 3. The CPSC should consider the injuries and fatality hazard patterns, and it should enhance its data collection efforts.*

According to CPSC staff, most of the non-fatal incidents with e-bikes involved crank arm and/or pedal detachments and tire failures. There were some incidents involving brake failures, wheel detachments, rider stability, broken frames, motor shutoff, unintended acceleration, and issues with the chain and throttle.<sup>12</sup> Most of the fatalities were associated with motor vehicle collisions, falls, and control issues.<sup>13</sup> Given the injury and fatality hazard patterns, CPSC should implement strong standards for the visibility of e-bikes to traditional bicycles, other e-bikes, motor vehicles, and pedestrians. The CPSC must also consider how the weight of an e-bike impacts rider stability. Further, strong standards for breaking, speed, and acceleration must be implemented to ensure rider safety.

It is critical that the CPSC considers the available injury and fatality information. We urge the CPSC to enhance its efforts to collect and analyze injury and fatality data regarding e-bikes so that potential hazards are adequately addressed.

- 4. The CPSC should incorporate the strongest safety standards from the available voluntary standards and address the remaining safety issues.*

No current mandatory or voluntary standard adequately reduces the risk of injury associated with e-bikes. The existing mandatory standard was developed for non-powered bicycles that are lighter in weight than

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<sup>10</sup> See Mary Sacket, District 1 and First Vice President, Board of Supervisors, Marin County, Testimony for Consumer Product Safety Commission Agenda and Priorities for FY 2025 and 2026, [regulations.gov/comment/CPSC-2024-0011-0002](https://www.regulations.gov/comment/CPSC-2024-0011-0002) (May 8, 2024).

<sup>11</sup> Id; see also Dr. Matthew Willis, Marin County Public Health Officer, Testimony for Consumer Product Safety Commission Agenda and Priorities for FY 2025 and 2026.

<sup>12</sup> Supra note 1, pgs. 18862-3.

<sup>13</sup> Id.

e-bikes and only covers e-bikes with fully operable pedals and powered by electric motors less than 750 watts and 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 mph. The ASTM definition of bicycle is “solely human powered,” and does not adequately consider or address the risks associated with e-bikes.<sup>14</sup> Finally, international standards do not consider or address the risks associated with e-bikes that are exclusively propelled by an electric motor or e-bikes with a maximum speed over 15.5 mph.<sup>15</sup>

While there are strengths in each of the existing safety standards, none adequately addresses the mechanical hazards associated with e-bikes. As such, our organizations urge the CPSC to incorporate the strongest safety features of the existing standards and develop standards for the many safety gaps.

*5. The CPSC must consider the potential safety risk of e-bikes modified to go faster than factory-default speed.*

Many e-bikes can be hacked to go faster than their factory-set speed. This poses a safety concern for consumers because speed limits for e-bikes are set for the safety of the riders as well as others on the street, especially if a maximum speed is set for e-bikes marketed to children.

The company KBO states on a blog post on their website, “manufactures (sic) typically install speed limiters in their bikes to avoid breaking the law as it pertains to E-bikes.”<sup>16</sup> However, in the same blog, while claiming to support safety, the company states, “it is important to note that there are ways to remove these speed limiters. I can imagine that someone is excited to see this. This article sheds light on how to take away the speed limits of your electric bike, particularly the KBO E-bike.”

This is not an isolated instance. A simple search for “how to make ebike faster” results in dozens of results showing consumers how they can bypass speed safety mechanisms. Our organizations recommend the CPSC to review speed hacking to prevent consumers and companies from manipulating speed settings which poses a hazard to consumers, including children.

## **Conclusion**

Our organizations appreciate the opportunity to provide comments on the ANPR for electric bicycles. Given the dramatic increase in use and popularity of e-bikes, as well as the increase in non-fatal incidents and deaths, we urge the CPSC to expand the definition of e-bikes, address the risks to children, carefully consider existing data, enhance data collection efforts, incorporate the strongest safety standards while addressing safety gaps, and address the potential risk of modified e-bikes.

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<sup>14</sup> ASTM F2043–13 (2018), Standard Classification for Bicycle Usage.

<sup>15</sup> ISO/TS 4210–10:2020, Cycles—Safety Requirements for Bicycles—Part 10: Safety requirements for electrically power assisted cycles (EPACs).

<sup>16</sup> *How to Lift the Speed Limit of Your KBO Ebike*. KBO Bike. Jan 10, 2022. <https://kbobike.com/blogs/news/how-to-lift-the-speed-limit-of-your-kbo-ebike>.

Respectfully submitted,

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