

CHARGE SAFE, RIDE SAFE:

NYC's Electric Micromobility Action Plan



NYC

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Introduction



Introduction

Electric micromobility, or e-micromobility, is a convenient and low-cost transportation option, which makes it easier for people to navigate our city streets while reducing congestion and advancing Mayor Adams' climate agenda. It is also the preferred option for New York City's delivery workers, who provide a key service in our city. However, as with many emerging technologies, there is work to be done to promote its growth in ways that meet New Yorkers' diverse needs while keeping everyone safe.

To develop solutions and build a safe, welcoming environment for electric micromobility users and the entire community, Mayor Adams launched an Interagency Task Force in late 2022. The focus of this Task Force is to: (1) prevent loss of life and injury due to battery fires and (2) to promote ridership growth. It is doing so while accounting for the needs of all riders, from delivery workers to commuters to families. This Action Plan is the Task Force's first set of initiatives to meet these goals.

Background

History and Benefits of Electric Micromobility in NYC

Electric micromobility devices are an increasingly important component of urban transportation systems, reducing pollution and congestion. E-bikes and e-scooters are an affordable and convenient alternative to car ownership and provide a last-mile option to those who do not live close to transit. They are essential for those who are employed as delivery workers and rely on this mode of transportation for their livelihoods.

In 2020, New York State and New York City legalized the use of Class 1, Class 2, and Class 3 e-bikes and standing e-scooters. Even prior to legalization, e-bikes had been in use in NYC, especially among delivery workers working long shifts. They also constituted a niche commuting and recreational cycling option in other cities for some time. Since 2020, electric micromobility significantly increased in popularity in NYC due to both legalization and the COVID-19 pandemic. Upon legalization, e-bikes and e-scooters were also incorporated into New York City's shared mobility programs: electric Citi Bikes were added to the fleet and a City-sponsored shared e-scooter pilot program launched in the Bronx.

Nationally, e-bike sales outpaced sales of electric and hybrid cars in both 2021 and 2022. For many, these devices can replace car trips and fill in transit gaps or replace onerous transit trips in ways that traditional pedal bikes cannot. Riders can cover longer distances and hills and carry heavy loads (e.g., groceries, children, cargo) more easily. Delivery workers can complete long shifts without impacting traffic congestion when using e-micromobility instead of cars. People with mobility limitations and older adults, for whom traditional pedal bikes may not be an option, also benefit from e-micromobility options.

Both as a city and as individual New Yorkers, the benefits and potential of this mode are remarkable. It is for this reason that we must address the serious safety issues that have accompanied its growth.

Traffic Safety

E-bikes and e-scooters are not the only electric micromobility devices operating in New York City streets. With the growing adoption of e-bike and e-scooters, the city is also seeing an increasing number of legal and illegal electric mopeds. The safety of operating these devices has presented a new set of challenges.

Legal e-bikes and e-scooters are relatively lightweight devices and have built-in mech-

anisms that limit their speeds to no more than 15-25 miles per hour, depending on the device. They are allowed to operate in bike lanes, do not require a vehicle identification number (VIN) or DMV registration, and operators do not need a driver's license. In contrast, mopeds often can reach higher speeds (sometimes up to 40 miles per hour) and are typically heavier vehicles. Because of this higher risk profile, they have commensurate legal requirements: mopeds must carry a proper vehicle identification number (VIN), be operated by DMV-licensed drivers, and may not operate in bike lanes.

A lower-cost illegal type of moped is increasingly being sold and operated without meeting these requirements. Because of their relatively low cost considering their ability to travel long distances between charges, they are attractive to those who travel long distances and have limited budgets. However, they risk the safety of their operators and other New Yorkers. These vehicles do not meet the safety standards to be issued a vehicle identification number (VIN), and therefore cannot be registered with the DMV. There are indications these illegal devices are not designed or manufactured to high standards. This reduces their costs, but puts their operators at greater personal risk.

Like operators of motor vehicles, non-motorized bicycles, and pedestrians, some e-micro-mobility operators do not reliably follow traffic rules. They engage in dangerous behaviors like running red light signals and stop signs, going the wrong way down one-way streets, or operating on sidewalks. Some moped operators illegally operate in bike lanes. These behaviors put riders' own safety, along with the safety of those around them, at risk.

Fires

These new transportation options have also brought serious challenges regarding fire risks. Fires caused by batteries that power electric micromobility devices are a significant and growing problem in New York City. These fires have grown from 44 in 2020, to 104 in 2021 and 220 in 2022. In the first two months of 2023, there were 30 such fires. These fires are particularly severe and difficult to extinguish. They grow and spread quickly. From 2021-2022, these fires resulted in 10 deaths and 226 injuries. In the first two months of 2023, they resulted in two deaths and 40 injuries. Fire locations suggest e-micromobility batteries are disproportionately impacting low-income New Yorkers, including delivery workers who rely on these devices for their livelihood. Neighborhoods like Corona, Washington Heights, the South Bronx, and East New York are experiencing some of the highest numbers of fires.

Lithium-ion batteries that power e-micromobility devices are one of the most severe fire starters, especially when more than one battery is present, because they create noxious gas, incredibly high heat, and explosions that are very difficult to extinguish. Battery fires more than doubled between 2021 and 2022, which is further reason addressing this issue is an urgent priority. Like cars and other technology, e-micromobility devices can be dangerous if not held to safety standards or used incorrectly. We must work to create an ecosystem that encourages legal electric micromobility's safest use.

Key Context

Taking advantage of the benefits of electric micromobility while addressing the real challenges it brings is a complex endeavor for several reasons:

- **Insufficient Product Regulation.** Unlike many other consumer products for sale to New Yorkers, these devices are not sufficiently regulated at the federal level. As their popularity grew during the COVID-19 pandemic, additional manufacturers—including online sellers without regulation or brand reputations motivating good safety practices—entered the market with often low-cost and sometimes low-quality devices. Without a mandatory product safety standard or broad compliance with a voluntary federal safety standard, low-quality devices and batteries—which are more likely to cause fires—proliferated. Consumer awareness of the dangers of these devices is

low, though there are signs awareness is increasing.

- **Affordability of Quality Equipment.** One of the benefits of electric micromobility is its affordability, particularly relative to the costs of automobile ownership or, in some cases, transit fares. However, the costs of purchasing high-quality equipment, especially certified devices and batteries, remains out of reach for many New Yorkers. Electric bikes with the highest levels of safety certification on the market cost several thousand dollars. Replacement batteries for these devices cost more than \$500.
- **Unique Needs of Delivery Workers.** Delivery workers, one of the largest groups of New Yorkers reliant upon electric micromobility, have unique needs. Because of the long shifts they work and the high mileage they drive, these essential workers need to purchase replacement batteries, and in many cases need to own multiple batteries, to do their jobs. Some even need to charge their batteries mid-shift, and must identify locations, which are sometimes informal and not fully compliant with fire codes, in their work neighborhoods to charge these batteries. Purchasing new batteries, especially certified batteries provided by the device's manufacturer, is costly—and off-brand or refurbished batteries present an alternative that may seem attractive to those unaware of the risks or unable to afford the safest equipment. These circumstances make it more difficult to follow some of the best practices for electric micromobility safety, such as not charging overnight, not storing multiple batteries in close quarters, and only using undamaged, new batteries provided by the device's original manufacturer.

Depending on the neighborhoods they serve, many delivery workers benefit from the longer number of miles a moped can travel between charges. However, legal, regulated mopeds cost significantly more than e-bikes and require the operator to have a driver's license. Supporting these workers' transition to safe and legal devices that meet the demands of their work requires additional attention.

In many transportation industries, vehicles, safety equipment, and ongoing training are provided by a worker's employer. Today, most delivery workers do not have the benefit of an employer relationship or a single restaurant that employs them. Rather, the apps that provide earnings opportunities to delivery workers treat them as independent contractors. As a result, workers typically must provide their own equipment. The apps whose businesses rely on the hard work of delivery workers have an important responsibility and role to play in addressing the challenges surrounding e-micromobility.

- **Apartment Life.** Many New Yorkers live in apartments, often of modest size and with many family members or roommates. Sometimes multiple e-micromobility users live in the same residence. These conditions make following some fire safety best practices—like keeping batteries away from flammable objects, exits, and where people are sleeping—more challenging. It also means a fire in one unit can pose a risk to residents of adjacent units. This can be especially problematic in older construction where units are less fireproofed. New Yorkers who live in apartment buildings will need more support to follow safe practices.
- **Learning Curve.** E-bikes and e-scooters were only legalized in New York State in 2020. These devices and risks are new, so the public must learn new rules about what is safe and legal. Improved device and battery regulation will help reduce fires by increasing the quality of the devices and batteries on the market. However, individuals will still benefit from being smart consumers when selecting devices, learning best practices for safe charging, adapting their habits to align with best practices, and being able to afford safe devices and replacement batteries. Building owners, institutions, and the City must support New Yorkers in these endeavors.

Urgent and Thoughtful Approach

The lives lost and put at risk from fires are a tragedy, and achieving Vision Zero requires safety for users of all vehicle types. There is also a profound need to promote options that improve a broad swath of New Yorkers' lives by saving them time and money on transportation and by reducing pollution and carbon emissions that threaten our homes and communities.

The City has embraced this challenge of developing a nuanced approach, taking action to prevent these fires and traffic safety risks, while promoting a transportation mode that is convenient, affordable, and good for the planet. This approach will employ a variety of tools, from outreach and education to partnerships, incentives, advocacy, regulation and enforcement. It will be tailored to our city's, including our workers', unique needs. Our plan will evolve over time as new technology is introduced, other levels of government take action, and we learn from and with our stakeholders.

Mayor Adams' Interagency Electric Micromobility Task Force

Mayor Adams' Interagency Electric Micromobility Task Force is pursuing the following goals:

- **Prevent Fires.** Develop a policy and programmatic agenda to prevent fires caused by lithium-ion batteries, including researching technology options and partnerships to support this goal.
- **Prevent Crashes.** Develop a policy and programmatic agenda to promote the safe operation of legal electric micromobility devices, reducing crashes and injuries among electric micromobility users and those with whom they share the road.
- **Support Delivery Workers.** Develop policies and programs to support working cyclists' access to resources they need to do their jobs safely, efficiently, and affordably.
- **Promote Sustainability and Access.** Develop a policy and programmatic agenda to help more New Yorkers use safe and legal electric micro-mobility devices, bringing us closer to our climate and congestion goals.
- **Improve Emergency Response.** Develop streamlined protocols for when lithium-ion batteries catch fire, ensuring safe and efficient extinguishments and disposal of damaged batteries.
- **Educate the Public.** Clearly educate the public, businesses and other stakeholders about the safe use of electric micromobility.

The breadth of this issue called for the participation of a diverse set of agencies and Mayor's offices. The Task Force was convened by:

- NYC Chief Climate Officer
- NYC Mayor's Chief of Staff
- NYC Mayor's Office of Operations

The Task Force's key participants include:

- NYC Chief Housing Officer
- NYC Department of Citywide Administrative Services (DCAS)
- NYC Department of Consumer and Worker Protection (DCWP)
- NYC Department of Environmental Protection (DEP)
- NYC Department of Health and Mental Hygiene (DOHMH)

- NYC Department of Housing Preservation and Development (HPD)
- NYC Department of Parks and Recreation (DPR)
- NYC Department of Sanitation (DSNY)
- NYC Department for the Aging (DFTA)
- NYC Department of Transportation (DOT)
- NYC Deputy Mayor for Economic and Workforce Development
- NYC Deputy Mayor for Operations
- NYC Deputy Mayor for Public Safety
- NYC Economic Development Corporation (EDC)
- NYC Emergency Management (NYCEM)
- NYC Fire Department (FDNY)
- NYC Housing Authority (NYCHA)
- NYC Mayor’s Office of Climate and Environmental Justice
- NYC Office of Management and Budget (OMB)
- NYC Office of Technology and Innovation (OTI)
- NYC Police Department (NYPD)

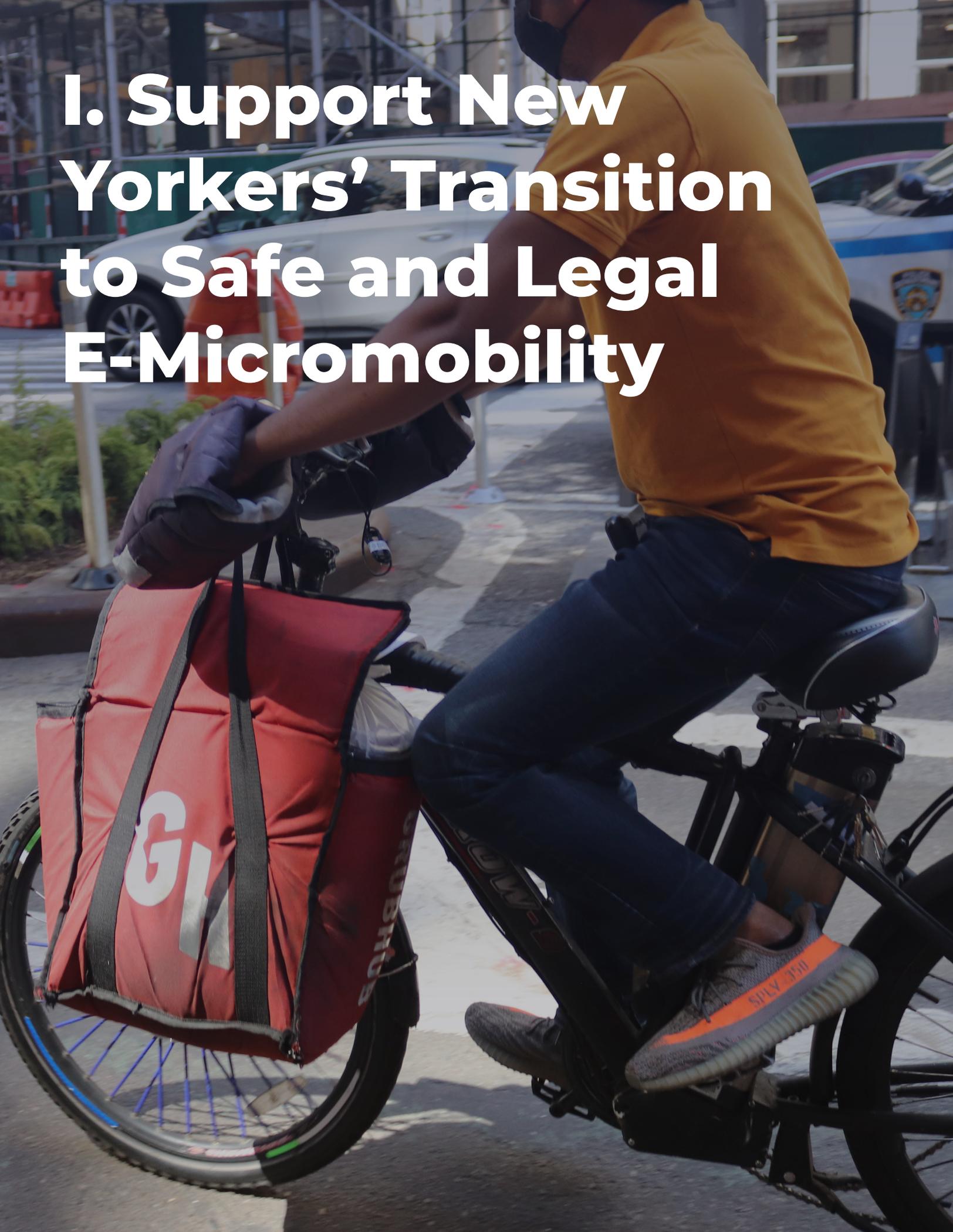
Initial Stakeholder Engagement

The Task Force consulted with a wide range of stakeholders to inform the initiatives in this Action Plan and to develop the partnerships that will be essential for its refinement, implementation, and expansion. We learned from delivery worker groups, including Los Deliveristas Unidos, Chapin en Dos Ruedas NY, and Desis Rising Up and Moving (DRUM). We consulted with governments abroad, as well as cyclist advocacy and industry organizations. We spoke with electric micromobility manufacturers and fleet operators.

The Task Force researched the latest in battery storage technology. This included an examination of battery storage and charging systems, battery swapping systems, and safety technology like fireproof battery storage bags. We consulted with consumer safety experts abroad, and battery engineers, battery certification experts, and micromobility experts here in the United States.

Our research clarified that no one solution would fit the wide variety of New Yorkers and their needs, but that there is a community looking to actively engage in this work with the City. This Action Plan and the future work of the Task Force are enriched by this community of allies and collaborators in this space.

I. Support New Yorkers' Transition to Safe and Legal E-Micromobility



I. Support New Yorkers' Transition to Safe and Legal E-Micromobility

A. What We're Doing

1. Pilot Outdoor Electric Micromobility Storage and Charging Solutions at NYCHA Properties

Many NYCHA residents rely on electric micromobility devices, including many who use these devices to earn a living as delivery workers; however, outdoor charging infrastructure is not available to residents. As a first phase of NYCHA's Micromobility Plan, NYCHA and Con Edison are piloting safe and secure outdoor electric micromobility charging and storage.

NYCHA and Con Edison will install outdoor charging and storage stations for micromobility devices at four developments – Queensbridge North and South in Queens, De Hostos in Manhattan, and Van Dyke in Brooklyn. This year Con Edison will release a request for proposals (RFP), seeking a vendor to provide the outdoor charging infrastructure and subsequent operations and maintenance of the installed equipment.

2. Advocate for New York State to Subsidize the Purchase of Safe and Legal Electric Micromobility Devices

Electric micromobility is a convenient and affordable transportation option, especially relative to car ownership. Yet safe equipment can be out of reach for many New Yorkers who would benefit from it.

The New New York Action Plan, Making New York Work for Everyone, announced by Governor Hochul and Mayor Adams in December 2022, outlines initiatives to promote economic resiliency and growth in our City. It recognizes the role e-micromobility plays in that work, and more specifically recognizes how it makes it significantly easier for New Yorkers to get to work.

The plan states that New York State will pursue S3080A/516 or similar legislation to create a 50 percent e-bike rebate. Through the New New York Action Plan and other efforts, the City has been supporting the creation of a New York State e-bike rebate program. The City will also advocate for program design to address New York City residents' needs and experiences, including battery fires and the growth in illegal device purchases. Program design elements the City will advocate for could include a subsidy for the purchase of replacement batteries, a buyback program to help transition people from illegal or uncertified devices and batteries to legal, certified devices, targeting subsidies to low- to moderate-income New Yorkers, inclusion of alternative safety equipment (e.g., fireproof battery storage bags) in the program, and creating criteria for what devices and batteries are eligible (e.g., national testing lab certification).

3. Support Deliverista Hubs

Mayor Adams and U.S. Senate Majority Leader Schumer announced in October 2022 a first-of-its-kind hub program that uses existing infrastructure, like vacant city newsstands, to provide a place to rest and recharge for delivery workers. Street Deliverista Hubs will provide shelter from weather and charging for phones and bikes in high-traffic neighborhoods, redesigning these spaces in ways beneficial to delivery workers and neighborhood residents alike. Through a \$1 million federal grant secured by Majority Leader Schumer for Workers Justice Project/Los Deliveristas Unidos, this pilot program will help renovate the center

currently used in Williamsburg and transform underutilized structures elsewhere in the city, incorporating the input of the essential workers who will use them.

B. What We're Planning

1. Design a Safe Equipment Access Program Tailored to New York City Residents

There has been significant discussion of the need for a safe equipment access program—that is, a rebate, buyback, or similar program to provide affordable access to quality e-micromobility devices and batteries for New Yorkers who need them most. State and federal funding, or alternative sustainable and scalable funding sources, will be necessary to implement a safe equipment access program with sufficient reach to address the micromobility challenges and opportunities for New York City's residents. However, as discussed with respect to the proposed New York State rebate program, an access program should be tailored to New York City residents' distinct needs. It also needs to account for key implementation matters, such as the current and evolving state of the e-micromobility market (e.g., availability of certified devices and batteries and other technologies).

Members of New York City Council have introduced legislation calling for a program to provide new batteries to those who need them. New York City will engage with stakeholders and experts, including New York City Council, to design a program adapted to our unique cyclist landscape, focusing on the needs of delivery cyclists and low-income communities, who are most frequently impacted by fires caused by lithium-ion batteries, and frequently rely upon micromobility for their livelihoods and daily transportation.

This program design will stand as a model for State and Federal rebate or access programs. It will also support the City's pursuit of relevant grant opportunities and work towards identifying a sustainable, scalable funding source to support ongoing access to safe, legal equipment.

2. Apply for Federal Funding for Outdoor Storage and Charging at NYCHA Properties

As part of its overall Micromobility Plan, NYCHA is seeking federal grant funding administered by the U.S. Department of Transportation (DOT) Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program, for its Safe Access for Electric Micromobility (SAFEMicromobility) Plan. The proposed project aims to install 173 outdoor electric micromobility charging and storage stations at 53 NYCHA developments across all five boroughs in New York City. NYCHA is applying for a RAISE grant amount of \$25 million to support a \$33 million project.

3. Test Public Electric Micromobility Charging Technologies

Many food delivery workers travel long distances during a single shift and must swap out their batteries mid-shift. Some of these workers make use of informal recharging hubs in the back rooms of local businesses or in parking garages. Often these hubs do not have adequate fire safety measures in place. To identify safer alternatives, DOT, in collaboration with EDC and the Urbantech business incubator Newlab, will identify, test, and evaluate the most promising public facing battery charging solutions through the 2023 DOT Studio Challenge. This initiative will invite startup companies specialized in micromobility charging technology to deploy their products at locations supporting food delivery workers. Solutions may include public battery charging lockers, battery swap systems, or other technologies. Program participants will receive technical assistance, stakeholder input, and other resources to test and refine their products to fit the unique needs of New York City's food delivery workers. Key stakeholders, including FDNY and local delivery workers, will help test and

evaluate the different charging technologies. Learnings from this testing and stakeholder process will be essential for informing the City's approach to infrastructure in the era of electric micromobility.

4. Test and Evaluate Fire Safety and Prevention Equipment for Homes and Commercial Settings

There are various technologies that may increase battery charging safety, such as outlet timers, fire resistant bags and/or boxes, battery lockers, gas detectors and various charging solutions. Members of City Council have introduced legislation highlighting the potential for fire-resistant storage containers to help prevent fires.

The 2023 DOT Studio Challenge will allow FDNY and other stakeholders to evaluate the fire safety capabilities of some public charging technologies. To extend our evaluation beyond the public realm solutions explored by the 2023 DOT Studio Challenge, FDNY will lead evaluation of other technologies, including those primarily designed to operate in private homes and commercial settings, such as outlet timers and fireproof battery bags.

Outlet timers are devices that stop the flow of electricity from an outlet after a certain amount of time, and they could decrease one of the major causes of battery fires: overcharging. Fireproof battery bags are made of glass fabric woven with steel threads that can hold batteries while charging and contain fires if they erupt. They are being used by bike shops in Europe and airlines to contain battery fires. To inform the City's outreach, legislation, and programmatic proposals, the FDNY will evaluate these types of devices to understand their value in preventing battery fires in New York City, as well as work with outside partners to properly test these technologies' efficacy.

II. Fire Safety Public Education



II. Fire Safety Public Education

A. What We're Doing

Many battery fires could be prevented, and their impacts significantly reduced, by following best practices for charging and storing batteries. Therefore public education is an essential component of the City's approach to reducing battery fires. The FDNY, in partnership with many community organizations and other City agencies, has been engaging in significant public education efforts around battery safety best practices. These efforts include:

- **Engagement with Immigrant and Worker Communities:** FDNY, in partnership with the Mayor's Community Affairs Unit, is hosting lithium-ion battery and e-micromobility safety seminars with various communities in order to train delivery workers on device safety. Training will focus on the communities that represent a large part of the City's delivery workforce, and it's critical that our e-micromobility power users—delivery workers—receive fire safety training directly from our fire prevention experts.
- **Leverage NYC Emergency Management Resources and Community Messengers:** FDNY, in partnership with NYC Emergency Management, is working to provide lithium-ion battery and e-micromobility safety training via NYCEM's Ready NY platforms, as well as directly to NYCEM's Community Emergency Response Teams (CERT). By doing so, FDNY will be able to reach everyday New Yorkers, as well as certified emergency response trainers who often respond before, during, and after emergencies through preparedness, education, and response.
- **Leverage our Child Safety Watchdogs:** FDNY, in partnership with ACS, will train frontline child welfare staff on fire prevention best practices, including training them on how to examine homes for potential fire hazards and refer families for smoke alarm installation. This training will incorporate information on lithium-ion battery and e-micromobility safety.
- **Train Families and Youth on Fire Prevention and Safety Practices:** FDNY, in partnership with DFTA, DOE, DOHMH, DYCD, HPD, & NYCHA, facilitates fire prevention and safety trainings to families and youth who participate in programs through community-based organizations. These trainings incorporate awareness of fire prevention best practices related to electric micromobility.
- **Train Block/Tenant Associations on Lithium-Ion Battery and E-Micromobility Safety:** FDNY hosts fire safety education trainings for Block/Tenant Associations throughout the five boroughs. Lithium-ion battery safety is a large part of FDNY's overall fire safety education repertoire, allowing FDNY to devote a portion of all Block/Tenant Association trainings to this topic.

The City is also reaching out directly to New Yorkers with this essential information. The 2022-2023 Fire and Emergency Preparedness Bulletin, sent to all residents of NYC apartment buildings, featured extensive information about electric micromobility fire safety. The FDNY has created an educational video sharing fire prevention best practices. FDNY and other agencies share these messages through social media and other venues where they can connect directly with the public.

B. What We're Planning

The City will continue existing efforts while bringing additional resources to them. One example is that NYC DOT, which has extensive experience and expertise doing outreach with cyclists and delivery workers, will bring significant focus to this challenge through their safety education efforts. They will host large-scale and specialized events in multiple languages for delivery cyclists, which will include targeted information about safety equipment, safety information including how to prevent battery fires associated with e-bikes and illegal mopeds, learning about their rights and responsibilities as delivery workers, and providing advice about what micromobility is safe and legal to ride. These events will be held in collaboration with groups that organize and serve these populations.

The NYC DOT Street Team will also visit informal delivery cyclist gathering locations and areas where these workers wait for orders, such as the curbside waiting areas created by NYPD and NYC DOT near the Barclays Center in Brooklyn. All materials and interactions will be available in relevant languages such as Spanish, Chinese dialects, Bengali, and West African languages including French. Other agencies, such as NYPD, will also support this outreach and education.

FDNY will begin a series, in partnership with Los Deliveristas Unidos, to train communities on fire safety best practices regarding lithium-ion batteries and e-micromobility. It is critical that trusted messengers like worker advocacy groups receive this fire safety training and learn battery safety best so they can prioritize and amplify this life-saving information.

III. Regulation and Enforcement



III. Regulation and Enforcement

A. What We're Doing

Regulation and enforcement are an important component of keeping us safe. A strong share of responsibility for ensuring the safety of consumer products like electric micromobility devices and batteries rests with the federal government. The City will continue our advocacy at the federal level while leveraging our local resources to drive the market towards safer devices and charging practices.

1. Support Local Laws Increasing Standards for Devices and Batteries Sold in New York City

The Administration has been working with the New York City Council and stakeholders on several pieces of legislation designed to improve the safety of devices for sale in New York City. One piece of legislation would:

- Make it unlawful to assemble or recondition a lithium-ion battery using cells removed from used storage batteries
- Make it unlawful to sell lithium-ion batteries that use cells removed from used storage batteries

This is important because unskilled tampering and refurbishment of batteries makes these batteries less safe, increasing the likelihood that they cause a fire.

Another key piece of legislation would require electric micromobility devices, and the batteries these devices use, sold in the City to be certified by an accredited testing laboratory for compliance with relevant safety standards. Because New York City is such a large market for these devices, this legislation, along with efforts by the U.S. Consumer Product Safety Commission, will provide manufacturers with a strong incentive to get their devices and batteries tested and certified, bringing them up to appropriate safety standards if they want to be sold in New York City.

One key element of this legislation is that it targets the seller of the device or battery, not the user. This means the legislation will not cause users of existing devices to be engaged by law enforcement. At the same time, the legislation's focus on the future sales of devices means that it does not address the thousands of devices already in circulation. This highlights the importance of supportive programs, such as rebate programs and public education, to assist existing users in their transition from less safe devices and practices to safer devices and practices.

2. Advocacy with the U.S. Consumer Product Safety Commission (CPSC)

The U.S. Consumer Product Safety Commission (CPSC) is the federal agency charged with keeping Americans safe by reducing the risks of injuries and deaths associated with consumer products. Its tools include issuing and enforcing mandatory standards, banning consumer products if no feasible standard would adequately protect the public, issuing product recalls, developing voluntary product standards, and consumer and manufacturer education. The FDNY Commissioner Kavanaugh first wrote to the CPSC in August 2022, urging them to consider regulatory measures on lithium-ion battery manufacturers, suppliers and distributors, highlighting the fire injuries and deaths that have taken place in New York City. This resulted in partnership between the CPSC and the FDNY, including informa-

tion-sharing from specific NYC fires to inform CPSC standards proposal development.

This advocacy and partnership were impactful. In December 2022, CPSC Commissioner Boyle issued a statement that “e-bikes need more attention from the safety community, with CPSC taking the lead.” That month the CPSC issued a letter to thousands of manufacturers, importers, distributors and retailers of electric micromobility devices urging compliance with existing voluntary safety standards, indicating that products that do not meet these standards could present a substantial product hazard and be subject to corrective action by the CPSC.

In February 2023 Commissioner Kavanagh wrote again to the CPSC, applauding these efforts and calling for further action:

“Commissioner Rich Trumpka issued a statement in December noting that the CPSC has a variety of means with which to discourage manufacturers from trafficking uncertified products. We encourage the CPSC to be proactive in using these measures, including seizing imported devices at the ports that fail minimum industry standards, levying penalties against manufacturers who fail to inform CPSC of hazards posed by their products, and seeking additional recalls of unsafe products. The CPSC may also want to consider additional regulations, such as banning the sales of “universal” battery chargers, insisting that manufacturers ensure that e-micromobility devices only function when used with approved and appropriate batteries, or other measures that make it more difficult for gray- and black-markets to thrive. Lastly, CPSC may consider adding regulations that make it more difficult for people to open batteries. As unskilled tampering and refurbishment seem to be a source of safety problems, it could be helpful to add mechanisms to prevent this behavior. We know that there are basic steps that can make e-micromobility devices safer while not significantly increasing the cost to consumers.”

We will continue this advocacy and partnership. Individual consumers should not have to be battery or fire safety experts to go to the store and know they are buying a safe, legal, high-quality electric micromobility device. The federal government should leverage its powers to ensure the devices on our shelves—virtual and brick-and-mortar—meet applicable safety standards.

3. Ongoing FDNY and NYPD Enforcement

The FDNY enforcement focus has been identifying locations, mainly businesses, that are egregiously violating the fire code as it pertains to the charging and storage of lithium-ion batteries. Through the Bureau of Fire Prevention (BFP), FDNY is enforcing against these businesses with criminal violations and summonses. The department has also established an internal task force within the FDNY, consisting of members from the Bureau of Fire Investigation (BFI) and the Bureau of Fire Prevention (BFP) to address these issues, targeting areas that have seen clusters of fires and conducting inspections.

NYPD also plays a role. NYPD enforces against stores that are selling unregistered, illegal mopeds and other illegal e-micromobility devices. NYPD begins their engagement with a business by doing outreach and providing education on the law. Businesses that continue offering illegal devices for sale have these devices seized and receive summonses. NYPD also enforces against the unsafe operation of illegal mopeds on our streets. They focus on dangerous behaviors such as disobeying red lights, traveling the wrong way, and riding on the sidewalk.

4. Ensure Fire-Damaged Batteries are Safely Disposed

Lithium-ion batteries, especially those that have been damaged in fires, cannot be safely

disposed of through regular trash pickup. Responses to fires involving lithium-ion batteries therefore require a unique protocol to ensure the battery does not cause fires subsequent to the initial event. Through NYCEM coordination, FDNY, DSNY, and DEP have developed a streamlined and efficient solution to responding to lithium-ion battery-caused fires, securing the fire-damaged battery, and properly removing and disposing of the fire-damaged battery.

B. What We're Planning

1. Continued Advocacy with CPSC and the Federal Government

We are heartened by increasing attention being paid to lithium-ion battery fires at the federal level, and we will continue this advocacy and partnership with the CPSC. We applaud the recent legislation introduced by U.S. Representative Richie Torres directing the CPSC to strongly regulate these batteries. Individual consumers should not have to be battery or fire safety experts to go to the store and know they are buying a safe, high-quality electric micromobility device. The federal government should leverage its powers to ensure the devices on our shelves—virtual and brick-and-mortar—meet applicable safety standards.

2. Enhanced FDNY and NYPD Enforcement Against High-Risk Situations

The FDNY and NYPD will continue enforcement operations that are ongoing. In addition:

- FDNY, in partnership with the Department of Finance's (DOF) Sheriff's Office, will use previous fire data and public complaints on unsafe fire conditions to conduct joint operations and inspections.
- FDNY will create a fire marshal task force focused on identifying violators of the fire code. The task force will use data to identify potential violators and high-risk situations ("hot spots"), which will be targeted for both outreach and inspection for compliance with existing fire codes.
- FDNY will work with the District Attorney's Office to ensure penalties levied against violators are commensurate with the seriousness of the safety hazards presented.

3. Review Existing Fire Codes

Effective April 2022, the Fire Code was updated to regulate the charging and storage of lithium-ion batteries for micromobility devices, with a particular focus on regulations around commercial storage and charging. Improving the safety of the devices and batteries entering NYC, helping New Yorkers access safe equipment, and educating the public about best practices are key elements of preventing fires. While these efforts are underway, FDNY will review fire codes, national standards, and the latest research to determine whether additional targeted code regulations should be put in place to promote public safety.

4. FDNY Member Safety

Members of the FDNY have engaged in heroic efforts to fight fires caused by lithium-ion batteries. The City will seek partnerships with local, state, and federal partners to further research the health impacts on first responders handling lithium-ion batteries, which can be extremely toxic when they burn.

5. Outreach and Enforcement to Combat the Sale of Illegal Equipment

As the use of electric micromobility devices grows in the City, it's imperative that retailers have as much information as possible on how these batteries and devices lead to fires and what local law prohibits as it relates to e-micromobility. When the City Council legislation

requiring certified devices and batteries and banning the sale of refurbished batteries becomes law, the City will conduct outreach and enforcement surrounding the new laws. The City will conduct outreach to lithium-ion-powered battery and e-micromobility manufacturers, online retailers and brick-and-mortar shops to help ensure these businesses are aware of any relevant local laws. As part of this campaign, FDNY will develop written materials, specific to business owners and employees, on fire prevention as it relates to lithium-ion batteries and e-micromobility devices.

IV. Promoting the Growth of Safe E-Micromobility and Cycling



IV. Promote the Growth of Safe E-Micromobility and Cycling

A. What We're Doing

New York City is a leader in sustainable transportation, and electric micromobility is a key tool to help New Yorkers get around efficiently, safely, affordably and sustainably. Therefore while we focus on preventing battery fires, we are simultaneously focusing on (1) making it easier and safer for New Yorkers to use electric micromobility, (2) helping New Yorkers access safe, legal devices, and (3) promoting the safe operation of these devices, in compliance with traffic laws.

1. Leading the Way in Safe Riding Public Education

As New Yorkers continue to embrace bicycling and other modes of micromobility, educating the public on safe riding and the purchase and operation of legal devices has become more crucial. As a transportation agency, NYC DOT has one of the most progressive public education curricula promoting street safety, including training material and outreach events for cyclists and other micromobility users.

The agency will continue to work with micromobility users to educate them on the rules of the road, giving tips for safe riding based on available crash data, and providing clear materials to explain what vehicles are allowed on our streets and the best places to purchase them. NYC DOT will continue to stage on-street education events in locations where cyclists are likely to be riding, using the robust cycling infrastructure available in many neighborhoods. These events to encourage bike safety will be coupled with the distribution of safety equipment such as bells and lights, which are both required by law. NYC DOT will also continue its free helmet fitting and distribution events in collaboration with City Council and community-based organizations, giving away over 20,000 helmets a year. Stand-alone “Learn-to-Ride” events and “Bike Bonanzas”—where children are given free bicycles, helmets, and bike instruction—will be held in accessible spaces in the public realm during the warmer weather season from the beginning of April to the end of October.

2. Building, Maintaining, and Innovating Safe Cycling Infrastructure

New York City has made tremendous strides in building out its cycling network, which is key to getting more New Yorkers riding and riding safely. NYC DOT continues to grow and improve its bike network, expanding into all neighborhoods with a focus on Priority Investment Areas, as described in the NYC Streets Plan, and routes with heavy volumes of working cyclists. Additional bike lane mileage not only provides safe access for cyclists, but also encourages greater ridership and reduces illegal and unsafe cyclist behavior. New barrier types for bike lanes are being tested and added to NYC DOT’s toolkit to reduce the number of vehicle drivers entering bike lanes. The rate of bike parking installation has also significantly ramped up to provide on-street bike storage at predictable locations for those traveling around the city.

B. What We're Planning

1. Launching a Pilot to Allow Electric Micromobility on Parks Drives and Greenways

Currently, e-bikes and e-scooters are not allowed in New York City parks. However, parks—

including greenways—are a key component of our cycling network and often present the most efficient and comfortable route for a trip. NYC Parks will launch a pilot in Summer 2023 that would allow legal electric micromobility devices to operate on parks drives and greenways. The pilot will also explore design interventions and signage to reduce conflicts between cyclists and pedestrians, so all park users feel safe. Lessons from this pilot will inform the City’s long-term practices for electric micromobility in our City’s parks.

2. Improving Micromobility Access through Comprehensive Street Design

New Yorkers continue to adopt e-micromobility vehicles, including e-bikes, cargo bikes, and e-scooters, in increasing numbers, as a safe and convenient way to travel throughout the city. However, with this growth comes a greater demand for space on the street, particularly since these vehicles—and conventional bicycles—have different sizes, weights, speeds, and accelerations. To continue to safely and comfortably accommodate these different users, NYC DOT is working to update and pilot different designs on New York City streets. These design updates will include various design strategies such as wider or multiple lanes, passing zones, bicycle speed signal timing progressions (also known as green waves), bike boulevards, improved curbside policies to reduce double parking, added bike parking for different uses, and cargo bike loading zones.

As a boost to these efforts, the Federal Highway Administration recently awarded NYC DOT a Safe Streets and Roads for All (SS4A) Grant to fund the development of additional street design tools with a focus on micromobility. Much of this grant will be used on extensive data collection to bridge the existing data gaps in travel patterns, routes, and preferences of micromobility users, and to further develop and test a new generation of street designs and policies. While this funding is expected to become available in 2024, NYC DOT is already underway on initial design and data collection efforts.

3. Enhanced Bike Safety Education and Promotion

Encouraging and promoting bicycling in communities will be done by staging large-scale events. At least ten “Bike the Block” events will be held annually in conjunction with Open Streets. At these events, attendees would participate in organized bike rides and be connected to equipment. These events are tailored not only to existing cyclists, but to New Yorkers who would like to learn how to ride a bicycle for the first time or the first time in a big city. NYC DOT bicycle planners and other experts will interact with community members and provide street safety information, host activities, and promote upcoming bike-related projects. Children will learn about bike safety through fun games and adults will be quizzed on their safety knowledge through prize wheel giveaways.

In collaboration with NYC DOT and Bike New York, NYC DOT will expand the in-school “Get Kids Biking” program into 30 schools a semester. NYC DOE Physical Education instructors will receive the training and technical assistance they need to implement a two-week program for all seventh-grade students. NYC DOT will also provide City-owned fleets of bicycles, on-street trailers for bicycle storage, and a free helmet to every student involved.

Appendix

Types of Electric Bikes & Mopeds¹

	E-Bike Class 1	E-Bike Class 2	E-Bike Class 3*	Moped Class C	Moped Class B	Moped Class A
	<i>Electric bike, pedal-assist</i>	<i>Electric bike, throttle up to 20 MPH, operable pedals</i>	<i>Electric bike, throttle up to 25 MPH, operable pedals</i>	<i>Limited use motorcycle, low-speed, 2-3 wheels</i>	<i>Limited use motorcycle, low-speed, 2-3 wheels</i>	<i>Limited use motorcycle, low-speed, 2-3 wheels</i>
						
How fast can I go?	20 MPH	20 MPH	25 MPH	20 MPH	30 MPH	40 MPH
Do I need a license?	No	No	No	Driver's License	Driver's License	Driver's License +M
Do I need to register my bike?	No	No	No	Yes, must be registered with New York State DMV	Yes, must be registered with New York State DMV	Yes, must be registered with New York State DMV
Where can I ride?	Bike lanes & streets with speed limits no greater than 30 MPH	Bike lanes & streets with speed limits no greater than 30 MPH	Bike lanes & streets with speed limits no greater than 30 MPH	Right lane and/or shoulder (except when making a left turn)	Right lane and/or shoulder (except when making a left turn)	Vehicle lanes
Do I need to wear a helmet?	Recommended for all, required for 16-17 year olds & working cyclists	Recommended for all, required for 16-17 year olds & working cyclists	Yes, required by law	Recommended	Yes, required by law	Yes, required by law

Chart Notes

- Remember that other safety equipment is required by law or recommended for use with these vehicles
- Mini-bikes, off-road motorcycles (dirt bikes), go-carts, and golf carts cannot be registered as vehicles in New York State and may not operate on sidewalks, streets, or highways
- *Class 3 e-bikes are allowed only in New York City
- E-bikes and e-scooters in areas administered by NYC Parks need to comply with NYC Parks rules

¹ <https://www.nyc.gov/html/dot/html/bicyclists/ebikes.shtml>

DANGERS OF LITHIUM-ION BATTERIES



SAFETY TIPS AND PRECAUTIONS

Fires caused by lithium-ion batteries have increased dramatically in New York City with deadly consequences. These rechargeable batteries are found in electric bikes, mopeds, and scooters. Damaged or unstable batteries and improper charging, storage or disposal can cause the batteries to overheat, leading to an explosive, aggressive fire that spreads rapidly, can reignite, and is challenging to extinguish.



Use approved batteries

Only purchase and use devices that have a reputable testing agency mark such as UL. These show that the product has been safety tested.



Use supplied charger

Follow the manufacturer's instructions for charging and storage. Use the correct cord and power adapter made specifically for the device.



Use the wall outlet

Always plug directly into a wall electrical outlet for charging.



Make sure you can get out

Never block your primary way in or out of a room/apartment.



Store in open space

Batteries should be stored away from anything flammable (ex. pillow, bed, or couch).



No overnight charging

Do not leave devices unattended while charging or charge them overnight.



Keep away from heat

Keep batteries and devices at room temperature. Keep away from direct sunlight and any heat source such as a radiator.



Dispose of batteries safely

Do not place lithium-ion batteries in a trash or recycling bin. It is illegal. Bring them to NYC Battery Recycling Centers. Find one at nyc.gov/batteries

FIRES AND EMERGENCIES



If a battery overheats or you notice an odor, change in shape/color, leaking, or odd noises from a device, stop using immediately. If safe to do so, move the device away from anything that can catch fire and call 911.



Lithium-ion batteries are known to unexpectedly re-ignite minutes, hours, and even days after all visible fire has been put out.



If you observe a lithium-ion battery fire, leave the area, CLOSE the door, and call 911 immediately.



Water and fire extinguishers do not work on lithium-ion battery fires.



VISION ZERO 
Building a Safer City



PELIGROS DE LAS BATERIAS DE IONES DE LITIO



CONSEJOS Y PRECAUCIONES DE SEGURIDAD

Los incendios causados por baterías de Iones de Litio han aumentado drásticamente en la ciudad de Nueva York con consecuencias mortales. Estas baterías recargables se encuentran en bicicletas eléctricas, ciclomotores y patinetas. Baterías dañadas o inestables y la carga inapropiada, el almacenamiento o la eliminación inadecuada pueden hacer que las baterías se sobrecalienten, lo que provoca un fuego explosivo y agresivo que se propaga rápidamente, puede volver a encenderse y es difícil de apagar.



Use baterías aprobadas

Sólo compre y use dispositivos que tengan una marca de agencia de pruebas acreditada, como UL. Estos muestran que el producto ha sido probado en seguridad.



Utilice el cargador suministrado

Siga las instrucciones del fabricante para la carga y el almacenamiento. Utilice el cable y el adaptador de corriente correcto fabricado específicamente para el dispositivo.



Use el tomacorriente de pared

Siempre conecte directamente a un tomacorriente de pared para cargar.



Asegúrate de poder salir

Nunca bloquee su entrada o salida principal de una habitación/apartamento.



Almacenar en espacio abierto

Las baterías deben almacenarse lejos de cualquier objeto inflamable (p. ej., almohadas, camas o sofás).



No Cargar durante la noche

No deje los dispositivos desatendidos mientras se cargan, ni los deje cargando durante la noche.



Manténgala alejada del calor

Mantenga las baterías y los dispositivos a temperatura ambiente. Mantener alejado de la luz solar directa y de cualquier fuente de calor como un radiador.



Botar las baterías de forma segura

No coloque las baterías de Iones de Litio en un contenedor de basura o de reciclaje. Es ilegal. Llévelas a los Centros de Reciclaje de Baterías de la Ciudad de Nueva York. Encuentre uno en nyc.gov/batteries

INCENDIOS Y EMERGENCIAS



Si una batería se sobrecalienta o notas un olor, cambio de forma/color, liqueos o ruidos extraños de un dispositivo, pare de usarlo inmediatamente. Si es seguro hacerlo, aleje el dispositivo de cualquier cosa que pueda incendiarse y llame al 911.



Es sabido que las baterías de Iones de Litio se vuelven a encender inesperadamente en minutos, horas e incluso días después de que se haya apagado todo el fuego visible.



Si observa un incendio en una batería de Iones de Litio, abandone el área, CIERRE la puerta y llame al 911 de inmediato.



Los Extinguidores de Agua y de Incendio no funcionan en incendios de baterías de Iones de Litio.



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