With Power Comes Responsibility
Youths Under Age 16 Operating Class 2 E-Bikes: A Safety Risk
April 26, 2024

SUMMARY

Marin County roads, trails, and paths are enjoyed by many cyclists throughout the year. Over the past decade, the popularity of electric bicycles (e-bikes) has grown, with nationwide e-bike sales almost doubling between 2020 and 2021.[1] E-bikes are now used by all types of bike riders in Marin, including commuters, mountain bikers who need a little help getting up steep trails, riders with disabilities or other physical limitations, casual adult riders, and children. Unfortunately, some riders under the age of 16 are not ready for the power of the e-bikes they are operating. Additionally, some young riders are operating e-bikes that have multiple power modes or after-market modifications that make them illegal. The rate of e-bike accidents in Marin among children aged 10-15 is far higher than it is with any other age groups. This has led bike advocacy groups, law enforcement, and public health officials to issue warnings and advisories to Marin families about the danger of e-bikes for children.

The laws in California and in Marin do not closely regulate e-bike use. California designates three classes of legal e-bikes. All are limited to 750 watt electric motors. Class 1 and class 3 e-bikes only get electric assistance when the pedals are in use, with class 1 limited to 20 mph assisted speed, and class 3 limited to 28 mph assisted speed.[2] Class 2 e-bikes offer pedal-assist electric power, up to 20 mph, and also have a throttle device which will power the bicycle to move even when the rider does not pedal at all. Many class 2 e-bikes can be easily modified to remove the throttle-assisted speed limit, so those e-bikes can travel much faster than 20 mph. These modified bikes no longer legally qualify as e-bikes. Several bills have been proposed in the California State Legislature to further regulate the use of e-bikes, especially among children under age 16. In addition, a few Marin municipalities have passed ordinances regarding e-bikes.

The Marin Civil Grand Jury conducted an investigation to determine the extent of the problem when children under age 16 operate e-bikes in Marin, and to explore possible solutions. The Grand Jury concluded that children under age 16 who operate class 2 e-bikes in Marin pose a danger to themselves and others. The Grand Jury also concluded that the same dangers do not apply to youths riding class 1 e-bikes in Marin.

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[1] Boudway, Ira, *Bloomberg*, "America's Best-Selling Electric Vehicles Ride on Two Wheels," January 21, 2022, https://www.bloomberg.com/news/articles/2022-01-21/u-s-e-bike-sales-outpaced-electric-cars-in-2021, subscription required (accessed 3/18/24).

[2] These e-bikes have a sensor to detect the rate of travel. If the bicycle is going 20 mph (class 1 or 2) or 28 mph (class 3), the electric motor is programmed to shut off. Like non-electric bicycles, e-bikes can all travel above those rates, such as when they are coasting downhill.

As a result of its investigation, the Grand Jury recommends that Marin County and each of its municipalities closely communicate with each other about the issues addressed in this report, that they adopt rules limiting use of class 2 e-bikes to operators age 16 and older, and that they require all operators and passengers on class 2 e-bikes to wear helmets. The Grand Jury also recommends that the Marin County Board of Supervisors consider looking into sources of funding for expanded e-bike education efforts.

BACKGROUND

Marin County is very bike-friendly and offers many trails, multi-use paths, and scenic roads. "Biking is built into the fabric and culture of Northern California's famous getaway Marin County."[3] Many county residents use biking to enjoy the outdoors, enhance their quality of life, improve their health, and reduce automobile traffic. For people who struggle to ride Marin's rolling hills due to disability, age, or other reasons, e-bikes offer needed power assistance. [4] While most e-bike riders are responsible and careful, concerns have arisen with regard to throttle-assist, or class 2 e-bikes. The class 2 e-bikes have become very popular with younger riders, including many Marin children under age 16. Unlike class 1 and class 3 e-bikes, which are speed-regulated and only get a power boost while the rider is pedaling, class 2 e-bikes can accelerate quickly with no pedaling at all. They can also be modified to exceed 20 mph.[5] Class 2 e-bikes are sometimes operated by children and teens in ways that can be unsafe for the riders and others around them.[6] Unsafe operation of e-bikes on streets and multi-use paths has resulted in injuries to riders, passengers, and pedestrians.[7]

[3] Joe Kukura, "Beginner's Guide to Biking in Marin," *Marin Convention and Vistor's Bureau*, January 30, 2018, https://www.visitmarin.org/blog/biking-in-marin-collection/beginners-guide-to-biking-in-marin/, (accessed 3/30/24).
[4] Mitch LaRosa, "E-Bikes Increase Mobility Access for Older Adults and People with Disabilities," *National Aging and Disability Transportation Center News*, February 24, 2022, https://www.nadtc.org/news/blog/e-bikes-increase-mobility-access-for-older-adults-and-people-with-disabilities/, (accessed 3/29/24).
[5] "How to Make Your E-bike Faster: 7 Easy Ways to Boost E-Bike Speed," *eBicycles.com*, copyright 2024, https://www.ebicycles.com/how-to-make-your-ebike-faster/, (accessed 3/30/24).
[6] See, e.g., James Tark, "Micromobility Products-Related Deaths, Injuries, and Hazard Patterns: 2017-2022," *United States Consumer Product Safety Commission Report*, September 2023, https://www.cpsc.gov/s3fs-public/Micromobility-Products-Related-Deaths-Injuries-and-Hazard-Patterns-2017-2022.pdf?VersionId=BekCvIY03IvMU9nHr2ErziUNXNkPAghJ, (accessed 3/30/24); this report says e-bike injuries have steadily increased since 2017, including 104 fatalities between 2017 and 2022. Also see Bruno Long, "Woman Dies in Collision with Electric Bike, Leads to Emergency Ban on E-Bikes," *Bike Mag*, March 1, 2024, https://www.bikemag.com/ebikes/woman-dies-in-collision-with-electric-bike-leads-to-emergency-ban-on-e-bikes, (accessed 3/30/24); this article recounts the death of a 66 year old woman after a collision with a 12 year-old riding an e-bike.
[7] Alex N. Gecan, "Sausalito Pedestrian Dies After E-Bike Collision," *Marin Independent Journal*, September 20, 2022, https://www.marinij.com/2022/09/20/sausalito-pedestrian-dies-after-e-bike-collision/, subscription required (accessed 3/29/24); Michael Cabanatuan, "Two Marin County Communities Are Trying to Rein in 'Reckless' Teens on Speedy E-Bikes," *San Francisco Chronicle*, May 1, 2023, https://www.sfchronicle.com/bayarea/article/marin-county-e-bikes-teenagers-17923964.php, subscription required (accessed 3/29/24).

APPROACH

The 2023-2024 Grand Jury conducted confidential interviews and reviewed federal, state, and local laws and regulations; medical articles; both public and non-public records and websites; and news reports from various sources including data available from Marin Health and Human Services on e-bike accidents in Marin. The Grand Jury's interviews included:

- Interviews with local bicycle advocates and bicycle safety experts
- Interviews with local officials including:
    - Marin school personnel
    - Law enforcement officials
    - Public health professionals
    - Elected leaders

This report includes information available as of March 31, 2024.

DISCUSSION

E-bikes have become increasingly popular since they were introduced in the 1990s.[8] As e-bikes proliferated, a patchwork of laws and regulations were created at various levels of government. In recent years, the use of e-bikes has led to concerns on the part of Marin citizens, law enforcement, school personnel, and health care professionals.

Federal E-bike Regulations

At the federal level, consumer product safety laws define an e-bike, but there are no federal laws pertaining to e-bike use.[9] Federal law limits the designation as an e-bike to electrically powered bikes of 750 watts or less, with pedals and with limited speed capacity.[10] E-bikes can be powered by the motor alone (a throttle-assist e-bike), and can use a combination of motor and human power (a pedal-assist e-bike). HR 727 essentially makes the sale of such e-bikes legal throughout the country. The definition of e-bikes is also used to distinguish e-bikes from electric motorcycles, mopeds, and other motor vehicles. This is significant primarily because bicycles, including e-bikes, are subject to far fewer age restrictions, licensing, registration, and traffic laws than apply to electric motorcycles, mopeds, other motor vehicles, and their operators.[11]

[8] Ali Rogin, Harry Zahn and Simon Epstein, "E-bike Popularity is Surging, Creating Regulatory Challenges on U.S. Roads," *PBS News Weekend/KQED*, October 1, 2023, https://www.pbs.org/newshour/show/e-bike-popularity-is-surging-creating-regulatory-challenges-on-u-s-roads, (accessed 3/29/24).

[9] US House of Representatives bill (HR) 727, amended The Consumer Product Safety Act (15 U.S.C. §§ 2051 et seq.) to define a low-speed electric bicycle as "A two- or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 mph."

[10] The requirement that a bike must have pedals to qualify as an e-bike is notable because if there are no operational pedals (or if it has more than 750 watts of power or can exceed 20 mph using only the throttle) then it is an "electric motorcycle" and it is therefore subject to many of the same laws, regulations and requirements as a regular motorcycle. CVC 400-406.

[11] "Motorcycles, Mopeds and Scooters," State of California Department of Motor Vehicles ("Cal DMV") website article, https://www.dmv.ca.gov/portal/vehicle-registration/new-registration/motorcycles-mopeds-and-scooters/, (accessed 3/29/24); "Bicyclists & Pedestrians," Cal DMV website article, https://www.dmv.ca.gov/portal/driver-education-and-safety/special-interest-driver-guides/bicyclists-pedestrians/, (accessed 3/29/24).

California Vehicle Code E-bike Regulation

Many states have passed laws regulating the use of e-bikes. California Vehicle Code (CVC) section 312.5 establishes three classes of e-bikes:

- Class 1 is a pedal-assist e-bike, without a throttle, that will stop providing electric motor assistance at 20 mph.[12]
- Class 2 is an e-bike that includes a throttle that can power the bike without pedaling, that will stop providing electric motor assistance at 20 mph.[13]
- Class 3 is a pedal-assist e-bike, without a throttle, that will stop providing electric motor assistance at 28 mph.[14]

In addition to defining the three classes, CVC section 312.5(b) provides that e-bike operators are subject to the same traffic safety laws that apply to operators of other bicycles.[15] It also requires that bike manufacturers and distributors in California include a permanent label on all e-bikes, indicating the class designation, the top assisted speed, and the motor wattage.[16]

Photo of a label on an e-bike for sale in a Marin County store in March 2024.
(Photo courtesy of 2023-2024 Marin County Civil Grand Jury)

[12] CVC § 312.5(a)(1).
[13] CVC § 312.5(a)(2).
[14] CVC § 312.5(a)(3).
[15] CVC § 312.5(b).
[16] CVC § 312.5(c).

CVC section 21213 also regulates e-bike use throughout California, limiting class 3 e-bike use to operators at least 16 years old, and requiring the use of a helmet for all class 3 operators and passengers.[17] Other California laws state that operators of e-bikes, like operators of regular bikes, must follow traffic laws,[18] that operators of e-bikes must ride in the same direction as traffic,[19] and that users of any class of e-bike under age 18 must always wear helmets.[20]

Proposed Amendments to California E-bike Regulations

A 2023 California Assembly bill, AB 530, proposed licensing requirements and a minimum age of 12 for class 1 and class 2 e-bike users. However, that bill died in the Assembly in January 2024 after facing criticism over the bureaucracy needed for licensing and enforcement.[21]

Another Assembly bill, AB 1778, which was sponsored by Marin's District 12 Assemblymember Damon Connolly, was introduced in the state legislature to amend CVC sections 312.5 and 21213. AB 1778 originally sought to amend the Vehicle Code to limit the operation of class 2 e-bikes to people 16 and older, to require that all class 2 e-bike operators and passengers wear helmets, and to mandate that e-bikes cannot exceed the speeds of their class designation.[22]

In March 2024, AB 1778 was significantly amended. The new bill would make Marin County a test case for comprehensive new e-bike laws. If passed, Marin municipalities, including the county and all cities and towns, would be authorized to pass ordinances regulating e-bike use. Some details of the suggested ordinances include the same limits as the original bill regarding age and speed, and also include rules regarding warnings, citations, fines, safety training classes, and data collection on traffic stops involving e-bikes. Marin would then have to send a report to the state regarding the data it collects.[23]

On February 29, 2024, California Senate bill SB 1271 was introduced with the goal of clarifying the law regarding multiple-mode e-bikes.[24] These are e-bikes that can be switched between lower-power and higher-power modes, which means they may be a class 2 e-bike in one mode, but not a legal e-bike at all in one or more other modes.[25] The original version of SB 1271 required that multiple-mode e-bikes be labeled with all of the class numbers of modes in which the bike is capable of operating. It also stripped devices of their e-bike designations if any mode did not "fully conform with the respective class definition when operated in each mode."[26] In

[17] CVC § 21213(a) is the age requirement; CVC § 21213(b) is the helmet requirement.
[18] CVC § 21200(a)(1).
[19] CVC § 21650.1.
[20] CVC § 21212(a).
[21] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB530, (accessed 3/17/24).
[22] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB1778, (accessed 3/17/24).
[23] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB1778, (accessed 3/17/24).
[24] California Bill SB1271, introduced 2024-02-29 by Senator Min, https://legiscan.com/CA/text/SB1271/id/2930784 (bill as introduced, accessed 3/13/24) and https://legiscan.com/CA/text/SB1271/2023, (bill as amended on February 15, 2024, accessed 3/29/24).
[25] For example, as of March 31, 2024, the electric bicycle brand Super73 was advertising a "Super73-R Adventure Series" e-bike as going "20+ MPH" and having "Classes 1/2/3" and also "Off-Road" mode. https://super73.com/, (accessed 3/31/24). See also Matt Jancer, "What are Ebike 'Classes' and What Do They Mean?", *Wired*, October 5, 2023, https://www.wired.com/story/guide-to-ebike-classes/, (accessed 3/31/24).
[26] https://legiscan.com/CA/text/SB1271/2023, accessed 3/18/2024, at Sec. 1, 312.5(d).

other words, a multiple-mode e-bike that has even one mode that is too fast or too powerful to qualify as an e-bike under CVC section 312.5, would automatically be considered an electric motorcycle, not a bicycle at all. SB 1271 was amended in February 2024, leaving the labeling requirement but removing the rest of the multiple-mode restrictions. Both versions of SB 1271 also propose minimum safety standards for batteries on all e-bikes sold, rented, or leased in California, in order to prevent battery fires.

E-bike Regulations in Marin County

County of Marin Bike Laws

Marin County allows class 1 and class 2 e-bikes on public roads and parking lots, on county-owned paved bicycle and multi-use pathways, and in other areas where signs granting permission are posted. This includes the Mill Valley-Sausalito Bike Path and the Corte Madera Creek Pathway.[27] E-bikes are not allowed on unpaved trails in Marin Open Space District and Preserve lands and are not allowed on sidewalks anywhere.[28] Class 3 e-bikes are allowed on public roads and parking lots, but they are otherwise prohibited within parks and on bike paths unless signs allowing them are posted. Bicycles of all kinds are subject to a 15 mph speed limit on all county-maintained paths except portions of the Mill Valley-Sausalito multi use path, where the speed limit is 10 mph.[29] All classes of e-bikes are currently prohibited on Marin Municipal Water District (Marin Water) lands, except on public roads and parking lots.[30] However, Marin Water is currently in the process of evaluating class 1 e-bike access to its trails and fire roads. As part of that process, Marin Water has allowed class 1 e-bike access to its fire roads for a substantial period of time.

Mill Valley E-bike Ordinance

Besides the county, several Marin municipalities also have their own e-bike laws. Mill Valley Municipal Code (MVMC) section 10.04.140 prohibits e-bikes from being ridden on sidewalks and certain other areas. MVMC section 10.30 specifically regulates electric mobility devices, including e-bikes.[31] In 2023, Mill Valley police began to issue citations for e-bike operators who violate these laws.

Pursuant to Mill Valley's ordinance, if the operator violating the ordinance is a juvenile, they may attend a "diversion safety program" in lieu of a fine or administrative citation.[32] Mill Valley partnered with the Marin County Bicycle Coalition (MCBC), which offers a two hour e-bike

[27] "Supervisors Approve Change to E-Bikes Policy," *County of Marin News Release*, (September 24, 2019), https://www.marincounty.org/main/county-press-releases/press-releases/2019/parks-ebikes-092419, (accessed 3/31/24); also see Marin Municipal Code ("MCC") Chapter 13.24, "Bicycles" and Chapter 10.05, "Vehicle and Traffic Regulations."
[28] MMC § 10.05.030 and MMC § 13.24.030; "Supervisors Approve Change to E-Bikes Policy."
[29] MMC § 10.05.050 and "Supervisors Approve Change to E-Bikes Policy."
[30] See, https://www.marinwater.org/visiting-mt-tam, (accessed 3/31/24) which states in part, "E-Bikes are not currently allowed on the watershed."
[31] MVMC §§ 10.30.010-10.30.060.
[32] MVMC § 10.30.050(A).

safety course once every few months. The class costs $150 for youth who were issued citations, or $25 for people taking the course without having been cited.[33]

However, during its investigation, the Grand Jury determined that the original grant funds provided to MCBC to conduct these safety courses are running out. The classes include on-road instruction as well as a classroom component. The classes are supervised by multiple highly trained and certified instructors, so they cannot be provided inexpensively. The Grand Jury also determined that the classes could continue and potentially even be expanded, if additional grant funds are found.

These classes are no longer available to youths using certain class 2 e-bikes, however. Specifically, any multiple mode bike, or modified bike, that can exceed the limits of CVC section 312.5 cannot be used for the safety class. On March 1, 2024, MCBC made the following announcement on its webpage:

> UPDATE March 1, 2024: MCBC is unable to accept any device with the capability of operating "out-of-class". These devices are not considered an e-bike, and fall into the category of a motor vehicle. Any product that is capable of reaching speeds greater than 20 mph on motor assistance alone will not be accepted in class. The Super73's are incredibly common in Marin, and unfortunately most of their models fall into the "out-of-class" category that we can no longer accept in our classes.[34]

San Anselmo E-bike Ordinances

San Anselmo Municipal Code section 3-5.304 states that all bike riders must follow the same rules of the road as vehicle drivers. Section 3-5.803 of the code prohibits vehicles on sidewalks. Therefore, bikes, including e-bikes, are not allowed on San Anselmo sidewalks. Following an accident involving an e-bike, San Anselmo also decreed that e-bikes cannot be ridden in Memorial Park, except on a single multi-use pathway. E-bikes may be walked through the paths in the park, and non-motorized bicycles are allowed on the paths "at a safe speed."[35]

Other Proposed Ordinances

Other jurisdictions in Marin are also considering e-bike ordinances. The Marin Independent Journal reported in October 2023 that for safety reasons, Novato officials were considering new e-bike rules similar to those in Mill Valley.[36] This report followed a 4-1 vote by the Novato City Council to discuss "consideration of an electric mobility device ordinance."[37] As of March 31, 2024, Novato had not adopted an e-bike ordinance.

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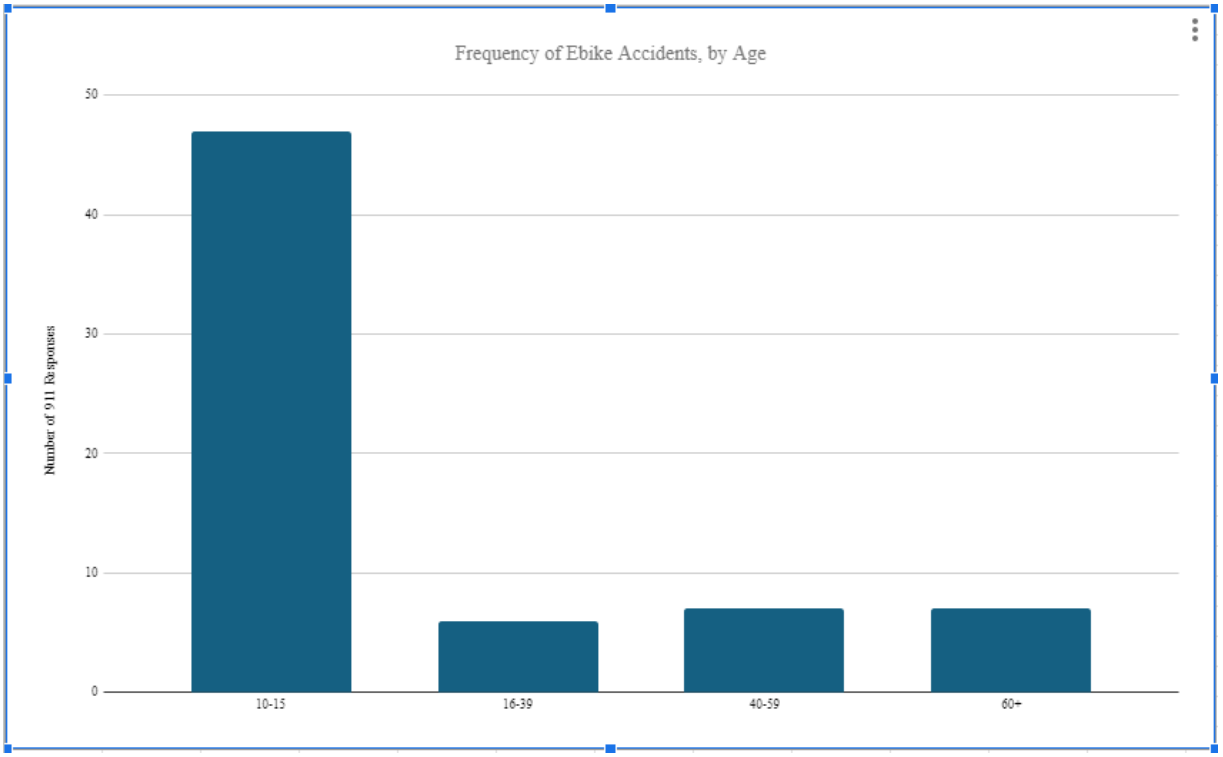
[33] Marin County Bicycle Coalition, E-Bike Smart Marin webpage, https://connect.clickandpledge.com/w/Form/3944a87e-4ef8-40d9-a4f3-4c5c67df8f51, (accessed 3/18/24).
[34] Marin County Bicycle Coalition, E-Bike Smart Marin webpage, https://marinbike.org/our-programs/road-advocacy/e-bike-smart-marin/, (accessed 3/18/24).
[35] "Electric Bicycles (E-bikes) and Electric Scooters (E-scooters) Road Rules and Laws," Town of San Anselmo website, https://www.townofsananselmo.org/1576/Electric-Bicycles-E-bikes-and-Electric-S, (accessed 3/31/24).
[36] https://www.marinij.com/2023/10/12/novato-to-consider-regulations-for-electric-bikes-scooters, (accessed 3/17/24).
[37] Novato City Council October 10, 2023 Meeting Minutes, page 2, Item E.1. novato.granicus.com/DocumentViewer.php?file=novato_bea6927b66550ead9591b6828b297d78.pdf&view=1, accessed 03/17/2024.

Public Health Concerns About E-bike Safety

The Grand Jury interviewed dozens of Marin citizens and officials about the e-bike situation, including public health officials, law enforcement officers, school personnel, bicycle advocates, and elected officials; all interviews are confidential. All of them expressed personal concerns about e-bike safety, especially with regard to children on e-bikes. Many interviewees related anecdotes about observing dangerous behavior involving young e-bike operators, including tandem riding, riding without helmets, speeding, riding on sidewalks, and zipping through automobile traffic.

The best data source on e-bike injury patterns is Marin County's Bicycle Safety online dashboard, which began tracking bicycle accident data in October 2023.[38] As of March 16, 2024, Marin's e-bike accident rate was 47 per 100,000 for children aged 10-15, a rate more than five times as high as any other age group (16-39, 40-59, and 60+).[39]



E-Bike (All Clases) Accident Rates by Age in Marin County From October 7, 2023 to March 16, 2024
(Data Source: Marin Department of Health and Human Services)[40]

[38] https://www.marinhhs.org/bicycle-safety (accessed 3/21/2024)
[39] Marin County Health and Human Services Bicycle Safety Dashboard, https://www.marinhhs.org/bicycle-safety, (accessed 3/18/2024).
[40] Marin County Bicycle Safety Dashboard, https://www.marinhhs.org/bicycle-safety, accessed 3/17/24.

The risk of injury to class 2 e-bike operators is compounded by the fact that although the e-bikes are designed to operate at a top assisted speed of 20 mph, for many models of class 2 e-bikes, a simple adjustment can override this limit.[41] In addition to exceeding the 20 mph assisted speed limit, these e-bikes can achieve rapid acceleration without pedaling, unlike class 1 and class 3 e-bikes. As was noted in one national article, class 2 e-bikes are too fast for sidewalks and paths, but they are too slow to be safe for street traffic.[42] Several interviewees observed that younger riders sometimes start on Class 2 e-bikes without any past experience on traditional bikes and lack basic road skill and knowledge of traffic laws. Class 2 e-bikes are becoming less expensive and therefore more popular, and their use is likely to increase injury and accident rates.

The perception that the use of class 2 e-bikes presents increasing public safety risk was confirmed by a Public Safety Alert issued on November 14, 2023 by Dr. Matt Willis, Marin County's Public Health Officer, entitled "*New Data Prompt E-Bike Safety Alert, Rate of injuries among school-aged children is increasing in Marin."*[43] In the Safety Alert, it was noted that during the first month that Marin collected data for the bicycle safety dashboard, "the rate of e-bike accidents for youth ages 10 to 19 years old was nine times higher than that for residents over 20 years old."[44] In addition, trauma surgeons at Marin Health alerted the public to increasing injury rate among 10-15 year old e-bike operators.[45] These trauma surgeons noted a dramatic increase in e-bike incidents resulting in serious injuries, some of which have resulted in fatalities. Assemblymember Connolly, when introducing AB 1778, referred to this "shocking increase in accidents" for kids in Marin as the reason for the proposed new law.[46]

Law Enforcement and E-Bike Safety

In confidential interviews with the Grand Jury, multiple law enforcement officials in Marin agreed that e-bikes can be dangerous for young people, but many also said enforcement is complicated because chasing down kids on e-bikes can be dangerous in itself. They also described difficulties determining the age of an operator, the speed being traveled, and the class of e-bike while the bike is in motion. Finally, law enforcement as well as Marin school personnel and bike safety experts are reluctant to have young riders' first interaction with law enforcement

[41] "How to Make Your E-bike Faster: 7 Easy Ways to Boost E-Bike Speed," *eBicycles.com*, copyright 2024, https://www.ebicycles.com/how-to-make-your-ebike-faster/, (accessed 3/30/24).
[42] Matt Richtel, "A Dangerous Combination: Teenagers' Accidents Expose E-Bike Risks," *New York Times*, July 29, 2023, www.nytimes.com/2023/07/29/health/ebikes-safety-teens.html, requires subscription (accessed 3/29/24)
[43] Dr. Matthew Willis, "News Release: New Data Prompt E-Bike Safety Alert, Rate of injuries among school-aged children is increasing in Marin," *Marin County Department of Health and Human Services*, November 14,2023, https://www.marincounty.org/main/county-press-releases/press-releases/2023/hhs-ebike-safety-111423, (accessed 3/17/24).
[44] Willis, "News Release: New Data Prompt E-Bike Safety Alert, Rate of injuries among school-aged children is increasing in Marin."
[45] Dr. John Maa and Dr. Edward Alfrey, "*Trauma surgeons make plea for more e-bike safety*," Marin Independent Journal, December 6, 2023, https://www.marinij.com/2023/12/06/marin-voice-trauma-surgeons-make-plea-for-more-e-bike-safety/, (accessed 3/31/24); Abstract Submitted for presentation to the 19th Annual Congress of Association For Academic Surgery, Feb 6-8, 2024, Washington DC, E. Alfrey , M. Carroll et.al., *You Are More Likely To Die If You Crash Your E-Bike Than Your Pedal Bike: It's Time For Legislation*.
[46] "Assemblymember Connolly Introduces Bill to Reduce E-Bike Collisions," *Website for District 12 Assemblymember Damon Connolly*, January 3, 2024, https://a12.asmdc.org/press-releases/20240103-assemblymember-connolly-introduces-bill-reduce-e-bike-collisions, (accessed 4/1/24).

be an e-bike stop. All these people opined that bike safety training and education are more positive uses of community resources. They also support the MCBC e-bike safety course. However, that popular program is currently without sufficient funding to accommodate everyone in Marin that might benefit from it.

It is difficult for first responders to capture information about the specific e-bike model at an accident scene because:

- The required CHP form utilized by all law enforcement organizations in Marin has not been updated since the proliferation of e-bikes. It does not currently contain a section to collect data providing an accurate selection of e-bikes options.[47]
- The 911 responders' primary purpose at an accident scene is to address safety and attend to injuries, not to determine the class of e-bike.
- It can be difficult to easily identify the class or power of an e-bike despite CVC section 312.5's directive that all e-bikes be clearly labeled with the class, top speed, and wattage.

While better data on e-bike accidents would be ideal, both public health and law enforcement officials told the Grand Jury that it would be difficult or impossible to require first responders to record that information, for all the reasons above. It is therefore unrealistic to add a greater data collection burden on first responders attending to bicycle accidents in Marin.

School Concerns About E-bike Safety

Many Marin school campuses have "walk your wheels" rules that prohibit children from riding bikes, skateboards, and scooters on school grounds. For those campuses, e-bikes are not a particular problem, but school personnel interviewed by the Grand Jury agreed they have seen students riding unsafely off campus. Nearly 60 of Marin's 75 public schools participate in the Safe Routes to Schools program which is funded by the Transportation Authority of Marin and run by MCBC personnel. About 29,000 Marin students participate each year, learning safe bicycling and pedestrian safety skills from professional instructors.[48] As discussed earlier in this report, MCBC also runs an e-bike safety program that was funded by a one-time grant. Such a program cannot currently be added to the Safe Routes to Schools curriculum because of a lack of funds, particularly the cost of certified instructors for the on-road portion of the classes.

At least one California school district, Carlsbad Unified in San Diego County, has a permitting program for regular bikes and e-bikes.[49] Students there must complete an application and an online safety class, after which they receive a sticker for their bike. Bikes without stickers are not allowed onto any campus in the district. No school in Marin, as of April 1, 2024, has any similar program. School personnel in Marin told the Grand Jury that while they think e-bike safety training for students is a good idea, it is not feasible for their schools to have responsibility for

[47] Chapter 14 (nhtsa.gov) (accessed 4/2/24)
[48] "About Safe Routes to Schools," *Safe Routes to Schools/Transportation Authority of Marin website*, copyright 2024, https://www.saferoutestoschools.org/about/, (accessed 4/1/24).
[49] "Bike and eBike Safety," *Carlsbad Unified School District website*," copyright 2024, https://carlsbadusd.net/11885_3, (accessed 4/1/24).

such training. All agree that schools also are not equipped to enforce e-bike laws, such as the age limits on class 3 e-bikes, or any new age restrictions on class 2 e-bikes.

College of Marin, with campuses in Kentfield and Novato, allows all legal e-bikes. Interestingly, though, there is a trend throughout California state universities and other community colleges, for the schools to ban e-bike use on campus.[50] Based on its website, Dominican University in San Rafael does not ban e-bikes.

Bicycle Advocate and Bike Safety Experts' Views

The Grand Jury interviewed Marin bicycle advocates and bicycle safety experts, who agreed that e-bikes serve as a very useful tool for commuters, older adults, and other people with limitations that impact their ability to ride regular bikes. Most oppose any widespread ban or extreme limits on the use of e-bikes, including on Marin Water and County lands. However, there was consensus that the current situation, with many Marin children under age 16 using powerful class 2 e-bikes, some modified to exceed legal speeds, is a danger to the children and the community. The majority of these interviewees also agreed it would make sense for Marin to have uniform laws about e-bikes, so that riders traveling through county-controlled land and various Marin cities and towns, will not face different rules every few miles.

Now Is The Time for Action

E-bike accidents involving youths under the age of 16 are on the rise in Marin County. There is widespread consensus that class 2 e-bikes are too easily modified to exceed legal speed limits. The laws regarding operators and passengers of class 2 e-bikes under the age of 16 are inconsistent and in a state of flux. There is a compelling need for uniform and consistent rules and regulations regarding class 2 e-bikes across the entire county. Now is the time to act.

Based on established California law, and as a result of its investigation, the Grand Jury makes the following findings and recommendations.

[50] Christina Chkarboul and Jada Portillo, "Are electric bikes allowed at your college in California? Depends on where you go to school," *Cal Matters*, November 20, 2023, https://calmatters.org/education/higher-education/college-beat/2023/11/electric-bikes-college-campuses/, (accessed 4/1/24).

FINDINGS

F1. The increasing number of e-bike accidents involving youths under the age of 16 presents a public health and safety danger in Marin.

F2. The operation of class 2 e-bikes by operators under the age of 16 poses a significant risk to the safety of e-bike operators, other bike riders, passengers, and pedestrians on sidewalks, streets, multi-use paths, and trails in Marin.

F3. The emerging and increasing safety issues related to class 2 e-bike use by operators under the age of 16 has not been addressed by Marin County or the municipalities in a uniform manner.

F4. For all practical purposes, the state of California has abdicated its responsibility to regulate the use of class 2 e-bikes, leaving it up to the County of Marin and the Marin municipalities to create their own regulations.

F5. The funding to continue the e-bike specific safety and training program (E-bike Smart Marin) provided by the Marin County Bicycle Coalition is not sustainable without new sources of funding.

F6. Marin County public schools are not currently able to implement additional bicycle safety training programs for students, beyond what has been offered by Safe Routes to Schools for many years.

RECOMMENDATIONS

The Grand Jury recommends that:

R1. By December 31, 2024, the Board of Supervisors, and each municipality in Marin should take all steps necessary to adopt an ordinance with regard to class 2 e-bikes with, at minimum, the following provisions:

(a) Only people aged 16 or older may operate class 2 e-bikes.
(b) Operators of class 2 e-bikes must wear helmets.
(c) All passengers on class 2 e-bikes must wear helmets.

R2. By December 31, 2024, the County of Marin and each municipality in Marin should take all steps necessary to establish a joint task force or committee to investigate and consider coordination among the county and municipalities about adopting a county-wide uniform set of regulations regarding e-bike use within the County of Marin.

R3. Any task force or committee as described in Recommendation 2, above, should consider inviting representatives from Marin County schools, law enforcement, public health officials, and bicycle advocates to provide their input.

R4. By December 31, 2024, the Board of Supervisors should explore options for additional funding for student and public education in Marin County about e-bike safety.

REQUIRED RESPONSES

Pursuant to Penal Code section 933.05, the Grand Jury requires responses from the following governing bodies to each of the Grand Jury's Findings (F1-F6) and Recommendations (R1 (a), (b), and (c); and R2-R4) within 90 days, as follows:

- Marin County Board of Supervisors
- City of Belvedere
- City of Larkspur
- City of Mill Valley
- City of Novato
- City of San Rafael
- City of Sausalito
- Town of Corte Madera
- Town of Fairfax
- Town of Ross
- Town of San Anselmo
- Town of Tiburon

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted in accordance with Penal Code section 933 (c) and subject to the notice, agenda and open meeting requirements of the Brown Act.

Note: At the time this report was prepared information was available at the websites listed.

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.