

Adult bicyclists and parents of younger bicyclists need to understand how to ride safely and legally on the streets, roads, and high-ways. The *Hendersonville Greenways Committee* has prepared this booklet from the *Oregon Bicycle Manual* (copyright 1997, revised 2005) by permission of the *Oregon Department of Safety*.

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In 1999 Hendersonville in cooperation with the *Nashville Area Metropolitan Planning Organization* developed the *Bicycle and Pedestrian Master Plan* for the city. The *Hendersonville Greenways Committee* is a continuation of efforts to plan and promote Bike Trails and Pedestrian Walkways in our community.

We encourage everyone to visit our Web site at

bikinhtville.homestead.com

for the latest information on projects in our community. We invite everyone to join us in these endeavors. It will only happen with your support.

For additional information on bicycle safety, please contact

Tennessee Department of Transportation
James K. Polk Building
505 Deaderick Street, Suite 700
Nashville, TN 37243-0349
Tel #: (615) 741-2848
www.tdot.state.tn.us/bikeroutes/safety.html

CONGRATULATIONS!

Bicycling is an inexpensive and efficient form of transportation for short trips around town. By riding a bicycle, you are helping everyone by reducing traffic congestion, wear and tear on our roads and the need for more roads and parking. You are keeping the air clean and neighborhoods quiet, while saving petroleum. You are improving your own health and well-being through regular exercise.

You have a right to ride your bicycle on Oregon's roads, streets and highways. Some basic safety principles will help you enjoy a safe ride.

THE FOUR BASIC PRINCIPLES

Most bicycling injuries do not involve a crash with a motor vehicle. Bicyclists are more likely to fall or hit fixed objects such as a mailbox or a parked car. To avoid these crashes, follow **PRINCIPLE #1: maintain control of your bicycle.** Never ride while under the influence of alcohol or drugs. Driving Under the Influence of Intoxicants (DUII) laws apply when you're riding a bicycle.

Most crashes with motor vehicles happen at road intersections and driveways, where bicyclists and motorists cross paths. To avoid these crashes, follow **PRINCIPLE #2: ride on the right, with traffic, in a predictable manner.**

When motorists and bicyclists collide, the fault is about evenly split between them. Even if you ride responsibly, some motorists may not see you. So remember **PRINCIPLE #3: be visible and ride alertly.**

Finally, **PRINCIPLE #4: protect yourself: wear a helmet to reduce the risk of head injury in the event of a crash.**



You can ride safely on busy streets by following some basic principles

PRINCIPLE #1: **MAINTAIN CONTROL OF YOUR BICYCLE**

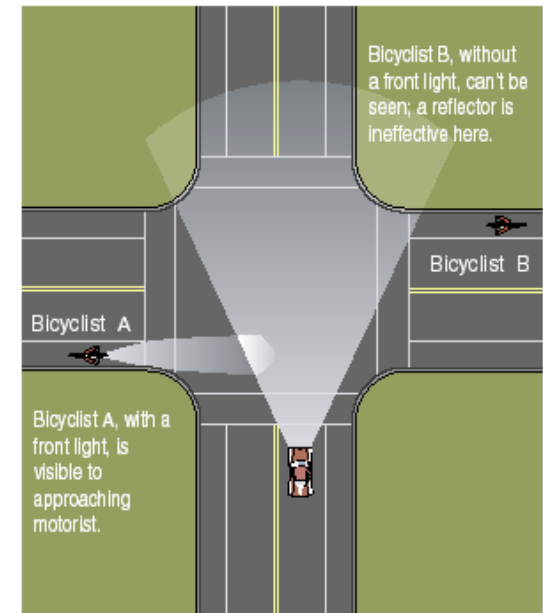
There are many things you can do to control your bicycle, even in an emergency.

First, make sure your bike is the right size and adjusted to fit you properly. The right size bicycle is easier to control and more comfortable, causing less fatigue. Your local bike shop can help you choose the right size bicycle for you.

Make sure your bike is in good working order. You should inspect it regularly. Here are some important parts to check:

- Brakes must be powerful enough to let you easily bring your bicycle to a stop. You should be able to easily reach the brake levers.
- Tires should be in good condition and inflated to their recommended pressure.
- Luggage racks and saddle bags let you carry a load while keeping your hands on the handlebars for steering and braking.
- Lights are required by law when riding after dark. You or your bicycle must have a white light visible at least 500 feet to the front, and a red light or reflector visible at least 600 feet to the rear. These are the minimum requirements. More powerful lights will make you more visible to others, and help you see road hazards. A rear light is more visible than a reflector. Front white reflectors are not visible to motorists entering from a side street and do not meet legal lighting requirements.

- Fenders keep you dry and clean. They also prevent your bicycle from getting dirty in wet weather.



Effectiveness of bike lights



This cyclist has lights, fenders, luggage rack, reflective vest and helmet

Mountain bikes and hybrids are easier to handle than many older bikes. They are well-suited for city riding thanks to their upright sitting position, modern gear shifters and brakes, rugged construction and maneuverability.

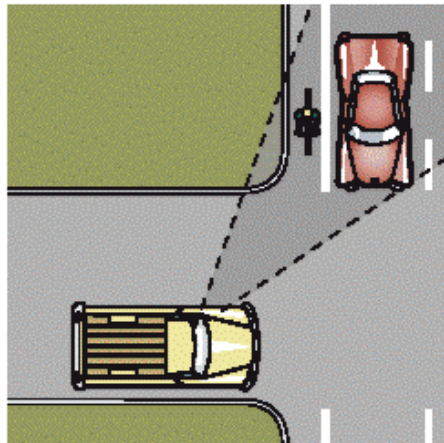
To improve your riding skills, practice in an area away from cars. Learn to ride while looking ahead, to the sides and over your shoulder (this is needed to check for traffic before turning). Avoid distractions such as listening to a personal stereo while riding.

PRINCIPLE #2: RIDE WITH TRAFFIC

In Tennessee, a bicycle is a vehicle by law. When riding your bike on a road, you have the same rights and duties as other road users. With a few exceptions, the rules of the road for drivers apply to you. Consult the Tennessee Driver's Manual to become familiar with these rules

The most important rule to remember is ride on the right, in the same direction as the traffic next to you. It's the law. This way you will be seen by others. When drivers enter a road, change or cross lanes, they know where to look for possible conflicts. If you are riding with traffic, you are more visible and drivers will more likely yield to you.

When riding in a bike lane, you are still required to ride in the same direction as the traffic next to you. Riding with traffic also shows you are responsible and will help you gain the respect of other road users.



Ride with traffic to be seen

HOW FAR TO THE RIGHT YOU SHOULD RIDE

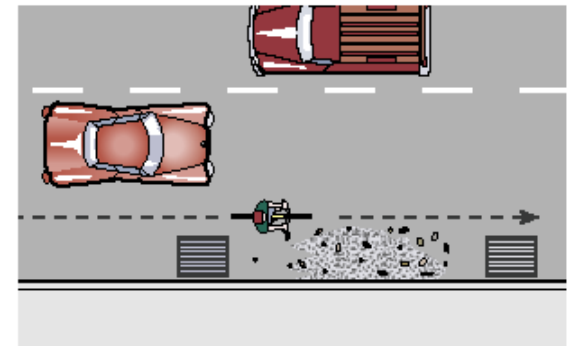
Riding on the right doesn't mean hugging the curb or edge of the road. This may not be the best place to ride. For example, if you hit the curb, you could lose your balance and fall into traffic. Other times when you shouldn't ride too far to the right include:

- When avoiding parked cars or surface hazards (see below);
- When a lane is too narrow for a bicycle and vehicle to travel safely side by side (see page 7);
- When making a left turn (make left turns as shown on page 8);
- To avoid conflicts with right-turning cars.
- On a one-way street, you may ride on the left as long as you are riding with traffic.

The above exceptions also apply to riding in a bike lane.

Road surface hazards

Keep an eye on the road ahead. Avoid running over potholes, gravel, broken glass, drainage grates, puddles you can't see through or other unsafe road conditions. But first look over your shoulder to avoid swerving suddenly into traffic. If necessary, signal before moving over.

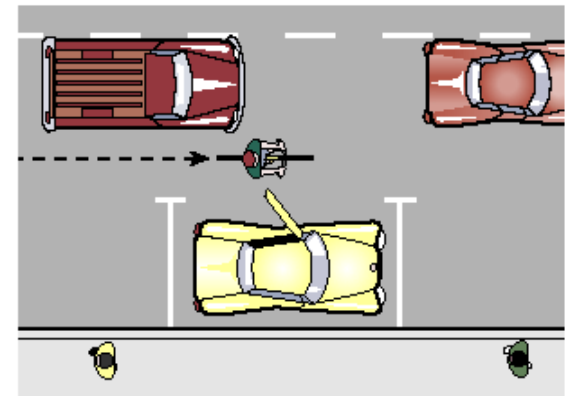


Avoid road hazards

To make riding safer for you and other bicyclists, report unsafe road conditions to local authorities as soon as possible.

Parked cars

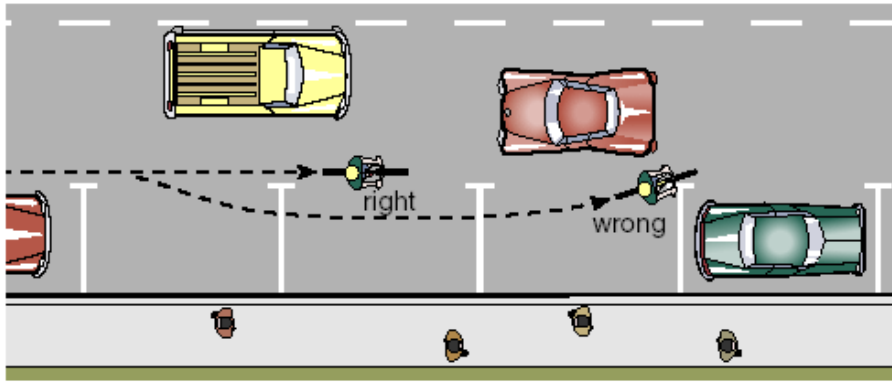
Ride far enough away from parked cars so you don't risk being hit by an opening car door.



Avoid open car doors

RIDE IN A STRAIGHT LINE

This will make you more visible to motorists. Don't weave in and out of parked cars – you may disappear from motorists' sight and get squeezed when you need to merge back into traffic.



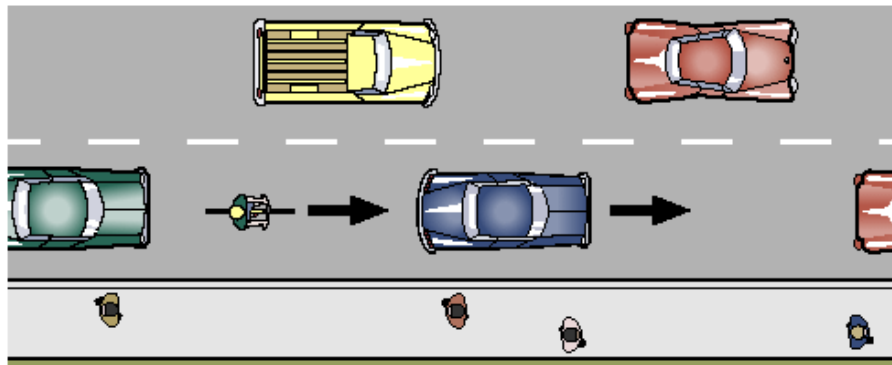
Don't weave in and out of parked cars

Riding side by side

You and a companion may ride side by side on the road, but only if you don't impede other traffic. If traffic doesn't have enough room to pass you safely, ride single file.

When you should take a lane

If there is no shoulder or bike lane, and the travel lane is narrow, ride closer to the center of the lane. This will prevent motorists from passing you when there isn't room. You should also take the lane when you're traveling at the same speed as traffic. This will keep you out of motorists' blind spots and reduce conflicts with right-turning traffic.

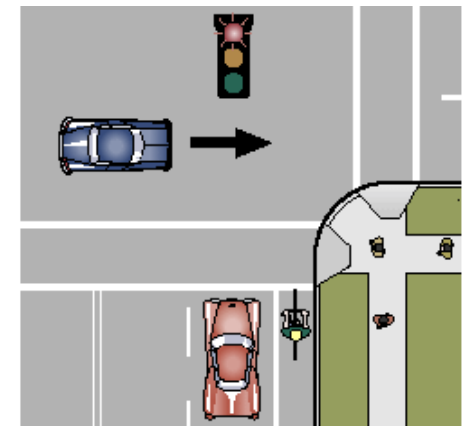


Occupy more of the travel lane if it is narrow or if traffic is moving slowly

Obey traffic signs & signals

Stop at STOP signs and red lights. It's the law to stop for a yellow light too, and it makes good sense – rushing through a yellow light may not leave you enough time to make it across the intersection before the light changes.

Useful tip: Downshift before stopping at an intersection. This will help you cross the street more easily when you start again.



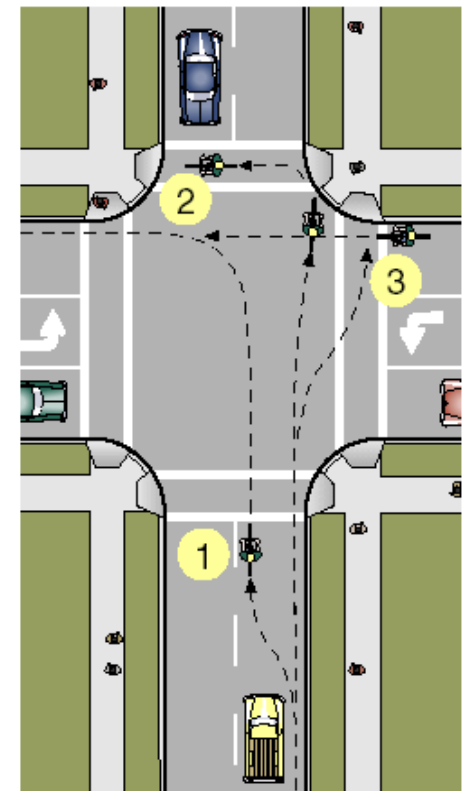
Stop at red lights and stop signs

Making a left turn

There are several ways to make a left turn on a bicycle:

As a vehicle. As you approach the intersection, look over your left shoulder for traffic and, when clear, signal your turn (see page 9), move over to the left side of the lane (on a two-lane road), or into the left lane or the centerturn lane (1). You should be positioned so cars going straight through can't pass you on the left. Yield to on-coming cars before turning. If you are riding in a bike lane, or on a road with several lanes, you need to look and signal each time you change lanes. **Never make a left turn from the right side of the road, even if you're in a bike lane.**

"Box-style." Proceed straight through the intersection on the right. Then stop, and either cross as a pedestrian in the crosswalk (2), or make a 90 degree left turn and proceed as if you were coming from the right (3). If there is a signal, wait for the green or WALK signal before crossing. Yield to pedestrians in crosswalk.

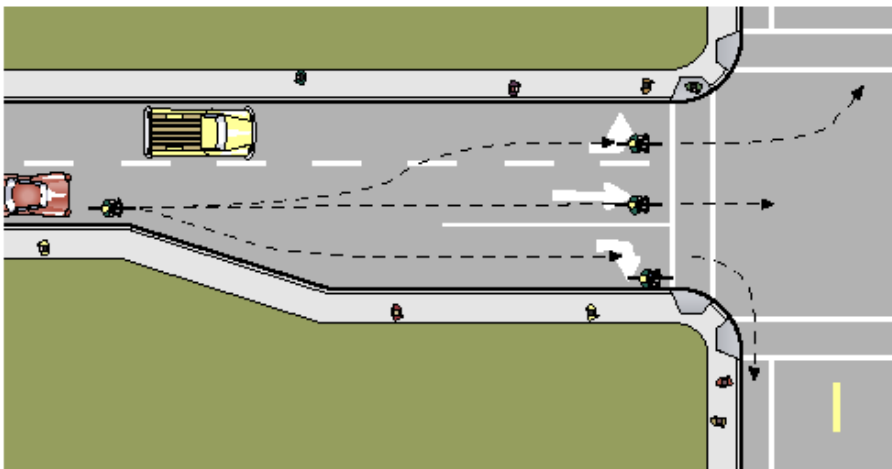


How to make a left turn

Turn lanes

When you approach an intersection with several lanes, choose the one with the arrow pointing where you want to go. You may get cut off by turning cars if you're in the wrong lane. If there is a straight through bike lane, use it only if you're going straight ahead.

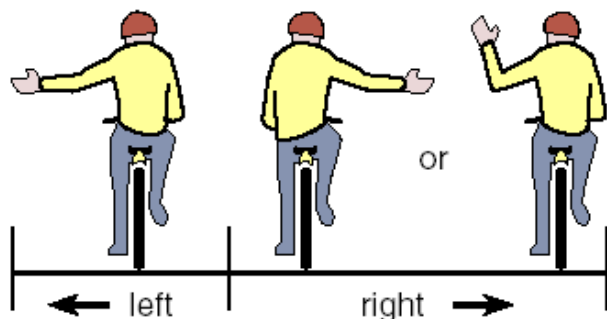
If you can't make it across traffic to the correct lane, use the crosswalk instead.



Choose the correct lane

Use hand signals when turning

Signal before making a turn to warn traffic behind you. To signal a left turn, look behind you, then hold your left arm out. To signal a right turn, either hold your right arm out, or hold your left arm up, with bent elbow. You don't have to keep your arm out through the turn – you may need both hands on the handlebars to keep control of your bicycle.



Bicyclist hand signals

Passing other vehicles

You may pass on the right under certain conditions, but always do so prudently and if it's safe. Some drivers may want to turn right at the next driveway or street. They may not see you if they aren't looking your way. Ride at a reasonable speed, and scan carefully for right-turning cars (see drawing below). If a car ahead of you is signaling a right turn, do not pass on the right. Do not pass stopped cars at a crosswalk or intersection – they may be stopped to let a pedestrian cross or to let another car through.

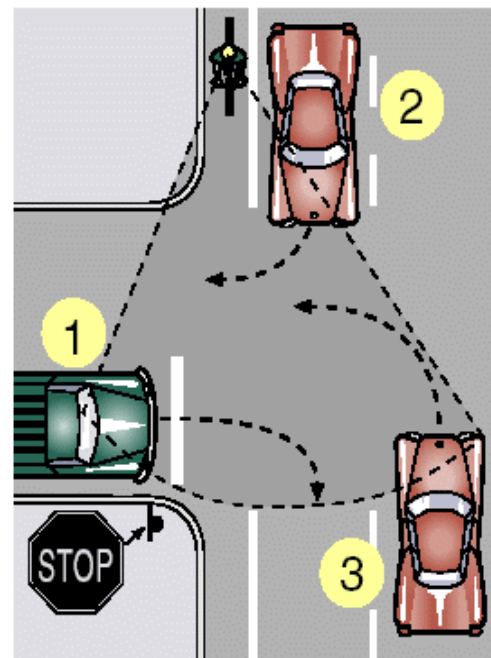
PRINCIPLE #3: BE VISIBLE & RIDE ALERTLY

Even if you obey all traffic laws, there's always a risk of being hit by a motorist who isn't obeying the laws, or who simply didn't see you. So **ride cautiously**, because cars waiting at stop signs, at driveways or parking spaces may suddenly pull out in front of you (1). Also look out for cars that have just passed you and may turn right (2), and cars across the street that may turn left in front of you (3).

Be prepared to stop suddenly or to take other evasive action.

You can also increase your visibility by **using lights and reflectors at night** (see page 4) and wearing light or bright colored clothes. Red isn't a good color for evening riding, because red looks black in the fading light. Yellow and lime green are very effective.

Mirrors can provide opportunities for increased awareness of your surroundings. But use the mirror only as an aid - you must look over your shoulder to make sure adjacent lanes are clear before turning or changing lanes.



Scan the road around you



PRINCIPLE #4: PROTECT YOURSELF

Even very careful riders can fall or get hit by a motorist. And even a simple fall can injure your head. The brain is very fragile and often does not heal like broken bones. The damage can be for life. Helmets provide proven protection.

It's Tennessee law: all bicycle riders under sixteen must wear an approved bicycle helmet while riding on a public way. In the past, helmets met voluntary standards like ASTM, Snell, or ANSI. After March 1999, there is a new federal standard developed in cooperation with the Consumer Product Safety Commission (CPSC). If your bicycle helmet meets one of the previous standards, you do not need to buy a new helmet. Unless damaged, these bicycle helmets provide sufficient protection for their useful life (usually 3-5 years). When you buy a new helmet look for the label or sticker indicating it meets the CPSC safety standard.

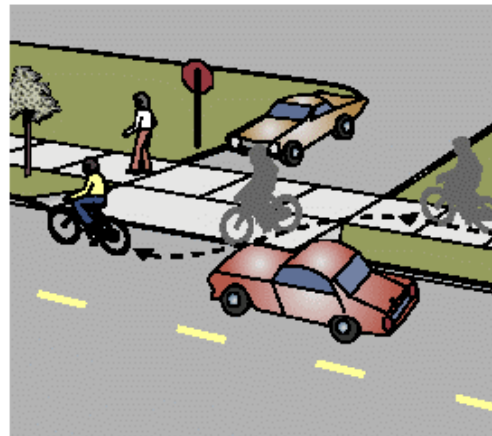
Proper fit is important too. For a detailed brochure, contact the Bicyclist Safety Program (address-front cover). Finally, if you crash or fall, inspect your helmet; if there are signs of damage, replace it, because it may no longer protect you.

PRACTICES TO AVOID

Now that you know what to do, you should also know what to avoid. The following behaviors cause crashes and create an image of bicyclists as irresponsible and foolish:

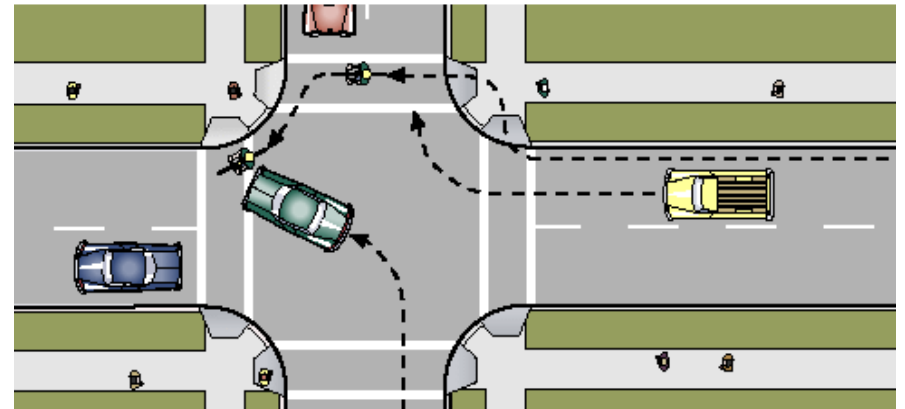
Don't dart out suddenly onto the roadway

When entering the road from a driveway, always yield to traffic. It is dangerous to alternate between the sidewalk and road, by hopping the curb or using driveway cuts. If you ride on the sidewalk, motorists may not see you, and may not have time to react and give you space if you suddenly enter the road.



Darting out onto the road can put you in the path of a moving car

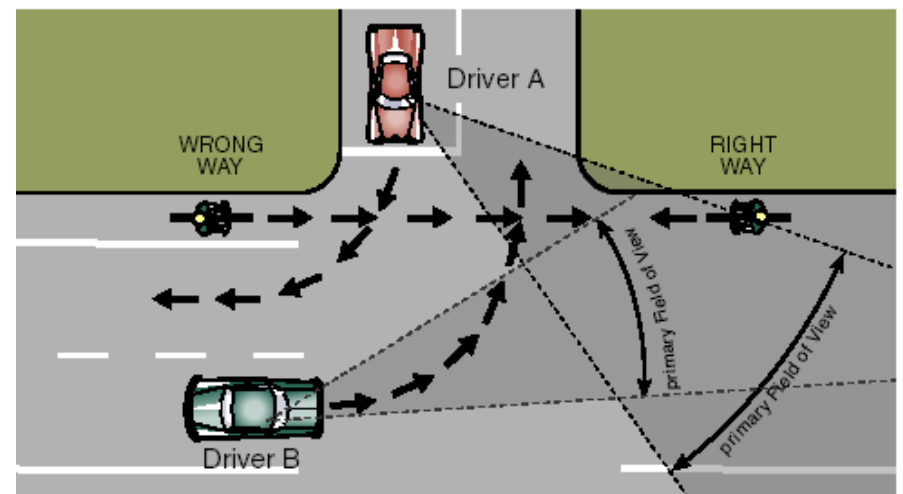
At intersections, stay on the road. Don't ride in the crosswalk and suddenly reappear on the road again. A driver, thinking there is no one there, may lose sight of you, turn the corner and hit you.



Alternating between riding on the road and riding in a crosswalk is confusing to driver

Never ride against traffic

Wrong-way riding is against the law. It's one of the leading causes of crashes, accounting for 15% to 20% of all crashes with cars. Riding against traffic is often based on the fear of traffic hitting you from behind, and a sense that looking at on-coming traffic will prevent crashes. In reality, bicyclists are rarely hit from behind.



Hazards of wrong-way riding: driver A is looking for traffic on the left; driver B is looking for traffic ahead; in both cases, a wrong-way bicyclist is not in the driver's main field of vision.

The biggest danger of riding the wrong way is at intersections: you may not be seen by drivers entering, crossing or leaving the roadway. They are expecting traffic coming from the other direction, not a wrong-way cyclist (see figure on previous page).

Another danger of wrong-way riding is the speed of cars coming at you:

- If you're riding the wrong way at 15 MPH, then a car going 35 MPH is coming towards you at 50 MPH, leaving little reaction time.
- If you are riding the right way at 15 MPH, and a car gaining on you is going 35 MPH, then the difference is only 20 MPH, giving the driver more time to react.

You also risk a head-on collision with cyclists riding in the proper direction.

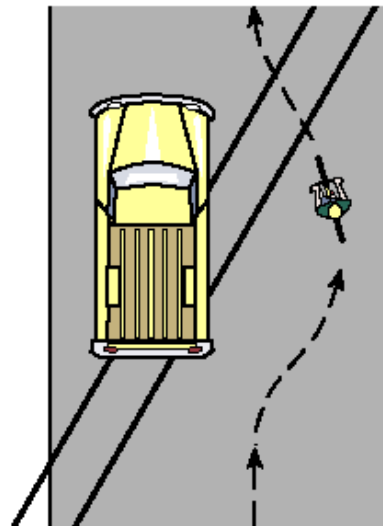
The problem is made worse when riding the wrong way on one-way streets: you can't see signs and traffic signals.

A FEW MORE THINGS YOU SHOULD KNOW

Railroad tracks

Cross railroad tracks carefully. Watch for uneven pavement and grooves that could catch a wheel. Keep control of your bicycle. One way is to rise up from your saddle and bend your arms and legs so your body acts like a shock absorber.

If the tracks cross the road at a sharp angle, change your course so you cross them at closer to a right angle. But avoid swerving suddenly; this can cause you to fall or to veer into traffic.

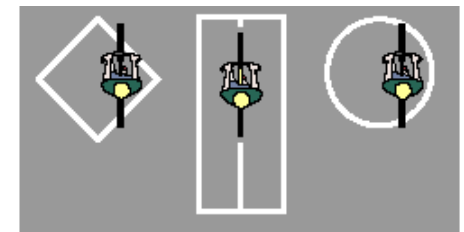


Crossing railroad tracks

Traffic signals

Many traffic signals are triggered by electrically charged wires buried under the pavement. When a vehicle goes over them, the metal disrupts the current, which sends a signal to a traffic light control box. A computer directs the signal to change at the appropriate time.

Most bicycles contain enough metal to trigger the light, but you should know where the most sensitive spots are. Look for cut lines in the pavement, filled with tar. Depending on the shape, the most sensitive spots are:



How to trigger loop detectors

1. Diamonds: just inside one of the points.
2. Rectangles: up front, in the middle.
3. Circles: about 1/4 of the way in.

If you can't trigger the light, either move forward to leave room for a car to place itself over the loop, or go to the sidewalk and press the pedestrian push-button (unless you're turning left). You can also lean your bicycle over the loop so more metal is closer to the wires.

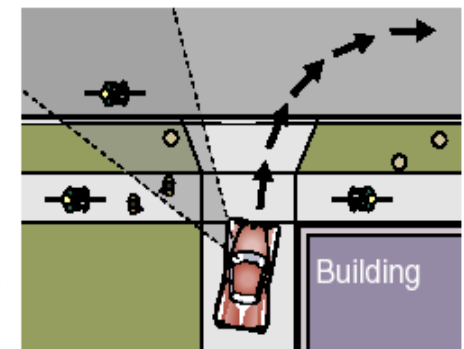


Lean your bike to trigger light

Riding on sidewalks

In general, you shouldn't ride a bicycle on sidewalks. Many crashes between bikes and cars occur on sidewalks, especially when bicyclists ride against the flow of car traffic. If you do ride on a sidewalk, try to ride in the same direction as traffic next to you, and adjust your riding habits for the safety of all sidewalk users by following these guidelines:

Slow down at driveways and street crossings if a car is coming. If you go too fast, drivers will not see you (they are looking for pedestrians nearby, not a fastmoving cyclist further away). If you crash, you may be found at fault if you were going too fast.

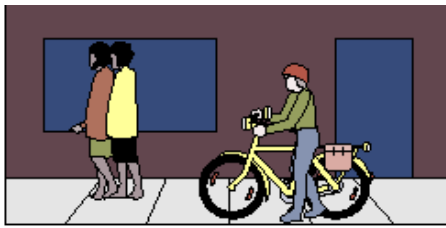


Motorist crossing a sidewalk may not see you on a bicycle

Yield to pedestrians:

sidewalks are for walkers, not bicyclists. Be courteous and ride cautiously. When passing a pedestrian, **slow down**, give an audible warning, and wait for the pedestrian to move over. A bicycle bell works best. If you must say something, make your intentions clear. For example, "Passing on your left."

Walk your bike in downtown areas: they are busy with people walking out of doorways, stopping to talk to each other or window shopping. Many cities ban bikes from their downtown sidewalks.



Walk your bike on
downtown sidewalks

Riding on paths

Paths are wider than sidewalks, but you should still ride cautiously. Ride on the right and yield to pedestrians. Be especially careful when crossing a road. When crossing a driveway or street, slow down and be sure drivers see you. Ride more slowly and alertly at night, when it's harder to see the surface and edges of the path. Pedestrians, joggers, skaters and other cyclists may approach suddenly out of the dark in front of you.

WHAT TO DO IN CASE OF A CRASH

Check for injuries first. If someone is injured, call for help right away. Administer first aid if you are trained. After the injured have been helped and removed from harm's way, begin gathering information.

If someone has been struck by a car, ask the driver for name and address, vehicle registration number, driver's license number, and insurance policy company and number. Tennessee law requires motor vehicle owners to carry insurance that covers injuries to bicyclists and pedestrians, and to have proof of insurance. Don't discuss fault immediately after the collision. Make sure to write down what you think happened as soon as possible. Carry identification and medical insurance information, especially when you cycle alone.

Give your name and address. Ask witnesses, including passengers, their names and addresses. Do not depend on others to take witness names and phone numbers.

In case of property damage over \$1500 or injury to a person, fill out a DMV traffic accident report within 72 hours.

Document your injuries and property damage with photographs or video tape; save all receipts and repair estimates. Contact your insurance company if you have coverage on your bicycle. You may also want to contact an attorney.