

Date of Hearing: April 8, 2024

ASSEMBLY COMMITTEE ON TRANSPORTATION

Lori D. Wilson, Chair

AB 1778 (Connolly) – As Amended April 1, 2024

SUBJECT: Vehicles: electric bicycles

SUMMARY: Authorizes the County of Marin, or any city within the county of Marin, to prohibit individuals under the age of 16 from riding a class 2 electric bicycle (e-bike) and to require all individuals to wear a helmet when riding a class 2 e-bike. Specifically, **this bill:**

- 1) Provides that the punishment for an individual under 16 riding a class 2 e-bike, or for a person not wearing a helmet is \$25 (base fine and \$197 with additional fees), or the completion of an e-bike safety course.
- 2) Requires a report to be submitted to the Legislature by January 1, 2028 with the following information:
 - a) The total number of traffic stops initiated for violations;
 - b) The results of the traffic stops, including whether a warning or citation was issued, property was seized, or an arrest was made;
 - c) The number of times a person was stopped for allegedly operating a class 2 e-bike while under 16, but was found to be over the age limit;
 - d) If a warning or citation was issued, a description of the warning or violation cited;
 - e) If an arrest was made, the offense cited by the officer for the arrest and the perceived race or ethnicity, gender, and approximate age of the person stopped, provided that the identification of these characteristics is solely based on the observation and perception of the peace officer who initiated the traffic stop;
 - f) The actions taken by a peace officer during the traffic stops, including, but not limited to, all of the following:
 - i) Whether the peace officer asked for consent to search the person, and, if so, whether consent was provided.
 - ii) Whether the peace officer searched the person or any property, and, if so, the basis of the search and the type of contraband or evidence discovered.
 - iii) Whether the peace officer seized any property, and, if so, the type of property that was seized and the basis for seizing the property.
 - g) The number of times a person opted to complete, and did complete, the training course in lieu of paying the fine;
 - h) The number of times that a person under 16 years of age was operating an e-bike and was involved in a crash that resulted in permanent, serious injury or of a fatality in the six months prior to adoption of the ordinance or resolution, the case of the crash, and the class of the e-bike that was being operated at the time of the crash; and,
 - i) The number of times that a person under 16 years of age was operating an electric bicycle and was involved in a crash that resulted in a permanent, serious injury or a fatality after

the adoption of the ordinance, the cause of the crash, and the class of the e-bike that was being operated at the time of the crash.

- 3) Requires a local authority, or the County of Marin, to administer a public information campaign for at least 30 calendar days prior to the enactment of an ordinance.
- 4) Provides that only warning notices shall be issued for the first 60 days after the passage of an ordinance or resolution.
- 5) Provides that this bill shall become inoperative on January 1, 2029 and as of that date is repealed.

EXISTING LAW:

- 1) Defines an e-bike as a bicycle with fully operable pedals and an electric motor of less than 750 watts. Creates three classifications of e-bikes based on the ability for motors to achieve high speeds and replace pedaling. Class 1 and 2 e-bikes have a maximum pedal assist speed of 20 miles per hour (mph), while Class 2 e-bikes can have throttle assistance up to 20 mph. Class 3 e-bikes have a maximum pedal assist of 28 mph. (Vehicle Code Section (VEH) 312.5)
- 2) Requires riders of Class 3 e-bikes to be 16 years of age or older and requires riders to wear a helmet regardless of age. Requires Class 3 e-bikes to be equipped with a speedometer. (VEH 34016 and 312.5)
- 3) Specifies that a person operating an e-bike is not subject to the provisions of the vehicle code related to financial responsibility, driver's licenses, registration, and license plate requirements, and that e-bikes are not a motor vehicle. (VEH 34016)
- 4) Prohibits a person from changing the speed capability of the e-bike. (VEH 34016)
- 5) Defines "bicycle" to include e-bikes. (VEH 231)
- 6) Permits a transit development board, or a public agency, including the Regents of the University of California and the Trustees of the California State University, to adopt rules or regulations to restrict the use of e-bikes. (VEH 21113)
- 7) Authorizes local authorities, by ordinance, from regulating the parking and operation of bicycles on pedestrian or bicycle facilities, provided such regulations are not in conflict with the provisions of the vehicle code. (VEH 21206)
- 8) Requires an operator of a bicycle to obey all the provisions of traffic control devices that are applicable to the driver of a vehicle, except starting in 2024 may proceed through an intersection when the "walk" sign is on or if there is an official traffic control device signal for bicycles. (VEH 21456.2)
- 9) Provides that all of the rules of the road apply to bicycles, except those provisions which by their very nature cannot apply to a bicycle. (VEH 21200)

FISCAL EFFECT: Unknown

COMMENTS:

In California, the transportation sector is the largest contributor of greenhouse gas (GHG) emissions and is responsible for about 40% of the state's emissions with light-duty passenger vehicles being the single largest contributor. The Legislature has set several goals to reduce GHG emissions and address climate change. The Global Warming Solutions Act of 2006 [AB 32 (Nunez), Chapter 488, Statutes of 2006] and subsequent companion legislation SB 32 (Pavley), Chapter 249, Statutes of 2016, requires California to reduce statewide GHG emissions to 40% below the 1990 level by 2030.

Reducing the number of miles that people drive every day can have a significant impact on reducing GHG emissions. Providing alternative modes of transportation such as public transportation using buses and light rail or other shared ride approaches could significantly reduce the number of vehicle miles traveled (VMT) in California. California has targeted a 15% reduction in VMT by 2050 as part of its larger strategy to reduce GHG emissions by 80% from 1990 levels by 2050.

E-bikes are an increasingly popular option to reduce personal car trips. According to the US Bureau of Transportation statistics, more than half of all trips in the US are under three miles. According to the University of Oxford study, *The Climate Change Mitigation Effects of Daily Active Travel in Cities*, choosing to use a bike just once a day can slash an individual's transportation emissions by 67%.

E-bikes are outselling electric cars. According to Kelly Blue Book, 800,000 electric cars were purchased in the United States in 2022. E-bike imports, meanwhile, were 1.1 million.

As e-bike popularity has gone up, so have injuries. The Los Angeles Times reported in January of 2023 that during the first 10 months of 2022, staffers at Providence Mission Hospital in Mission Viejo documented 198 e-bike injuries, up from just 34 in 2020.

In New York City in 2023 cyclist deaths were at an all-time high. According to the New York City Department of Transportation, 30 individuals were killed on a bicycle in 2023, 23 of whom were on e-bikes. Despite the uptick in fatalities, the rate of cyclist fatalities and serious injuries has been trending downward, and cycling in the city has become safer. The rate of deaths and severe injuries was about 16 per 10 million bike rides, down from 34 per 10 million a decade ago.

The data from New York City is in line with other research that has shown that one of the best ways to increase safety for cyclists is to increase the number of cyclists on the road. According to *Safety-in-Numbers: A Systematic Review and Meta-Analysis of Evidence*, a systemic review of studies has found that the crash rate for cyclists goes down as the number of cyclists goes up. This has often been attributed to cars becoming more aware of cyclist on the roads and changing their behavior accordingly.

According to the author, "I recognize the growing popularity of electric bicycles, particularly among younger riders. While acknowledging the benefits of promoting sustainable modes of transportation, we must prioritize the safety of our communities, especially our youth. By

authorizing Marin County and its cities to implement this pilot program, we aim to mitigate potential risks associated with inexperienced riders operating these vehicles in public spaces. If the program is implemented, the county must submit a comprehensive report to the Legislature by January 1, 2028. This report will include vital data such as traffic stop and citation information, offering valuable insights into the efficacy of the pilot program and informing future policymaking decisions. AB 1778 represents a proactive step towards promoting the safety and responsible usage of Class 2 electric bicycles, particularly among our youth population. By empowering local authorities with the flexibility to implement targeted measures, we can work towards creating safer and more sustainable transportation ecosystems for all residents of Marin County.”

This bill would authorize a city or the county of Marin in unincorporated areas to prohibit the use of individuals under 16 from riding a class 2 e-bike. On October 7, 2023, the Marin County Department of Health and Human Services began collecting information on e-bike-related crashes. From October 7 to March 21 2024 8% of bicycle crashes were on conventional bicycles while 20% were on e-bikes. A total of 15 crashes were individuals who were under the age of 16. Of those collisions, a little more than half were on e-bikes. Five of the traffic crashes were traffic-related, while three were not. For conventional bicycles, four were traffic-related and three were not. In total, 35% of e-bike-related crashes were individuals under the age of 16, while only 8% of conventional bicycle crashes were for individuals under the age of 16. That may be because overall a small portion of the total bicycle collisions involved an e-bike.

E-Bike Access, writing in support of this bill, argues, “For safety reasons, existing law requires riders of class 3 pedal-assist e-bikes to be at least 16 years old. Class 2 throttle e-bikes are more dangerous because they do not require any pedaling. They are propelled by simply a thumb push on a throttle. A class 2 e-bike can go from zero to 20 mph in 10 seconds. It takes much longer to do that on a class 3 e-bike by pedaling.”

Electric Bicycles Are an Increasingly Common Pediatric Public Health Problem, a research paper published by the National Institutes of Health in 2023, highlights the increased level of injuries for those riding an e-bike. The research paper looked at national data statistics for both bicycle and e-bike users between 2011 and 2020. During that period, there were 3,945 e-bike-related injuries for children between the ages of two and 18 years old compared to 2 million conventional bicycle injuries during the same period. The severity of injuries decreased over time. From 2011-2015 vs 2016-2020, there was an observed decrease in severe injuries involving a hospital stay from 18.3% to 12.2%, while there was an increase in severe injuries for conventional bicycles from 5.1% to 5.7%. There were 2.4 times greater odds of severe injury for e-bikes compared to pedal bicycles. Internal injuries were more common among injuries due to e-bikes (14.6 %), compared to bicycles (8.5 %).

This bill also authorizes local authorities in Marin to require a helmet to ride a class 2 e-bike. According to the National Transportation Safety Board, “Research has consistently shown that head injury is the leading cause of bicycle-related deaths. Based on a review of death certificates from the National Center for Health Statistics and emergency department injury data from the NEISS, researchers found that, over between 1984 through 1988, 62% of bicycle-related fatalities and 32% of bicycle-related emergency department visits were related to head injuries (Sacks and others 1991). Analysis of the 2012 National Trauma Data Bank, which contains information about 6,267 patients with an intracranial hemorrhage after a bicycle crash, showed

that 52% of those patients had severe traumatic brain injury and that the mortality rate was 2.8% (Joseph and others 2017).

Attewell, Glase, and McFadden (2001) examined 16 studies published between 1987 and 1998, using data from Australia, Canada, the United Kingdom, and the United States; they found that bicycle helmets could be expected to reduce the likelihood of head injury and brain injury by 60% and 58%, respectively. Hoye (2018) analyzed 55 studies from 12 countries conducted between 1989 and 2017 and found that bicycle helmets reduced the likelihood of all head injuries by 48%, serious head injuries by 60%, and traumatic brain injuries by 53%.”

Streets for All, in opposition to this bill, argues “Current state law mandates helmet use for riders under 18 years of age. AB 1778's additional helmet requirements may inadvertently convey that e-bikes are inherently dangerous, shifting focus from necessary infrastructure improvements to individual rider responsibility. The helmet requirement fails to recognize the number one threat to riders, motor vehicles, which cause death or serious injuries to riders regardless of helmet usage. The proposed helmet restrictions raise questions about feasibility and fair enforcement and could potentially alter the liability framework in accidents, unfairly placing the onus on riders.

Implementing AB 1778 could have several issues: An unfair marketplace for consumers who have invested in thousand-dollar e-bikes for their children since the statute was in place in 2016. Potential for selective and uneven enforcement by law enforcement officers forced to discern whether someone (most of whom do not own and carry an ID) is or is not 16 years old on a bicycle that has otherwise been legal for people under the age of 16 year old to ride since e-bikes existed. Decreased compliance by bicycle riders with rapidly changing policies. Decreasing the number of cyclists on the road thereby making those remaining less safe because of less cyclist presence. Increasing teenagers’ (who are historically the worst driving demographic by age). Reliance on cars and therefore worsening the already high rate of vehicle collisions in California.”

Committee Comments: There is an inherent risk in riding bicycles, electric or conventional, and an inherent risk in driving a car. According to the California Office of Traffic Safety (OTS) in Marin, there were a total of 1,021 serious injuries and fatalities in 2021, only 114 of which involved a bicycle. According to OTS crash rankings, Marin County was the most dangerous place for children to ride a bicycle in the state. Overall, children make up a small portion of the bicycle fatalities in California. Of the 194 cyclists killed in 2022, only four were under the age of 16.

Cars are a leading cause of death of children in the United States. According to the National Highway Traffic Safety Administration (NHTSA) of the 42,939 traffic fatalities in the United States, 1,181 were children 14 years and younger, an 8% increase from the year before. 863 of the 1,181 deaths involved children who were passengers in cars.

E-bikes provide an environmentally friendly, safe, and healthy alternative to cars. Because they lack a requirement for a license, they also provide a unique opportunity for those under 16 to be able to travel to and from school without the aid of their parents. While the risks for riding an e-bike at least preliminarily seem higher than the risks for riding a conventional bicycle, it is unclear if that risk is exponential to the point of prohibiting individuals under 16 years old from riding them.

The consequences for a child riding an e-bike under this bill could result in a nearly \$200 ticket (and an additional \$200 if not wearing a helmet). If the child fails to appear in court for the violation, they would be guilty of a misdemeanor with an additional \$300 civil assessment.

Prohibiting individuals under 16 from riding an e-bike does not necessitate adherence to the law and may not provide the safety benefit intended by this bill. Israel prohibits individuals under 16 from riding an e-bike. However, according to data provided to the committee by the Israel Bureau of Central Statistics, children 15 and younger accounted for 12% of all e-bike injuries in the country in 2023 where their age was known.

One of the best ways to reduce injuries and fatalities for cyclists is to build protected bike lanes. According to the Federal Highway Administration, converting traditional or flush buffered bicycle lanes to a separated bicycle lane with flexible delineator posts can reduce crashes by up to 53%.

This bill may be premature. Last year the Legislature passed SB 381 (Min), Chapter 869, Statutes of 2023 which requires the Mineta Transportation Institute at San Jose State University, in consultation with relevant stakeholders, to conduct a study on e-bicycles and the safety of riders and pedestrians by January 1, 2026. The Legislature may want to consider waiting for the Mineta Institute report to come back before passing legislation restricting the use of e-bikes.

Related Legislation: AB 1773 (Dixon) of 2024 would authorize local governments to prohibit or regulate the use of an e-bike on a bicycle path along a board walk. That bill is pending before this committee.

AB 1774 (Dixon) of 2024 would prohibit the sale of a device that makes it someone can increase the speed of an e-bike beyond the speed permitted by law (28 mph). That bill is pending before this committee.

AB 2234 (Boerner) of 2024 would prohibit a person under 12 years old from riding a class 1 or 2 e-bike, would require e-bike riders to have a state issued ID, and require e-bike riders to either have a driver's license or pass an e-bike safety course. That bill is pending before this committee.

SB 1271 (Min) of 2024 creates battery standards for e-bikes and requires a manufacturer and distributor of e-bikes to include on the label of the classification of an e-bike the highest classes of which it is capable.

Previous legislation: SB 381 (Min) Chapter 869, Statutes of 2023 requires the Mineta Transportation Institute at San Jose State University, in consultation with relevant stakeholders, to conduct a study on electric bicycles and the safety of riders and pedestrians by January 1, 2026.

AB1909 (Friedman), Chapter 343, Statutes of 2022 removed the authority for local governments to prohibit electric bicycles on bicycle paths or lanes.

AB 1946 (Boerner), Chapter 147, Statutes of 2022 required the California Highway Patrol to develop statewide safety and training programs based on evidence-based practices for uses of e-bikes.

AB 1096 (Chiu), Chapter 568, Statutes of 2015 established the definitions, classification, and requirements for the operation, sale, and manufacturing of e-bikes.

REGISTERED SUPPORT / OPPOSITION:

Support

American Academy of Pediatrics, California
American College of Surgeons Northern California
California Medical Association
E-Bike Access
Marin County Bicycle Coalition
Marin County Board of Supervisors
Marin County Council of Mayors & Council Members
Marin Healthcare District

Opposition

Streets for All

Analysis Prepared by: David Sforza / TRANS. / (916) 319-2093