



**REPORT TO THE LEGISLATURE**

**ASSEMBLY BILL 604**

**OPERATION OF ELECTRICALLY MOTORIZED  
BOARDS**

**California Highway Patrol  
July 2020**

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**OPERATION OF ELECTRICALLY MOTORIZED  
BOARDS**

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**July 2020**

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**Introduction**

Assembly Bill (AB) 604 was introduced in February 2015, by Assemblymember Kristin Olsen, and signed into law by Governor Edmund G. Brown, Jr., on October 11, 2015. The intent of AB 604 was to legalize and regulate electrically motorized boards (EMBs), an electrically powered subset of motorized skateboards. Since 1977, motorized skateboards have been prohibited in California. Prior to the passage of AB 604, California Vehicle Code (CVC) Section 21968 stated:

**21968.** No motorized skateboard may be propelled on any sidewalk, roadway, or any other part of a highway or on any bikeway, bicycle path or trail, equestrian trail, or hiking or recreational trail.

While other existing laws permitted and regulated the operation of alternative modes of transportation, such as bicycles, motorized scooters, and electric personal assistive mobility devices, the prohibition of electrically motorized boards continued in 2015.

Innovations in EMBs, combined with state policy goals to reduce greenhouse gas emissions and develop a more “multi-modal transportation network,”<sup>1</sup> led to proposed legislation to exempt EMBs from Section 21968 CVC. Assembly Bill 604 defined the term “electrically motorized board” and exempted EMBs from Section 21968(a) CVC. Assembly Bill 604 also enacted regulations for the safe operation of EMBs. The statutes went into effect January 1, 2016. Section 21295 CVC, added by AB 604, requires the California Highway Patrol (CHP) to submit a report to the Legislature, on or before January 1, 2021, to assist in determining the effect the use of EMBs has on traffic safety.

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<sup>1</sup> Assembly Committee on Transportation. *AB 604 (Olsen) – As Amended April 20, 2015, Electrically motorized skateboards*, April 27, 2015.

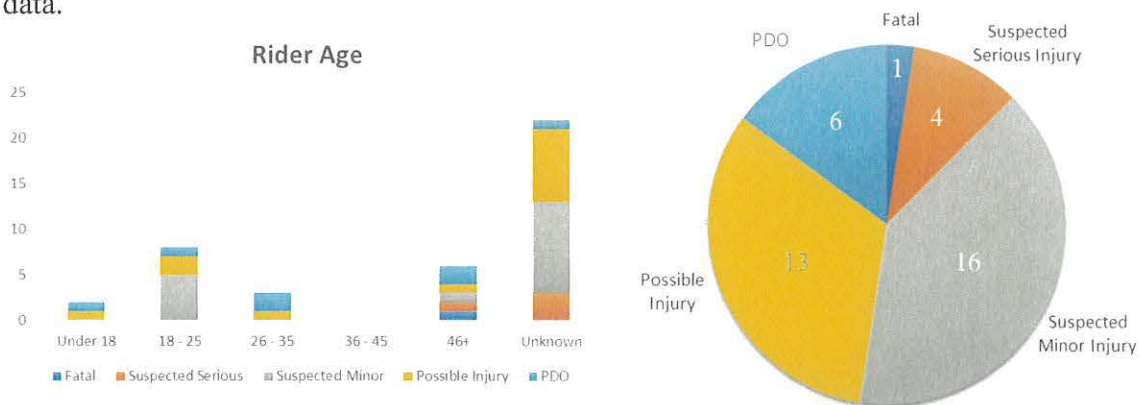
## Analysis

Section 20008 CVC requires the driver of a vehicle involved in a crash resulting in injury or death to report the crash to the CHP or cause a report to be taken. Local law enforcement agencies taking reports of these crashes are required to forward the reports to the CHP. It should be noted, statute does not require the reporting of property damage only (PDO) crashes and, as such, PDO crashes are reported in lower numbers than their actual occurrence. The Statewide Integrated Traffic Records System (SWITRS) records the data from the crash reports submitted by all California law enforcement agencies.

All modes of transportation involved in a crash are coded with a two-digit vehicle type code. The CHP created Vehicle Type Code 93 to specifically track crashes involving EMBs. Using the reports submitted to SWITRS, data was compiled for a four-year period commencing on January 1, 2016, when AB 604 was enacted into law, through December 31, 2019, which is the last complete year of crash data collected. During this four-year period:

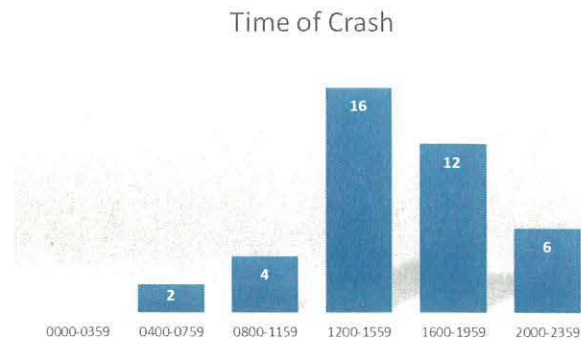
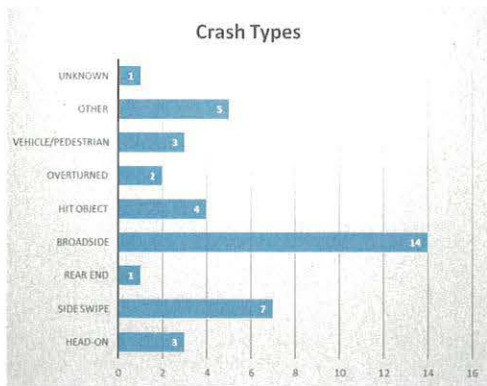
- 40 crashes involving EMBs were reported.
  - 6 resulted in PDO (noninjury).
  - 13 resulted in possible injury.
  - 16 resulted in suspected minor injury.
  - 4 resulted in suspected serious injury.
  - 1 resulted in a fatality.

\* See Annex A for injury classifications.
- 20% of the EMB riders were between 18 and 25 years of age, while 15% were older than 46. In 55% of the crashes, the age of the rider was not captured within the SWITRS data.



- In 55% of EMB crashes, the rider was found at fault; in 10% of EMB crashes, fault was undetermined.
- 15% of EMB crashes did not involve another vehicle.
- The occurrence of EMB crashes was evenly spread across all days of the week.
- 35% of EMB crashes were listed as a “broadside” type of crash; 18% were listed as a “sideswipe” crash.

- 70% of EMB crashes occurred between 1200 and 2000 hours (12 p.m. to 8 p.m.).



- Of the 40 crashes reported, only five included coding regarding helmet use. One of the five EMB riders was reported to be wearing a helmet.
- Eight of the crashes were investigated by the CHP. In the eight crashes:
  - Three EMB riders were traveling on the sidewalk; two of these were found at fault for unsafe speed.
  - Two EMB riders were in a bike lane; both were struck by turning cars.
  - One EMB rider was traveling on the road shoulder when struck by a car coming from the opposite direction cutting the corner.
  - One juvenile EMB rider struck a concrete block in a parking area on the side of the road.
  - One EMB rider was traveling through a parking lot and was struck by a backing car.

### Fatal Crashes

Between 2016 and 2019, there was one EMB crash reported that involved a fatality.

In the evening of April 1, 2018, a 51-year-old male was riding an EMB in a residential area of Turlock. Witnesses saw him riding the EMB and he was found shortly thereafter lying motionless on the ground. The rider was not wearing a helmet and sustained fatal head trauma. There were no other vehicles involved and the cause of the crash is unknown.

Crashes Involving Electrically Motorized Boards (in Context)

Between 2016 and 2019, there were a total of 1,135,335 traffic crashes reported to SWITRS; 6% of reported crashes involved bicyclists and 4% involved pedestrians. By contrast, the 40 reported crashes involving EMB riders account for less than 0.004% of total crashes.

	<b>Fatal Injury</b>	<b>Suspected Serious Injury</b>	<b>Suspected Minor Injury</b>	<b>Possible Injury</b>	<b>No Injury</b>	<b>TOTAL</b>
<b>2016</b>	3,552	11,992	59,124	143,879	130,524	349,071
<b>2017</b>	3,582	12,823	61,027	139,778	50,442	267,652
<b>2018*</b>	3,478	14,525	64,067	132,658	49,028	263,756
<b>2019*</b>	3,076	14,432	61,510	127,963	47,875	254,856
<b>TOTAL</b>	<i>13,688</i>	<i>53,772</i>	<i>245,728</i>	<i>544,278</i>	<i>277,869</i>	<i>1,135,335</i>

\*Provisional SWITRS Data

**Conclusion**

Electrically motorized boards were involved in a low number of reported crashes during the four years after AB 604 was enacted. There is not an identifiable safety trend since the introduction of legislation. Crashes involving EMBs do not appear to have unique characteristics and tend to be similar in cause to crashes involving bicyclists and pedestrians. The analysis determined the introduction of EMBs has not resulted in a substantial impact to traffic safety.

In conclusion, though this study has shown the impacts to traffic safety from EMBs have been minimal, even one lost life is a tragedy. The CHP strives to provide the highest level of Safety, Service, and Security to the people of California, and recommends including EMBs in comprehensive traffic safety campaigns, highlighting the importance of protective equipment and the safe operation and handling of EMBs. This will help ensure the highest levels of safety for all road users.

## ANNEX A

### Injury Classifications

The extent of an injury for a party involved in a crash is categorized according to the guidelines established by the Model Minimum Uniform Crash Criteria.

Fatal Injury. A fatal injury is any injury that results in death within 30 days after the motor vehicle crash in which the injury occurred. If the person did not die at the scene, but died within 30 days of the motor vehicle crash in which the injury occurred, the injury classification should be changed from the injury previously assigned to "Fatal Injury."

Suspected Serious Injury. A suspected serious injury is any injury other than fatal which results in one or more of the following:

- (1) Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood.
- (2) Broken or distorted extremity (arm or leg).
- (3) Crush injuries.
- (4) Suspected skull, chest, or abdominal injury, other than bruises or minor lacerations.
- (5) Significant burns (second and third degree burns over 10% or more of the body).
- (6) Unconsciousness when taken from the crash scene.
- (7) Paralysis.

Suspected Minor Injury. A minor injury is any injury that is evident at the scene of the crash, other than fatal or serious injuries. Examples include lump on the head, abrasions, bruises, minor lacerations (cuts on the skin surface with minimal bleeding and no exposure of deeper tissue/muscle).

Possible Injury. A possible injury is any injury reported or claimed which is not a fatal, suspected serious, or suspected minor injury. Examples include momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Possible injuries are those which are reported by the person or are indicated by their behavior, but no wounds or injuries are readily evident.