



E-BIKE HANDBOOK

Resources for parents and
students in San Mateo County



Special thank you to:

Marin County Safe Routes to School for their excellent e-bike safety resources which inspired and informed this handbook.

www.saferoutestoschools.org/education/e-bike-education/





E-Bikes are

Electrifying the Future!

E-bikes are becoming more popular—especially with teens. They help kids travel farther and faster, making hills and heavy loads (like backpacks and sports gear) much easier to manage. One less car on the road is a win for everyone!

But before hitting the road, here are a few things to consider...

What Parents Should Know

Is your child ready for the speed and power of an e-bike?

Parents should do their own research and assess their children's cycling capabilities before purchasing an e-bike.

- **E-bikes are heavier and faster than regular bikes**, which makes them harder to control and stop—especially for new riders. This can lead to more serious crashes if not handled carefully.
- Most bikes cruise around **12 mph**, but **Class 1 and 2 e-bikes can reach 20 mph** (Class 3s go up to 28 mph). That's a big jump in speed for young riders.
- **The Consumer Product Safety Commission** advises that children **ages 9–12 should not ride any bike that exceeds 10 mph.**²
- Just like cars, **e-bike riders must follow the rules of the road**—including stop signs, lane use, and signaling.³

Is your child ready to ride safely?

Before letting your child ride an e-bike on the road, make sure they feel confident with these essential skills:

- **Taking turns with cars** at intersections after a full stop
- **Riding with the flow of traffic**, not weaving between cars
- **Staying out of the “door zone”**— at least 5 feet from parked cars
- **Using hand signals** to turn, stop, and change lanes safely
- **Following speed limits** and being courteous to pedestrians
- **Stopping quickly** and avoiding obstacles without swerving into traffic
- **Wearing a helmet** (required for under 18 or any passengers)
- **Staying off their phone** while riding

Riding confidently on roads and pathways takes practice

Help your child build strong riding habits:

- **Skip the sidewalks**— e-bikes don't belong there (and it's illegal in many cities)
- **Ride together at first**—an experienced adult can help model safe riding
- **Practice smart habits** like staying in control and using the right gear/speed
- **Consider a bike skills class** to boost their confidence and defensive riding
- **Start small**— use a quiet, low-traffic area before heading out on busier roads

Types of E-Bikes¹

CLASS I: These e-bikes use **pedal-assist only** (no throttle) and can reach speeds up to **20 mph**. They're allowed on any paved surface where a regular bike can ride.

CLASS II: Similar to Class I, but with an added **throttle** feature that helps riders get moving without pedaling. These also max out at **20 mph** and are legal on all the same paved surfaces.

CLASS III: This model goes up to 28 mph and is **pedal-assist only** (no throttle). It's more powerful—and closer in speed to a moped—so **riders must be at least 16 years old and wear a helmet at all times**, no matter their age.

Note: Class III e-bikes aren't allowed on multi-use paths unless the path is specifically marked for them.



Good to know: Class I and II e-bikes currently don't have a minimum age restriction and are allowed on multi-use paths, making them a flexible choice for families.

Choosing a Safe, Legal E-Bike⁴

Some products on the market look like e-bikes but are actually electric motorcycles—often labeled incorrectly as “Class 2.” Here's how to make sure your purchase is safe and legal:

A Legal E-Bike Has:

1. A motor with 750 watts or less
2. Safety features that prevent speeds over 20 mph (even with throttle use)
3. Working pedals

If it's missing any of these, it's considered an e-motorcycle—which means it must be registered, have motorcycle lighting and mirrors, and the rider needs a driver's license.



Why it matters: Unregistered e-motorcycles aren't legal to ride on roads, sidewalks, or bike paths—and parents could be held legally and financially responsible if a crash occurs.

E-Scooters⁵

E-scooters are growing in popularity and can be a fun way for teens and adults to get around. Here's what to know:

- Riders need a **learner's permit** or **driver's license** to operate one
- They're allowed in **bike lanes or roads** where the **speed limit is 25 mph or less**
- The speed limit for e-scooters is 15 mph, though many can go much faster—something to be aware of!⁶
- California law prohibits riding e-scooters on sidewalks and multi use pathways unless marked otherwise.



E-scooter riders share space with vehicles—so learning road rules and riding confidently is essential.



E-Bike

Maintenance

✓ A Quick E-Bike Safety Check⁷

Tires:

Make sure they're firm. Soft tires can get flats more easily—inflate to the pressure listed on the tire.

Brakes:

Squeeze each lever. There should be space between the lever and handlebar when fully pressed.

Chain & Crank:

The chain should be clean and oiled, the teeth on the cogs not worn, and the crank nice and tight.

Battery & Wires:

Is the battery fully charged and locked in? Are the displays and wires secure and working?

Quick Release:

Check that wheels, seat post, and other quick-release parts are firmly in place.

Final Tip:

Lift and drop one wheel— if anything rattles, tighten it up.

E-Bikes Need Extra Care

Because they go faster, e-bikes wear out parts (like brake pads) quicker than regular bikes. Check them often and replace as needed.





E-Bike

Batteries

Battery Safety & Storage Tips for E-Bikes

All e-bikes use a battery to power the motor— and like any battery, safety matters! While it's not yet required by law, the Consumer Product Safety Commission recommends that e-bike **batteries meet the UL-2849 safety standard⁸** to help prevent fires, explosions, or leaks.⁹

- ✓ *Look for the UL certification logo or ask your seller if the battery has been tested for safety.*



Charging & Storing Your Battery Safely¹⁰

To reduce the risk of fire or damage:

- Plug directly into a wall outlet— avoid using power strips or extension cords.
- Use only the charger that came with the e-bike.
- Never charge or store batteries in piles— give each one space.
- Store in safe areas:
 - Well ventilated
 - Near smoke alarms or fire detectors
 - Away from doors or emergency exits
 - Out of extreme heat or cold

- ✓ *For long-term storage, keep the battery only partially charged— and always check the manual if you're unsure!*

Where to Ride⁷

Riding Your E-Bike Safely Around Others



Stick to roads and bike lanes— e-bikes are too fast for sidewalks and areas with lots of foot traffic.



Use your voice or bell to let others know you're passing — e-bikes are quiet and can surprise people.



Be respectful when passing slower riders or pedestrians. Give them plenty of space and wait for a safe moment to pass.

Navigating Traffic & Bike Lanes

- **Use designated bike lanes** whenever they're available and allowed. (Reminder: Class 3 e-bikes aren't allowed in Class 1 or 4 bike lanes.)
- You can **leave the bike lane** to avoid hazards, make a left turn, or steer clear of turning cars — just remember to:
 1. Scan
 2. Signal
 3. Make sure it's safe, then merge with traffic
- If there's no bike lane, ride in the traffic lane and share the road with cars.
- Stay at least **5 feet away from parked cars** to avoid getting “doored” — it also makes you more visible and helps drivers give you space.

Stay Safe by Being:

Visible. Predictable. Respectful.

E-bikes move quickly, so ride with awareness — and assume drivers might not expect you to be going that fast.

Types of Paths¹¹

CLASS I BIKEWAY (BIKE PATH)

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized (multi use paths).

CLASS II BIKEWAY (BIKE LANE)

Provides a striped lane for one-way bike travel on a street or highway (bike lane)

CLASS III BIKEWAY (BIKE ROUTE)

Provides for shared use with pedestrian or motor vehicle traffic (no special road marking or pathway, just a suggested safer route).

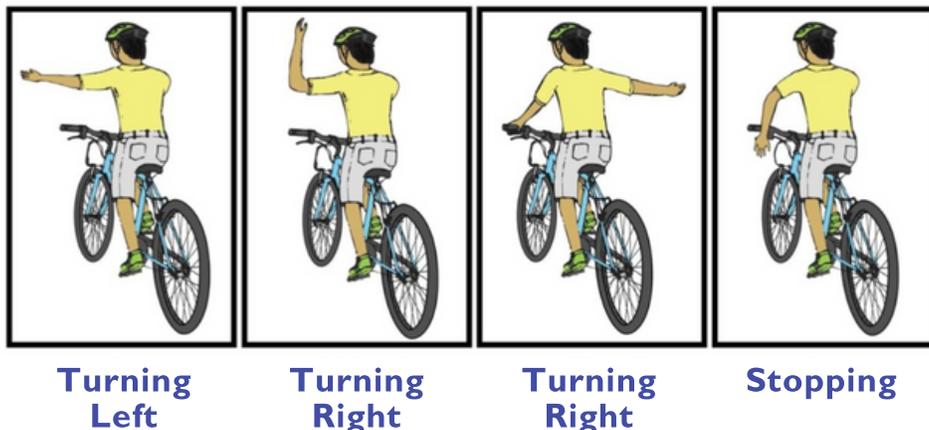
CLASS IV BIKEWAY (PROTECTED LANE)

Separated from motor traffic using a physical barrier, such as curbs, planters, or parked cars (on street bike lane that's protected from traffic).

		BIKEWAY ACCESS			
		CLASS I BIKE PATH	CLASS II BIKE LANE	CLASS III BIKE ROUTE	CLASS IV PROTECTED LANE
VEHICLE TYPE	BICYCLE	YES	YES	YES	YES
	TYPE 1 E-BIKE	YES	YES	YES	YES
	TYPE 2 E-BIKE	YES	YES	YES	YES
	TYPE 3 E-BIKE	NO	YES	YES	NO

Before riding an e-bike, be sure to check your community's local policies and regulations. Rules around where and how e-bikes can be used vary by town, city, county. Knowing the guidelines helps keep everyone safe and ensures riders stay in compliance with local laws.

How to Signal¹²





Key

Safety Considerations

Thinking About Buying an E-Bike? Here's What You Should Know

E-bikes can be a fun and efficient way for families to get around, but it's important to make a safe and informed choice— especially for younger riders.

Choose an e-bike with **UL-tested batteries**.⁹

Not all e-bikes are tested or legal to ride in California.¹

- All e-bikes must stay **under 750 watts of power** to be street legal
- **Class 1 & 2:** Max speed 20 mph
- **Class 3:** Max speed 28 mph
- Refer to [AB 1774](#) for full details of e-bike requirements¹³

Buy Local:

Purchasing from a local bike shop helps ensure:

- The bike is from a reliable manufacturer
- Replacement parts are readily available, and regular maintenance is easily accessible

A Quick Heads-Up

Some riders may learn how to override speed limits using apps or simple tweaks. This can make the bike illegal and unsafe.⁴ Before purchasing an e-bike for a young rider, it's important to have a serious discussion about the safety considerations and the increased responsibilities associated with riding an e-bike.

Riding Tips for E-Bikes

To keep everyone safe and legal on the road:

- Only carry passengers if your e-bike has a built-in, properly attached seat for them.¹⁴
- Helmets are a must for all riders and passengers under 18.¹⁴
- E-bike rules can vary from city to city, so it's a good idea to check the local laws before you ride.
- E-bikes accelerate quickly—so take it easy when coming out of turns or merging onto roads and bike paths.

Want to ride smart? [Learn more about California's e-bike laws.](#)¹⁵

- Keep an eye out for rules about bike paths, speed limits, and where certain e-bikes might not be allowed.

Riding in Style (and Safely!)

Looking good while staying safe is the way to go— especially when riding at night.

- Wear bright colors and reflective gear to help others see you.
- A white front light and red rear light are required by California law when riding in the dark.¹⁶
- Helmets are required for anyone under 18 and for riders of class 3 e-bikes—no exceptions!¹

Not all helmets offer the same protection. Check out [Virginia Tech's helmet ratings](#) to find a style that fits and protects.¹⁷



Taking Youth

E-Bike Safety Seriously

E-bike collisions are on the rise, and **youth are being hit the hardest**. In 2022, more than **3,000 kids and teens** in the U.S. ended up in the emergency room due to **e-bike-related injuries**.¹⁸ In California, reported e-bike collisions jumped from just 184 in 2018 to over 3,400 in 2023.¹⁹

What's more concerning is that injuries from e-bike crashes are often **more serious** than those from regular bikes. In Marin County, researchers found that **10–15-year-olds** were **five times more likely** to be involved in an e-bike collision than any other age group.²⁰

Before handing over the handlebars, it's important to **make sure young riders are truly ready**—both physically and mentally—for the responsibility that comes with riding an e-bike. **Their safety depends on it.**

Additional Resources

- [12-minute E-Bike Safety Video by Pedal Ahead](#)

- An easy to follow introductory video all about e-bike safety



- [E-Bike Safety Training by CHP](#)

- Expect to spend about an hour on this comprehensive training
- Highly recommended that youth complete this training with an adult
- Those who complete the course can print out a certificate



- [Learn more about e-bike safety from our partners at SRTS Marin County](#)

- Includes information for parents, students, and school administrators



- [Check the SVBC website for upcoming Intro to E-Bike classes](#)

- One hour in person classes led by the Silicon Valley Bicycle Coalition



- [The Bellemont Project](#)

- E-bike safety resources created by Beth Black: e-bike shop owner, teacher, social ecologist, and author of The Caring Parent's E-Bike Survival Guide



- [Local Resources Map](#)

- Search for resources near you on the League of American Bicyclist's website



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