



E-Devices

Safe System Approach and E-Mobility Working Group

SFMTA Board of Directors

October 6, 2026



What the City is Already Doing

- Engaging at the **state legislature**
- **Building facilities** for safe operations, including separated bikeways and on-street bike parking
- Investigating the **details of injury crashes**
- Developing multi-agency “Know your ride” education campaigns and **public service announcements**
- Targeted **enforcement** along high-incident corridors and schools



Objective and Overview

Objective: Share the **framework** by which the City is approaching the broad category of safe e-devices, **provide detail** on the e-mobility working group, **get your feedback** on what should not be missed as we do this work.

Overview

- Safe System Approach and Kinetic Energy
- Overview of E-Devices
- Safety and 311 Data
- E-Mobility Working Group

SFMTA Street Safety Commitments

The City of San Francisco is committed to **eliminating traffic fatalities and reducing the number of traffic-related severe injuries.**

1. Designing streets and enforcing safe driving behavior to achieve **safe driving speeds.**
2. **Providing protection** for the most vulnerable roadway users, addressing areas of conflict between modes of transportation.
3. **Reducing vehicle miles traveled (VMT)** and improve mobility choices consistent with the San Francisco Climate Action Plan.
4. Balance the **efficiency of transportation modes** to allow for choice while ensuring safety throughout the system.

Traffic Deaths and Injuries are a Preventable Public Health Crisis

Safe System Approach

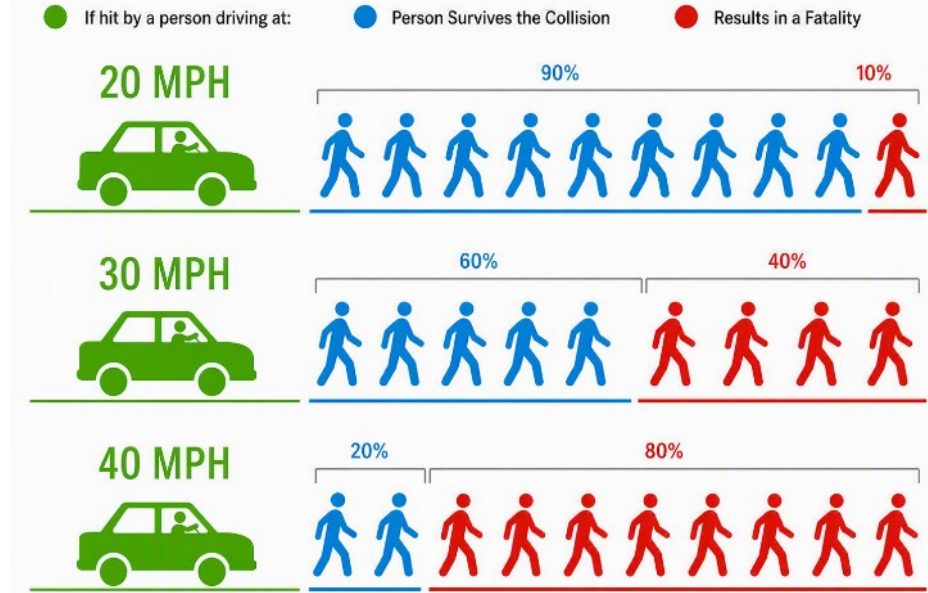
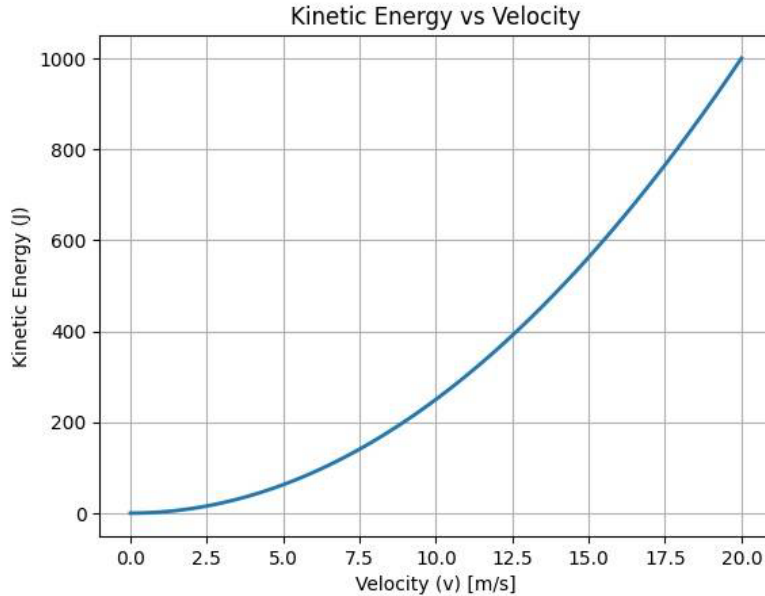
to eliminating traffic fatalities and reducing the number of traffic-related severe Injuries

- Requires a whole of government approach at all levels from local, state, and federal



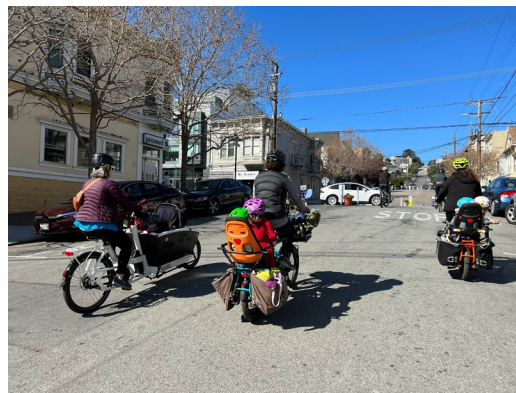
Humans Are Vulnerable and Have Limits for Tolerating the Force of an Impact

$KE = \frac{1}{2}mv^2$, **Kinetic Energy** rises exponentially as **speeds increase**



Benefits of E-Devices

- Short urban trips help us meet our **VMT goals**
- **Last-mile connections** to transit
- **Practical option** for families and carrying cargo
- **Makes it easier to traverse** San Francisco's hilly terrain
 - Low price
 - Retail availability
 - Small size



E-Devices Have Challenges



- Distracted riding, wrong-way riding, red-light running, improper parking, unsafe speeds
- Increased exposure to pedestrians on sidewalks and improper parking blocking ADA-accessible paths
- User-reprogrammed e-bikes and moped-like devices with inoperable pedals mislabeled as e-bikes and unsafe speeds

They do have one commonality...

All E-Devices Introduce More Kinetic Energy into the System

Higher Mass and Velocity = Higher Kinetic Energy

The kinetic energy of crashing on an electric standup scooter is the equivalent of a 210 lb. NFL running back colliding into you at full speed.

But likely neither you or the rider are wearing protective gear, **increasing likelihood of collision severity.**

E-devices **don't have built-in safety features** to absorb energy the same way that cars do (i.e., crumple zones and airbags).

Instead, the human body absorbs the energy.



E-Device Classification: California Vehicle Code



Device Type	Max Legal Speed	Licensing Required?	Allowed to Use Bike Lane?	Registration Required?
Class 1 E-Bike (pedal assist)	20 mph	No	✓ Yes	No
Class 2 E-Bike (throttle)	20 mph	No	✓ Yes	No
Class 3 E-Bike (pedal assist)	28 mph	No (but 16+ only)	✓ Yes (no off-street paths)	No
Motorized Scooter (Standing or Seated)	15 mph	Yes (driver's license or learner's permit)	✓ Yes	No
E-Moto (off-road)	Exceeds e-bike	No (Off-Road use only)	X No	Yes (Off-Road Registration, Green sticker)
Moped	30 mph	Yes (M1/M2)	X No	Yes (license plate)
Electric Motorcycle	70–120+ mph	Yes (M1)	X No	Yes (plate + insurance)

California E-Device Governance

State law defines the device. Operating authorities determine where it may go.

1 STATUTORY & POLICY

California State Legislature

Writes statewide law and establishes classifications in the California Vehicle Code

E-bikes · §312.5

Classes 1–3 · pedals
· under 750W

Scooters · §407.5

Two wheels ·
handlebars

EPAMDs · §§313, 467.5

Personal-assistive
devices

Mopeds & cycles · §§400, 405

Higher-powered motor
vehicles

2 REGULATION & ENFORCEMENT

California DMV

Administers registration, plates, and driver-
license requirements for devices classified as
motor vehicles.

California Highway Patrol

Enforces statewide traffic law, delivers safety
education, and provides guidance to local
agencies.

3 OPERATIONS & LOCAL ENFORCEMENT

Cities & Counties

Rules for streets, sidewalks,
programs and local enforcement

California State Parks

Trail and facility access within
state parks

Federal land agencies

BLM and National Park Service
rules on federal lands

San Francisco E-Mobility Regulatory Gaps

Regulatory gaps at all levels of government over privately-owned devices

LICENSING AND REGISTRATION

CA DMV

Sets standards on driver education, testing, licensing, and vehicle registration.

DEVICE CLASSIFICATION

CA State Legislature

E-bikes and modified devices can look alike, making enforcement difficult.

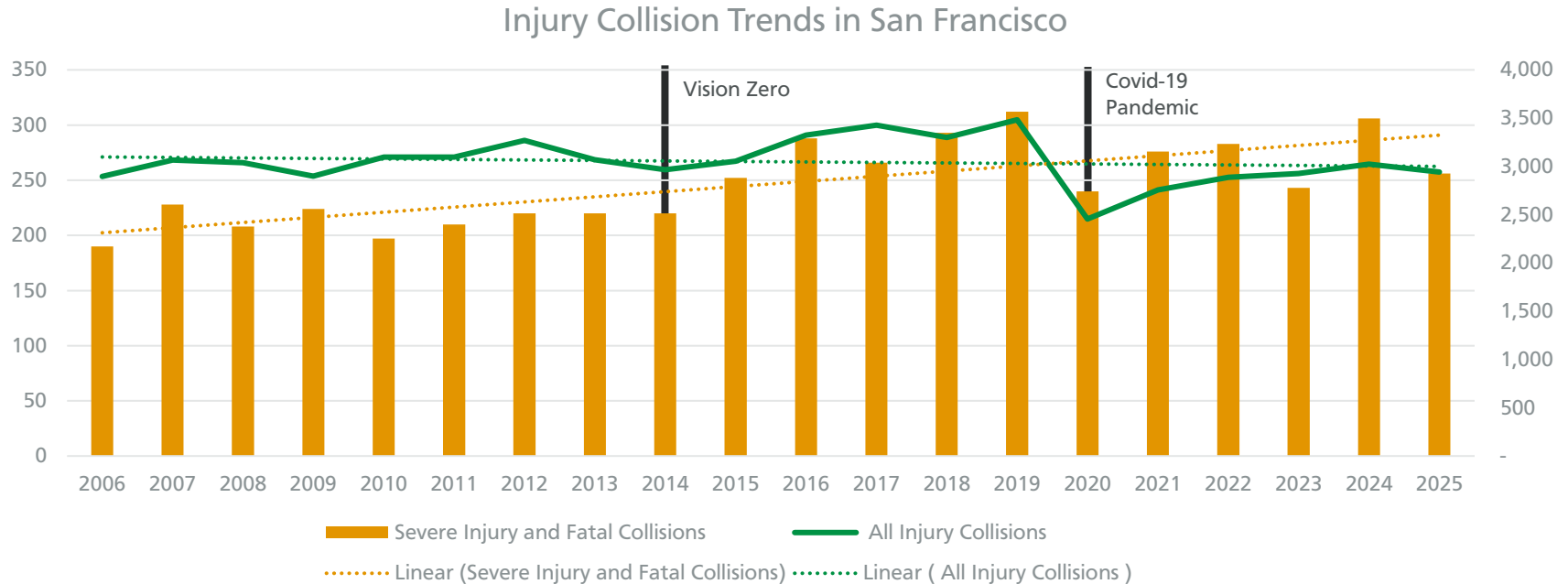
RENTAL AND RETAIL SALES

State & Local

CA Atty General Bonta and SF Da Jenkins issued a consumer alert on e-bike safety, but sales remain.

SFMTA **has oversight over scooter share program**. SFMTA regulates market entry and fleet size, max speeds, sidewalk detection, device requirements, parking rules, safety and rider education, accessibility and equity requirements, data and reporting, and company compliance.

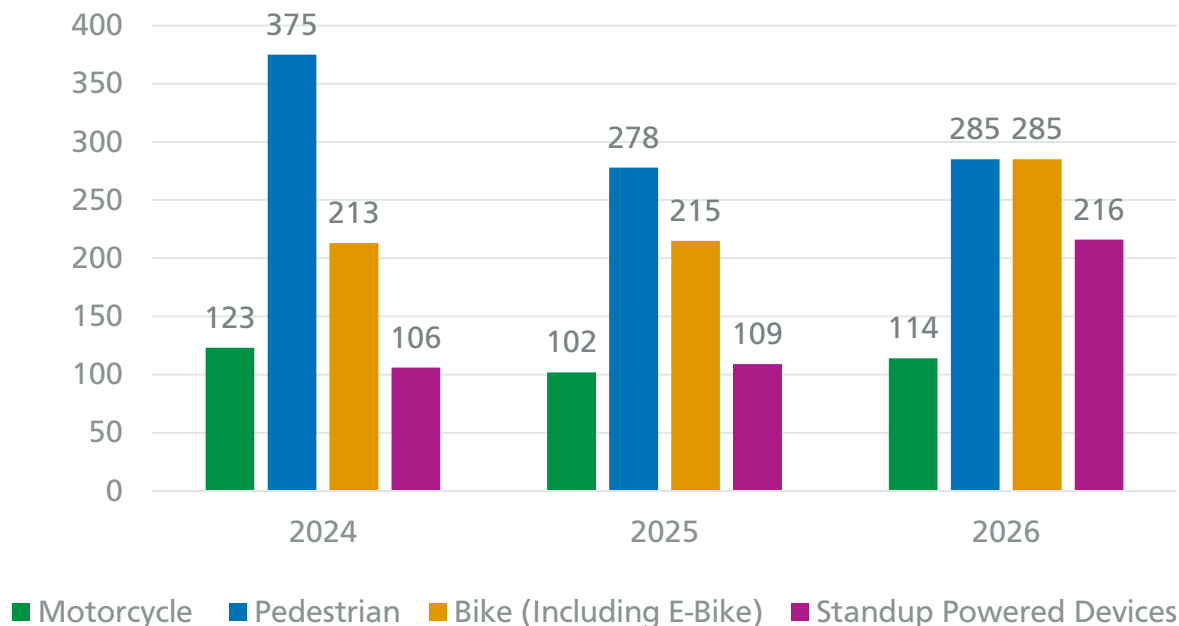
All Injury Collisions Trending Down, Severe Injury and Fatal Collisions Trending Up



Source: Traffic Crashes Resulting in Injury. DataSF. Data.sf.org. Accessed July 2, 2026.

Among Vulnerable Road Users, E-Device Injury Crashes are Sharply Increasing Year over Year

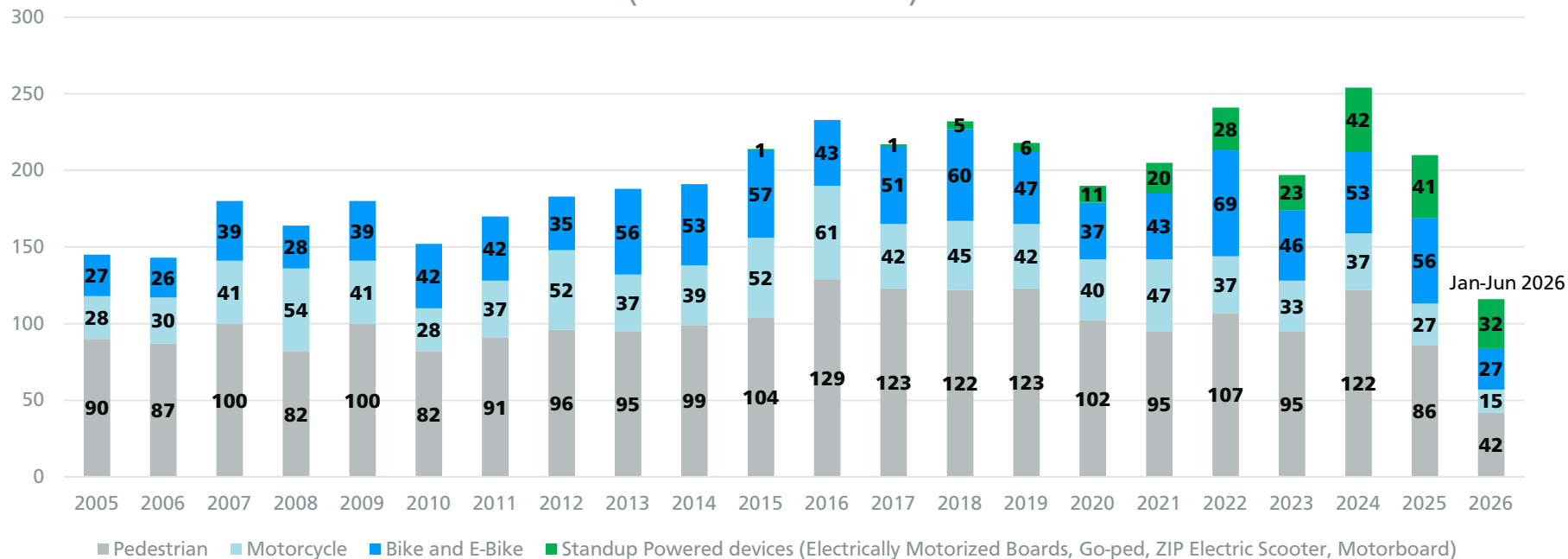
January to June of Each Year Total Injury Crashes



Source: TransBASE. Accessed August 14, 2026.

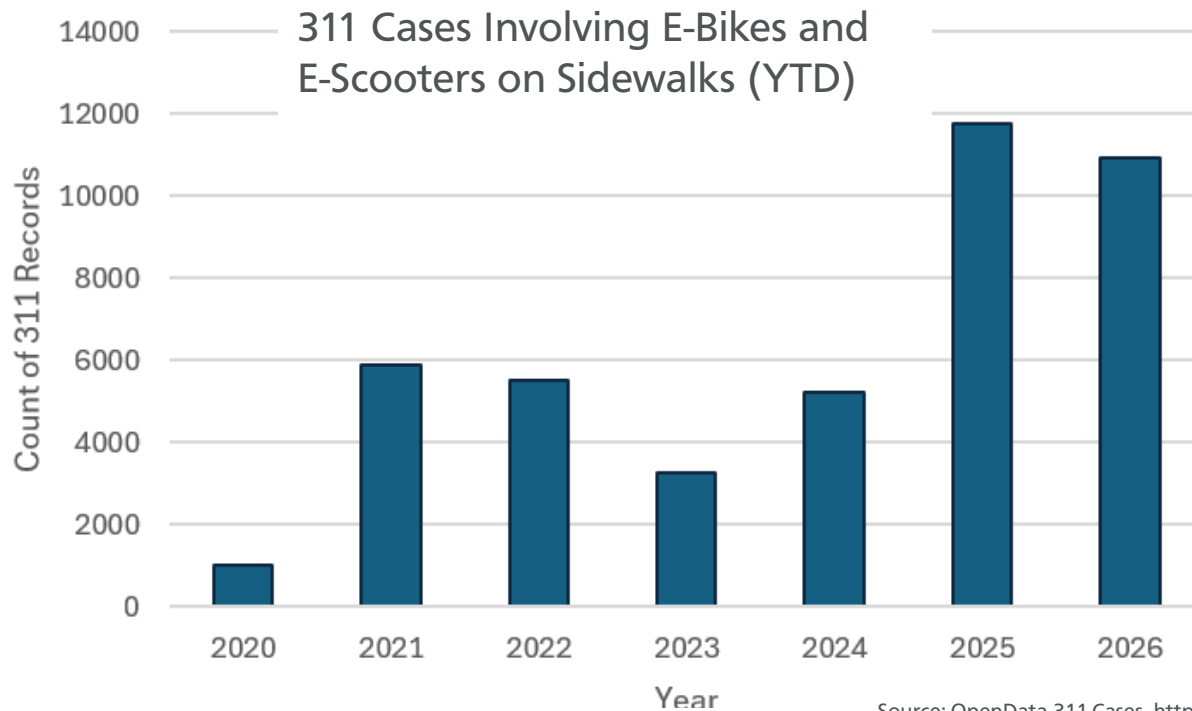
Rapid Growth in Severe Injury and Fatal Collisions Among E-Devices

Severe Injury and Fatal Traffic Collisions in San Francisco
(SFPD Collision Data)



Source: TransBASE. Accessed August 14, 2026.

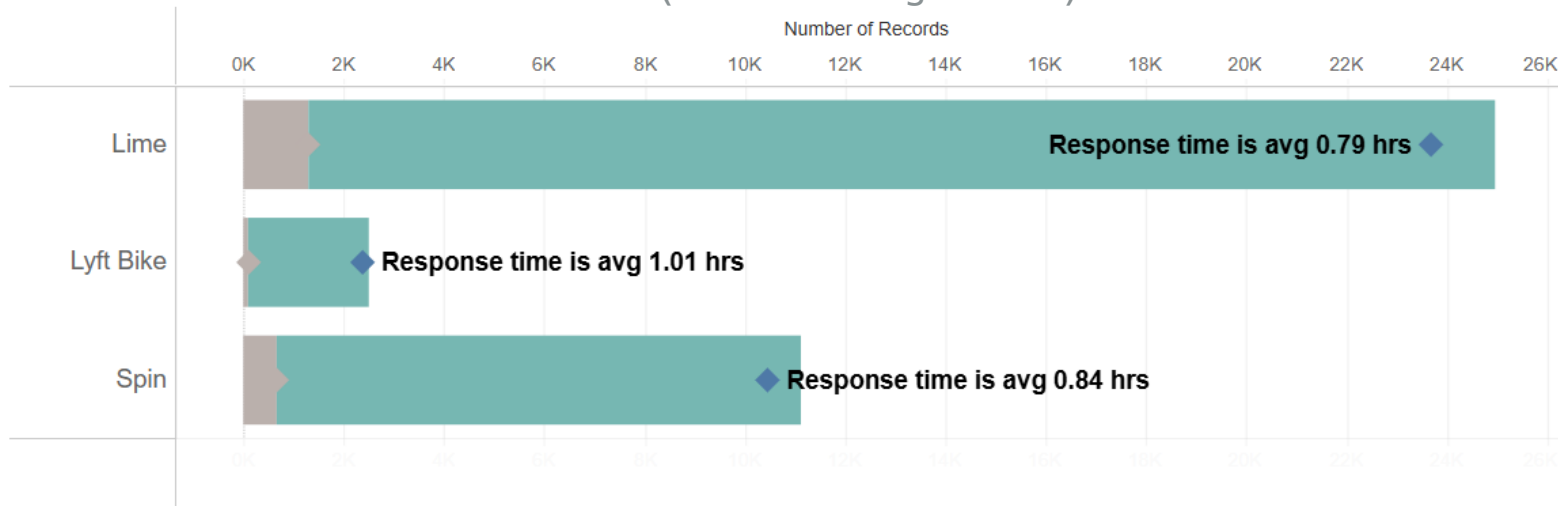
311 Cases Involving E-Devices Have Increased Substantially with Sidewalk Access a Central Issue



Source: OpenData.311 Cases. https://data.sf.gov/City-Infrastructure/311-Cases/vw6y-z8j6/about_data. Accessed September 17, 2026.

How We're Responding: For Permitted Programs, Typical Response Time to Improper Parking Citations is about One Hour

Shared Mobility Improper Parking Response Time
(Feb 2024 – August 2026)



Source: Shared Mobility Improper Parking Average Response Time. www.sfmta.com/shared-mobility-improper-parking-average-response-time. Accessed September 7, 2026.

San Francisco's Approach: E-Mobility Working Group

Objective: Collaborating with e-device operators, system designers, users, and other stakeholders to produce safety outcomes

Desired Outcomes:

- Decreased number of fatal and severe injuries
- Safer riding behavior
- Clear pedestrian pathways and ADA accessibility
- Decreased exposure to pedestrians

How: Under direction of the mayor, understanding what the working group members believe the root problems to be and agreeing to recommended actions

When: Final recommendations by Spring 2027

Who

- **Experts** in safety, operations, legislation, business
- They see these issues everyday and have **valuable input**

#	Stakeholder Groupings
1	Shared Mobility Providers
2	Responsible Agencies
3	Advocacy Organizations (Transportation advocacy and Research and Academic Organizations)
4	Individual E-Device Users (Owners of personal devices, shared users, commercial users)
5	Community Groups (Youth and families, seniors, disability communities, neighborhood groups)
6	Business and Merchant Organizations (Citywide business organizations, commercial district organizations, restaurant and hospitality orgs)
7	Retail, Rental and Technical Experts
8	Delivery Platforms & Delivery Worker Representatives
9	Legislative Stakeholders

Next Steps

- **Feedback sought today:**
 - **Which topics** should the E-Mobility Working Group prioritize?
 - What benefits of e-mobility should be preserved as safety improves?
- **Draft Recommendations in Spring 2027**

Thank you!

Appendix

Additional Device Types



	Electric Personal Assistive Mobility Device (EPAMD)	Electrically Motorized Board	Electric Motorized Skateboard	Electric Unicycle
Vehicle Characteristics	- Self-balancing 2-wheeled device not more than 20 by 25in. (e.g. "Segway") - No seat and not pedal-operated - Up to 750 W electric motor with 12.5mph max assisted speed	- Standing device, not more than 18 x 60 inches - Up to 1000 W motor with 20mph max assisted	Some are electric motorized boards – but some models exceed top speed of 20mph	Not a motorized board – exceeds speed and wattage
User Requirements	No age, driver's license, plate, or helmet requirements	16 minimum age - No driver's license or plate needed - Helmet required	Regulatory Gap	Regulatory Gap
Roadway access	- CVC rules for EPAMDs are general, defers to local jurisdictions for regulation - SF Transportation Code prohibits sidewalk riding	- Allowed on all bikeways and sidewalk (15mph max) - Okay on roadways with speed limit no more than 35 mph	A motorized skateboard that is not a legal motorized board may not be operated on the sidewalk, roadway, or any other part of a highway or on any bikeway, bicycle path or trail, equestrian trail, or hiking or recreational trail	There are likely regulatory gaps here, including for user requirements and what roadway access it may have

SB 1167 (Blakespear)

- Establishes **clearer definitions** distinguishing electric bicycles from mopeds, motor-driven cycles, and electric motorcycles.
- Prohibits a person from operating a 2-wheeled or 3-wheeled device powered by an electric motor that is capable of propelling the device at a speed greater than 20 mph on level ground on a highway or public right-of-way when powered solely by the motor unless the device meets the definition of a device that is explicitly defined in, and authorized for use on a highway or public right-of-way by, the Vehicle Code.
- Prohibits operation of certain high-powered electric two- or three-wheeled devices on highways or public rights-of-way unless they comply with a recognized vehicle category and all applicable legal requirements.
- Requires **police reports involving e-bikes, mopeds, and motor-driven cycles to capture vehicle label information** such as brand, manufacturer, top speed, wattage, and classification.
- **Limits the sale and installation of e-bike class** labels to physical retailers, requiring these shops to verify an e-bike's actual specs before labeling it.
- Would define the **false advertising of unclassified high-speed e-motorcycles or mopeds as e-bikes** as a misleading statement under the Business and Professions Code.
- Creates more liability for retailers who sell overpowered e-motorcycles, making them more responsible in advertising/selling them.

Safe Systems Pyramid

