

Date of Hearing: April 7, 2025

**ASSEMBLY COMMITTEE ON TRANSPORTATION**

Lori D. Wilson, Chair

AB 545 (Davies) – As Amended March 24, 2025

**SUBJECT:** Vehicles: electric bicycles

**SUMMARY:** Adds applications to the list of products that a person cannot sell to modify the speed capability of an electric bicycle (e-bike) such that it no longer meets the statutory definition of an e-bike.

**EXISTING LAW:**

- 1) Defines an e-bike as a bicycle equipped with fully operational pedals and an electric motor that is not physically capable of exceeding 750 watts of power. (Vehicle Code Section (VEH) 312.5)
- 2) Defines a class 1 e-bike as a bicycle equipped with a motor that provides assistance only when the rider is pedaling, that is not capable of exclusively propelling the bicycle, that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour (mph), and is not capable of providing assistance to reach speeds greater than 20 miles per hour. (VEH 312.5)
- 3) Defines a class 2 e-bike as a bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 mph. (VEH 312.5)
- 4) Defines a class 3 electric bicycle as a bicycle equipped with a motor that provides assistance only when the rider is pedaling, that is not capable of exclusively propelling the bicycle, and that ceases to provide assistance when the bicycle reaches the speed of 28 mph, and equipping with a speedometer. (VEH 312.5)
- 5) Prohibits a person from tampering with or modifying an electric bicycle as to change the speed capability of the bicycle unless the modification keeps within the existing speed allowances of an electric bicycle. (VEH 24016)
- 6) Prohibits a person from selling a product or device that can modify the speed capability of an electric bicycle such that it no longer meets the definition of an electric bicycle. (VEH 24016)

**FISCAL EFFECT:** Unknown

**COMMENTS:** *According to the author, “California prides itself on having the safest and cleanest forms of transportation in the country. To help our state meet its climate goals, the expansion of various modes of transportation has increased within the past 10 years. One of these modes is electric bicycles. These devices are categorized into three-speed classes. AB 545 is a common-sense measure to ensure that no manufacturer may sell or utilize an application that would alter the speed of a designated electric bicycle. This small, but important change will keep riders, especially younger riders, safe from technology that could inadvertently allow them to go faster than they anticipate.”*

There have been various legislative attempts to address the issue of modifying bicycles with electric motors so that they can go faster than the law permits. The state prohibits people from modifying their e-bike to operate at speeds greater than what is currently allowed. AB 1774 (Dixon), Chapter 55, Statutes of 2024 prohibited a person from selling a product or device that can modify the speed capability of an e-bike. This bill would additionally prohibit the sale of applications that can modify the speed capability of an e-bike. The Legislature has also passed SB 1271 (Min), Chapter 891, Statutes of 2024 which modifies the definition of an e-bike to make it clear that it cannot be capable of going speeds greater than 20 miles per hour (class 1 or 2) or 28 miles per hour on pedal assist (class 3).

Super73, a bicycle with an electric motor capable of traveling at speeds considerably faster than the law permits, has been one of the targets of SB 1271. As a result of SB 1271 passage, the manufacturer of Super73 removed the 1st party application feature that allowed riders to unlock “unlimited mode”. This mode allowed riders to travel at speeds greater than what would classify the device as an e-bike under the law. While Super73 removed this feature from their application, the device still can be modified through third-party applications to travel at much greater speeds. This bill would prohibit the sale of such applications.

In California, the transportation sector is the leading 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 leading contributor. The Legislature has set several goals to reduce greenhouse (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.

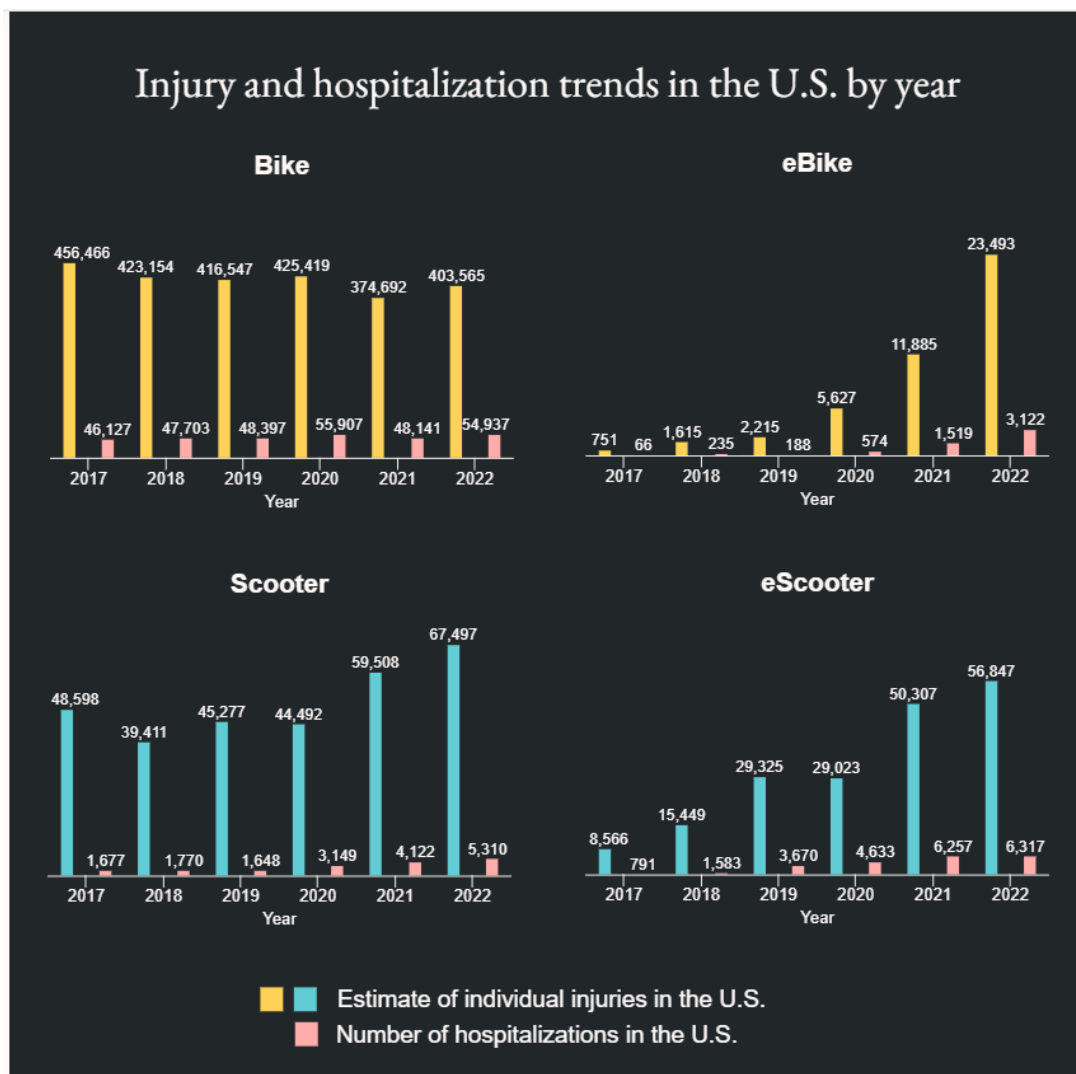
Reducing the number of miles people drive every day will have a significant impact on reducing GHG emissions. Providing alternative modes of transportation such as public transit using buses and light rail or other shared ride approaches could significantly reduce the number of vehicle miles traveled (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.

Electric bicycles are an increasingly popular option for reducing 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*, riding a bike just once a day can slash an individual’s transportation emissions by 67%.

As electric bicycle purchases have 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.

A bicycle that is capable of going faster than 20 mph using a throttle or faster than 28 mph because of pedal assist is not an e-bike for the law and would be considered a motorized bicycle or a motorcycle or a “motor-driven cycle” if it displaces less than 150 cubic centimeters. Unlike an e-bike, motorized bicycles, motorcycles, and motor-driven cycles require a class M1 or M2 license to operate them. In addition, motor-driven cycles must be registered with DMV. The devices may also not be street legal if they lack the equipment required for motorcycles or other devices.

While e-bike injuries are rising, they are still far outpaced by injuries from conventional bicycles, scooters, and electric scooters. According to a UCSF national study *Injuries with Electric vs Conventional Scooters and Bicycles*, 23,493 individuals were injured while riding an e-bike in 2022, resulting in 3,122 hospitalizations. Hospitalizations and injuries for electric scooters were twice as high (58,847 injuries and 6,317 hospitalizations). Conventional cyclist's injuries and hospitalizations were the highest (403,565 injuries as 54,937 hospitalizations).



*Related legislation:* AB 875 (Muratsuchi) of 2025 authorizes a peace officer to either impound a bicycle with an electric motor capable of going speeds greater than what is permitted by an e-bike or a class 3 e-bike if the person operating it is under the age of 16.

AB 1774 (Dixon), Chapter 55, Statutes of 2024 prohibits 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).

SB 1271 (Min), Chapter 891, Statutes of 2024 modified the definition of an e-bike to make it clear that it cannot be capable of going speeds greater than 20 miles per hour (class 1 or 2) or 28 miles per hour on pedal assist (class 3).

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.

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**

California Coalition for Children's Safety and Health  
Streets for All  
PeopleForBikes (if amended)

### **Opposition**

None on file

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