

Summer Safety ☀️

E-Bike Best Practices



Background

As electric bicycles become more affordable and widely available, they are increasingly being used by adults, adolescents, and children for recreation, transportation, and exercise. While e-bikes offer many benefits, their increased speed and weight introduce safety risks that differ from those associated with traditional bicycles.

Emergency department data from Connecticut Children's highlights this growing concern. E-bike-related injuries nearly tripled between 2024 and 2025, increasing from 39 injuries to 109 in a single year. This trend underscores the importance of educating families about safe riding practices and ensuring that state policies keep pace with rapidly evolving technology.

Connecticut Children's supports evidence-based strategies that help families understand these risks while promoting policies that protect young riders.

Understanding Connecticut's E-Bike Laws

Connecticut law defines an e-bike as a bicycle equipped with working pedals and an electric motor producing no more than 750 watts. The motor must stop providing assistance once the bicycle reaches its designated maximum speed.

State law recognizes three categories:

- **Class 1:** Pedal-assist only with a top assisted speed of **20 mph**.
- **Class 2:** May be operated using a throttle and has a maximum assisted speed of **20 mph**.
- **Class 3:** Pedal-assist only with assistance up to **28 mph**. Riders under age 16 may not operate a Class 3 e-bike unless they are riding as a passenger on a bicycle specifically designed to carry one.

Vehicles equipped with electric motors that exceed these specifications are **not** considered e-bikes under Connecticut law. Instead, they are classified as motor-driven cycles or motorcycles and require licensing and other legal requirements that prohibit operation by children.

Similarly, modifying an e-bike to exceed the legal speed limits changes its legal classification and may subject both riders and owners to additional licensing requirements.

Safety Considerations for Parents

Because e-bikes travel faster and weigh substantially more than traditional bicycles, they require greater judgment, balance, and braking ability. Parents should carefully consider whether a child has the maturity, physical ability, and knowledge of traffic laws necessary to operate an e-bike safely.



Important safety considerations include:

- Riders should travel with traffic and use roadways unless local ordinances specifically permit sidewalk riding.
- Helmets are legally required and remain one of the most effective ways to reduce serious head injuries. Families should consider helmets specifically designed for higher-speed riding, such as those meeting **NTA-8776** standards, which provide greater protection than conventional bicycle helmets.
- Younger riders often have limited experience navigating traffic and may struggle to safely manage the higher speeds and increased weight of an e-bike.

Battery Safety

Most e-bikes are powered by lithium-ion batteries, which require careful handling and charging. Lithium-ion batteries can experience thermal runaway, a condition in which heat builds faster than it can dissipate. Once initiated, thermal runaway can rapidly lead to fire or explosion. Because these fires generate their own oxygen, they are extremely difficult to extinguish using conventional methods.

Families can reduce risk by:

- Purchasing batteries certified by UL or another nationally recognized testing laboratory.
- Avoiding low-cost replacement batteries from unknown manufacturers.
- Charging batteries away from exits so escape routes remain accessible.
- Avoiding overcharging and following manufacturer charging instructions.

Policy Opportunities to Improve Safety

As e-bike use continues to grow, Connecticut has an opportunity to strengthen protections for children and families.

Establish Minimum Age Requirements

Current Connecticut law limits operation of only Class 3 e-bikes by younger riders. Expanding minimum age requirements to all e-bike classes would better reflect the capabilities needed to safely operate these higher-speed vehicles. Several other states, including Minnesota and New Jersey, already require minimum rider ages for all e-bikes.

The U.S. Consumer Product Safety Commission's *Age Determination Guidelines* recommend that children ages 9–12 not operate motorized wheeled vehicles capable of speeds greater than **10 mph**. Even the slowest class of legal e-bike can travel approximately twice that speed.

Improve Consumer Labeling

Clearer labeling would help consumers distinguish legal e-bikes from higher-powered motor-driven vehicles that may appear similar. Current Connecticut law requires manufacturers to display the bicycle's class, motor wattage, and maximum assisted speed. However, these labels can be difficult to read and may not adequately distinguish products that resemble e-bikes but legally qualify as motor-driven cycles.

Improving label visibility, increasing font size, and strengthening enforcement against inaccurate labeling would help consumers make informed purchasing decisions and reduce confusion regarding which vehicles children may legally operate.

Looking Ahead:

E-bikes offer an exciting transportation and recreation option, but their growing popularity has been accompanied by a sharp increase in pediatric injuries. Combining family education, appropriate safety equipment, responsible purchasing decisions, and thoughtful public policy can help ensure children enjoy the benefits of e-bikes while reducing preventable injuries.

To learn more about this issue and other injury prevention initiatives, please visit Connecticut Children's Injury Prevention Center's [Community Outreach page](#).