

# E-BIKES 101

## QUICK GUIDE FOR E-BIKE OWNERSHIP



MASSACHUSETTS  
CLEAN ENERGY  
CENTER®



MASSACHUSETTS STATEWIDE E-BIKE VOUCHER PROGRAM  
FUNDED BY THE HEALEY-DRISCOLL ADMINISTRATION



## **About the Massachusetts Statewide E-Bike Voucher Program**

The Massachusetts Statewide E-Bike Voucher Program is part of the state's strategy to reduce the growth in vehicle miles traveled and greenhouse gas emissions in the Commonwealth.

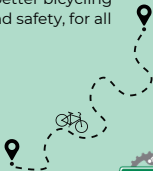
The program aims to provide affordable and accessible electric transportation and e-bike education for low- and moderate-income residents across the state. To date, the program has resulted in the distribution of over 2,900 e-bike vouchers to low- and moderate-income residents.

## **About MassCEC**

The Massachusetts Clean Energy Center, MassCEC, is a state economic development agency dedicated to accelerating the growth of the clean energy and clean tech sector. MassCEC's initiatives help Massachusetts residents save money, improve their health, and protect the environment.

## **About MassBike**

MassBike is a statewide, not-for-profit advocacy and educational organization whose mission is to promote better bicycling through improved infrastructure, access, and safety, for all people throughout Massachusetts.



# E-BIKE 101

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# E-BIKE LAWS IN MASSACHUSETTS

✓ E-bike riders are afforded the **same rights, privileges and responsibilities** related to all bicycle riders, except that e-bikes are not allowed to be ridden on sidewalks.

✓ As of August 10, 2022, the **e-bike definition** language was signed into law as amendments to the Transportation Bond Bill (H.5151) to include Class 1 and Class 2 definitions for e-bikes.

✓ **Where can I ride e-bikes** in Massachusetts? Almost anywhere you currently ride a traditional bike!



# ABC QUICK CHECK

A simple check for a safer ride.

Perform this check before every ride!

## AIR

Press your tire with your thumb.  
If it **feels soft**, add air.



## BRAKES

The bike **should not roll** when brakes are fully applied. Brake levers should **not touch the handlebar**.

If brakes feel weak, spongy, or inconsistent, **take your bike to a professional**.

## CHAIN, CRANK,

## CASSETTE

Spin the pedals backward.  
The chain should **move smoothly**, be lightly oiled, and free of rust or dirt.



## QUICK RELEASE

If your bike has quick-release, make sure the levers are fully closed and secure.

# E-BIKE MAINTENANCE

## DO'S & DON'TS

— QUICK CHECK STYLE —

### DO



#### LOOK

Check cables, bolts, and components for looseness or damage.



#### CLEAN

Wipe the bike regularly.  
Keep electronics dry.



#### TEST

Squeeze brakes firmly.  
Shift gears.  
Check controls before riding.



#### LISTEN

New rubbing, clicking, or grinding sounds = warning.



#### UPDATE

Install manufacturer recommended software updates.



#### SERVICE

Schedule regular professional tune-ups.

### DON'T



#### DON'T PRESSURE-WASH

High-pressure water damages electronics and bearings.



#### DON'T RIDE WITH ISSUES

Loose parts or weak brakes are unsafe.



#### DON'T FORCE ADJUSTMENTS

If it doesn't move smoothly, stop.



#### DON'T MODIFY ELECTRICALS

Unauthorized changes increase failure risk.



#### DON'T IGNORE SIGNS

Small problems become big failures.



#### DON'T GUESS

If unsure, take it to a professional.

| WHEN IN DOUBT  
STOP RIDING.  
SEE A PROFESSIONAL.

E-bikes are powerful machines. Regular maintenance improves safety, performance, and longevity.

# BATTERY DISCIPLINE

SMART HABITS = LONGER BATTERY LIFE

## ⚡ TOP-UP CHARGE

**Charge often**

Short, frequent charges are better than deep drains.

## ⚡ ECO MODE

**Reduce strain.**

Eco Mode limits heat and extends battery life.

## ⚡ STORAGE

**With a 30%–60% charge**

Cool, climate-controlled space. Avoid extreme weather.

## ⚡ CHECK CERTIFICATIONS

**Look for safety standards:** UL • ISO • EN

**Know the difference:** Tested ≠ Certified

## ⚡ REDUCE DRAG

**Plan routes** to limit headwinds.

Less resistance = less battery use

## ⚡ KNOW YOUR BATTERY

**Every battery is different.**

Read your e-bike manual for care, charging, and storage.





# HOW TO PREVENT A E-BIKE FIRE HAZARD



## HEAT

E-bike batteries normally produce some heat during use or charging. If the **battery feels extremely hot to the touch**, this may indicate a defect and an increased risk of fire.

## SMELL

A **strong, unusual, or chemical odor** coming from the battery is a warning sign of battery failure.



## NOISE

Failing lithium batteries may **produce hissing, popping, or cracking sounds**.

## SWELLING

A battery that is **bulging, swollen, leaking, or misshapen** is a common sign of failure. If you notice swelling or lumps, **stop using the battery immediately**.

## PERFORMANCE

Batteries that **fail to fully charge** or take **significantly longer than normal to charge** may be deteriorating.

## SMOKE






If your battery or device is **smoking, a fire has already started**. Move away immediately and call 911.

**Avoid charging battery unattended**




# CYCLING SAFETY: ESSENTIALS

## RULES OF THE ROAD

-  **FOLLOW LAW:** Obey signals. Ride right.
-  **BE PREDICTABLE:** Signal turns. No swerving.
-  **BE CONSPICUOUS:** Lights & bright gear.
-  **THINK AHEAD:** Watch for doors/hazards.
-  **RIDE READY:** ABC Check. Wear helmet

## PRINCIPLES OF TRAFFIC LAW

-  **FIRST COME:** Yield to space-holders.
-  **RIDE RIGHT:** Never against traffic.
-  **YIELD TO CROSSING:** Give right-of-way.
-  **LANE CHANGING:** Look first.
-  **POSITIONING:** Slower traffic keeps right.
-  **LANE USE:** Take lane if narrow.
-  **INTERSECTIONS:** Use rightmost lane.

# READY FOR THE ROAD?

## Helmet check and Hand Signals

### A. The Perfect Helmet Fit (The 2-V-1 Rule)

**2 Fingers**  
(Forehead)



**The V**  
(Ears)



**Eyes Up:** The helmet should sit level, 2 fingers above your eyebrows.

**Ears Open:** The straps should form a crisp "V" shape under your earlobes.

**1 Finger**  
(Chin)



**Mouth Check:** No more than 2 finger should fit under the chin strap.



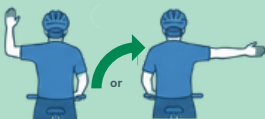
**Helmets have a birthday**

Check your manufacture date, because if it's over 7 years old, it's time for a brand-new one!

### B. Hand Signals (Communication)



LEFT TURN



RIGHT TURN



STOPPING

# WATCH OUT FOR THE TRAPS

## 1. The Door Zone

### Stay out of the "Strike Zone"

**The Danger:** Parked car doors opening suddenly into your path. This is a leading cause of urban cycling accidents.

**The Fix:** Ride at least 3 to 4 feet away from parked cars.

★ **Pro Tip:** it is safer to take the center of the travel lane than to ride too close to parked cars.



## 2. The Right Hook

### Don't get squeezed at the turn by large vehicles.

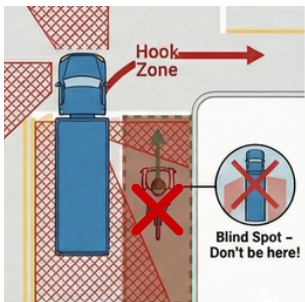
**The Danger:** A large vehicle passes you on your left and then immediately turns right across your path, or turns right from behind you while you are going straight through an intersection.

#### **The Fix:**

**Take the Lane:** As you approach an intersection, move toward the center of the lane so cars cannot pass you and then turn.

**Avoid the Blind Spot:** Never hang out on the right side of a vehicle at a red light or intersection.

**Time Your Approach:** Avoid riding in a vehicle's blind spot, especially as you approach an intersection.



# Paths are for Everyone



**STAY RIGHT,  
PASS LEFT**

Call out 'on your left' or ring a bell,



**GO A SAFE SPEED**

10-20 MPH when others are present and  
20 MPH MAX when clear.



**SHARE THE PATH**

Don't use more than your half  
of the path.



# Massachusetts E-Bike Voucher Program

Managed by



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