

TOPICS COVERED

- Definitions of bicycles
- Classifications of E-Bikes
- Illegal E-Bikes
- Vehicle Codes relating to E-Bikes
- Requirements for operation of E-Bikes
- Law enforcement action for E-Bikes
- Motorized Scooters – Definitions/Codes
- Frequently Asked Questions (FAQ)



CALIFORNIA VEHICLE CODE DEFINITIONS



■ CVC 231

- A bicycle is a device upon which a person may ride, propelled exclusively by human power, except as provided in Section 312.5, through a belt, chain, or gears, and having one or more wheels. A person riding a bicycle is subject to the provisions of this code specified in Sections 21200 and 21200.5. An electric bicycle is a bicycle.

■ CVC 312.5

- (a) An “electric bicycle” is a bicycle equipped with fully operable pedals and an electric motor that **does not exceed** 750 watts of power.



CALIFORNIA VEHICLE CODE DEFINITIONS



Class 1

- CVC 312.5(a)(1)
 - A “class 1 electric bicycle,” or “low-speed pedal-assisted electric bicycle,” is 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**, and that is not capable of providing assistance to reach speeds greater than 20 miles per hour.



CALIFORNIA VEHICLE CODE DEFINITIONS



Class 2

- CVC 312.5(a)(2)
 - A “class 2 electric bicycle,” or “low-speed throttle-assisted electric bicycle,” is 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 miles per hour.**



CALIFORNIA VEHICLE CODE DEFINITIONS



Class 3

- CVC 312.5(a)(3)
 - A “class 3 electric bicycle,” or “speed pedal-assisted electric bicycle,” is 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 miles per hour,** and equipped with a speedometer.



WHAT'S THE DIFFERENCE?

EBIKE CLASS	CLASS 1	CLASS 2	CLASS 3
EBIKE			
MAXIMUM MOTOR SPEED (MPH)	20 MPH	20 MPH	28 MPH
EQUIPPED WITH A MOTOR	✓	✓	✓
THROTTLE COMES STANDARD	✗	✓	✗
			



ILLEGAL E-BIKES



Suryon



TALARIA



GoGo



EBKX



WHY ARE THEY ILLEGAL?

- No pedals
- Not powered by human propulsion
- Powered only by throttle
- Over 750 watts
- Speed greater than 20 mph
- Designed as Off-Highway Vehicles (OHV)



SURRON LIGHT BEE S



★★★★★ (5 customer reviews)

~~\$3,299.19~~ **\$2,699.00**

- Limited Availability

***Unless otherwise noted, ALL products sold from Sur Ron™ and authorized dealers are sold with the sole intention for off road or race track use only. This product or products may not comply with some State, Federal, Provincial and/or Local laws, ordinances, regulations. The buyer takes full responsibility of the use of these products on their vehicle which may or may not conform to all applicable laws and regulations for on road or highway use.**

162ft-lbs	3500w	108lbs	31mph	5.5h	34miles*
Torque	Max. Power	Curb Weight	Max. Speed	Charge Time	Max. Range

* Range and max. speed parameters vary by factors like load, temperature, speed, terrain, etc...
The above parameters are measured under conditions with rider weight 154lbs, ambient temperature 80°F, speed 22mph, dry and flat road.



TALARIA STING

TALARIA STING SPECIFICATION

Battery: LG 21700 Li-Ion BATTERY 60V 38.4Ah

Brakes: TALARIA 4 PISTON HYDRAULIC DISC

Charging: 3.5 hours

Controller: FOC

Waterproof: IP67

DRIVETRAIN

Electric motor: TALARIA PERMANENT MAGNET SYNCHRO

Rear Sprocket: 44 Tooth Sprocket

Rated power: 3000W

Peak power: 6000W

Max Torque of motor: 34Nm

Max Torque of rear wheel: 284Nm

SPEED & RANGE

Range: 43 Miles @ 25Mph

Top speed: 47+ MPH



TUTTIO SOLEIL



Tuttio Soleil01 Electric Mini Bike For Kids & Adults - UL Certification

48V 2000W | 1008Wh Lithium Cell | 37Mph | UL2272

\$1,235.00 USD – \$1,329.99 USD

2000W

Motor

200N.m

Torque

37MPH

Top Speed

21Ah

Lithium Battery

43M

Max Range

265lbs

Max Load

SEGWAY DIRT EBIKE X260



Segway Dirt eBike X260

A High-Powered Off-Road Ride For Everyone

Take things to the next level with the eBike X260. Compact, fast, eco-friendly and low-maintenance, the Segway Dirt eBike X260 makes it possible for more people than ever before to participate in exciting off-road adventures that they could previously only dream of.



46.6 mph
Max Speed



74.6 mile
Range

0-31 mph
in 4.02 Seconds

184.3 ft-lbs
Max Torque



RIDER REQUIREMENTS FOR E-BIKES

	Pedal Operated	Max Speed (MPH)	Minimum Age (YRS)	Driver License Required	Registration/ License Plate Required	Helmet Required	Allowed on Bike Paths/Trails	Allowed on Sidewalk	Allowed on the Roadway
Bicycle	YES	N/A	N/A	NO	NO	UNDER 18 VC 21212(a)	YES	YES	YES
Class 1 E-Bike	YES	20	N/A	NO	NO	UNDER 18 VC 21212(a)	YES	YES	YES
Class 2 E-Bike	YES	20	N/A	NO	NO	UNDER 18 VC 21212(a)	YES	YES	YES
Class 3 E-Bike	YES	28	16 VC 21213(a)	NO	NO	YES VC 21213(b)	NO ¹ VC 21207.5	YES	YES



HELMET REQUIREMENTS FOR E-BIKES

■ CVC 21212(a)

- A person under 18 years of age shall not operate a bicycle, a nonmotorized scooter, or a skateboard, nor wear in-line or roller skates, nor ride upon a bicycle, a nonmotorized scooter, or a skateboard as a passenger, unless that person is wearing a properly fitted and fastened bicycle helmet that meets the standards of either the American Society for Testing and Materials (ASTM) or the United States Consumer Product Safety Commission (CPSC)



MOTORCYCLE/MOTOR-DRIVEN CYCLE



■ CVC 400(a)

- A “motorcycle” is a motor vehicle having a seat or saddle for the use of the rider, designed to travel on not more than three wheels in contact with the ground.

■ CVC 405

- A “motor-driven cycle” is any motorcycle with a motor that displaces less than 150 cubic centimeters (CCs).

A 150cc engine typically produces between 8 to 18 horsepower, but can vary depending on the engine’s design, type, and application.



MOPED / MOTORIZED BICYCLE



CVC 406(a)

- A “motorized bicycle” or “moped” is a two-wheeled or three-wheeled device having fully operative pedals for propulsion by human power, or having no pedals if powered solely by electrical energy, and an automatic transmission and a motor that produces **less than 4 gross brake horsepower** and is capable of propelling the device at a **maximum speed of not more than 30 miles per hour** on level ground.

A 50cc engine typically produces between 2 to 3 horsepower.



MOPED / MOTORIZED BICYCLE



Brake horsepower to Watts Conversion Table

Brake horsepower	Watts
1	745.7
2	1491.4
3	2237.1
4	2982.8



RIDER REQUIREMENTS FOR MOTORCYCLES/MOTOR-DRIVEN CYCLES/MOPEDS/MOTORIZED BICYCLES

	Pedal Operated	Max Speed (MPH)	Minimum Age (YRS)	Driver License Required	Registration/ License Plate Required	Helmet Required	Allowed on Bike Paths/Trails	Allowed on Sidewalk	Allowed on the Roadway
Moped/Motorized Bike	YES/NO	N/A	15 ½	YES VC 12500(b)	YES VC 4000(a)(1)	YES VC 27803(b)	NO ¹ VC 23127	NO VC 21663	YES
Motorcycle / Surrans	NO	N/A	15 ½	YES VC 12500(b)	YES VC 4000(a)(1)	YES VC 27803(b)	NO VC 23127	NO VC 21663	YES
Motor Driven Cycles	NO	N/A	15 ½	YES VC 12500(b)	YES VC 4000(a)(1)	YES VC 27803(b)	NO VC 23127	NO VC 21663	YES








HELMET REQUIREMENTS FOR MOTORCYCLES/MOTOR-DRIVEN CYCLES/MOPEDS/MOTORIZED BICYCLES

Helmet Use

All riders and passengers are required per CVC §27803 to wear a U.S. DOT compliant motorcycle safety helmet when riding a motorcycle, motor-driven cycle, or motorized bicycle. The motorcycle safety helmet must be certified by the manufacturer stating the helmet complies with U.S. DOT Federal Motor Vehicle Safety Standard (FMVSS) 218. Head injuries account for the majority of serious and fatal motorcyclist injuries and, with few exceptions, head injuries are reduced by properly wearing a motorcycle safety helmet.



WHERE CAN I RIDE MY E-BIKE?

	VEHICLE		RIDER				BIKEWAY ACCESS				
	Pedal Operated	Maximum Motor-Assisted Speed (MPH)	Minimum Age (Years)	Driver's License	License Plate	Helmet	Class I Bike Path	Class II Bike Lane	Class III Bike Route	Class IV Protected Lane	
Vehicle Type	Bicycle 	YES	N/A	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
	Type 1 E-Bike 	YES	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
	Type 2 E-Bike 	NO	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
	Type 3 E-Bike 	YES	28	16	NO	NO	YES	NO	YES	YES	YES
	Moped 	NO	N/A	16	YES	YES	YES	NO	YES	YES	NO

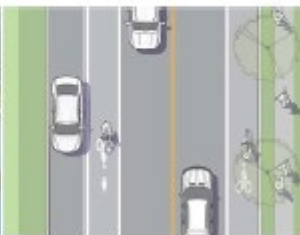


WHERE CAN I RIDE MY E-BIKE?

Class I – Bike Path



Class II – Bike Lane



Class III – Bike Route



Class IV – Separated Bikeway



Class I Bike Paths

- **Description:** Paved, off-road paths physically separated from vehicle traffic.
- **Usage:** Often found in parks, along rivers, or as recreational trails.
- **Safety:** Offers the highest degree of separation and safety for cyclists and pedestrians.

Class II Bike Lanes

- **Description:** One-way lanes designated on the side of a roadway, separated from motor vehicle traffic by paint striping.
- **Usage:** Typically used in corridors with significant bicycle demand.
- **Safety:** Separates cyclists from faster-moving vehicles.

Class III Bike Routes

- **Description:** Roadways where cyclists and motorists share the same lane, often marked with sharrow (shared lane markings) or signs.
- **Usage:** Used to connect other bike facilities or designate preferred routes through areas with high traffic.
- **Safety:** Does not provide physical separation from vehicles.

Class IV Separated Bikeways

- **Description:** Exclusive bicycle facilities with a physical separation from motor vehicle traffic, which can include curbs, bollards, or other barriers.
- **Usage:** Provides a higher level of protection than Class II lanes.
- **Safety:** Offers the highest level of protection due to physical separation.

WHERE CAN I RIDE MY E-MOTORCYCLE? (SURRON/TALARIA/TUTTIO/E-BOX/ETC)



LAW ENFORCEMENT ACTION ON E-BIKES

■ CVC 4000(a)(1)

- A person shall not drive, move, or leave standing upon a highway, or in an offstreet public parking facility, any motor vehicle, trailer, semitrailer, pole or pipe dolly, or logging dolly, unless it is registered and the appropriate fees have been paid under this code or registered under the permanent trailer identification program, except that an off-highway motor vehicle which displays an identification plate or device issued by the department pursuant to Section 38010 may be driven, moved, or left standing in an offstreet public parking facility without being registered or paying registration fees.



OHV Registration Stickers



LAW ENFORCEMENT ACTION ON E-BIKES

■ CVC 12500

- (a) A person may not drive a motor vehicle upon a highway, unless the person then holds a valid driver's license issued under this code, except those persons who are expressly exempted under this code.
- (b) A person may not drive a motorcycle, motor-driven cycle, or motorized bicycle upon a highway, unless the person then holds a valid driver's license or endorsement issued under this code for that class.
- (c) A person may not drive a motor vehicle in or upon any offstreet parking facility, unless the person then holds a valid driver's license of the appropriate class or certification to operate the vehicle.



LAW ENFORCEMENT ACTION ON E-BIKES



LAW ENFORCEMENT ACTION ON E-BIKES

■ CVC 27803

- (a) A driver and any passenger shall wear a safety helmet meeting the requirements established pursuant to Section 27802 when riding on a motorcycle, motor-driven cycle, or motorized bicycle.
- (b) It is unlawful to operate a motorcycle, motor-driven cycle, or motorized bicycle if the driver or any passenger is not wearing a safety helmet as required by subdivision (a).
- (c) It is unlawful to ride as a passenger on a motorcycle, motor-driven cycles, or motorized bicycle if the driver or any passenger is not wearing a safety helmet as required by subdivision (a).

■ CVC 16028(a)

- Every person who drives a motor vehicle upon a highway shall provide evidence of financial responsibility for the vehicle that is in effect at the time the demand is made.



FREQUENTLY ASKED QUESTIONS (FAQ)

- Can E-Motorcycles be legally operated on the highways, streets, sidewalks, bike paths, bike lanes, or off-street parking facilities?
 - **NO**. These vehicles do not meet the definition of an electric bicycle or moped and therefore are only allowed to be operated in OHV (Off Highway Vehicle) designated areas or on private property.
- Does adding aftermarket operable pedals to an electric off-highway motorcycle reclassify it as an electric bicycle?
 - **NO**. Due to the motors on electric off-highway motorcycles exceeding the 750-watt limit, they do not meet the definition of an electric bicycle, regardless of having operable pedals.



FREQUENTLY ASKED QUESTIONS (FAQ)

- Can an electric motorcycle off-highway motorcycle such as a Sur-Ron, Talaria, or Segway be converted to street legal?
 - **NO**. Per California DMV, “Any motorcycle or vehicle originally manufactured for off-highway use cannot be converted for on-highway use, unless it is manufactured for dual purposes.”
 - Off-highway electric motorcycles are specifically designed for off-highway use (per the manufacturer’s owner manual) therefore they cannot be retrofitted with aftermarket equipment (lighting, braking, etc.) to make them eligible for on-highway registration.
 - The classification of an off-highway motorcycle may be confirmed by the absence of a 17-digit vehicle identification number (VIN) and other information labels required under Federal Motor Vehicle Safety Standards (FMVSS).



MOTORIZED SCOOTERS

■ CVC 407.5

- (a) A “motorized scooter” is any two-wheeled device that has handlebars, has either a floorboard that is designed to be stood upon when riding or a seat and footrests in place of the floorboard, and is powered by an electric motor. This device may also be designed to be powered by human propulsion. For purposes of this section, a motorcycle, as defined in Section 400, a motor-driven cycle, as defined in Section 405, or a motorized bicycle or moped, as defined in Section 406, is not a motorized scooter.



MOTORIZED SCOOTERS

ARTICLE 2. Other Speed Laws [22400 - 22413] *(Article 2 enacted by Stats. 1959, Ch. 3.)*

22411. No person shall operate a motorized scooter at a speed in excess of 15 miles per hour.

VEHICLE CODE - VEH

DIVISION 11. RULES OF THE ROAD [21000 - 23336] *(Division 11 enacted by Stats. 1959, Ch. 3.)*

CHAPTER 1. Obedience to and Effect of Traffic Laws [21000 - 21300] *(Chapter 1 enacted by Stats. 1959, Ch. 3.)*

ARTICLE 5. Operation of Motorized Scooters [21220 - 21235] *(Article 5 added by Stats. 1999, Ch. 722, Sec. 5.)*

21235. The operator of a motorized scooter shall not do any of the following:

- (a) Operate a motorized scooter unless it is equipped with a brake that will enable the operator to make a braked wheel skid on dry, level, clean pavement.
- (b) Operate a motorized scooter on a highway with a speed limit in excess of 25 miles per hour unless the motorized scooter is operated within a Class II or Class IV bikeway, except that a local authority may, by ordinance or resolution, authorize the operation of a motorized scooter outside of a Class II or Class IV bikeway on a highway with a speed limit of up to 35 miles per hour. The 15 mile per hour maximum speed limit for the operation of a motorized scooter specified in Section 22411 applies to the operation of a motorized scooter on all highways, including bikeways, regardless of a higher speed limit applicable to the highway.
- (c) Operate a motorized scooter without wearing a properly fitted and fastened bicycle helmet that meets the standards described in Section 21212, if the operator is under 18 years of age.
- (d) Operate a motorized scooter without a valid driver's license or instruction permit.
- (e) Operate a motorized scooter with any passengers in addition to the operator.
- (f) Operate a motorized scooter carrying any package, bundle, or article that prevents the operator from keeping at least one hand upon the handlebars.
- (g) Operate a motorized scooter upon a sidewalk, except as may be necessary to enter or leave adjacent property.
- (h) Operate a motorized scooter on the highway with the handlebars raised so that the operator must elevate his or her hands above the level of his or her shoulders in order to grasp the normal steering grip area.
- (i) Leave a motorized scooter lying on its side on any sidewalk, or park a motorized scooter on a sidewalk in any other position, so that there is not an adequate path for pedestrian traffic.
- (j) Attach the motorized scooter or himself or herself while on the roadway, by any means, to any other vehicle on the roadway.

(Amended by Stats. 2018, Ch. 552, Sec. 1. (AB 2989) Effective January 1, 2019.)