



E-Bikes Bridging the Gap

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What are E-bikes?

- E-bikes, or electric bicycles, are bicycles equipped with a small electric motor that assists the rider's pedaling efforts.



Out-of-Class Vehicles

- These are recreational vehicles. Without proper, mirrors, reflectors, turn signals, safety inspections and license plates **they should not be on C&C roadways.**
- **They do not have a functional pedal system and are distinguished by foot pegs.**
- Individuals riding these are subject to motorcycle laws and the traffic code (type 2 license/ registration/ safety check/ insurance etc...).

These vehicles have much more powerful motors (6,000W Peak Power).

They deliver high performance with speeds of 75 km/h 46 MPH and 184 ft-lb (250 Nm) torque giving the device powerful acceleration.





HANDMADE SADDLE

20 INCH WHEELS

DISC BRAKES

PEDAL ASSIST

Is it a MOPED?

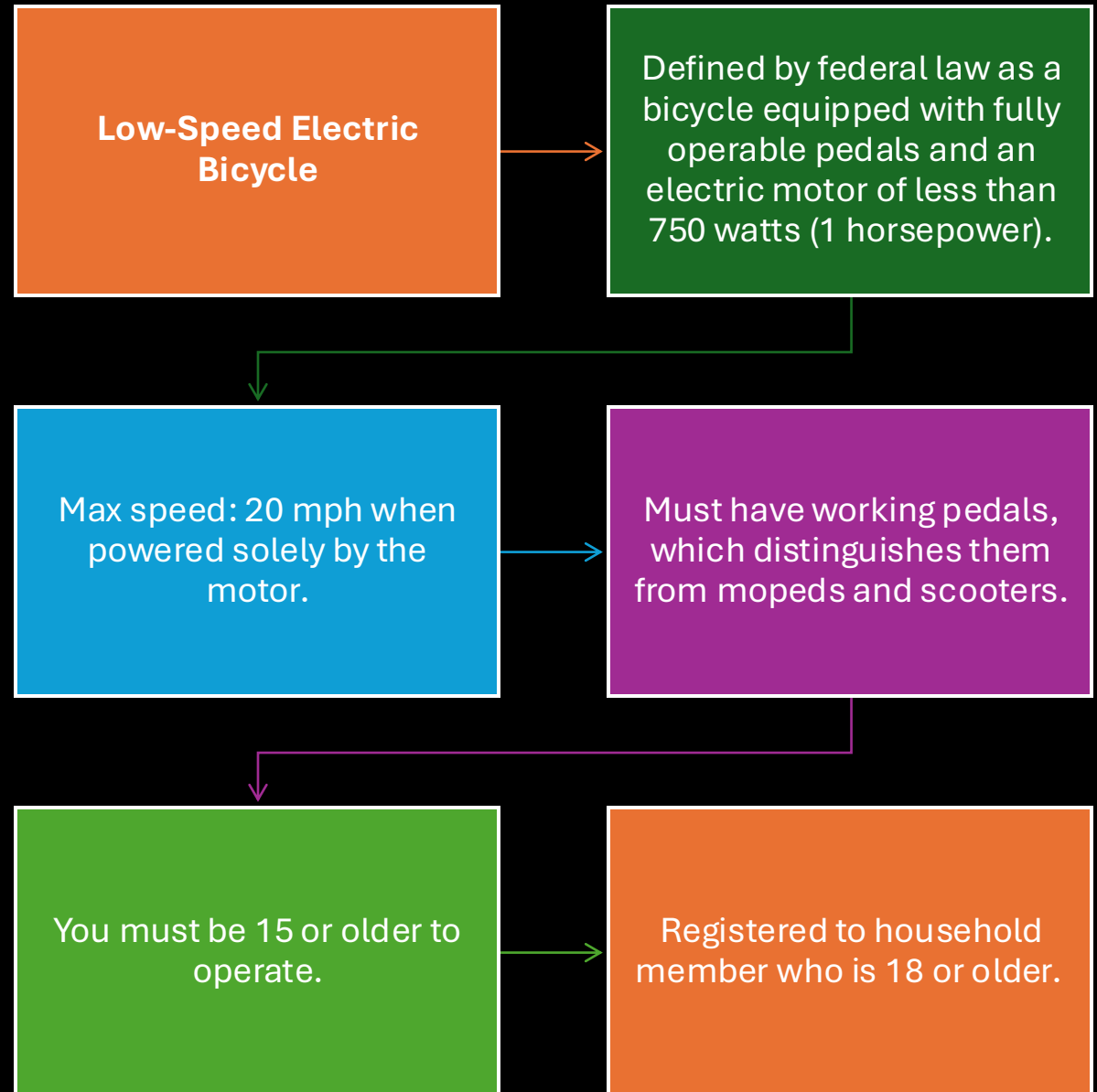
Mopeds are defined in HRS 291C-1 as 2 horsepower (1492 watts) or less.

- 2 or 3 wheels
- maximum of two horsepower (one thousand four hundred ninety-two watts) or less and,
- 50 CC or less
- **Top speed of 30MPH**
- License Required (Class 1 license or Permit)
- Inspected and registered
- Persons under the age of 18 must complete driver education requirements. 286-110 (a), HRS sets the minimum age at which a permit can be obtained at 15 ½ years. Also see 291C-194, HRS. An out-of-state license is valid only if the holder is at least 18 years old.

Current Hawaii State Law (Antiquated)

The growing popularity and variation of electric mobility vehicles, have made it difficult for Hawaii Laws to keep up.

As of January 2025- Hawaii only has a definition of Low Speed Electric Bicycle.



A collection of bicycle helmets, primarily blue with black accents and the 'TOP GEAR' logo. One helmet in the foreground is black with red and white accents. The helmets are arranged in a cluster, with some overlapping. The background is a dark, textured grey.

Helmets Required

HRS 291C- 150 Requires helmets for anyone UNDER the age of 16.

Bill 52 creates a City Ordinance requiring a helmet for all riders under the age of 18



Where can I ride?

Bicycles with motors are allowed everywhere a bike is allowed except some bike paths when prohibited by signs.

Bikes on Sidewalks?

E-bike as well as bicycles are restricted from operating on sidewalks located in “business districts.”





It is legal to ride a bicycle or an e-bike on the sidewalk in “residential areas.”

Yes... but they are prohibited by law to travel more than 10 mph, and are required to yield to pedestrians.

Understanding The Three-Class System



Pedal

- Class 1: Pedal-assist only (motor activates only when pedaling), top speed of 20 mph.



Throttle

- Class 2: Throttle-assisted (motor can be used without pedaling), top speed of 20 mph.



Pedal

- Class 3: Pedal-assist only, but with a higher top speed of **28 mph**. Often requires additional safety features like helmets and speedometers.

The Three-Class System



CLASS 1



CLASS 2



CLASS 3

Max Speed

20 mph

20 mph

28 mph

Pedal Assist



Throttle



Locations of Class and Wattage



Bicycles should have their class and wattage listed on the frame, motor, battery, or wheel assembly



Challenges for Law Enforcement

Difficulty distinguishing classes:

- Many e-bikes look similar, making it hard for officers to quickly differentiate between Class 1, 2, and 3 bikes.

Speed enforcement:

- Without precise speed measuring tools, it's difficult for officers to determine if an e-bike is exceeding its class-specific speed limit.

Overlapping regulations:

- E-bikes blur the lines between bicycles, mopeds, and motorcycles creating confusion for law enforcement when enforcing existing laws.

City and County of Honolulu's Bill 52

(Passed February 18, 2025)

Definition

Motor- as "As used in the terms 'bicycle equipped with a motor' and 'bicycles equipped with motors,' and for the purposes of those terms only, an electric motor **not exceeding 750 watts.**"


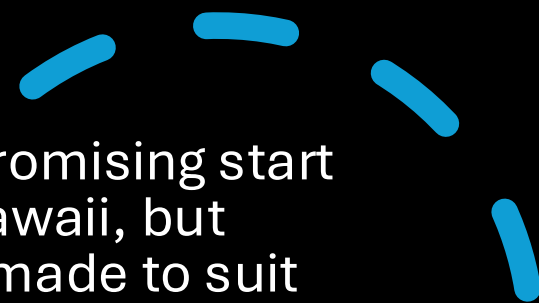
Prohibits

Prohibits the operation of bicycles equipped with motors **exceeding 750 watts** from being operating on "any public street, highway, alley, path, or trail";

Prohibits non-standard riding, or dangerous riding like wheelies and other stunts; and

Requires

No person under 18 years of age may operate a bicycle or a bicycle equipped with a motor unless that person is wearing a helmet.










Conclusion and Future Outlook

- **A step forward:** Bill 52 is a promising start to clarifying e-bike laws in Hawaii, but adjustments will need to be made to suit the state's unique landscape and existing regulations.
- A House Bill is being presented for the state that would define Electric Bicycles as- a bicycle with fully operable pedals and an electric motor of no more than 750 watts that meets the requirements of one of the 3 class system.
- It removes the definition of "low Speed Electric Bicycle"
- This Bill also addresses unsafe riding techniques such as wheelies for all electric bicycles

References and Resources

- The following slides may be used as a guide for current Hawaii Laws and regulations for bicycles as of February 2025.

Know the difference

	E-Bike Class 1	E-Bike Class 2	E-Bike Class 3	Moped Class C	Moped Class B	Motor Scooter	E-Scooters
	Electric Bike with Pedal Assist	Electric Bike, Throttle up to 20 MPH, Operable Pedals	Electric Bike, Throttle up to 25 MPH, Operable Pedals	Limited Use Motorcycle, Low-speed, 2-3 Wheels	Limited Use Motorcycle, Low-speed, 2-3 Wheels	Limited Use Motorcycle, Low-speed, 2-3 Wheels	Device with handlebars, a floorboard or seat, weighing less than 100 lbs, Can be powered by electric and/or human power
							
How fast can I go?	20 MPH	20 MPH	28 MPH	20 MPH	30 MPH	40 MPH	15 MPH
Do I need a license?	No	No	No	Yes, Type 1 or Permit	Yes, Type 1 or Permit	Yes, Type 1 or Permit	No
Do I need to register my bike?	Yes, must have registration sticker	Yes, must have registration sticker	Yes, must have registration sticker	Yes, must have license plates and safety inspection	Yes, must have license plates and safety inspection	Yes, must have license plates and safety inspection	No
Where can I ride?	Anywhere Bicycles are allowed	Anywhere Bicycles are allowed	Anywhere Bicycles are allowed	Right lane and/or shoulder** (except when making a left turn)	Right lane and/or shoulder** (except when making a left turn)	Vehicular Lanes **	Regulated by County Ordinance 15-18.10
Do I need to wear a helmet?	18 and under must wear helmet	18 and under must wear helmet	18 and under must wear helmet	Recommended/ Required if rented or under 18	Recommended/ Required if rented or under 18	Recommended/ Required if rented or under 18	Recommended

Not Street Legal

The following are examples of illegal e-mobility devices

Moped (without license plate or VIN)



Electric Skateboard



Segway



Hoverboards



Electric unicycle (two types)



Is it an E-bike Flow Chart



Battery operated
motor less than
750 watts (1HP)

Recreational Vehicle
or Moped/Motorcycle



Yes

No

Pedal assist only
and Motor stops
assisting at 20 mph

Has throttle and
pedal assist
capability

Not an E-bike

Yes

No (Assists more
than 20 mph)

Motor stops
providing power at
20 mph

Motor stops
providing power at
28 mph

Class 1 E-bike

Not an E-bike

Yes

No (See Class 3)

Yes

No (Assists more
than 28 mph)

Class 2 E-bike

Not an E-bike

Class 3 E-bike

Not an E-bike

Not an E-bike as
defined in Hawaii
(yet)



Legal References



Bill 52

§ 15-18. __ Safe driving of bicycles equipped with motors on public streets, paths, or trails.

- (a) Except as otherwise allowed by law, no bicycle equipped with a motor exceeding 750 watts may be operated on any public street, highway, alley, path, or trail, including a bikeway as defined by § 15-2.5.
- (b) A bicycle equipped with a motor may be operated only with all of the bicycle's wheels facing forward and in contact with the ground at all times, and with the operator seated with one leg on each side of the seat; provided that it is not a violation of this subsection if a wheel of the bicycle loses contact with the ground briefly due to the condition of the road surface or other circumstances beyond the control of the operator.
- (c) It is unlawful for an individual to operate a bicycle equipped with a motor in an unsafe manner or engage in exhibition driving on any public street, highway, alley, path, trail, or other public right-of-way; provided that this subsection does not apply to an individual engaging in exhibition riding as part of a parade, tournament, or other activity permitted by the city.
- (d) An individual operating a bicycle equipped with a motor may not:
 - (1) Stand or kneel on any seat, ride on the bicycle's handlebars, or engage in any other non-standard riding position;
 - (2) Perform a maneuver where one or more wheels are intentionally lifted from the ground; or
 - (3) Engage in any other maneuver that endangers the operator or any other person.

Bill 52

15-18. __ Helmet requirement for minors operating bicycles equipped with motors.

- No person under 18 years of age may operate a bicycle equipped with a motor unless that person is wearing a helmet that:
- (1) Is specifically designed for that purpose;
- (2) Is equipped with a chin strap; and
- (3) Meets the helmet testing and design requirements of HRS § 291C-150(a)."

REVISED ORDINANCES OF HONOLULU

- **§ 13-18.1 Limitation.**
- (a) Except as otherwise provided in § 13-18.3, only a pedestrian may use the pedestrian use zone in accordance with this article.
- (b) It is an affirmative defense to prosecution under this article that the behavior occurred within 1 foot of the curbside boundary of the pedestrian use zone, that the boundary of the zone was not marked, and the person believed in good faith that the person was not in the pedestrian use zone.
- (1990 Code, Ch. 29, Art. 18, § 29-18.1) (Added by Ord. 10-26)

- **§ 13-18.2 Applicability.**
- (a) The requirements and restrictions of this article shall apply only to the urban zone between the hours of 5:00 a.m. to 10:00 p.m., except that in the Waikiki district, the requirements and restrictions of this article shall apply between the hours of 6:00 a.m. on any one day until 2:00 a.m. of the succeeding day. The city may extend these hours in one or more of the areas described in subsection (b) when the requirements and restrictions of this article shall apply, during an emergency, or for special security reasons. For the purposes of this subsection, an emergency means a natural disaster, such as a fire, flood, tsunami, earthquake, or other natural calamity, or a man-made disaster, including those caused by sabotage or other hostile action.
- (b) For the purposes of this article, the Ala Moana/Kakaako district is the area whose boundaries are shown in Exhibit A, the Downtown district is the area whose boundaries are shown in Exhibit B, the Kalihi district is the area whose boundaries are shown in Exhibit C, the McCully/Moiliili/Makiki district is the area whose boundaries are shown in Exhibit D, and the Waikiki district is the area whose boundaries are shown in Exhibit E.

REVISED ORDINANCES OF HONOLULU

- **§ 15-18.11 Operating bicycle with motor:** No person less than 15 years of age shall operate a bicycle equipped with a motor on any street or highway, nor shall more than one person at a time be allowed to ride a bicycle equipped with a motor.
- **§15-18.7 Riding on sidewalks:** Bicycle riding on sidewalks is prohibited within a business district (such as Downtown Honolulu, Waikīkī).
Do not ride a bicycle on sidewalks where official signs prohibit it.
In areas other than business or prohibited districts, bicycles may be ridden on sidewalks provided the speed is 10 mph or less. The bicycle operator must yield the right-of-way to pedestrians, giving an audible signal before overtaking them.
- **§ 15-18.8 Direction of travel along bicycle lanes.**
No person shall ride or operate a bicycle within a bicycle lane in any direction except that permitted of vehicular traffic traveling on the same side of the roadway; provided that bicycles may proceed either way along a lane where arrows appear on the surface of the lane designating two-way traffic.

- **§ 15-18.4 Speed.**

No person shall operate a bicycle at a speed greater than is reasonable and prudent under the conditions then existing.

- **§15-18.3 Obedience to traffic controls.**

-Bicyclists must obey the instructions of official traffic control signs, signals, and other devices, unless otherwise directed by a police officer or other person authorized to direct traffic.

-Bicyclists must obey posted “U” turn signs unless they dismount, in which event they must obey the regulations applicable to pedestrians.

-Bicycle lanes are reserved exclusively for bicycles, but pedestrians may use the lanes when no paved sidewalks are provided. Bicyclists must yield the right-of-way to pedestrians in bicycle lanes.

- **§15-18.5 Emerging from alley, bikeway, or driveway .**

The bicyclist emerging from an alley, driveway, bikeway, or building shall yield the right-of-way to all pedestrians and other vehicles before entering or crossing the sidewalk, bikeway, or roadway.

- **§15-17.9 No riding on pedestrian overpass or underpass.**

Do not ride a bicycle on a pedestrian overpass or underpass. Riders must dismount from their vehicle before using such structures.

- **§15-4.6c Waikīkī**

No person shall ride a bicycle, skateboard, or roller skate upon any sidewalk in Waikīkī.

- **§15-11.2 Vehicles to yield right-of-way. *DRIVER CITED***

The driver of a vehicle intending to turn across a bicycle lane must yield the right-of-way to bicyclists.

- **§15-18.10 Regulations for bicycle paths.**

Only bicycles without motors or authorized motor vehicles that are permitted by posted signs may be used on bicycle paths.

HAWAII REVISED STATUTES

- **§291C-142 Traffic laws apply to bicyclists.**

Bicyclists using a roadway have all the rights and duties applicable to the driver of a motor vehicle, except as stated by special bicycle regulations and except for those provisions which by their nature cannot be applied to bicyclists.

- **§291C-143 Riding on bicycles.**

The bicyclist must ride on the permanent, regular seat attached to the bicycle. No bicycle shall be used to carry more persons at one time than the number for which it was designed and equipped.

- **§291C-144 No clinging to vehicles.**

When riding a bicycle, do not attach it or yourself to another vehicle.

- **§291C-146 Carrying articles.**

Bicyclists cannot carry a package or article which prevents the driver from using both hands to control and operate the bicycle. One hand must be on the handlebars at all times.

- **§291C-147 Lights and other equipment on bicycles.**

Any bicycle used from thirty (30) minutes after sunset until thirty (30) minutes before sunrise must have a head light, facing forward, which meets these specifications:

- Emits a white light;

- Is visible at least five hundred (500) feet from the front.

- Every bicycle must have a red reflector at least four (4) inches square, mounted in the rear, which can be seen at least six hundred (600) feet from the front of a vehicle with low beam lights on.

- Every bicycle in use during the time described in #1 above must have a 4-inch square reflective material or lighted lamps on each side which can be seen at least six hundred (600) feet from the front of the vehicle with low beam lights on, or a lighted lamp visible on both sides from a distance of at least five hundred (500) feet.

- Bicycles and/or riders may have additional lights or reflectors.

- A lamp as described in #1 above may be attached on the left arm or left leg of the bicycle operator, but must conform with requirement #1.

Bicycles must be equipped with brakes capable of bringing the bicycle to a complete stop within 25 feet from a speed of 10 mph on dry, level, clean pavement.

- **§291C-145 Riding on roadways and bikeways.**

When traveling slower than the normal speed of traffic, bicyclists are to ride as close to the right hand curb or on the shoulder of the roadway, as practical. Be careful when passing a stopped vehicle or one going the same direction. There are the allowed exceptions to the “right hand” rule:

-When preparing for a left turn at an intersection, private road, or driveway;

-When necessary to avoid hazards that make it unsafe to ride along the right hand curb. This includes situations where the traffic lane is too narrow for a bicycle and a motor vehicle to travel safely side-by-side;

or

-When one-way streets have more than one lane of traffic, the bicyclist may ride near the left hand curb or edge.

On a roadway, bicyclists must ride single file. On bicycle lanes and paths, riding two abreast is permitted when the lane or path is wide enough and when there is no rule or ordinance specifically prohibiting it.

When a roadway has a usable bicycle lane, bicyclists must ride within the lane if they are going slower than the normal speed of traffic moving in the same direction.

- **§291C-145 Riding on roadways and bikeways.**

When a roadway has a usable bicycle lane, bicyclists must ride within the lane if they are going slower than the normal speed of traffic moving in the same direction.

Bicyclists are allowed to move out of the lane when:

- Wishing to pass another vehicle or a pedestrian and they cannot safely do so while staying within the lane;
- Preparing for a left turn at an intersection, private road, or driveway; or
- Avoiding debris or other hazardous conditions.
- Bicyclists are not to leave a bicycle lane unless the movement can be done safely and then only after they have given the appropriate turn signal.

Bicyclists riding in a bicycle lane shall travel in the same direction as the traffic in the adjoining roadway lane. When riding on bicycle paths wide enough for two-way traffic, bicyclists must stay to their right.

The State and City governments have the right to restrict or ban the use of mopeds on bikeways.

The City government, by ordinance, may post signs on bicycle lanes and paths prohibiting motorized bicycles from using them.

- **291C-148 Driving upon sidewalk.** (a) Except as provided in subsection (b), no person shall drive any vehicle upon a sidewalk or sidewalk area except upon a permanent or authorized temporary driveway.
- (b) Unless otherwise prohibited, a bicycle may be driven at a speed of **ten miles** per hour or less on a sidewalk or sidewalk area; provided that the driver of the bicycle shall yield the right-of-way to any pedestrian and that bicycle riding shall be prohibited on sidewalks in business districts.
- (c) This section shall not be construed as preempting the director of transportation's or counties' authority to control parking on sidewalks under section 291C-114. Nor shall this section be construed as prohibiting the director or a county from authorizing parking on sidewalks when the authorization is promulgated in accordance with section 291C-114.