

Developing a Campus E-mobility Model Policy: A Resource Guide



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Use of e-bikes and other personal electric mobility devices has increased steadily on college campuses, providing convenient and sustainable transportation for students and staff. At the same time, these devices introduce identifiable fire and safety considerations.

Most are powered by lithium-ion batteries, which can enter thermal runaway — an uncontrollable self-heating reaction that can lead to fire or explosion — when damaged, misused, or counterfeit. While reported battery incidents across Bicycle Friendly University campuses remain relatively limited, more than half report battery or electrical safety concerns. In response, some institutions have implemented partial restrictions or are considering broader prohibitions on storage or charging in buildings.

UL Standards & Engagement worked with the League of American Bicyclists to survey BFU campuses and review how they currently manage e-bike and e-scooter use. The joint report, "E-Bikes on College & University Campuses," released in March 2025, found that more than half of campuses lack formal policies on safe riding, storage, or charging. Many respondents also highlighted the need for a clear, adaptable model policy.

In response, ULSE and The League convened a cohort of six campus safety, facilities, and transportation leaders over the course of six months to develop the best practice model policy presented in this document. It is designed to reduce fire risk, support enforcement clarity, and preserve access to sustainable mobility, while allowing institutions to tailor implementation to their specific operational realities.

UL Standards & Engagement is a nonprofit safety organization that convenes experts and leaders across the world to deliver impact through standards, education, and advocacy.

The League of American Bicyclists is a national nonprofit that promotes safer cycling and administers the Bicycle Friendly University (BFU) program.

Bicycle Friendly Universities are institutions recognized for advancing accessible and safe biking infrastructure for students, faculty, and staff.

How to Use This Document

The following pages provide a model policy framework institutions can use to establish clear safety and operational guidelines for e-mobility devices on campus.

All content and language are intended as suggestions and may be modified to fit the unique needs and resources of each campus. The Model Policy is designed to serve as a starting point rather than a finalized, comprehensive document.

A Few Considerations When Developing an E-mobility Policy for Your Campus:

- 1** Evaluate what makes the most sense based on your institution's unique environment and experience, including, but not limited to, the number and types of e-bikes, e-scooters, and other e-mobility devices on campus, available staff and financial resources, and the existing infrastructure such as designated charging and storage areas.
- 2** Take a comprehensive approach to safety by evaluating the types of e-mobility devices you allow on campus. Permitted devices and the batteries that power them should be tested and certified by an accredited, nationally recognized testing laboratory. At minimum, e-mobility devices should conform to the following:

UL 2849: the Standard for Electrical Systems for E-Bikes

UL 2272: the Standard for Electrical Systems for Personal E-Mobility Devices

UL 2271: the Standard for Batteries for Use in Light Electric Vehicle (LEV) Applications

- 3** Ensure that the policy covers the full range of e-mobility activity on your campus, including riding behavior, parking rules, storage requirements, and charging practices. Clear guidance in each of these areas helps to promote safety and compliance.



Scan the QR code for a plain-text version that you can use for your institution.



Sample Model Policy

01 Purpose

Ownership of e-bikes and e-scooters has soared, offering a cost-effective, and environmentally friendly way to get from point A to point B. However, the rechargeable lithium-ion batteries that power these devices have the potential to cause extreme damage if they go into thermal runaway, an uncontrollable, self-heating state that can result in fire or even explosion.

The purpose of this **[Institution Name]** policy is to establish clear rules,

responsibilities, and campus-specific enforcement procedures for the operation, parking, storage, charging, and campus-regulated registration of e-bikes, e-scooters, and other personal electric mobility devices on all **[Institution Name]** properties. It is anticipated that this should help promote safe and sustainable transportation, advance pedestrian and rider safety, and protect campus infrastructure, students, faculty, staff, and visitors.

02 Scope

This policy applies to:

- All students, faculty, staff, visitors, vendors, contractors, and any other persons operating or parking a personal rechargeable electric mobility device, as in those that are typically powered by batteries and need to be plugged into recharge, on campus.
- All campus roads, driveways, bike paths, pedestrian walkways, parking facilities, building interiors (where specified), and other grounds owned or controlled by **[Institution Name]**.

This policy does not apply to personal ADA-compliant mobility, medical transportation devices designed to assist individuals with limited mobility in performing daily functions or traveling over short to medium distances, or electric mopeds which require a license to operate.



03 Definitions

- **Personal Electric Mobility Device:** Personally owned mobility devices such as bicycles, scooters, hoverboards, and similar wheeled vehicles that are electric, rechargeable, and battery powered.
- **E-bike (Electric Bicycle):** A two- or three-wheeled device equipped with functional pedals and an electric motor to either assist the rider when pedaling or provide propulsion when the rider is not pedaling. E-bikes are classified into three classes, which are distinguished by their maximum assisted speed and how they provide power.
- **E-scooter (Electric Scooter):** A two-wheeled vehicle with a platform for the rider to stand on and handlebars for steering, which is propelled by an electric motor powered by a rechargeable battery.
- **Shared Mobility Device:** A device provided by a third-party vendor or campus program for short-term rental or share; can be electric-powered or non-electric.
- **Designated Charging Station/Zone:** An outdoor or indoor location approved by [Institution Name] for safe device charging.



Overview of the 3-Class System for E-bikes			
		Characteristics	Regulations
Class 1 E-bike	Provides Assistance:	Only when pedaling	Generally treated like a standard bicycle.
	Top Assisted Speed:	20 mph	
Class 2 E-bike	Provides Assistance:	When pedaling or by throttle	Generally treated like a standard bicycle. May be restricted from shared use paths or trails.
	Top Assisted Speed:	20 mph	
Class 3 E-bike	Provides Assistance:	Only when pedaling	More likely to be restricted from shared use paths or trails. May require use of a helmet, have minimum age requirements, or be subject to other regulation.
	Top Assisted Speed:	28 mph	

04 Rider Responsibilities

4.1 Lithium-Ion Battery Safety

E-bikes, e-scooters, and other personal electric mobility devices are typically powered by rechargeable lithium-ion batteries. Devices should be stored and charged in a temperature-controlled environment, ideally 50–77°F (10–25°C). Users should ensure that devices are not left outdoors in direct sunlight, near heat sources, or in freezing temperatures, and should always be present when the device is charging unless in a designated charging area. Please see Section 5 for specific charging instructions.

If your personal electric mobility device or the battery that powers it is damaged, such as in a fall, crash, or accident, please inspect the battery and electrical components carefully. Keep an eye out for the following, as these are all signs that your battery could be damaged and could potentially pose a safety risk (i.e., fire, heat, and exposure hazard):

- Deformed, dented, or broken parts
- Melted plastic
- Signs of corrosion or frayed wires
- Popping, hissing, or crackling sounds
- Visibly swollen battery parts
- Heat, smoke, or an odd odor

If your device is exhibiting any of the warning signs listed above, do not use or attempt to repair the device. If you observe smoke, fire, or any signs of immediate danger, evacuate the area and dial 911, or contact the fire department without delay. Before operation, ensure that you read and follow the manufacturer’s operation, charging, and storage instructions, as well as any included best practice information.

4.2 Registration and Decals

- All personally owned personal electric mobility devices must be registered with **[Your institution transportation services]** at **[Link to website or campus location]**.
- All personally owned personal electric mobility devices should meet safety certification requirements. Specifically, the following devices should be certified to, and bear the mark of a third-party certification body:

E-bikes:
UL 2849

**E-scooters &
Hoverboards:**
UL2272

**Traction Batteries for Use in
Other E-mobility Devices:**
UL 2271

- When registering, please bring your device so that **[Institution Transportation Services]** can confirm that it meets the standards and certification requirements.
- Registrants will receive a unique decal to affix visibly on the device.
- Registration is valid for **[Specify time period (e.g., 1 school year, 4 years, etc.)]** and must be renewed to remain valid.

4.3 Training and Education

- Users are strongly encouraged to complete the **[Name of institution electric mobility device training module]** at **[Link or campus location]**.

See the League of American Bicyclists' E-bike Smart resources and online learning center at <https://learn.bikeleague.org/products/e-bike-smart>

- Wearing a helmet and reflective gear when riding is strongly encouraged.
- Front and rear lights, when applicable, are **[Select one: Strongly encouraged/Required by law.]** Check local rules and regulations for compliance requirements.
- Users must abide by all state/local traffic laws and campus speed limits **[Link to state/local laws]**.

4.4 Riding and Usage Behavior

- Adhere to all posted speed limit signs and ensure you are following safe speed for conditions.
- Allowed on all roadways, bike lanes, sidewalks, and trails, unless otherwise noted.
- Do not ride or operate indoors.
- Yield to pedestrians and non-electric personal mobility devices such as pedal bicycles at all times.
- No reckless riding, racing, or stunts are permitted on campus.

Sample Speed Limit Guidance

Area Type	Max Speed	Notes
Private Campus Roads	25 mph	Follow all vehicle code regulations
Public Roads That Pass Through or Around Campus	Follow posted signage or city law	[Link to relevant city or local laws]
Shared Use Paths	15 mph	Pedestrians have right of way
Sidewalks	5 mph	Walk device if crowded; yield to pedestrians
Parking Facilities	10 mph	Yield to cars and pedestrians
Building Interiors	N/A	Walk device; no riding indoors

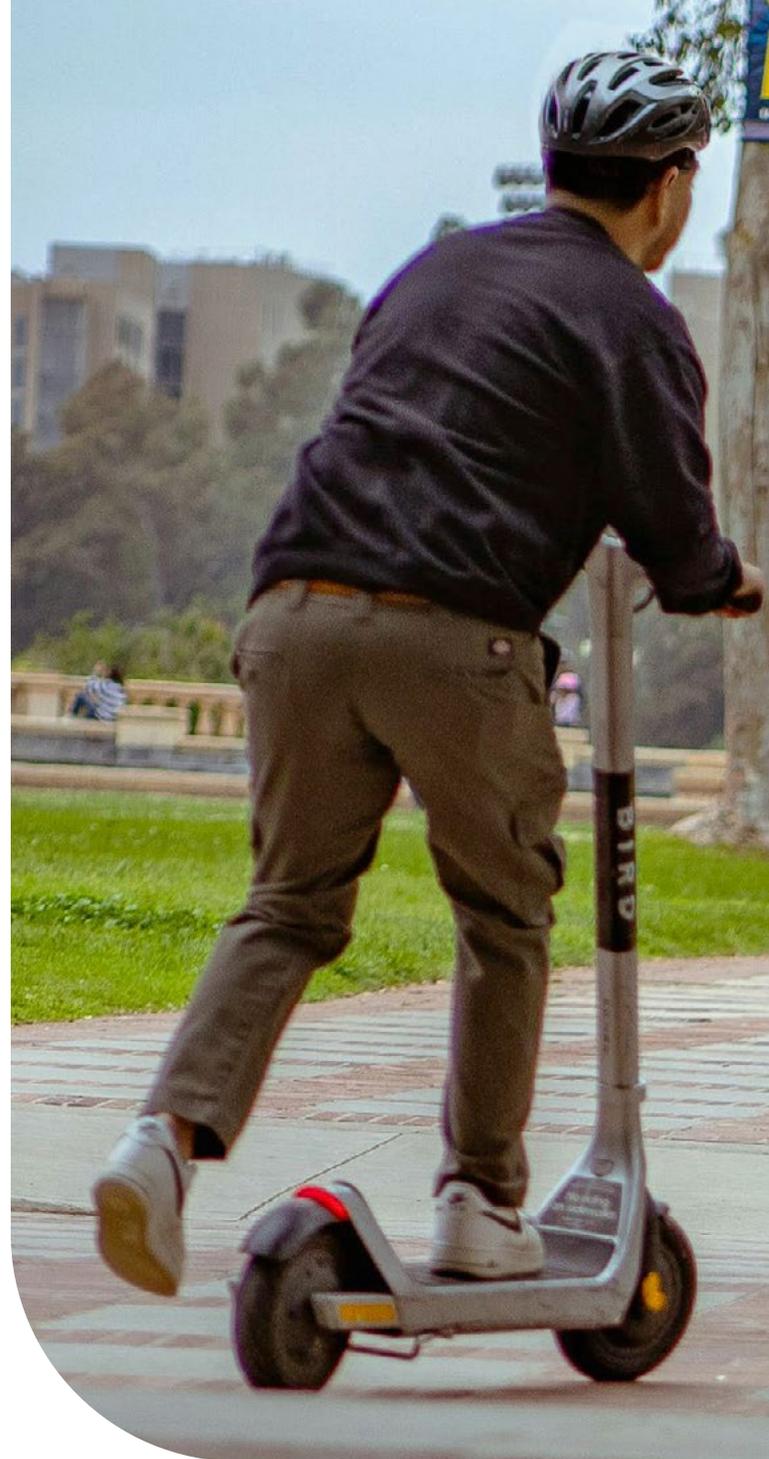
05 Storage and Charging

Note for institutions: Before publishing your campus personal electric mobility device policy, please connect with your local fire marshal, as well as other relevant groups such as your legal team and facilities management team.

As a reminder, personal electric mobility devices are typically powered by rechargeable lithium-ion batteries. To ensure these batteries are stored and charged safely, in a manner that reduces fire and other safety risks, please adhere to the following guidelines:

- Always remain present when charging the device indoors, unless in a designated charging area, to ensure you can address any issues, such as those outlined in Section 4.1.
- Do not park or charge in any area that obstructs accessible pathways, building or room entrances and exits, driveways, fire safety equipment areas, or in emergency paths.
- When possible, devices should be stored and charged in a temperature-controlled environment, ideally 50–77°F (10–25°C).
- If storing indoors, keep device at room temperature (68–77°F or 10–25°C).
If storing outdoors, keep device in designated areas; do not leave device outdoors in direct sunlight, near heat sources, or in freezing temperatures.
- Park device upright.
- Keep device and battery away from combustible materials.
- Follow the manufacturer’s storage and charging instructions.

All shared mobility devices, including **[List relevant shared devices on campus, e.g., Lime Scooters, Uber Bikes, Bolt, etc.]** should be parked and charged in designated areas, following manufacturer and company guidance.



5.1 Storage

Outdoor Storage

- Park only at designated areas and zones such as the following bike racks, bike rooms, or lockers:
[Provide list of designated storage areas or link to existing list]
- Devices parked outside these areas for more than **[Provide number of days]** days may be considered abandoned, tagged, and impounded.
- Storage or parking is prohibited in any area which blocks or impedes the normal flow of traffic on any roadway, street, sidewalk, common area, patio, parking area, bicycle lane or bicycle path of **[Institution name]** or in any manner which interferes with or impedes the normal movement of persons with disabilities, pedestrians or bicyclists on ramps, stairways or curb cuts. Storage or parking is also prohibited at trees, railings, signs, light posts, bus stops, bus loading zones, lawns, and landscaped spaces.



Indoor Storage

- May be stored in indoor storage rooms inside buildings or in bike garages:
[Provide list of designated storage areas or link to existing list]
- If no indoor storage room is available in any building or bike garage, store only in the designated outdoor areas and zones noted above.
- Storage in any rooms, apartments, living spaces, classrooms, offices, or indoor gathering areas on campus is prohibited, unless otherwise noted.

5.2 Charging

Charging is prohibited in any indoor space (unless designated as an indoor charging zone, and not in any area that blocks or impedes the normal flow of traffic), on any roadway, street, sidewalk, common area, patio, parking area, bicycle lane or bicycle path of **[Institution name]**, or in any manner which interferes with or impedes the normal movement of persons with disabilities, pedestrians, or bicyclists on ramps, stairways or curb cuts. Charging is also prohibited at trees, railings, signs, light posts, bus stops, bus loading zones, lawns, and landscaped spaces.

- Do not leave the device unattended while charging indoors, unless in designated charging areas listed in this section.
- Do not charge the device overnight.
- When charging the battery separately from the device, charging in a third-party certified charging cabinet is recommended.
- Only use the charger, charging cable, and power adapter that came with your device, or one that is designed specifically for it.
- Read and follow the manufacturer's charging instructions.
- Plug the charger directly into the wall outlet. Do not plug into a power strip or extension cord.
- Place your device on a hard, stable surface while charging. Do not charge on beds, couches, or areas of dry grass.
- Disconnect your device once it is fully charged to prevent overcharging.



5.2 Charging, Continued

Outdoor Charging

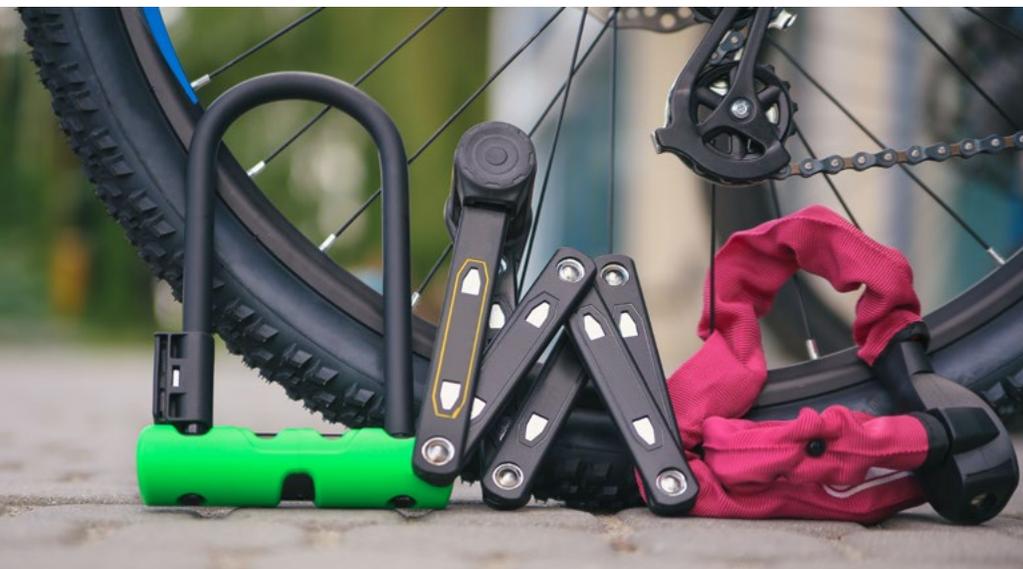
- Charge at designated outdoor charging areas or zones, located at following locations:
[Provide list of designated charging areas or link to existing list]

Indoor Charging

- May be charged in designated indoor storage rooms in buildings, located in the following locations:
[Provide list of designated charging areas or link to existing list]
- If no designated indoor storage room areas available, charge at outdoor charging areas, located at the locations listed above.
- Charging inside any private rooms, apartments, living spaces, classrooms, offices, or indoor gathering areas on campus is prohibited, unless otherwise noted.

06 Maintenance and Theft Prevention

Users must maintain devices in safe operating condition: brakes, tires, lights, battery enclosure, etc. Please refer to device manual for specific maintenance guidance.



A bike and device repair station is located at:

[Links or Location]

To Help Prevent Theft:

- Always lock your personal electric mobility device to a bike rack, within a card-access parking facility, or leave it at an attended valet station.
- Do not lock your personal electric mobility device to an unsecured object.
- Register your personal electric mobility device at [[Link to institution device registration page](#)], even if your device is registered with another program or law enforcement agency.
- Report suspicious behavior by using one of the emergency call boxes on campus, or by calling [[Campus security or other applicable phone number](#)]. If suspicious behavior or theft occurs off-campus, contact the appropriate police agency.
- To secure bikes and e-bikes: secure a U-lock or chain lock through the device frame and the rear wheel, and attach to the rack.
- To secure scooters and e-scooters: secure a U-lock or chain lock around the main frame and front wheel and attach to the rack.



U-Lock secures rear wheel and frame, with additional cable to secure front wheel.



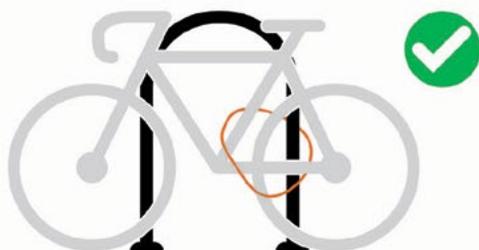
U-Lock secures front wheel only, leaving rest of bicycle vulnerable to theft.



U-Lock secures rear wheel and frame.



U-Lock secures bicycle frame only, leaving both wheels vulnerable to theft.



Cable lock secures rear wheel and frame.



Cable lock secures rear wheel only, leaving rest of bicycle to theft.

07 Enforcement and Penalties

Parking and Impound: Impounded devices may be reclaimed at **[Address of campus impound facility location]** upon **[Provide details of required action (e.g., payment of fines, impound feeds, dean referral, safety course, etc.)]**.

Sample Penalty Guidance			
Violation	First Offense	Second Offense	Third\Subsequent Offense
Riding Uncertified Device	Warning	Dean referral (or department supervisor for faculty/ staff) + device impound/ immobilization	Device impound/ immobilization + fine
Riding Unregistered Device	Warning	Dean referral (or department supervisor for faculty/staff) + safety course	Device impound/ immobilization
Speeding / Reckless Riding	Warning	Dean referral (or department supervisor for faculty/staff) + safety course	Device impound/ immobilization + conduct referral
Improper Parking / Blocking ADA	Warning	Dean referral (or department supervisor for faculty/staff) + safety course	Device impound/ immobilization
Unauthorized Charging	Warning	Dean referral (or department supervisor for faculty/staff) + safety course	Device impound/ immobilization

08 Appeals and Dispute Process

To contest a citation or impound: submit a written appeal to **[Provide information of relevant party (e.g., Dean, Peer Appeals Board, etc.)]** within **[Number of days required]** days of citation date.

09 Policy Review and Amendments

This policy will be reviewed every [Provide number of years], upon major campus infrastructure changes, or to update compliance to align with local, state, or federal laws, regulations, or guidance.

- Suggested parties to include in policy development and review include, but are not limited to, the following: local fire marshal, Risk Management team, Legal team, local police department, Transportation, Facilities Management, Resident Life, Emergency Management.
- Submit amendment proposals to [Institution policy owner].

10 Related Documents and References

- [Institution Bicycle Policy]
- [Institution Parking Rules and Regulations]
- [City/Community Bicycle or E-bike Regulations]
- [State Vehicle Code: E-bike Regulations]
- [Facility Electrical Safety Guidelines]

Scan the QR code below for a plain-text version that you can use for your institution.



Key Takeaways From the E-bikes on College & University Campuses Survey

- While e-bikes are common on campuses and most have basic bike infrastructure, **there is a significant gap in e-bike-specific safety resources.**
- Safety concerns are significant, with **68% of BFU campuses reporting road safety concerns**, and over half (57%) reporting battery/electrical-related concerns, though actual battery incidents remain relatively low (22% experienced).
- **41% of respondents confirm that their campus has some form of e-bike policy**, with most focusing on restricting storing (80%), parking (68%), and charging (58%) in buildings due to safety concerns.
- Despite widespread parking and charging regulations, enforcement is challenging, with most violations appearing to be motivated by users' desire for convenience and insufficient charging infrastructure.

Insufficient infrastructure (**29%**) and a lack of awareness in users about e-bike policies (**26%**) are the largest hurdles campuses with policies have encountered.

73%

of Bicycle Friendly Universities see e-bikes in daily or weekly usage on campus.

Only 11%

of BFUs offer outdoor charging stations.

32%

have a limited policy in place, and **only 9%** say their policy is comprehensive.

81%

of BFU campuses say that safety concerns contributed to their decision to ban e-bike storage/parking in campus buildings.

Methodology Summary

This report is based on qualitative and quantitative data collected between November 20, 2024 and January 31, 2025 through in-depth interviews and a national survey of Bicycle Friendly Universities. UL Standards & Engagement conducted this work in partnership with the League of American Bicyclists to understand current practices and policies related to e-bikes on college campuses.

Qualitative Data

Three in-depth interviews (n=5) were conducted with administrators from the University of Maryland, College Park; Colorado State University; and Hunter College CUNY. These schools were recommended by the League of American Bicyclists. Transcripts were analyzed in MAXQDA using a hybrid coding approach.

Quantitative Data

An online survey was fielded by BV Insights from January 17 to 31, 2025, among current and pending BFUs across the United States. Eighty-five institutions responded. BV Insights follows industry ethics and best practices as a member of the Insights Association and ESOMAR. All results are anonymous.

Thank You To These Experts From Bicycle Friendly Universities, Who Contributed Their Expertise to Develop This Policy:

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The League of American Bicyclists Bicycle Friendly University (BFUSM) program recognizes institutions of higher education for promoting and providing more accessible cycling infrastructure for students, staff, and visitors.

The BFU program provides a roadmap and technical assistance to help create a safer biking community.

To learn more about how to become a BFU, contact: bfa@bikeleague.org or visit <http://bikeleague.org/bfa>.



Additional Resources:

Lithium-Ion Battery Risks



As society moves toward clean, renewable, and sustainable energy sources, lithium-ion batteries have become a critical power source. These rechargeable batteries are small and compact, yet still capable of storing large amounts of energy. They are also ubiquitous, found in everything from smartphones and e-bikes to electric vehicles and large-scale energy grid storage systems. Standards help prevent the risks and hazards inherent to lithium-ion battery power and support technological progress in clean energy.



Thermal Runaway

Thermal runaway is a phenomenon in which a lithium-ion cell enters an uncontrollable, self-heating state. This reaction can be caused by substandard quality and design, poor components, physical abuse, and improper charging or discharging. Thermal runaway can result in extremely high temperatures, violent cell venting, fire, and explosion.



Stranded Energy

Stranded energy refers to the remaining energy in a battery after it has been damaged or removed from service. If batteries are not properly managed, stranded energy can lead to thermal runaway and hazards such as electrical shock, fire, and explosion.



Off-Gassing

Off-gassing is the act of releasing gases from a battery during charging or discharging. Off-gassing at a minor scale can be a normal part of battery operation, but it can accelerate to dangerous levels if the battery is damaged, overcharged, or overheated. These gases can be flammable and toxic. Off-gassing poses an elevated safety risk if it occurs in a confined space, or one that is not properly ventilated.

Additional Resources:

E-Mobility Standards

UL 2849: Electrical Systems for e-Bikes

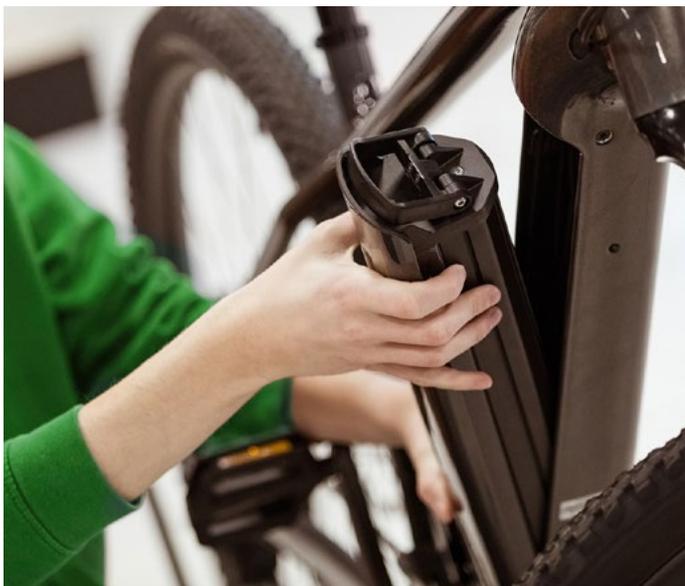
- Lists construction and performance requirements to evaluate the electrical systems of e-bikes such as the drive unit, battery, battery management system, wiring, power inlet, and dedicated chargers, to reduce the risk of fire, injury to persons, and mechanical and electrical hazards.
- Testing simulates conditions an e-bike may encounter in normal use, such as high temperatures in a garage or storage unit, water exposure from light rain or splashing puddles, and vibration from riding on an uneven road. Some of the tests take into account abnormal use such as a locked rotor condition of the motor, and foreseeable misuse, such as overloading the motor.
- Requires manufacturers to include cautionary markings on e-bikes, and instructions in e-bike packaging to ensure users are informed on proper charging, operation, maintenance, moving, and storage practices for the e-bike and its battery.
- An e-bike will not pass required testing if it exceeds certain temperature limits, or if there is any indication of fire, explosion, rupture of the enclosure/casing, electrolyte leakage from the battery, or electric shock hazard.

UL 2271: Batteries for Use in Light Electric Vehicle (LEV) Applications

- Covers electrical energy storage assemblies such as battery packs and combination battery pack-electrochemical capacitor assemblies and the subassembly/modules that make up these assemblies for use in light electric-powered vehicles.
- Also covers battery management systems that provide protection and control for the EESAs.
- Covers the battery systems for use in light electric vehicles such as electric bicycles, electric scooters, electric wheelchairs, golf carts, all-terrain vehicles, non-ride-on industrial material handling equipment, unmanned aerial vehicles, ride-on floor care machines, and personal e-mobility devices.
- Testing simulates normal use, abnormal use, and foreseeable misuse of the battery system, such as mechanical shock from being dropped by a user, or overcharging of the battery due to a fault in the charging control circuitry.
- An EESA, battery, or battery assembly will not pass required testing if it exceeds certain limits, or if there is any indication of fire, explosion, rupture of the enclosure/casing, electrolyte leakage from the battery, venting of the battery, loss of protection controls, or electric shock hazard.

UL 2272: Electrical Systems for Personal E-Mobility Devices

- Addresses hazards from the batteries and electrical systems for personal e-mobility devices such as hoverboards or e-scooters.
- Testing simulates normal use, abnormal use, and foreseeable misuse, such as mechanical shock from being dropped by a user, or overcharging due to a fault in the charging control circuitry.
- A device will not pass required testing if it exceeds certain limits, or if there is any indication of fire, explosion, rupture of the enclosure/casing, electrolyte leakage from the battery, or electric shock hazard.





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