



# Members Brief

An informational brief prepared by the LSC staff for members and staff of the Ohio General Assembly

Author: Larry Gunter, Jr., Research Analyst  
Reviewer: Bill Rowland, Division Chief

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## Bicycles and E-Bicycles

This brief discusses Ohio’s traffic laws that regulate the use of bicycles and electric bicycles (e-bicycles) on roads and highways. In general, a person may operate a bicycle or e-bicycle on the same roads and highways on which other vehicles are operated. Consequently, they are subject to the same traffic laws as other vehicles. However, there are laws that specifically apply to bicycles and e-bicycles, such as equipment requirements, special operational procedures, and requirements for operation on sidewalks and paths.

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The COVID-19 pandemic required many restrictions on indoor activities, particularly those that inevitably placed people in close contact. As a result, many recreational facilities shut down or limited their hours. Additionally, with an increasing hesitation to use public transportation due to the virus, many people sought other forms of transportation to commute to work. With people itching to get outdoors and avoid crowded spaces, bicycling as a form of exercise, enjoyment, and transportation increased across the United States.

From bicycles for children, to fitness and lifestyle bikes, manufacturers had trouble keeping bicycles in stock. This increase and prevalence of bicycle use has revived the need for bicycle operators to know and follow bicycle traffic safety laws.

Traffic laws in Ohio treat bicycles, including electric bicycles (“e-bicycles”), as vehicles. Consequently, any traffic law that applies to a vehicle also generally applies to bicycles and e-bicycles. A “vehicle” largely consists of everything on wheels with only a few exclusions.<sup>1</sup> This brief highlights traffic laws that specifically apply to bicycles and e-bicycles. It does not cover all traffic laws that bicycle operators must follow, given the breadth of traffic laws that may apply.

## Bicycles and electric bicycles

A bicycle is a device ridden by the operator and propelled solely by human power with two or more wheels, any of which is 14 or more inches in diameter.<sup>2</sup> E-bicycles are devices equipped with fully operable pedals and an electric motor with less than 750 watts. E-bicycles are separated into three classes, based on their maximum speed with motor engagement and the level of assistance provided to the operator (see table below).<sup>3</sup>

E-Bicycle Classes			
Classes	Pedaling Assistance from Motor	Motor Engagement	Power Rating
Class 1	Only when pedaling “pedal assistance”	Ceases at 20 mph	<750 watts
Class 2	Continuous assistance regardless of pedaling “throttle assistance”	Ceases at 20 mph	<750 watts
Class 3	Only when pedaling	Ceases at 28 mph	<750 watts

Some commonly known vehicles, while similar to e-bicycles, are not e-bicycles. For example, a motorized bicycle, also called a moped, is not an e-bicycle. Additionally, three-wheeled motorcycles – autocycles – and motorcycles are not e-bicycles.<sup>4</sup> Generally, e-bicycles are subject to the same laws as bicycles. Any differences between the laws that apply to one, but not the other, are expressly noted throughout the brief. Otherwise, all references to bicycles include e-bicycles.

<sup>1</sup> “Vehicle” does not include any motorized wheelchair, any electric personal assistive mobility device, any low-speed micromobility device, any personal delivery device as defined in R.C. 4511.513, any device that is moved by power collected from overhead electric trolley wires or is used exclusively upon stationary rails or tracks, or any device, *other than a bicycle*, that is moved by human power. R.C. 4511.01(A).

<sup>2</sup> R.C. 4511.01(G). Excludes children’s play vehicles.

<sup>3</sup> R.C. 4511.01(SSS) to (VVV).

<sup>4</sup> R.C. 4501.01(L) and (CCC).

## Equipment for bicycles

### Bicycle seats

When operating a bicycle, the operator must ride on a firmly attached bicycle seat or astride the seat.<sup>5</sup> Astride means that a bicycle operator may pedal standing up with each leg on opposite sides of the bicycle frame.

### Lighting, brakes, and helmets

The operator of a bicycle must ensure that the bicycle has the proper and appropriate lighting and reflectors so that it can be seen in the dark or when other road or atmospheric conditions (e.g., precipitation) decrease visibility. Specifically, the bicycle must display both:

1. A white light, lamp, or lantern in the front that is visible from at least 500 feet to the front and at least 300 feet to each side; and
2. A red reflector in the back that is visible from at least 100 to 600 feet away or a red light or lamp with a flashing or steady light that is visible from at least 500 feet away.

A person may not operate a bicycle between sunset and sunrise or during periods of low visibility without the appropriate lighting.<sup>6</sup>

Though bicycles must have an adequate brake when used on a street or a highway,<sup>7</sup> state law does not require the operator of a bicycle to wear a bicycle helmet. However, a protective helmet is required for the operator of a class 3 e-bicycle, which must meet the standards of the Consumer Product Safety Commission or the American Society for Testing and Materials.<sup>8</sup> Additionally, a municipal corporation may require a bicycle operator to wear a helmet within its local jurisdiction.

### Audible signals

A bicycle may be equipped with a device that gives an audible signal (e.g., a bell or a horn). However, a bicycle operator may not equip the bicycle with or use a siren or a whistle on the bicycle.<sup>9</sup>

## Operating a bicycle

### General bicycle control

As with other vehicles on the highway, a bicycle operator must ride with due care for others on the road. A person riding a bicycle may not attach the bicycle, himself, or herself to

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<sup>5</sup> R.C. 4511.53(B).

<sup>6</sup> R.C. 4511.56(A) and 4513.03(A).

<sup>7</sup> R.C. 4511.56(D).

<sup>8</sup> R.C. 4511.522(D)(2). This is the only helmet requirement in the Revised Code for bicycles and e-bicycles.

<sup>9</sup> R.C. 4511.56(C).

another vehicle on a roadway or be pulled along by that vehicle.<sup>10</sup> Further, the operator generally must operate the bicycle with at least one hand on the handlebars.<sup>11</sup>

A bicycle operator is prohibited from willful or wanton disregard of the safety of persons or property.<sup>12</sup> Regarding this prohibition, a court in 2019 upheld a conviction for willful and wanton disregard of safety on highways when a bicycle operator rode on a commercial street with traffic and pedestrians while holding a cup in one hand. The court found in this instance that the defendant's ability to make sudden maneuvers was compromised without the immediate use of both hands.<sup>13</sup>

Additionally, a bicycle operator may not operate the bicycle while under the influence of alcohol or drugs (OVI). The prohibition applies regardless of where the bicycle is operated and a court generally may impose all of the standard OVI penalties on the bicycle operator for the offense.<sup>14</sup>

### **Passengers**

If the bicycle operator has a passenger, the passenger must have his or her own seat and the bicycle must be designed to support the passenger. Children are not required to sit on a bicycle seat when using a child seat or a trailer designed to carry children. However, the child seat or trailer must be firmly attached to the bicycle.<sup>15</sup>

### **Operating a bicycle on a highway**

An operator of a bicycle must ride as near to the right side of the roadway as practicable. Additionally, only two bicycle operators may ride abreast in a single lane, except when riding on paths and roadways set aside exclusively for bicycles or motorcycles.<sup>16</sup> Ohio law does not require an operator to ride at the right edge of the roadway if it is unreasonable or unsafe to do so. Conditions that might cause it to be unreasonable or unsafe include:

- Avoiding fixed or moving objects, parked or moving vehicles, or surface hazards; and
- Narrow lanes that do not allow the bicycle and an overtaking vehicle to travel safely side by side within the lane.<sup>17</sup>

Bicycles are prohibited from use on freeways. A "freeway" (e.g., an interstate highway) is a divided multi-lane highway where traffic flows free from traffic-inhibiting devices, such as traffic lights or stop signs, and the roads that cross a freeway differ in incline from the freeway.<sup>18</sup>

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<sup>10</sup> R.C. 4511.54.

<sup>11</sup> R.C. 4511.53(B).

<sup>12</sup> R.C. 4511.20.

<sup>13</sup> *State v. Tudor*, 2019-Ohio-24, 118 N.E.3d 297, 2019 Ohio App. LEXIS 25 (Ohio Ct. App., Portage County 2019).

<sup>14</sup> R.C. 4511.19.

<sup>15</sup> R.C. 4511.53(B) and (D).

<sup>16</sup> R.C. 4511.55(A) and (B).

<sup>17</sup> R.C. 4511.55(C).

<sup>18</sup> R.C. 4511.01(Y) and 4511.051.

## Hand and arm signals

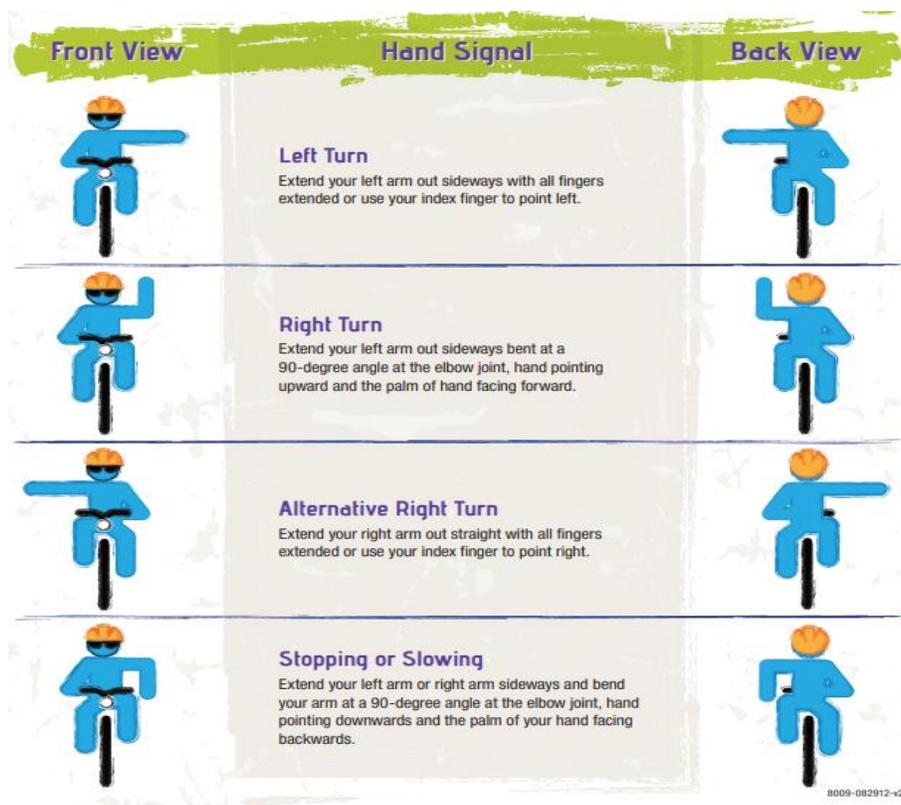
Generally, a bicycle operator must give a signal when turning right, left, stopping, or suddenly decreasing speed.<sup>19</sup> The bicycle operator must signal at least once. The signal need not be continuous, as with other vehicles. A bicycle operator is not required to signal if the operator is in a designated turning lane or when the operator's hands are needed to operate the bicycle safely.

A bicycle operator may use signal lights or the operator's own hands and arms to signal. When hand and arm signals are used, the operator must give one of the following hand and arm signals from their left side:<sup>20</sup>

- Left turn: hand and arm extended horizontally;
- Right turn: hand and arm extended upward; and
- Stop or decrease speed: hand and arm extended downward.

As an alternative right turn signal, the operator may also use the operator's right hand and arm and extend it horizontally to the right side of the bicycle (see Figure 1).

**Figure 1: Hand signals<sup>21</sup>**



<sup>19</sup> R.C. 4511.39(A).

<sup>20</sup> R.C. 4511.40.

<sup>21</sup> [National Highway Traffic Safety Administration Hand Signals \(PDF\)](https://www.nhtsa.gov), available at [nhtsa.gov](https://www.nhtsa.gov), click on Road Safety and then on Bicycle Safety.

## Malfunctioning traffic signals

If a traffic control device (i.e., a traffic light) at an intersection fails to detect a bicycle and the bicycle operator takes specified precautions, the operator may proceed through the intersection. Before proceeding through the intersection while exercising ordinary care, the operator must:

- Stop at either a clearly marked stop line, before entering a crosswalk, or before entering the intersection; and
- Yield the right-of-way to all vehicles that are in the intersection or that are approaching on an intersecting road if those other vehicles will be an immediate hazard to the bicycle operator as the operator crosses the intersection.<sup>22</sup>

## Passing

Generally, when overtaking and passing another vehicle, a vehicle operator, including a bicycle, that is travelling in the same direction must:

- Signal to the vehicle to be overtaken;
- Pass on the left at a safe distance; and
- Remain on the left side of the road until safely clear of the overtaken vehicle.

A motor vehicle operator attempting to overtake and pass a bicycle must give at least three feet of passing space. An operator of an overtaken vehicle must:

- Give way to the overtaking vehicle if the operator of the overtaking vehicle gives an audible signal; and
- Not increase the vehicle's speed during the overtaking.<sup>23</sup>

## Nonhighway use

### Sidewalk operation

A person may park a bicycle on a sidewalk provided the bicycle does not impede the normal flow of pedestrian traffic.<sup>24</sup> A bicycle operator also may ride on the sidewalk, including on an e-bicycle, but the e-bicycle's electric motor must be deactivated.<sup>25</sup> Local authorities may regulate and prohibit bicycle operation on sidewalks, but they may not require bicycles or e-bicycles to operate on sidewalks.<sup>26</sup>

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<sup>22</sup> R. C. 4511.132.

<sup>23</sup> R.C. 4511.27.

<sup>24</sup> R.C. 4511.68.

<sup>25</sup> R.C. 4511.711(A).

<sup>26</sup> R.C. 4511.711(A).

## Paths

Unless a political entity states otherwise, class 1 and class 2 e-bicycles are permitted on a bicycle-only or a shared-use path. Class 3 e-bicycles are not permitted on a bicycle-only or a shared-use path, unless the path is within or adjacent to the highway. E-bicycles generally are prohibited on a path that is intended primarily for mountain biking, hiking, equestrian use, or other similar uses. Additional prohibited uses of e-bicycles include single track or other natural surface trails historically reserved for nonmotorized use. The local authority or state agency with jurisdiction over any path or trail may authorize the use of e-bicycles on the path or trail by resolution, ordinance, or rule.<sup>27</sup>

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<sup>27</sup> R.C. 4511.522(C).