

T C R P C

Planning Toolkit Fact Sheet

E-Scooters and Bikes



INTRODUCTION

Electronic bikes sometimes known as e-bikes are similar to human powered bicycles but have a small electric motor that provides pedal assistance and allows riders to accelerate, climb hills, and overcome wind resistance more easily than manually powered bikes. In order for a bike to be classified as an e-bike, it must have two or three wheels with fully operable pedals and an electric motor of less than 750 watts. E-bikes are permitted to be powered by the motor alone (full throttle e-bikes) or by a combination of motor and human power (pedal assist e-bike). There are 3 essential components that separate electric bikes from a normal bike. These include an electric motor, a rechargeable battery and a display/ control system. E-bikes are fairly new to the United States, but have been seen as a cost efficient and environmentally friendly mode of transportation used by most people in Asia and Europe.

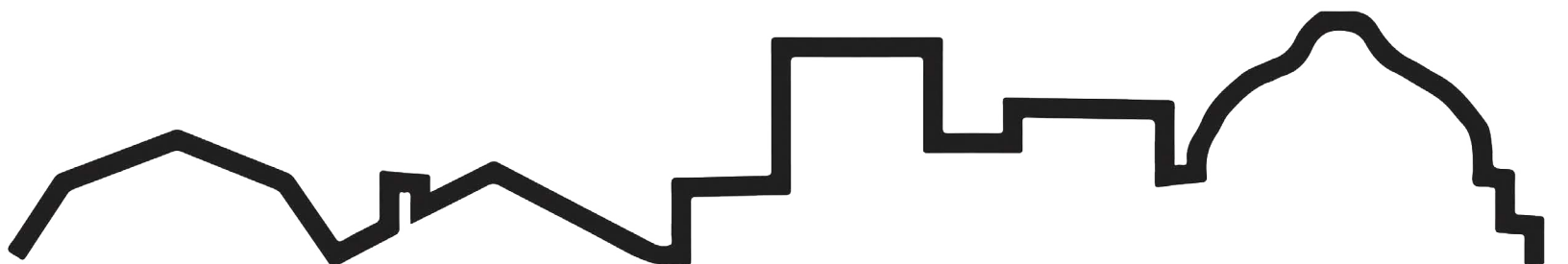
E-scooters are powered by an electric motor that are designed with a large deck in the center on which the rider stands on. In recent years e-scooters have become very popular in urban areas within the U.S. and are used as an alternative to biking or walking. They are used in law enforcement, security patrolling and by many people for leisure activity. Similar to e-bikes, E-scooters are not street legal in Pennsylvania as they do not meet federal requirements for lights or mirrors and cannot be registered with the Department of Transportation.

The three tiered e-bike classification system categorizes electric bikes in terms of how they operate and their maximum speed. It separates all bikes into three classes.

- Class 1 e-bikes are commonly known as pedal assist e-bikes or pedelecs. This kind of electric bike requires pedaling in order to move forward. Only when there is human power through the act of pedaling will the e-bike motor be activated, otherwise the e-bike will not propel. The top speed for this type of e-bike is 20 mph.

- Class 2 e-bikes are commonly known as throttle type e-bikes. These are equipped with throttle controls (trigger, button, or grip twist) that you can use, press or twist in order to make the bike move forward. Pedaling is no longer required and the e-bike motor can do all of the work for you. Pedals are still operable in case the battery runs out of charge. The top speed for class 2 e-bikes is 20 mph.
- Class 3 e-bikes are very similar to class 1 e-bikes except the maximum speed for class 3 e-bikes can reach a top speed of 28 mph and are equipped with a speedometer. This top speed can only be achieved with the combination of motor power and pedaling action. Once the maximum speed of a particular e-bike is reached, the motor will no longer provide any additional assistance to the rider.

The rules and regulations that must be followed when operating an e-bike include: being at least 16 years of age; speed limits range from 18-20 mph; a driver's license and registration is not required to operate an e-bike in the state of Pennsylvania; E-bikes are permitted wherever bicycles or "pedalcycles" are allowed, including sidewalks. Some other regulations that must be followed for each of the 3 classes of e-bikes include electric motor that is less than 750 watts, fully functional pedals, and weight not exceeding 75 pounds. Electric bikes are permitted to go beyond the speed of 20 mph as long as it is operated through the combination of motor power and human power. E-scooters are illegal to operate on Pennsylvania roadways since they do not comply with the equipment standards and inspection requirements for motor vehicles.



BENEFITS

- E-bikes help to cut back on congestion
- Energy efficient and emission free transportation within cities.
- Expands mobility options for residents within a community
- E- Scooters can pose an environmentally friendly alternative mode of transportation.

DRAWBACKS

- Risk of accidents and injuries
- E-Scooters are a less eco-friendly way of transportation
- Not permitted on roadways, only limited to sidewalks and bike lanes in Pennsylvania

PRACTICAL TIPS

- Know the rules and regulations of e-bikes before operating one.
- Find safe routes to travel on (less traveled roads and pathways that allow electric bikes).

RESOURCES

- [Pennsylvania E-Bike laws](#)
- [Regulations of E-Bikes in North America](#)
- [State Electric Bicycle Laws](#)

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