



THE RECHARGEABLE SOCIETY:

How We Move Near and Far

Electrified transportation is reshaping mobility at every scale from city streets to everyday commutes.

E-bikes, e-scooters, electric vehicles, and shared mobility devices are rapidly expanding across communities worldwide.

Many are now essential tools for daily life; 54% of e-bike and e-scooter owners rely on them for work.

As these technologies become more embedded in how we move, reliance on lithium-ion batteries continues to grow.

Where Battery Risk Escalates

More devices = more potential risk

Despite growing adoption, awareness remains low:



47%

of EV or hybrid owners are unaware their vehicles use lithium-ion batteries.



53%

of e-bike owners and 54% of e-scooter owners don't realize their devices are battery-powered.

As more devices are used and charged in homes and workplaces, battery-related incidents are increasing, often linked to thermal runaway events.

Thermal runaway:

An uncontrolled, self-heating state in a lithium-ion battery that can lead to fire, smoke, off gassing, or explosion. It can be triggered by overcharging, damage, or substandard manufacturing.

Awareness gaps are driving unsafe behavior:

44% of Americans are unaware of overheating battery risks.

64% of e-mobility owners have heard little to nothing about battery safety standards.

Where Problems Occur

Common scenarios and safety challenges

How risk shows up in everyday use:

- 1 Unsafe charging practices**
Charging overnight, unattended, or after a device is fully charged increases the risk of overheating:
 - 41% of owners report charging overnight.
 - 53% continue charging after the battery is full.
- 2 Charging in high-risk locations**
Devices are often charged in hallways, near exits, or in enclosed indoor spaces:
 - Nearly half of riders (49%) report blocking fire exits while charging at home.
- 3 Unattended charging**
Fires can escalate quickly when devices are left alone:
 - 26% of users report charging batteries while away from home.
- 4 Uncertified or modified devices**
Low-cost, incompatible, or altered batteries and chargers can increase the likelihood of failure.
- 5 Damaged or degrading batteries**
Many users continue using batteries that show warning signs:
 - 40% of e-bike owners feel their damaged li-ion batteries are not at risk of fire, smoke, or explosion.

Advancing Safer E-Mobility

Standards, policy, and programs to reduce risk

A combination of standards, legislation, and incentives is helping improve safety across the e-mobility ecosystem.

Standards

UL Standards & Engagement has developed 80+ safety standards addressing lithium-ion batteries and the devices that rely on them, helping reduce fire risk and improve product safety.

UL 2271 | E-Scooter Batteries

UL 1642 | Lithium-Ion Batteries

UL 2580 | EV Batteries



Policy action

Federal: Setting Consumer Standards for Lithium-Ion Batteries Act (H.R. 973 / S.389)

State: States including Florida, Colorado, Georgia, and Illinois are incorporating e-mobility safety requirements into law.

City: New York City Local Law 39 requires devices and batteries to meet ULSE safety standards.



Incentives and programs

Washington, DC: Rebates for certified e-bikes

Denver: Instant rebates for qualifying devices

New York City: Trade-in program to replace uncertified e-bikes with safer alternatives

Related Resources

The Impact of E-Mobility Battery Fires in NYC



Toolkit for City and State Government
Leaders to Address E-Bike Fires



Raising the Risk: How Safety Oversight of E-Mobility
Riders Threaten More Lithium-Ion Battery Fires



About UL Standards & Engagement

UL Standards & Engagement is a nonprofit safety organization that convenes experts and leaders across the world to deliver impact through standards, education, and advocacy. Since 1903, we have developed nearly 1,700 standards and guidance documents for products ranging from fire doors to autonomous vehicles. ULSE enables innovation and grows trust by convening experts and informing policymakers and regulators as we work toward a safer, more secure and sustainable future. Visit **ULSE.org** for more information.

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