

Electric Bicycle ("e-bike") Frequently Asked Questions

1. [What is a power-assisted bicycle \("e-bike"\)?](#)
2. [Why did Ontario place additional safety equipment requirements on e-bikes? Why was meeting the federal definition alone not sufficient?](#)
3. [Is a power-assisted bicycle the same as an e-bike?](#)
4. [Do all e-bikes look like bicycles? I have seen some that look like motor scooters being advertised as e-bikes.](#)
5. [Why did the ministry decide to include scooter-style e-bikes in the definition of "bicycle"?](#)
6. [What safety requirements in place for e-bikes?](#)
7. [I have a scooter-style e-bike. Can I remove the pedals and stow them on the e-bike, such as in a storage compartment, to meet the requirement of "equipped with pedals?"](#)
8. [Am I allowed to modify my e-bike so it can go faster than 32 km/h?](#)
9. [My e-bike weighs more than 120 kg. Am I allowed to operate this vehicle in Ontario?](#)
10. [What do I need to operate an e-bike?](#)
11. [Why is there an age restriction?](#)
12. [What are the rules for wearing a helmet?](#)
13. [On what roads can an e-bike travel?](#)
14. [If my driver's licence has been suspended, can I legally operate an e-bike?](#)
15. [Am I allowed to carry passengers on my e-bike?](#)
16. [What are the safety differences between a scooter-style e-bike and a limited-speed motorcycle \(LSM\)?](#)
17. [How can I visually tell the difference between a scooter-style e-bike and an LSM?](#)
18. [What does an e-bike label say?](#)
19. [What does an LSM compliance label look like?](#)
20. [Why are LSM and moped operators required to be licensed but operators of scooter-style e-bikes are not?](#)
21. [If a police officer stopped someone who was drunk while driving an e-bike, how would they be charged? Would this be a Criminal Code offence or an HTA offence?](#)
22. [Are the fines for e-bike offences the same as bicycle offences?](#)
23. [If I get stopped by a police officer while riding my e-bike, do I need to show ID?](#)
24. [Will municipalities be able to pass by-laws to prohibit e-bikes?](#)
25. [Why are we permitting e-bikes on public roads but not pocket bikes?](#)

Definition of an Electric Bicycle ("e-bike")

1. What is a power-assisted bicycle ("e-bike")?

For use in the Province of Ontario, a power-assisted bicycle, or e-bike, is a bicycle that:

- Has a maximum weight of 120 kg (includes the weight of bike and battery);
- Has wheels with a diameter of at least 350 mm and width of at least 35 mm; and
- Meets the federal definition of a power-assisted bicycle:
 - has steering handlebars and is equipped with pedals,
 - is designed to travel on not more than three wheels in contact with the ground,
 - is capable of being propelled by muscular power,
 - has one or more electric motors that have, singly or in combination, the following characteristics:
 - it has a total continuous power output rating, measured at the shaft of each motor, of 500 W or less,
 - if it is engaged by the use of muscular power, power assistance immediately ceases when the muscular power ceases,
 - if it is engaged by the use of an accelerator controller, power assistance immediately ceases when the brakes are applied, and
 - it is incapable of providing further assistance when the bicycle attains a speed of 32 km/h on level ground,
 - bears a label that is permanently affixed by the manufacturer and appears in a conspicuous location stating, in both official languages, that the vehicle is a power-assisted bicycle as defined federally, and
 - has one of the following safety features,
 - an enabling mechanism to turn the electric motor on and off that is separate from the accelerator controller and fitted in such a manner that it is operable by the driver, or
 - a mechanism that prevents the motor from being engaged before the bicycle attains 3 km/hr.

[Top of page](#) 

2. Why did Ontario place additional safety equipment requirements on e-bikes? Why was meeting the federal definition alone not sufficient?

On October 3, 2006, the Province of Ontario began a pilot project to evaluate the use of power-assisted bicycles (also known as electric bikes or e-bikes) on roads and highways where conventional bicycles were allowed. The pilot was open to all Ontarians 16 years of age and older and ran for three years. During the pilot, electric bicycles were treated as bicycles and had to follow the same rules of the road as set out in the Highway Traffic Act that applied to cyclists, with two exceptions:

- Operators had to be 16 years of age or older, and
- All operators had to wear an approved bicycle helmet at all times.

During its e-bike pilot evaluation, the province had requested, and received, feedback from various stakeholders including environmental groups, bicycling groups, e-bike retailers, manufacturers, importers, law enforcement, municipalities, safety advocates, and other

ministries. The feedback had been, for the most part, encouraging and positive. Based on the results we were confident in proceeding with legislative amendments in Bill 126, the Road Safety Act, 2009 that reflected the pilot's operating requirements. However, many stakeholders and members of the public did share concerns involving the safe integration of e-bikes, and in particular scooter-style e-bikes because of their size, weight and mode of operation. Therefore additional safety feature requirements for e-bikes, based largely on Best Practices issued by the Canadian Council of Motor Transport Administrators, were implemented.

[Top of page](#) 

3. Is a power-assisted bicycle the same as an e-bike?

Yes. An e-bike is considered a power-assisted bicycle as long as it meets all the requirements of the Motor Vehicle Safety Act.

[Top of page](#) 

4. Do all e-bikes look like bicycles? I have seen some that look like motor scooters being advertised as e-bikes.

E-bikes may resemble conventional bicycles, or resemble scooters and limited-speed motorcycles.



Effective October 3, 2009, conventional style and scooter-style e-bikes that meet the definition of a power-assisted bicycle, as described above, are permitted on roads and highways where conventional bicycles are currently allowed. They must follow the same rules of the road as set out in the Highway Traffic Act (HTA) that currently apply to cyclists, with some exceptions (see sections on Safety and Equipment Requirements, and Operating Requirements below).

[Top of page](#) 

5. Why did the ministry decide to include scooter-style e-bikes in the definition of “bicycle”?

The current position of Ontario is no different than other Canadian jurisdictions that permit e-bikes on their roads. Ontario adopted the definition of power-assisted bicycle contained in s. 2(1) of the Motor Vehicle Safety Regulations (Canada). Despite the differences in appearance, both scooter-style e-bikes and conventional-style e-bikes that meet the federal definition of a power-assisted bicycle are available in the market.

[Top of page](#)

Safety and Equipment Requirements

6. What safety requirements are in place for e-bikes?

To operate an e-bike on Ontario’s public roads, the following vehicle safety and operator requirements are in place:

- E-bike must not weigh more than 120 kg (includes the weight of bike and battery).
- All operators and passengers must be at least 16 years of age.
- All operators and passengers must wear an approved bicycle or motorcycle helmets.
- All electrical terminals must be completely covered.
- Two independent braking systems consistent with requirements for motorcycles and motor-assisted bicycles (mopeds) that applies force to each wheel and is capable of bringing the e-bike, while being operated at a speed of 30 km/h, to a full stop within 9 metres from the point at which the brakes were applied.
- The minimum wheel width or diameter shall not be less than 35mm/350mm.
- No modifications to the motor to allow it to exceed a power output greater than 500W and a speed greater than 32 km/h.
- The battery and motor must be securely fastened to the vehicle to prevent them from moving while the e-bike is operating.

[Top of page](#)

7. I have a scooter-style e-bike. Can I remove the pedals and stow them on the e-bike, such as in a storage compartment, to meet the requirement of “equipped with pedals?”

No. If the pedals have been removed from an e-bike, it is no longer considered to be an e-bike. Removing the pedals makes it an illegal motor vehicle because it does not conform with the Highway Traffic Act definition of a power-assisted bicycle. Operators run the risk of being

ticketed for operating a motor vehicle without registration and insurance. If you have concerns with the pedal location you may wish to consider other models and/or styles of e-bikes.

[Top of page](#) 

8. Am I allowed to modify my e-bike so it can go faster than 32 km/h?

No. Modifying your e-bike for the purposes of increasing its speed beyond 32 km/h will no longer qualify it as an e-bike. Motor-assisted bicycle (moped) and/or limited-speed motorcycle (LSM) requirements such as licensing, registration and insurance may then apply.

[Top of page](#) 

9. My e-bike weighs more than 120 kg. Am I allowed to operate this vehicle in Ontario?

Currently, only e-bikes weighing 120 kg and under are allowed to be operated on Ontario's public roads as e-bikes. A weight greater than 120 kg will no longer qualify as an e-bike. Limited-speed motorcycle (LSM) requirements such as licensing, registration and insurance may then apply.

[Top of page](#) 

Operating Requirements

10. What do I need to operate an e-bike?

To operate an e-bike:

- No driver's licence is required
- No written test is required
- No vehicle registration or plate is required
- No motor vehicle liability insurance is required
- All operators/riders/passengers must be 16 years of age and older.
- All operators/riders/passengers on operating an e-bike are required to wear an approved bicycle or motorcycle helmet.

[Top of page](#) 

11. Why is there an age restriction?

Even though power-assisted bicycles are treated as bicycles, they are generally heavier, can travel at a maximum speed of 32 km/hr and require additional physical strength to safely manage.

Currently, eight Canadian jurisdictions (British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, Nova Scotia, Newfoundland and Labrador and the Yukon Territory) have legalized power-assisted bicycles for public road use and are treating these vehicles as conventional bicycles and not as motor vehicles. Of these eight jurisdictions, four have a minimum age requirement - the requirement is 12 years in Alberta, 14 in Manitoba and 16 in British Columbia and Quebec.

[Top of page](#)



12. What are the rules for wearing a helmet?

Anyone operating or riding on an e-bike is required to wear an approved bicycle or motorcycle helmet. There are no age exemptions.

[Top of page](#)



13. On what roads can an e-bike travel?

E-bikes **are** allowed to travel anywhere bicycles are permitted to travel. Any municipal by-law prohibiting bicycles from highways under their jurisdiction also apply to e-bikes. Municipalities may also pass by-laws specific to e-bikes that prohibit them from municipal roads, sidewalks, bike paths, bike trails, and bike lanes under their jurisdiction.

E-bikes, like bicycles, **are not** allowed on controlled-access highways such as 400 series highways, the Queen Elizabeth Way, the Queensway in Ottawa or the Kitchener-Waterloo Expressway, or on municipal roads, including sidewalks where bicycles are banned under municipal by-laws.

[Top of page](#)



14. If my driver's licence has been suspended, can I legally operate an e-bike?

It depends on the particular circumstances that lead to the licence suspension. If you have a driving prohibition order related to a conviction under the Criminal Code of Canada, you cannot legally operate an e-bike. If your driver's licence has been suspended under other circumstances, it is recommended that you discuss your situation with a licensed legal practitioner before deciding to operate an e-bike.

[Top of page](#) 

15. Am I allowed to carry passengers on my e-bike?

Under the Highway Traffic Act, section 178(2), passengers are not allowed on a bicycle designed for one person. You should refer to the manufacturer's information to see if your e-bike was designed to carry passengers.

[Top of page](#) 

E-bikes and Limited-Speed Motorcycles (LSM)

16. What are the safety differences between a scooter-style e-bike and a limited-speed motorcycle (LSM)?

A scooter-style e-bike does not have to meet any federal safety standards and can reach a maximum speed of 32 km/h. Limited-speed motorcycles (LSMs) must meet several federal safety standards and can attain a maximum speed of 70 km/h; the maximum speed for a moped is 50 km/h.

Unlike LSM and moped operators, operators of scooter-style e-bikes do not require licensing, insurance and registration.

[Top of page](#) 

17. How can I visually tell the difference between a scooter-style e-bike and an LSM?

E-bikes may resemble conventional bicycles, or resemble scooters and limited-speed motorcycles. However some key visual differences do exist:

- Unlike LSMs, the definition of an e-bike requires that it be equipped with pedals.
- LSMs are required to be registered and plated whereas e-bikes are neither required to be registered or fitted with a licence plate.

- E-bikes are required to bear a label that is permanently affixed by the manufacturer and appears in a conspicuous location stating, in both official languages, that the vehicle is a power-assisted bicycle as defined federally.
- The easiest way to identify if your vehicle is a limited-speed motorcycle is by the label. The label is usually fastened to the steering column or under the seat. Look beside "type of vehicle" and it will say LSM/MVL. All newer models of LSMs and mopeds have a label for ease of identification.
 - If the vehicle was manufactured **on, or after**, September 1, 1988, it must have affixed a compliance label required under the Federal Motor Vehicle Safety Act (Canada) that identifies the motor vehicle as a limited-speed motorcycle.
 - If the vehicle was manufactured **before** September 1, 1988 and does not have a label, you will be able to identify it as a limited-speed motorcycle by the following:
 - Electric or gas powered
 - Maximum speed of 70 km/h
 - Automatic transmission
 - Has a "step through" vehicle design
 - Maximum engine displacement of 50 cubic centimetres or less.

[Top of page](#) 

18. What does an e-bike label say?

Sample label



Manufacturers of e-bikes must permanently affix a label, in a conspicuous location, stating in both official languages that the vehicle is a power-assisted bicycle as defined in the regulations under the federal Motor Vehicle Safety Act.

[Top of page](#) 

19. What does an LSM compliance label look like?

Sample label



[Top of page](#)

20. Why are LSM and moped operators required to be licensed but operators of scooter-style e-bikes are not?

For the purposes of the Highway Traffic Act (HTA), e-bikes are considered bicycles and therefore do not require operators to be licensed.

Furthermore, the maximum speed of a limited-speed motorcycle (LSM) is 70 km/h and for a moped is 50 km/h compared to an e-bike, which can reach a maximum speed of only 32 km/h. Primarily because of the higher level of speed that can be reached, the ministry is requiring operators of limited-speed motorcycles and mopeds to participate in the provincial graduated licensing system while operating these motor vehicles, in order to ensure road safety for Ontarians.

[Top of page](#)

Enforcement

21. If a police officer stopped someone who was drunk while driving an e-bike, how would they be charged? Would this be a Criminal Code offence or an HTA offence?

Drinking and driving a motor vehicle is a Criminal Code offence and charges are laid under the Criminal Code of Canada. Under the Criminal Code, the definition of a "motor vehicle" would include an e-bike and anyone operating an e-bike intoxicated could be charged for impaired

driving. If convicted, the offender would be subject to the Criminal Code penalties, including a fine or jail time, and a driving prohibition.

Under the Highway Traffic Act, an e-bike is not classified as a motor vehicle, so penalties for impaired driving under the Act would not apply.

[Top of page](#) 

22. Are the fines for e-bike offences the same as bicycle offences?

Yes. All the set fines established for violating rules of the road and equipment standards that apply to bicyclists apply to drivers of e-bikes.

Some of these fines include:

Offence	HTA Section - Bicycle*	Set Fine	Court Fee	Victim Surcharge Fine	Total
Improper lighting	62(17)*	\$ 20.00	\$ 5.00	\$ 10.00	\$ 35.00
Improper brakes	64(2)	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
No bell or defective bell	75(5)	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Fail to wear proper helmet	103.1(2)	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Disobey stop sign, fail to stop	136(1)(a)	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Red light - fail to stop	144(18)	\$ 260.00	\$ 5.00	\$ 60.00	\$ 320.00
Careless driving	130	\$ 400.00	\$ 5.00	\$ 85.00	\$ 490.00
Fail to yield to pedestrian	140(1)(a)	\$ 150.00	\$ 5.00	\$ 25.00	\$ 175.00
Drive wrong way - one way traffic	153	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Bicycle - fail to turn out to right when overtaken	148(6)*	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Cyclist - ride in or along crosswalk	144(29)*	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Cyclist - fail to stop or to identify self	218(2)*	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00
Ride 2 on a bicycle	178(2)*	\$ 85.00	\$ 5.00	\$ 20.00	\$ 110.00

*HTA offences specific to the operation of bicycles and to bicyclists

[Top of page](#) 

23. If I get stopped by a police officer while riding my e-bike, do I need to show ID?

Under the Highway Traffic Act, section 218, cyclists must stop and identify themselves when required to stop by police for breaking traffic laws. The police officer will ask you for your correct name and address.

[Top of page](#) 

24. Will municipalities be able to pass by-laws to prohibit e-bikes?

Yes. Municipalities have the ability to prohibit where e-bikes may travel on roads, paths, trails and other property under their jurisdiction.

[Top of page](#) 

25. Why are we permitting e-bikes on public roads but not pocket bikes?

E-bikes are powered by an electric motor and muscular power, and have zero emissions. Pocket bikes are small, powerful motorcycles that are gas-powered with the same rate of emissions as larger motorcycles. E-bikes have been legalized for public roads in eight other Canadian jurisdictions and have a record of safety. Pocket bikes, because of their low profile (about two feet in height), their high rate of speed (can reach 70 km/hr), and lower equipment standards are unsafe vehicles to be driven on public roads.

[Top of page](#) 

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