

Want better bicycling in the Washington area?



Become a member of the Washington Area Bicyclist Association



It's the mission of the Washington Area Bicyclist Association to create a healthy, more livable region by:

- ▶ Promoting bicycling for fun, fitness and affordable transportation.
- ▶ Advocating for better bicycling conditions and transportation choices for a healthier environment.
- ▶ Educating children, adults and motorists about safe bicycling.

Join today! Call WABA at 202.518.0524 or visit our Web site at www.waba.org.

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SAFE BICYCLING IN THE WASHINGTON AREA



Equipment



Maintenance



Locking



Helmets



Traffic Rules



Riding



Hazards



Trails



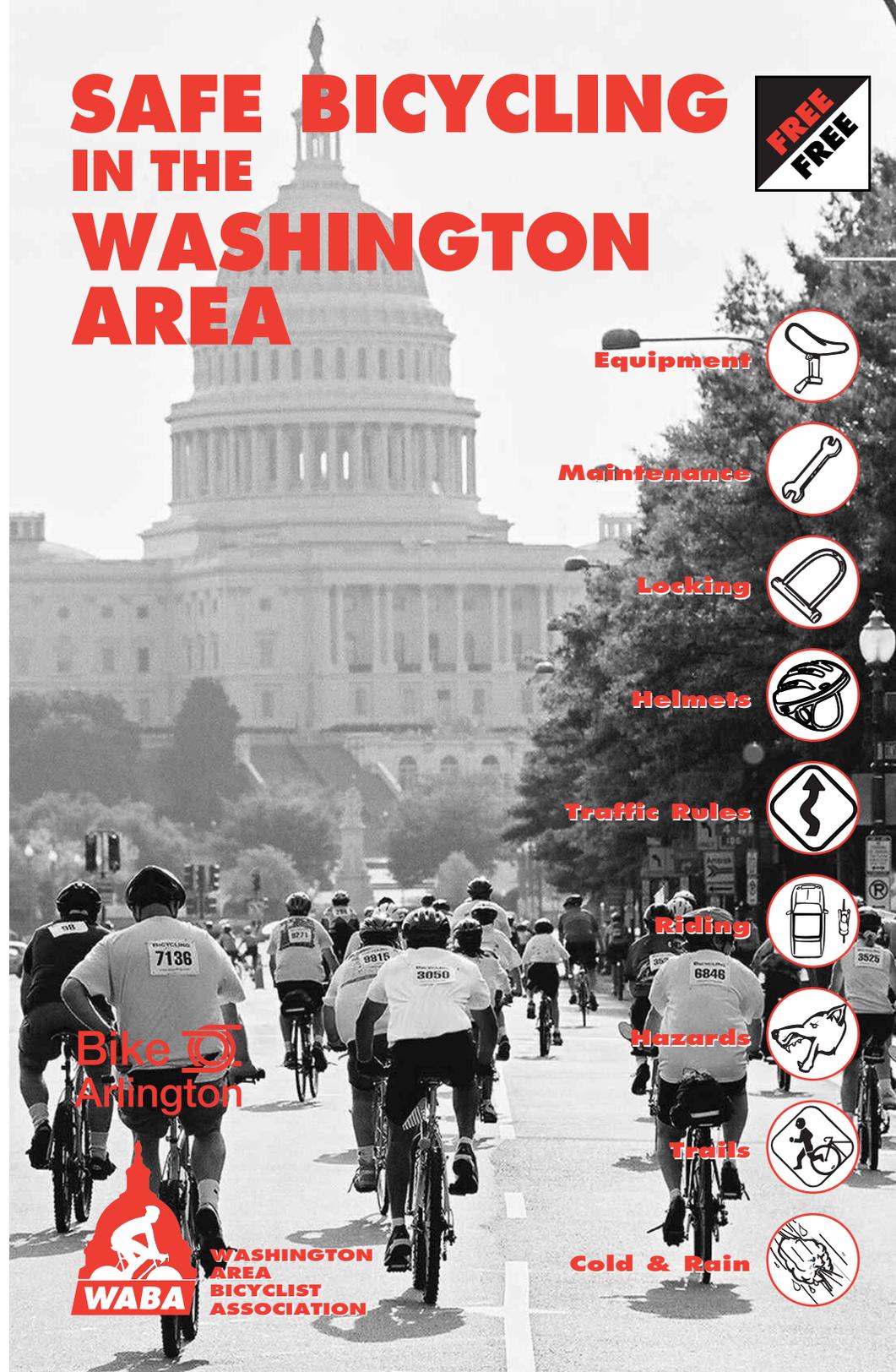
Cold & Rain



Bike Arlington



WASHINGTON AREA BICYCLIST ASSOCIATION





A MESSAGE FROM THE WASHINGTON AREA BICYCLIST ASSOCIATION

The Washington Area Bicyclist Association (WABA) supports and promotes bicycling as a transportation mode for area residents. Bicycling provides a low-cost, enjoyable way to travel that is healthy for both the bicycle operator and for our quality of life.

Because of the benefits of bicycling, numerous private organizations and government agencies are working hard to provide bicycling facilities that all citizens can enjoy. As with other forms of transportation, bicycling requires responsibility. That's why WABA has developed this booklet on bicycle safety.

If you observe traffic laws and use correct cycling skills, you can avoid crashes and injury. Please use this booklet to learn the skills and resources that will help you ride safely.

How to Use This Booklet

How should you use this booklet? First, read the Table of Contents. There, we've listed everything this booklet covers. If you can't find what you want, check the list of bicyclists' resources on the inside back cover.

This booklet is intended for bicyclists above 12 years of age. Parents and teachers can use the booklet to teach younger cyclists how to bike safely.

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Bicyclists' Resources

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1: FITTING & EQUIPPING YOUR BIKE

HOW TO GET A GOOD FIT

Your bike's most important safety feature is *you*. If you're not comfortable, you're more likely to ride badly and hit something. Getting exactly the right fit depends on many things—including your height, weight, and riding style. You should contact your neighborhood bicycle store to help you find the right fit. Consider these points.

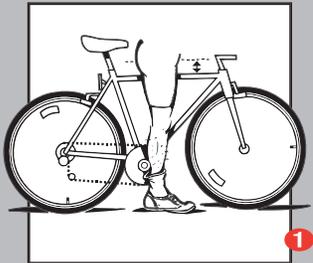
Frame Size: If your bike's frame is too tall, too short, or too long, it's very hard to adjust other things to make you comfortable—so you may need a new bike.

To Check the Height: On a men's bike, stand with the bike between your legs, just in front of the seat. Measure the space between you and the top tube. **1** For road or street riding, a one-inch to three-inch space is safest. (Off-road riding might require a bigger space.) For women's frames, ask your bicycle store's staff to size you.

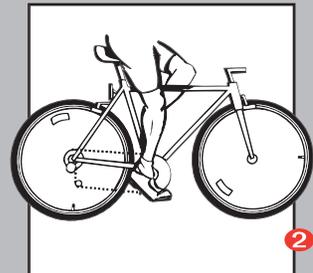
Frame Length: If, when you ride, you feel overly stretched or have pain in your neck, shoulders, or back, your frame might be too long. Try moving the seat and handlebars closer together (see page 3). Also, some people—including many women—have torsos shorter than what most bikes are made for. If you're one of them, look into a shorter handlebar stem extension, a taller stem, different handlebars, or a custom bike made for people with smaller torsos.

Seat Height: A seat that's too low will strain your knees, while a seat that's too high will make it hard for you to pedal and to put your foot onto the ground. Here are some ways to get the right seat height for most riding:

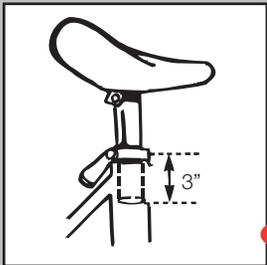
- ▶ Sit on your bike and push one pedal all the way down. **2** Put the ball of your foot on the pedal. If your seat's high enough, your knee should be slightly bent.
- ▶ If your hips rock from side to side when you pedal, your seat's too high.
- ▶ Don't raise your seat so high that less than three inches of your seat post extends into the frame. **3** (Most seat posts have a mark showing how high you can raise them.) If your seat post is a foot long but still too short, look into a new bicycle.



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Handlebars: After you've set your seat height, set your handlebars so you feel comfortable. Some things to guide you:

- ▶ Start by raising or lowering your handlebars so they block your view of the front axle when you're sitting on your bike with your hands on the handlebars. **4** In this position, your elbows should be slightly bent (not locked).
- ▶ Lower-back pain often means the handlebars are too far away, while upper-arm or shoulder fatigue often means the handlebars are too close to you. Try raising or lowering the handlebars, or moving your seat forward or backward. **5** You can also change to a shorter or longer handlebar stem.
- ▶ Don't raise your handlebars so high that less than two and a half inches of your handlebar stem extends into the frame. **6** (Most stems have a mark showing how high you can raise them.) If you have to raise your handlebars higher than the safe limit, get a longer stem or stem extender.
- ▶ Rotate your handlebars so that they put even pressure across the palms of your hands without bending your wrists in a strange way. **7**

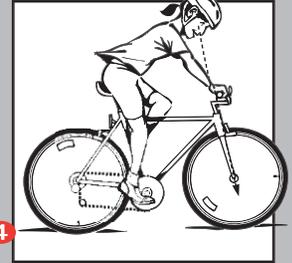
Seat Tilt: Last, adjust your seat tilt for comfort: Many cyclists keep their seats level. Many women, however, tilt them nose-down, and many men tilt them nose-up. Try different angles until you find a comfortable one.

Saddle Soreness: If you haven't bicycled in a while, expect to be sore at first; chafing or soreness should get better with time. If it doesn't, the first thing to check is the seat adjustment; see "Seat Tilt" above, and "Seat Height" on page 2. If adjustment doesn't help, try alternatives: a gel-filled saddle or saddle pad; a wider or differently-shaped saddle; one with springs; or one made specifically for women. Many bicycle stores will exchange saddles if they're not damaged, so try alternatives until you're comfortable. Also, many cyclists like padded and/or seamless shorts for long rides.

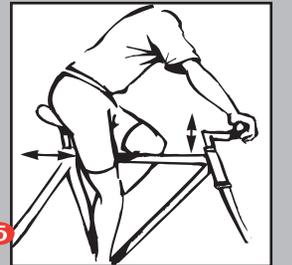
FOR MORE INFORMATION

For help on making sure your bike fits:

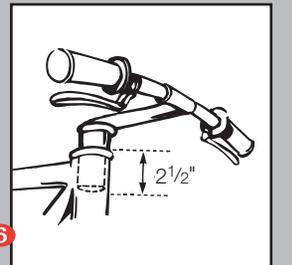
Read *Urban Bikers' Tricks & Tips* by Dave Glowacz. Available at book stores, on-line at www.mrbike.com, or by calling 800/888-4741.



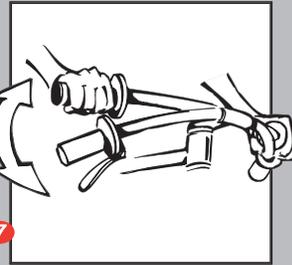
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BASIC EQUIPMENT

Experienced cyclists have a few simple ideas about equipment that make biking a lot safer—and easier. Here's what they recommend.

Helmet: A must for cycling! See page 9 for details.

Flat Fixer: To prevent flats: ① Keep your tires at maximum air pressure; they lose a little air every day. Skinnier tires lose air more quickly. Many cyclists use puncture-proof tire liners, Kevlar-belted tires, thorn-resistant tubes, or tube sealants. Heavy-set or rough-surface riders should try wider tires. **To fix flats:** Always carry a spare inner tube or a patch kit, and tools to get your tube out. Use tire levers (best) or a screwdriver (not as good); a wrench if you don't have quick-release hubs; an old sock or rag to cover your hand when you grab your chain; and a hand pump or a quarter to pay for a gas-station pump. (Beware: high-pressure pumps can explode your tire!)

Carrying Rack: Make your bike carry your things! ② Use bungee cords to tie things to your carrying rack. Attach a milk crate as a carrying case. If you carry things often you should invest in panniers, or the many varieties of bike bags available.

Instead of a rear rack or front basket, you can use a backpack. However, a backpack can strain your shoulders and make balancing harder.

Toe Clips: Toe clips and clipless pedals can give your pedaling more power. But if they are not adjusted correctly, your shoes may become locked into position so you can't put a foot down when you need to stop or if you lose your balance. When using toe clips or clipless pedals, make sure you can get your feet out of them fast.

Ankle Strap: Getting your pants caught in your chain can make you lose control and ruin your pants. ③ If your bike doesn't have a chain guard, use a clip or Velcro strap around your pants cuff to keep it from hitting your chain and frame.

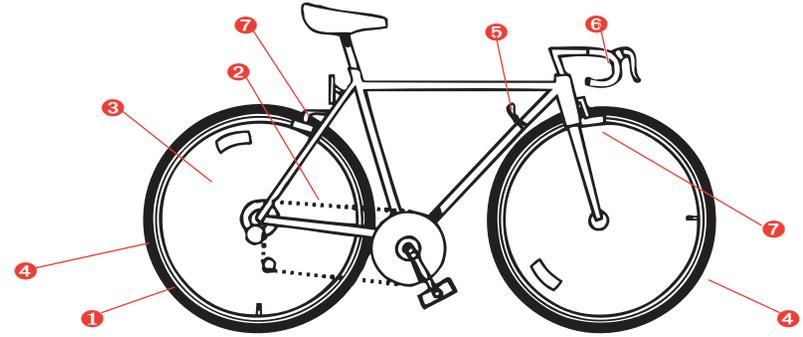
Sunglasses or Goggles: To protect your eyes from bugs and airborne debris, wear sunglasses or clear goggles, especially with contact lenses. Wrap-around glasses are best. If your glasses steam up in cold weather, apply an anti-fogger. (Some cyclists use a light coating of gel toothpaste.)

Night and Foul Weather Gear: If you ride at night or in bad weather you are required to have lights, reflectors, and more. See pages 29-32 for details.



2: QUICK MAINTENANCE CHECKS

Safety starts with your bike. Whether you use your bike a lot or you're dusting off an old bike, this page gives you a few simple things to check for a safe ride. While these checks help you find problems, we don't have room to tell you how to fix them all. If you need help, go to your owner's manual, a maintenance book, or a bike shop.



① **Air:** Tires lose a little air every day. If your gauge says a tire is more than five pounds under the needed pressure (printed on the side of the tire), add air. No gauge? Push each tire hard against a curb. If you can flatten it, add air.

② **Chain:** A dry chain can skip, lock up, or break suddenly. If your chain squeaks or hangs up, lubricate it. Oil will do, but it attracts dirt; a greaseless chain lubricant's best. To lubricate:

a. Grab the bottom of the chain loosely with a lint-free rag. With the other hand turn the pedals backward, sliding the chain through the rag. Pedal the chain around twice to remove grime.

b. With one hand squeeze or spray lubricant onto the chain, and with the other hand pedal the chain backward so it goes completely around once (twice if really rusty).

c. Repeat step (a) to get the excess lubricant off the chain. Extra lube can attract dirt.

③ **Wheel Spin:** Lift each wheel up and give it a slow spin. (Spin the back wheel forward so the pedals don't move.) Check that it doesn't rub against the brake pads, frame, or something else. If the wheel doesn't spin freely but it's not rubbing, the problem might be inside the axle.

④ **Tires:** Turn each wheel very slowly and look for big cuts, bulges, bubbles, or places you can see the inner casing. If you spot any, replace the tire. Remove glass or other debris. If the valve stem doesn't point straight at the middle of the wheel, the rim might cut it; let the air out and straighten the valve.

⑤ **Shifting:** Try all of your gears, shifting each gear lever from high to low. You have a problem if the lever sticks, you can't shift to all gears, the chain rubs the derailleur, or the chain jumps off the gears. These are usually caused by worn or dirty cables, or a derailleur that needs cleaning or adjustment.

⑥ **Handlebars:** Hold the front tire between your legs and try to turn the handlebars. If they're loose, tighten the stem bolt.

⑦ **Brakes:** You should have your brakes adjusted or replaced if you have any of these problems: (a) when you apply the brake on each wheel, one or both brake pads don't touch the rim; (b) you can squeeze your brake lever all the way to the handlebars; (c) on each wheel, the brake can't stop the tire from moving on dry, clean pavement.

Loose Parts: Pick up the bike and shake it hard. Check and fix anything that rattles.

SOME GOOD BOOKS ON BIKE REPAIR

Anybody's Bike Book, by Tom Cuthbertson

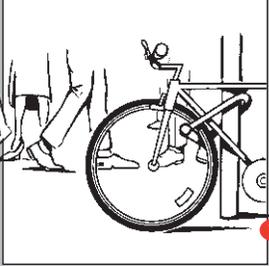
Bicycling Magazine's Basic Maintenance and Repair, by the Editors of Bicycling magazine

On the Road Guide to Bicycle Maintenance, by Eugene A. Sloane

Roadside Bicycle Repairs, by Rob Van der Plas

✓ **Check each time you ride!**

3: WHERE TO PARK YOUR BIKE



PARKING & LOCKING BASICS

The first rule: always lock it. Never, never leave your bike unlocked even if you're leaving it for only half a minute. A thief can grab your bike in seconds. Some parking basics:

Security: Lock your bike to something that's permanent and not easy for a thief to take. Lock to a bicycle rack, a parking meter, a metal fence post, or a large tree. Don't lock to another bike, a door handle, or small tree. And if you keep your bike in a garage, basement, or on a porch, lock it.

Visibility: Park in open areas where many people pass by and your bicycle can be seen easily. **1** Thieves usually don't like an audience.

Keep It Close By: Put your bike where you can get to it fast. **2** Thieves like to steal bikes whose owners are far away.

WHAT LOCKING HARDWARE SHOULD YOU USE?

U Locks: Some U locks are stronger than others; make sure you buy a strong steel-alloy lock. **3** If the manufacturer offers a warranty or insurance, register the lock and write down the lock's serial number and when you bought it. For added protection, get one or more U-lock cuffs; they can keep thieves from using a lever to pry open your lock. One drawback to U locks: you can't lock up to thick objects such as street lights; for these, carry a thick cable. Also, avoid locks having circular (tubular) keys.

Padlocks & Chains: The thicker, the better; chain links and lock clasps should be at least 3/8 of an inch thick. Look for locks and chains that are case-hardened—a process that makes them harder to cut.

Cables: Some cables are actually harder to cut than chains, because they don't snap and thieves can't pry them open. **4** Use a cable at least 3/8 of an inch thick with a lock as thick, or thicker.

Ugly Bikes: In busy commercial areas, where thieves have lots of bikes to choose from, your bike is less likely to be stolen if it looks old or just ugly.

HOW TO LOCK UP

A thief with enough time and the right tools can break any lock. But you can discourage many thieves if you follow these tips about locking your bike:

Lock the Whole Bike: You should put your chain, cable, or U locks through your frame and both wheels—taking the front wheel off if you have a quick-release hub. **5** Never lock through your wheel without locking the frame, because thieves can remove your wheel and steal the rest of the bike.

Cross Locking: A good way to foil thieves is to use more than one kind of lock. **6** For example, put a U lock through your frame and rear tire, and put a cable or chain through your frame and front tire.

Placing the Lock: Thieves may break a lock by putting it against a wall or sidewalk and smashing it with a hammer. If you use a padlock, try to put it where it's not close to the ground or against a wall or another solid surface—leaving little or no slack in your cable or chain. When using a U lock, leave little or no space in the lock's middle to prevent prying.

Removable Items: When you leave your bike, remove any parts you can't lock and a thief could steal easily: a quick-release seat, horn, bike bag, pump, cycle computer, or lights. If removing quick-release parts is a hassle, replace them with permanent ones.

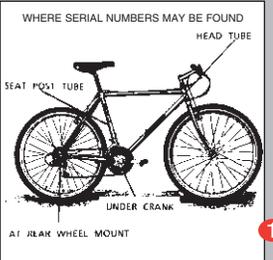
WHERE TO PARK

Parking Meters: Lock your bike to a parking meter if you're using a U lock. **5** Never lock to a meter with only a chain or cable—a thief will slide your bike over the top.

Bike Racks: Look for thick, immovable bicycle racks installed outside of many buildings. Some building owners and local governments have provided ribbon-shaped racks **7** and inverted-U-shaped racks, **6** which are very secure places to park your bike.

Sign Poles: Sign poles aren't the best places to lock your bike. Before locking to a pole, check whether you can pull it out of the ground. Also check how easily a thief could remove the sign and slide your bike over the top of the pole.





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Parking Lots: Some public parking lots will let you park your bike for a small fee. If you forget your lock, look for an attended parking lot.

Indoors: A good way to avoid theft: park your bike indoors. Some stores and buildings allow bikes inside, if only for a short time. When parking indoors, lock your bike securely.

Where Not to Park: You shouldn't lock your bike to a fire hydrant, police or fire call box, traffic control device, any device in a bus or taxi loading zone, any device within 25 feet of any intersection, or anywhere it would block or hinder drivers or pedestrians.

CUTTING YOUR THEFT LOSSES

What's the first thing to do when you get a new bike? Write down the serial number and register your bike with the local police. (Look for the serial number stamped on your bike's head tube, seat post tube, under the crank, or on the frame's rear wheel mount.) 1 Police recover a number of bikes each year, but can't return most because they're not registered. If your local police don't have a registration program, keep a copy of your serial number in a safe place.

Identifying Marks: You can discourage thieves by engraving your name or a number you can remember in an obvious place on your bike frame. 2 Or put a card with your name and phone number inside the handlebar tube—so if you find your stolen bike at an auction, junk shop, or flea market, you can prove it's yours.

If Your Bike Is Stolen: First, find your bike's serial number if you have it. Then call your local police and tell them where your bike was stolen. Try to get a police report number that you can use for an insurance claim. Also find out how police will contact you if they find your bike.

Looking for Your Bike: Sometimes you can find your bicycle at places like pawn shops, auctions, or resale shops that might deal in stolen merchandise. 3 But if you find your stolen bike among other property that someone's selling, remember that they won't just give it to you; you must prove it's yours. Keep your serial number or use identifying marks as described above.

Call your local police to learn whether they auction off recovered, unclaimed property.

4: ALL ABOUT BIKE HELMETS

WHY SHOULD YOU WEAR A HELMET?

Safety: About 1,000 American bicyclists die in crashes each year—and around three-fourths die from head injuries. Hundreds more suffer permanent brain damage. Many of these are experienced, careful riders—maybe just like you. **Most of these head injuries can be prevented with bike helmets.**

It's the Law: Maryland and DC laws require all cyclists under the age of 16 to wear a bicycle helmet. Some places in Virginia require helmets for cyclists under the age of 15. 4 Note that some areas have extended age limits to 18 and one area covers all ages. Check with your local police department to verify local helmet laws.

HELMET BASICS 5

Helmets consist of a foam core, usually white or black in color, and most have a thin plastic shell (sometimes called a "micro-shell") that covers the core. A plastic shell keeps the helmet's base from getting scratched and nicked.

If you have a crash and your helmet takes an impact, replace it right away. An impact usually damages a helmet's foam core, meaning it won't protect you again. You should also replace your helmet at least every five years, because its foam core becomes brittle.

WHY KIDS NEED HELMETS

Kids need helmets as much as adults do. Kids generally aren't as careful, they don't know how to protect themselves, and when riding in a child seat they're especially vulnerable. Make sure kids wear their helmets snugly—and set an example by wearing yours!

WHAT TO LOOK FOR IN HELMETS

Rating: Look at the inside of the helmet. It should have a compliance label from the U.S. Consumer Products Safety Commission (CPSC).

6 Older helmets might instead have an F1447 certification label by the American Society for Testing and Materials (ASTM), 7 meaning the helmet passed ASTM's tests for safety; or a green or blue Snell Foundation sticker.



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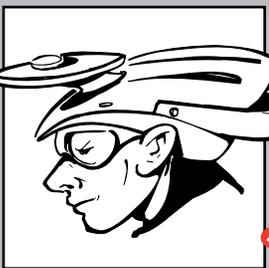
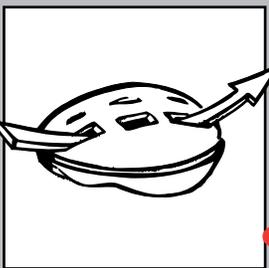
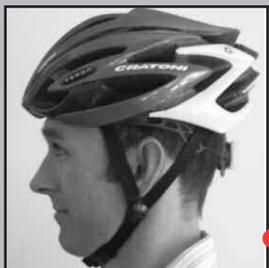
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THIS HELMET COMPLIES WITH U.S. CPSC SAFETY STANDARD FOR BICYCLE HELMETS FOR PERSONS AGE 5 AND OLDER.

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Size: Helmets come in different sizes. Find yours:

- ▶ Put the helmet on your head.
- ▶ If the helmet seems to sit too high off of your head, or it won't cover half your forehead when it sits level, try a larger size.
- ▶ If you see a gap between the helmet's rim and your head, try a smaller size.
- ▶ If a smaller size seems too small, take the larger size and insert the thicker foam pads that come with the helmet.

How To Check For A Good Fit

Eyes: When you look up you should see the helmet's front rim (not just the visor, if it has one). If you can't see the rim, tilt the helmet forward until you can. The front of the helmet should cover your forehead. **1 Right 2 Wrong**

Ears: Snap the chin buckle closed. On each side of your head, the helmet's two straps should meet under your ear to form a V. If they don't, move the straps up or down through the junction.

Mouth: With the chin buckle closed, open your mouth wide. You should feel the helmet push down on your head. If it doesn't, take the helmet off and make the chin buckle's strap shorter by sliding the strap through the buckle.

COMFORT AND COST

Cost: You can get a good CPSC-rated bike helmet for about \$25. More costly helmets usually aren't much safer, but have better ventilation, weigh less, and look cool. If you order a helmet from a catalog, first find someone who has it so you can try it on.

Ventilation: A helmet's ventilation depends on front-to-back air flow. **3** Good air flow comes from long, wide air vents, and air passages (or troughs) between the vents. (Bald, light-skinned cyclists beware: Big vents can cause weird tan lines!)

Look: You can pay lots for style. But even a low-cost helmet can look cool with an elastic helmet cover. And don't be fooled: No matter how aerodynamic a helmet looks, it won't help you go faster unless you're moving at warp speed. **4**

5: TRAFFIC BASICS

RIDING PREDICTABLY

On the street, most motorists follow traffic rules. Traffic flows smoothly because drivers can predict what other drivers will do. A collision usually happens only when someone does something abnormal.

When you ride in traffic, you can maneuver better than the cars around you. You might be tempted to ignore traffic rules—but don't! **This is how most bicyclists get into crashes.** When you break traffic laws you put yourself in danger. Motorists and other cyclists won't know what you'll do next, making it harder to avoid you and prevent a crash. But if you *act like a vehicle*—signaling turns, turning from the correct lanes, and stopping at red lights—*drivers can predict what you'll do.*

Being predictable is the key to safe bicycling in traffic. Cyclists fare best when they act like and are treated as drivers of motor vehicles—which, if you follow traffic rules, is how motorists will come to see cyclists. **5** (See the back cover for details.)

Here are the basic rules for riding predictably:

Get Wise: Know the traffic rules you should follow and when others should yield to you. See "Traffic Rules for Cyclists," below.

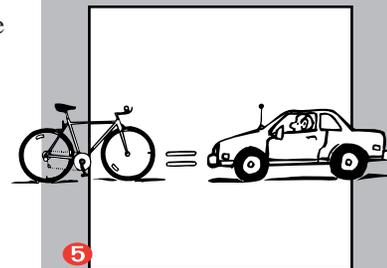
Be Confident: Learn riding skills so you don't hesitate in traffic, and always be courteous. See "How to Learn Traffic Skills," page 12.

Communicate: Make eye contact, signal your moves, and wave when someone yields. See "Communicating," page 13.

TRAFFIC RULES FOR CYCLISTS

You probably know that a red octagon means "stop." **6** But Maryland, Virginia, and DC laws require you, as a bicyclist, to know all of your area's traffic signals and pavement markings. To learn about the laws in your area, see page 22 for a summary or page 33 for relevant Web sites.

Right of Way: "Right of way" means permission to go ahead of somebody else. As a bicyclist, you must give right of way in the same situations that motorists do. If you don't know when to yield to pedestrians and other vehicles, read the local laws pertaining to bicycle riders.





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Sidewalks & Pedestrians:

Sidewalks are not suitable places to ride bicycles; sidewalks are designed for the slower speeds of pedestrians, not the faster speeds of bicyclists. In fact, sidewalk riding is illegal in many areas—so check local laws. If you ride on a sidewalk, yield to pedestrians; where there are lots of people, walk your bike. **1** Pedestrians don't like to be surprised by bicyclists passing them from behind, so you should warn them of your approach. For example, call out "Passing on your left." When approaching corners, alleys, and driveways, slow down and make noise.

Roads to Avoid: Bikes are banned on some DC-area roads; typically interstate highways, freeways, and toll roads. They are also prohibited from the travel lanes of any roadway where the posted speed limit is over 50 mph; however, you may ride on the shoulders of these roadways. **2** Also, it's illegal to ride the wrong way on a one-way street.

What Police Will Do: **3** If you break a traffic law, an officer can stop and ticket you. If you don't have I.D. or bond money, you can end up in a police station, calling someone to post your bond.

What can you do when police stop you for the wrong reason? If gentle persuasion doesn't work, plead your case in court. Bring this book, along with copies of local and state traffic laws, to prove your point.

HOW TO LEARN TRAFFIC SKILLS

With practice, every adult can bicycle comfortably in traffic. Start honing your skills in quiet parking lots, on side streets, trails, or on farm roads. **4** Then practice on major streets early on Saturday and Sunday mornings. Below, we've listed a few skills that'll help you ride in traffic safely.

Look Behind You! To bike in traffic you must know how to look back over your shoulder while riding. This simple act helps you move left or right quickly to avoid hazards, change lanes, or make a turn. And looking over your shoulder helps drivers pay attention to you. Even if you have a mirror, before you move left or right you should always turn your head to look—just as you'd do in a car.

How to Practice Looking Back:

Here's how to learn to look back without swerving or slowing down:

- a. Find a parking lot or wide, quiet street with some kind of lane stripe.

- b. Ride along the lane stripe in a straight line.
- c. Keeping your left shoulder steady, turn your head down and around to the left. Try to keep your arms steady so your bike moves straight. Then turn your head forward.
- d. Turn your head back again, but this time pick out something to look at. **5** Try to keep moving straight. Then turn your head forward.
- e. If you can't turn your head without turning your handlebars, it should help to drop your left hand to your thigh while you turn your head.
- f. Next, practice turning your head right. Then practice turning your head while moving faster.

Where to Look: As you ride you have to avoid both hazards on the ground in front of you, and cars and pedestrians ahead and on either side. You should always know how both the ground and the traffic around you look. To do this, get into the habit of looking first at the ground 20 to 30 feet in front of you, then up at traffic, then back down at the ground. **6** At first this'll seem hard—maybe even strange—but with practice you'll do it without thinking.

Ready for a Brake: Always keep your hands near or over your brake levers—so you can stop fast in a pinch. When you brake, squeeze the front and back brakes at the same time. (To learn more, see "The Quick Slow-Down" on page 24.)

Shifting Gears: If your bicycle has a gear system, know how to shift without looking down. Unless your bike has an internal-gear hub, always pedal when shifting, no matter how slowly. Learn shifting from a friend or a bike shop.

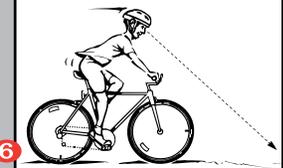
COMMUNICATING

Bikes are slower, quieter, and less visible than most other vehicles. So you should make drivers notice you, and try to communicate with them. And because a lot of bicyclists don't follow traffic laws, drivers don't always know what you'll do, even if you think it's obvious. Here are some ways to communicate:

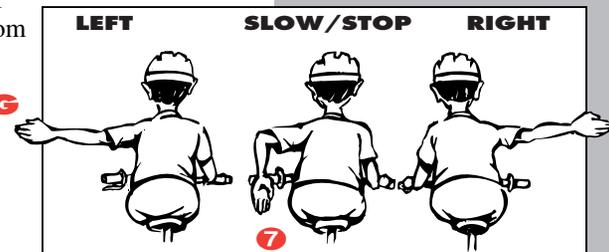
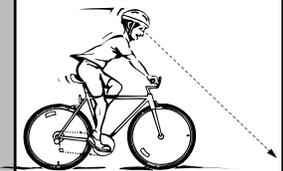
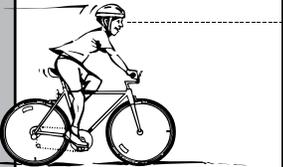
Use Hand Signals: Whenever you change lanes or turn, signal with your arm. **7** If you're about to move in an unexpected way—like around a bunch of glass—point to the part of the road you're moving to. Also signal when slowing down—you don't have brake lights! The law says you must signal



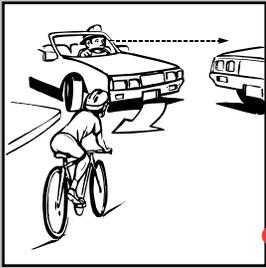
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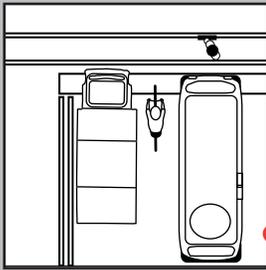
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100 feet before making a turn, so you might have to signal while shifting and braking—but don't do it if you'll lose control. You can yell your intentions, but remember that noisy traffic might prevent others from hearing you.

Yielding: When you're waiting for a car to pass you before you cross an intersection or change lanes, the driver might not realize you're yielding. Wave at the driver to go ahead. Also, when drivers correctly yield the right of way, it's a good idea to thank them by waving or nodding.

When Drivers Don't See You: As a cyclist you should do the best you can to be seen and make sure motorists see you. Know in advance how you'll react to drivers who don't see you. Can you stop in time? If not, slow down or plan how you'd steer out of the way.

How to decide whether a driver sees you:

- ▶ Watch for the car to move slower than it would if you weren't there.
- ▶ See where the driver's looking: If not at you, slow down and prepare to get out of the way. 1

Make Noise: Just as a car honks its horn when it comes out of an alley, you should make noise when you emerge from places where people can't see you—for example, when you emerge from between two vehicles to get into an intersection. 2 Use a horn or bell, or yell if you have to.

Headphones: Don't wear them. Maryland, Virginia, and DC laws prohibit a person from wearing any type of headset or earplugs that cover both ears when riding on a roadway.

PICKING YOUR ROUTE

3 Before you ride, decide which streets and trails to take to your destination. Think about road construction and areas that have bad pavement. If a road has lots of traffic or lacks wide shoulders, consider taking a different route—even if it's a less direct one.

If your area has a map of bicycling routes, use it to pick your route. But remember:

- ▶ Maps don't tell you where crime might be a problem. Before you bicycle in an unfamiliar place, talk to someone who knows the area.
- ▶ Some maps show streets designated for cycling, but these streets still might have rough spots.
- 4 For a complete list of area bike maps and guides, contact the Washington Area Bicyclist Assoc. (see "Bicyclists' Resources" at the back of this booklet).

6: LANE POSITIONS, TURNING, & PASSING

BASIC LANE POSITIONS

Traffic law says that slower vehicles should stay to the right. But where exactly should bicycles ride? Here are some basics.

Never Ride Against Traffic: If you feel safer riding against traffic because you can see cars coming, you are wrong: **Twenty percent of all car-bike collisions result from cyclists going the wrong way.** Drivers moving down a street—and drivers turning onto the street—don't look for vehicles coming at them in their lane. And if they hit you, it'll be much harder head-on than from behind.

When to Stay Right: Stay right if you're moving slow compared to traffic, but remember: The farther from the curb you ride, the better motorists can see you—whether they're in your lane, oncoming, or on cross streets. 5 Riding farther from the curb keeps cars from passing you on the left and then turning right immediately in front of you—and gives you more room to avoid car doors, debris, and potholes.

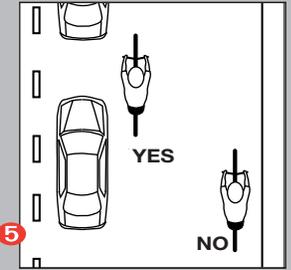
When to Ride In the Middle: 6

It's safest to ride in the middle of the lane when: (a) You're moving at the speed of traffic; (b) the lane is too small for cars to pass you safely; (c) you're avoiding potholes or the doors of parked cars. If you're riding in the middle and traffic starts to move faster than you can, move toward the curb if there's room. Some special cases:

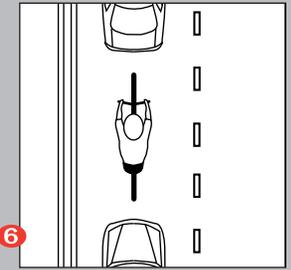
▶ Bike Lanes: You can ride in the middle of marked bike lanes. 7 But when you find parked or moving vehicles in these lanes, follow the lane practices described above.

▶ Dangerous Areas: If you come to a dangerous area—such as a bend in the road that you can't see beyond—ride in the middle of the lane to be more visible.

▶ Underpasses: Ride in the middle on roads where they pass under other roads or train tracks, where there's no shoulder. 8 If you approach an underpass while riding on the right side of the road, always check traffic behind you before moving into the middle of the lane. Also, motorists behind you might get impatient, so communicate with them by using the "slow" arm signal (see page 13).



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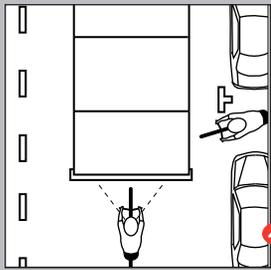
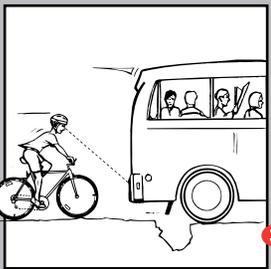
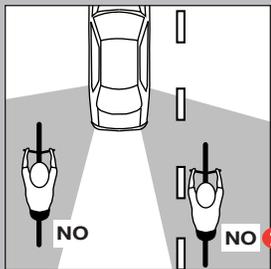
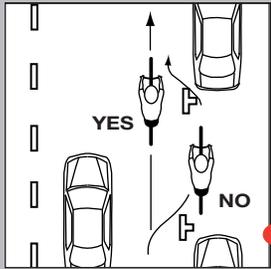
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Parked Cars: Don't weave in and out of parked cars, because you'll confuse drivers; ride in a straight line. **1** Ride at least four feet away so you don't get hit if someone opens their door. And if a car door starts to open into you, yell and brake; swerve out of the way only if you have enough room.

Riding with Others: A few things about riding with others:

- ▶ Maryland, Virginia, and DC laws state that bicyclists on a roadway may ride two abreast only if they don't hinder the flow of traffic.
- ▶ In Virginia, bicyclists can't ride two or more abreast on highways or roads with two or more lanes in one direction. When riding two abreast, bicyclists can't hinder traffic flow, and when being overtaken from the rear cyclists should ride single file.
- ▶ When another cyclist turns or changes lanes, don't assume it's safe for you to do the same. Always look behind you before you make a move.
- ▶ When you're with a group stopped at a light, line up single file so you don't block or slow other vehicles.

Blind Spots: To be safe, know where a driver's blind spots are—and stay out of them! **2**

- ▶ Don't follow a vehicle so closely that you can't see potholes or other pavement problems until you're on top of them. **3**
- ▶ If you're following a large vehicle—like a van, truck, or bus—don't follow so closely that it blocks your field of vision. **4**
- ▶ When you go over a hill, motorists behind you can't see you. Stay on the shoulder to the far right. If there's no shoulder, consider walking your bike until you've gotten well past the top of the hill.
- ▶ Big vehicles coming at you can hide other cars behind them. Slow down or don't proceed until they get out of your line of sight.

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INTERSECTIONS AND TURNS

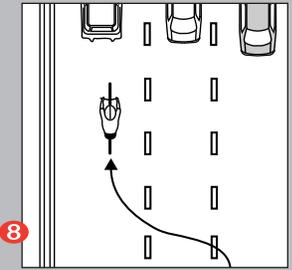
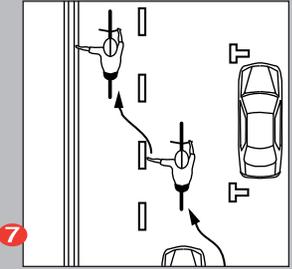
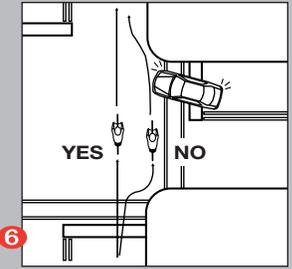
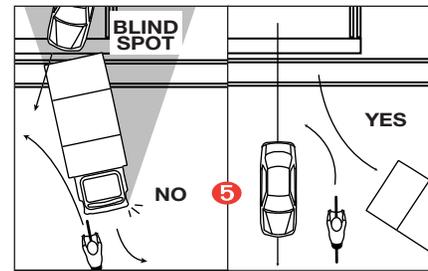
Almost half of car-bike collisions in traffic happen at intersections. This section tells you the safest places to put yourself when you reach an intersection, whether you're turning or going straight.

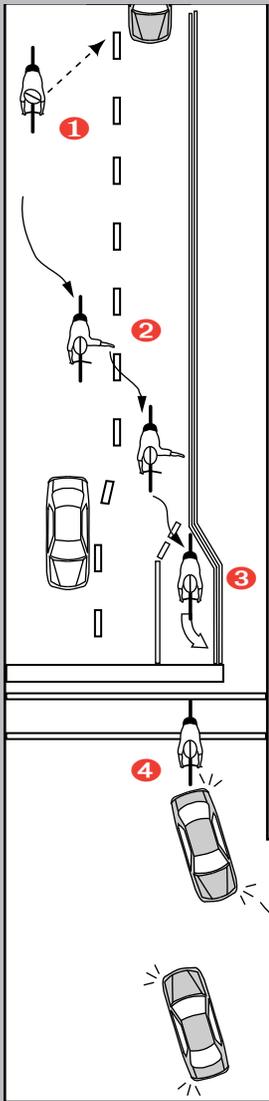
Things to Remember at Intersections:

- ▶ When you're about to cross an intersection, don't veer to the left or right. Try to move in the straightest possible line to where you'll ride on the other side. **6**
- ▶ Don't block crosswalks. It's dangerous to make pedestrians cross farther into the intersection.

Changing Lanes Before a Turn:

- ▶ When you're turning left on a multi-lane street where vehicles are not travelling much faster than you, merge left one lane at a time. **7**
- ▶ Where traffic moves much faster, drivers won't have time to react to you—so it is safest to wait for a gap in traffic and move across all the lanes at once. **8**
- ▶ Always signal and check behind you before changing lanes.





Turning Left from a Left-turn Lane: Follow these steps for making left turns just like cars do.

- ▶ From the right side of the street, look behind you for a gap in traffic. **1** Start looking a half-block or more before the intersection.
- ▶ When traffic allows, signal left and change lanes. **2** If you can't find a gap and you're sure of your skills, get a driver to let you in by making eye contact and pointing. Don't change lanes until you're sure the driver is yielding!
- ▶ Go to the middle of the left-turn lane. **3** If there is more than one turn lane, use the one farthest to the right—unless you're making another left turn immediately.
- ▶ If there is a car already waiting to turn left, get behind it. **4** (Never put yourself next to a car in the same turn lane!) If there is an oncoming car facing you, waiting to turn left, place as much distance between you and it as you would if you were driving a car.
- ▶ Turn just like a car does, finishing your turn in the first lane to the right of the center line. **5**

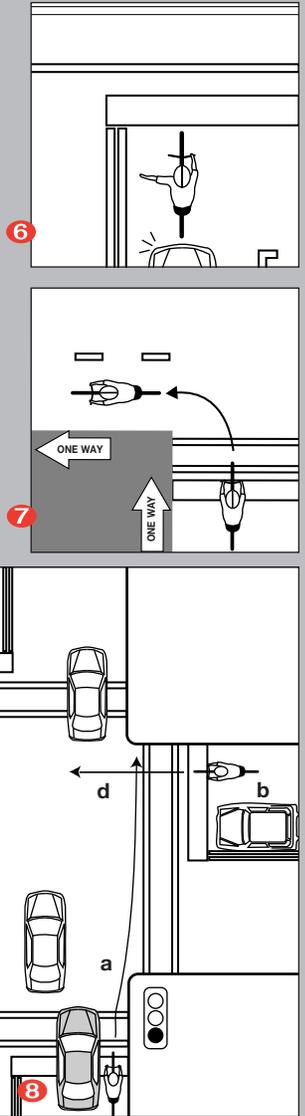
Turning Left with No Left-turn Lane: If there is no turn lane, ride about four feet from the center stripe—far enough out so a left-turning car behind you can't pass until you've finished the turn. **6**

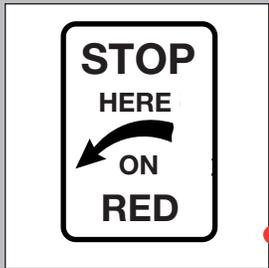
If a car's stopped at the intersection and you can't tell whether it's going to turn left, don't try to pass it on the left. Stay behind it until it gets through the intersection.

When turning left from a one-way street to another one-way street, you must turn into the lane closest to the left side of the street. **7** Make subsequent lane changes when it is safe to do so.

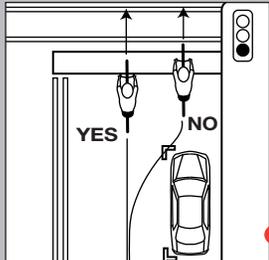
The Box Left Turn: Use the box left turn if you can't merge left before you reach the intersection. **8** Here's how:

- a. Stay in the right lane and ride across the intersection on the left side of (not in) the crosswalk.
- b. Just before the opposite corner, check whether there's room for you in the traffic lane to the right of the crosswalk, behind the stop line. If there is room, go there and align yourself with traffic.
- c. If there is no room behind the stop line, stop on the intersection side of the crosswalk and align yourself with traffic.
- d. When the traffic light changes, move with traffic.

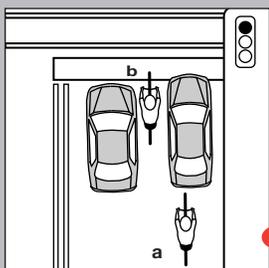




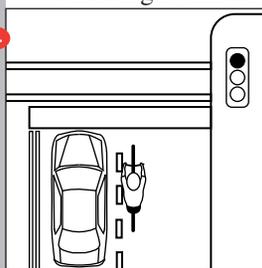
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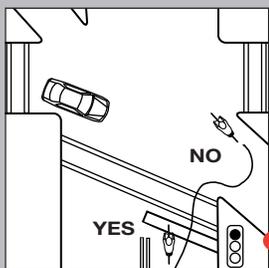
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Stop Signs and Turns on Red:

At a stop sign or right turn on red, the law says you must stop—not just slow down. 1 Remember to act like a vehicle as follows.

- ▶ If you're at a stop sign and a vehicle on the cross street got there first, let it go through first.
- ▶ If you're turning on red, yield to pedestrians and to vehicles traveling on the cross street.

Don't Veer to the Curb: Don't veer into the right-turn lane as you go through the intersection. 2 You're easier to see if you stay away from the curb. And you won't have to move back over when you get across the intersection.

Cars Stopped in Both Lanes: 3 (a) When cars are stopped in the left and right lanes, it is safest to stop in the middle of the right lane. (b) But if the right-lane car is turning right and you're sure of your traffic skills, stop on the left side of the right lane. Stop where drivers in both lanes can see you.

Right on Red Allowed: At a red light where right turn on red is allowed, stop on the left

side of the right lane—leaving enough room for other right-turning cars. 4 If a car is stopped in the left lane, stop where drivers in both lanes can see you.

Three-way Intersection: At a red light in a three-way intersection, don't cross the diagonal street to wait on the next corner. 5 You'll confuse drivers about which street you're really traveling on.

PASSING

In most cases you should pass cars in your lane as you would if driving a car: Look behind you, signal left, get into the left lane, and pass. Here are some things to remember about passing:

Pass Left: Pass moving cars on the left when you can. That's where motorists expect you to pass, so that's where they look.

Don't Pass on Turn Side: If a vehicle is about to turn, don't pass it on the side it is turning toward.

Opening Doors: When you pass a stopped car, watch out for the driver or a passenger opening their door. Pass four feet from the car, or (if the car is stopped in traffic) pass on the side with no passengers.

Cars Speeding Up: If you're passing a car and it speeds up, stay in your lane and slow down. After the car passes you, look back, signal, then merge back behind the car.

Squeezing between Cars: 6 If you're in a traffic jam with cars backed up for at least a block, it's safest to get in line with the cars and wait it out. But if you do squeeze between the cars to get through, here's what to watch for:

- ▶ A car door can open in front of you, on the left or right, at any time. Look inside cars for passengers who might get out. Keep your hands on your brake levers.
- ▶ When pedestrians cross the street in the middle of a traffic jam, the last thing they expect is you zooming down on them between the cars. Watch out for pedestrians, especially when passing trucks or buses that you can't see in front of.
- ▶ If a space opens up in the traffic jam—and you're near a driveway or cross street—watch for a car from the opposite direction turning into your path.

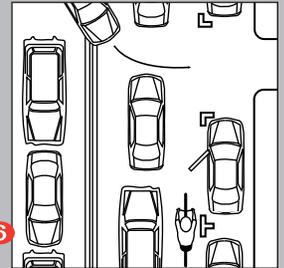
Passing Buses:

Here are a few tips for passing buses at intersections or bus stops:

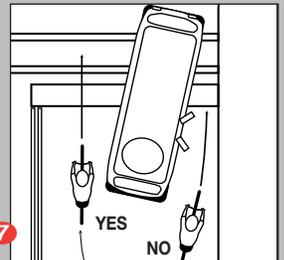
- ▶ When you come to a bus that's nearing or stopped at a bus stop, don't pass on the right. 7 You might get squeezed into the curb or hit a passenger.
- ▶ When you pass a bus with its rear angled out into traffic, pass on the left. 8 Look around carefully. Pass the front of the bus with plenty of room in case it pulls out suddenly or pedestrians appear.
- ▶ Don't pass a bus to turn right immediately in front of it. Buses sometimes speed up suddenly or start moving before the traffic light turns green.

Highway Ramps: When an exit ramp merges from the right, first look over your right shoulder to see what's coming. If a lot of cars are merging, stay straight so they pass before you on the right. 8 As you move farther, they'll pass behind you on the left. 9 If there's a break in the merging traffic, move to the right as soon as you can. 10 If there are too many cars, stop and wait before the ramp.

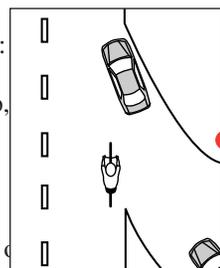
Passing Cyclists: Cyclists can swerve faster than cars—so when you pass a bicycle, pass at least three feet away on the bicycle's left (not the right). Always shout "Passing on your left!" before you pass so nobody's surprised.



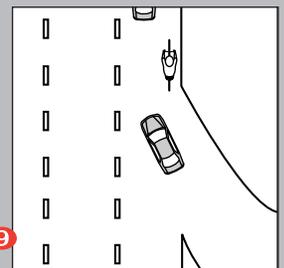
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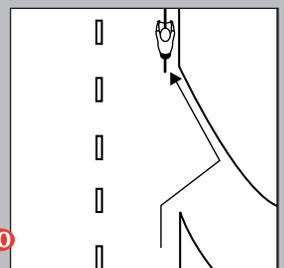
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BIKE-RIDING RULES IN THE WASHINGTON AREA

	District of Columbia	Maryland	Virginia
General	Bicyclists traveling on roadways have all the general rights and duties of drivers of vehicles.		
Where to Ride	Ride with the flow of traffic as closely as practicable to the right-hand curb or edge of roadway.	Ride with the flow of traffic as closely as practicable to the right side of roadway.	Same as DC.
	Full lane use allowed when traveling at the normal speed of traffic, passing, preparing for a turn, avoiding hazards, traveling in a lane 11 feet wide or less, avoiding a mandatory turn lane, and when necessary for the bicyclist's safety.	Full lane use allowed when traveling at the normal speed of traffic, operating on a one-way street, passing, preparing for a turn, avoiding hazards, traveling in a lane too narrow to share, and avoiding a mandatory turn lane.	Full lane use allowed when traveling at the normal speed of traffic, passing, preparing for a turn, avoiding hazards, traveling in a lane too narrow to share, and avoiding a mandatory turn lane.
Passing Cars	Allowed to pass on left or right, in the same lane or changing lanes, or pass off of the road.	Exercise due care when passing.	Same as DC.
Dooring	No person shall open any door of a vehicle unless it is safe to do so and can be done without interfering with moving traffic.	A person may not open the door of any motor vehicle with intent to strike, injure, or interfere with any bicyclist.	Same as DC.
Bicycling 2 Abreast	Allowed when it does not impede traffic. Persons may not ride more than two abreast.		
Mandatory Use of Bike Lanes & Paths	Not required.	Use of bike lanes required when available except when passing, preparing for a turn or avoiding hazards. No required use of separated paths.	Not required.
Cycling on Sidewalks	Yield right of way to pedestrians.		
	Prohibited in the central business district (bounded by Massachusetts Ave. NW, 2nd St. NE-SE, D St. SE/SW, 14th St. NW, Constitution Ave. and 23rd St. NW). Allowed where posted in this area, and prohibited where posted outside this area.	Allowed where permitted by local ordinance (such as in Montgomery County).	Allowed except where prohibited by local ordinance, such as Prince William County and Alexandria. Bicyclists must give audible signal before passing pedestrian.
Audible Warning Devices	Bell or other device required, sirens prohibited.	Bells allowed (not required), sirens and whistles prohibited.	Bell not required.
Helmets	Required for any operator or passenger under age 16.	Same as DC.	Required by local law for any operator or passenger age 14 or less in Alexandria, Arlington Co., Fairfax Co., Falls Church, Vienna, and other areas.
Lights at Night	Front white light and rear red reflector (or rear red light) required when dark, may be attached to operator.	Front white light and rear red reflector (or rear red light) required when dark.	Front white light and rear red reflector required when dark, may be attached to operator; rear red light required on roads 35 MPH and up.

BIKES ON BUSES & TRAINS

Bus Information ①

Most local transit buses have bike racks that let transit riders bring their bicycles with them when riding a bus. When using bus racks:

- ▶ Before you try to put your bike into a bus rack, either make sure the bus driver sees you, or tell the driver you plan to use the rack.
- ▶ Before you get off the bus, tell the driver you plan to take your bike off of the rack.

Rail Information

Bicycles may be brought aboard Metro subways, Maryland light rail in Baltimore, and some Amtrak trains. When using these services be sure to:

- ▶ Follow the rules about bicycles, and obey instructions from transit staff.
- ▶ Stay a safe distance from the loading platform edge at all times prior to boarding trains.
- ▶ If your bicycle or other property falls into the track area of the Metro subway system, *do not* try to get it yourself. Ask the station attendant to help you.

Also, when approaching light rail or other railroad tracks:

- ▶ Expect a train at any time, from any direction, and on any nearby track.
- ▶ Obey railroad crossing safety devices.
- ▶ Before crossing tracks: Stop, look, and listen. Don't rely on noise alone to warn you of an approaching train. Modern trains, especially light rail trains, are very quiet.

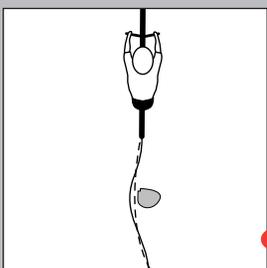
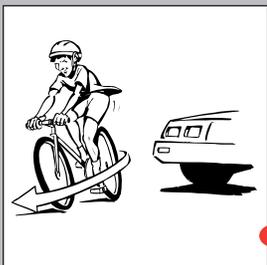
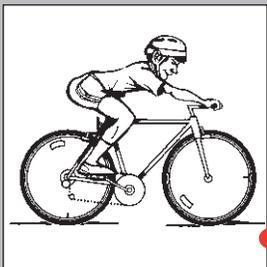
To Learn More

For more detailed information, please visit www.waba.org/areabiking/transit.php.





7: TROUBLE SITUATIONS



EMERGENCY MOVES

When you're riding quickly and something gets in your way, slamming on the brakes might not be the best reaction. This section describes some emergency moves that you can practice in a quiet parking lot. Start slowly, then work your speed up. Practice—so when you need an emergency move, you make it automatically.

The Quick Slow-Down: When you stop fast, your weight shifts from your back wheel to the front. Even if you use both your front and back brakes your back tire can skid and start to lift. To slow down quickly: **1**

- a.** Push yourself as far back on the bike as you can. This keeps weight on the back tire.
- b.** Position head and torso as low as you can so you don't flip.
- c.** Squeeze both brakes evenly. If the rear tire lifts off the ground, ease up on the front brake. If the rear tire starts to skid or slide, ease up on the rear brake.

The Instant Turn: Use the Instant Turn when a car turns in front of you and you can't brake in time. To make a very sudden right turn, steer sharply left—toward the car—which makes you lean right. **2** Then turn right hard, steering into the lean and away from the car. **3**

The Rock Dodge: The Rock Dodge is just a quick turn of the front wheel to miss a rock or hole right in front of you. **4** At the last second, turn the front wheel sharply left and back right again. Both wheels should miss the hazard.

How to Fall: Most serious bicycle injuries involve brain damage, so the best way to protect yourself in a fall is by wearing a helmet. Otherwise, it's not easy to prepare for a fall. But if you have time to think:

- ▶ When about to hit a car, don't try to wipe out first; instead, stay upright as long as you can. If you get low you risk going under the wheels or hitting the sharpest parts of the car.
- ▶ If you go flying, tuck your head, arms, and legs into a tight ball and try to roll when you hit the ground. If you stick your arms out you're likely to break them, or your collarbone, or both.

Dogs: **5** Here are some of your options when a dog chases you:

- ▶ **Just stop.** The dog might stop if you do. If it does, slowly ride or walk away.
- ▶ **Stop and get off your bike, quick.** If attacked, try to keep the bike between you and it. Shout something commanding, like "Go home!"
- ▶ **Try to outrun it.** This might be a good idea if there's more than one dog. *Don't* try to outrun it if you're not sure you can; too many cyclists have wiped out when running dogs get caught in their wheels. If you go for it, try a squirt with your water bottle to slow Fido down. *Don't* try to hit the dog; you could lose your balance.
- ▶ **Use a dog-repellent spray.** **6** But be careful: wind could blow the stuff back into your face. If a dog bites you, get to a doctor or hospital right away. Report the attack to police. If you can identify the dog, you might avoid a rabies test.

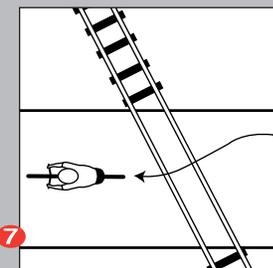
Pedestrians: Maryland and DC laws state that you must stop for pedestrians in a crosswalk, even with no traffic signals present. And when turning on a green signal, you must yield to pedestrians. In Virginia, cyclists and motorists must yield the right of way to pedestrians in a crosswalk. If you are riding on a sidewalk (not recommended) go slowly and yield to pedestrians.

- ▶ Warn them with a horn, bell, or by shouting. Remember: Pedestrians look for cars, not bicycles.
- ▶ If there are still people in the crosswalk, slow down or stop to avoid a collision. If you go between pedestrians, make sure they see you and pass them carefully. Never go between parents and their children.

Railroads: Some railroad tracks cross streets diagonally. If you go over these tracks without changing your direction, your tires might get caught between a track and the road. **7** Instead, try to cross tracks at a right angle—especially when the street's wet.

Gravel and Sand: Turning or braking suddenly on gravel or sand can make you slide or wipe out. See "Braking" on page 30 to learn how to brake when it's slippery.

Drain Grates: **8** Avoid drain grates with long openings that can catch your tires.





Truck Wake: When riding on a highway and you're passed by a large truck or bus, keep a firm grip on your handlebars. The suction of the vehicle's wake could pull you suddenly to the left.

Assault: If you're afraid to bike in a certain neighborhood, don't—or go with friends and stay on busy streets. Here are some other tips:

- ▶ The best defense is to stay alert. If you see someone who looks like they'll hurt you, stay away from them.
- ▶ In places where you think you're about to be attacked, don't stop for any reason.
- ▶ Carry a defensive spray such as dog repellent or Mace, if legal in your area. Make sure you can grab it quickly. (Look for a handlebar holder.) Be careful: A spray can easily be turned against you by the wind or even your attacker

If you get mugged, *don't fight*; your bike or other property isn't worth your life. Try to remember the mugger's features, then go the nearest phone and call police.

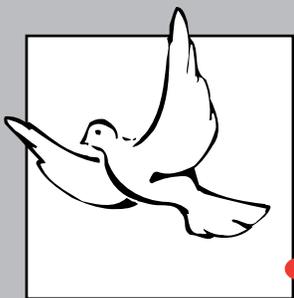
CONFLICTS WITH MOTORISTS

Some motorists act mean toward bicyclists. Some will cut you off or curse at you because they don't understand that you must observe the same traffic rules they do. What should you do?

Rule 1: Don't start a fight. ① Don't start a fight—no matter how mad you get. If you lose your cool, the motorist might decide to get back at the next bicyclist they encounter. Or, worse, the motorist might decide to smash **you** with their two-ton automobile and speed off before you can even start to say "license plate."

Rule 2: Report harassment. ② Motorists who touch you or put you in danger might be guilty of assault. Stop and write down everything you can remember: the license plate number, type of car, and where and when it happened. Then call police.

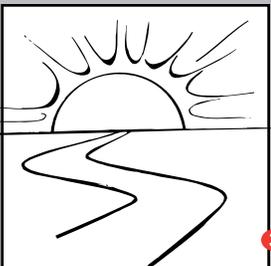
Rule 3: Take the long view. ③ If all cyclists follow traffic laws, motorists will see that cyclists belong on the street. You can help! Whenever possible, tell receptive motorists they should share the road. Meanwhile, government and bike advocates are carrying the bicycling message to people where they learn best: in school and at work.



①



②



③



WHAT TO DO AFTER A TRAFFIC CRASH

If you're hurt in a traffic crash, don't ride away or shake off what seems like a minor injury—you might find later that it's worse than you thought. Instead:

- ▶ Call the police. If needed, get medical help immediately.
- ▶ Get the following information from every vehicle: driver name, address, phone number, driver's license number, license plate number, make of car, insurance company name and policy number.
- ▶ Get the names and phone numbers of witnesses.
- ▶ Get the police report number from police on the scene.
- ▶ Write down how the crash happened while it's fresh in your memory.
- ▶ Keep (or photograph) any damaged clothes or equipment.

Also, if you're a victim:

- ▶ Don't get mad at the scene. Keep a level head so you can ask questions and take notes.
- ▶ If injured, don't move unless you're sure you won't hurt yourself more.



8: USING OFF-STREET PATHS



1



2



3



4

While bike paths or multi-use paths are a welcome relief from automobiles, remember: *Bicycle crashes happen almost three times as often on paths as on streets.* Here's how to ride paths safely.

Be Courteous: People on paths don't always know which side to travel on and when to yield. So everyone should act with courtesy. When in doubt, give the other person a break.

Ride Predictably: Ride straight and at a steady speed so people can stay out of your way. Always look back before passing or turning. Use hand signals (see page 13) and make noise by shouting or by using a bell or horn.

Where to Pass? Slower path traffic should stay right, except to pass, like on the street. And you usually should pass on the left. When there's not enough room on the left, don't pass on the right unless it's safe. Always signal so people behind you know which side you'll pass on.

Calling Out to Others: Yell "passing on your left" or "passing on your right" before you pass another cyclist, a skater, or a runner. 1 If they're walking in a straight, predictable line, pass them without saying anything—but give them lots of room so you don't startle them. Avoid headphones so you can hear others passing or warning you.

When to Yield: 2

- ▶ When you enter a path, or you're on a path that crosses a street or another path, always be ready to slow down and yield to cross traffic.
- ▶ If cross traffic has a stop or yield sign, they should yield to you.
- ▶ If there are no signs, you should yield to the person who reaches the intersection first.
- ▶ Yield to anyone who won't slow down for you. If there's no room to pass safely, yield to slow-moving people in front of you. And if you stop, move off the path so you don't block it.

Do No Damage: Don't ride off marked trails into mud, dirt, grass, or seedlings, or lock to small trees. You'll crush the soil and kill trees.

Problem Areas:

- ▶ **Sharp turns.** Paths often have blind turns where you can't see what's coming. 3 Slow down!
- ▶ **Crowds.** In crowds, go slow and make noise.
- ▶ **Sand, ice, and snow.** 4 Paths covered with snow, ice, sand, wet leaves, or gravel will make you slide. Avoid sharp turns and sudden braking.

9: RIDING AT NIGHT & IN BAD WEATHER

HOW TO BE SEEN AT NIGHT

Light up! Here's how:

Reflective safety vest:

Good for cycling in dark clothes or if your rear light goes out. Don't wear dark clothes with no other light-colored material.

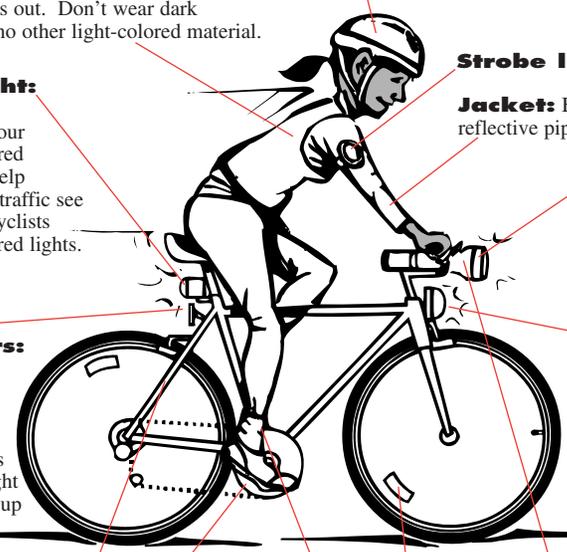
Rear light:

A good addition to your legally-required reflector to help approaching traffic see you. Many cyclists use flashing red lights.

Rear reflectors:

Biggest are best; get one at least three inches wide, make sure it's pointed straight back and not up or down.

Only red is legal but newer amber ones can be several times brighter. Reflectors work only if they're clean, so remember to wipe them off!



Reflective tape: Use white or yellow in front, yellow or red in back.

Strobe light

Jacket: Bright color, reflective piping in back.

Flashlight:

In a pinch, tie on with rubber bands or a bungee cord.

Headlight:

Battery-powered LED or strobe. Get the most powerful one you can afford. (Use white or amber, not red.) The newer strobe lights don't cost lots and have long battery lives.

Generator lights can be bright, but some go dark when you stop—bad for night riding.

Rechargeable batteries:

If you ride at night a lot, you'll save money and throw away fewer toxic batteries.

Pedal reflectors: Built into front and back.

Reflective ankle strap

Spoke reflectors: Not a substitute for a headlight or rear reflector.

Reflective tape: Use white or yellow in front, yellow or red in back.

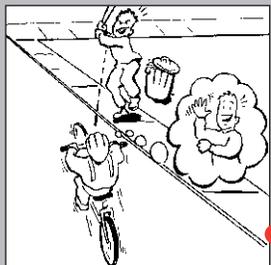
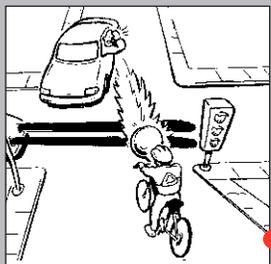
Only three percent of bike rides happen at night—but over half of all cyclists killed are hit while riding at night without lights. At night, Washington-area laws require a white front light (see p. 22), and you can't see most bike headlights from more than 500 feet. That's not much; you can see a car's headlights from 3,000 feet—and that's what most motorists look for. (Under bright street lights you need bike lights to be seen, not to see.) And because your upper body's at eye level, it's important to wear bright stuff at night.

RIDING AT NIGHT

Defensive Riding: At night, it's hard to see road hazards and know what others will do: You can't see where they're looking, and some may be drunk. **Slow down** from your daylight speed. To make sure drivers see you when you're stopped, **flash your lights** by twitching your handlebars back and forth. **1** And **watch cars** closely; be ready to get out of their way.

Know Your Route: If you're new at night riding, **take streets where you know the potholes and traffic** so you can focus on riding in the dark. Also, if you're not sure about nighttime crime in a neighborhood, ask someone who knows the area—or don't ride alone.

Night Blindness: **2** Don't bike at night if your visual acuity's worse than 20/40 with glasses or contacts, or you can read a far-away sign or address okay in daylight but not at night. See a doctor to be sure.



RIDING IN RAIN & SNOW

Wet Streets: Wet streets can throw you. Watch out for:

- ▶ **Metal, paint, and leaves.** Metal-grate bridges, sewer and manhole covers, painted pavement, and leaves get slippery when wet.
- 3** Don't turn or brake on them. On bridges, if you have thin or smooth tires don't ride across; put both feet on the road and "scooter" across, or walk your bike on the sidewalk.
- ▶ **Puddles.** Don't ride through a puddle if you can't see the bottom. It could be a deep pothole that could make you crash or dent your wheel.
- ▶ **Start of rain.** Don't race to beat the rain when it starts; it's when streets are slickest, because oil on the road spreads before it washes away. Turn slower and with less lean.

Slow Down: Remember that motorists and cyclists can't see as well in rain or snow. And it takes longer to stop—so to be safe, go slower than normal.

Braking: When brake pads are wet they take up to ten times longer to work. Dry them by applying your brakes far ahead of where you want to slow down, causing your pads to wipe the rims. To dry them faster, "pump" the brakes by applying them, then letting go, over and over.

Snow: Snow crews usually clear major streets within a day of a major snowfall. Walk your bike to one and get going. Other concerns:

- ▶ **Ice.** Snow hides ice on the pavement, so avoid riding on snow. Walk your bike if you must.
- ▶ **Build-up.** With piles of snow on the right, ride in the middle of the right lane. **4** Let cars pass in heavy traffic; otherwise, if drivers blow their horn, give them the "slow" arm signal (see page 13)—or shake your head firmly—and keep going.

DRESSING FOR COLD & WET WEATHER

People who bicycle in the cold and rain aren't nuts; they're just dressed right. But how?

Protection & Venting in Wet Weather:

If your clothes keep out rain they might also seal your sweat in. Wear a jacket or poncho that lets air in from the bottom, back, or sides. Use fenders to keep road grit and water from spraying up onto your feet, legs, and back.

Layers for Cold: You don't need a whole new set of clothes to bike in the cold. Wear a sweat-shirt or jacket and t-shirts, light sweaters, and tights or long johns in layers as weather gets colder. By wearing light layers you can also remove outer clothes if you warm up while cycling. (Overheating can make you sick.) And if you sweat a lot, the layer closest to your skin should be a non-absorbing material (synthetic instead of cotton) that lets sweat evaporate as you ride.

Try different clothing to find what makes you comfortable at different temperatures and in the rain. In extreme cold or wind chill, cover your hands, feet, and ears well. Here are some other ideas:

Temperature	What to Wear
Cool: 50	Light jacket or windbreaker; long pants; light gloves.
Cold: 40	Thicker socks (or a second pair); heavier gloves; hat.
Freezing: 30	Sweater or another torso layer; glove liners under gloves; neck gaiter, turtleneck, or scarf; headband or earmuffs; add knee socks; heavy shoes or shoe covers.
Below Freezing: 10	Another torso or leg layer; mitten shells instead of (or over) gloves; face mask.





EQUIPPING YOU AND YOUR BIKE FOR RAIN AND SNOW

Wear bright colors:

Yellow, orange, or fluorescent pink.

Ears: Wide headbands or earmuffs fit under your helmet.

Neck: Wool scarf, cotton turtleneck, or neck gaiter keeps icy air from blasting down your shirt.

Hands: Use gardening or fishing gloves, ski gloves, or thickly lined hunter's gloves. Make sure gloves will grip brake handles well.

Inseam: To prevent unusual frostbite, avoid porous warm-up pants. Wear wind-proof tights or pants.

Legs: When it's cold but dry, wear loose-fitting, average-weight pants like jeans. When it's colder use long underwear or a second pair of tights. In wet weather wear synthetic underwear with one or two pairs of tights.

Feet: Wear heavy wool socks or two pairs of socks. (Wool dries more quickly than cotton.) Knee socks protect shins from cold from below. With socks for warmth and fenders for dryness, wear shoes simply to take road dirt. When it's really cold and wet, wear rubber boots.

Head: Cover it unless you have thick hair. A tight-fitting hood covers your ears and fits under your helmet.

Hoods: Don't use loose-fitting hoods that block peripheral vision.

Neck: High collar or hood keeps water from going down your neck.

Leg gaiters: Often made of nylon; keep your pants legs dry.

Rain gear: Wear a waterproof jacket. If sweat's a problem, wear a **loose or vented jacket**, a **waterproof poncho** that lets in air from below, or a **cyclist's rain cape** that hooks to your thumbs to keep it out of your tires.

Rims: When wet, brake pads grip aluminum rims better than they do steel.

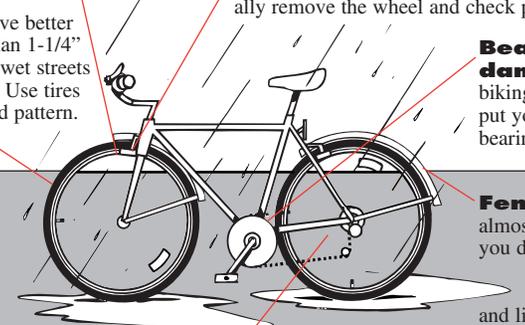
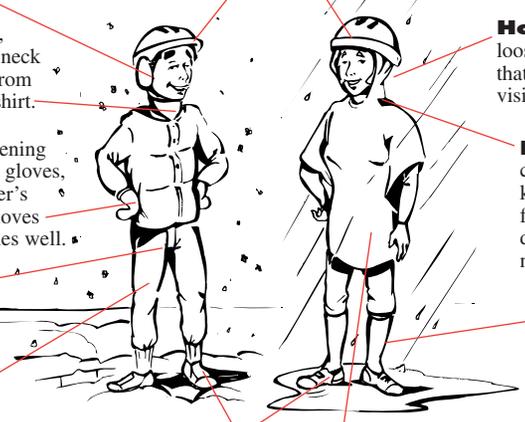
Tires: Fat tires have better traction. Tires less than 1-1/4" wide work better on wet streets when under-inflated. Use tires with a moderate tread pattern.

Brakes: Grime builds up on brake pads, making them squeak or scratch your rims. Run a rag between each pad and the rim, like shining a shoe. Occasionally remove the wheel and check pads for wear.

Bearing damage: After biking in wet weather put your bike indoors so bearings can dry.

Fenders: They beat almost anything to keep you dry on wet pavement. The newest plastic ones are inexpensive and light, but can break if installed wrong.

Salt damage: With lots of winter riding, occasionally wipe your frame, rims, spokes, and derailleurs, and lube your chain (see page 5). Use a toothbrush for hard-to-reach parts.



BICYCLISTS' RESOURCES

Bicycling Encouragement

- ▶ **BikeArlington** 703-247-9299
info@bikearlington.com, bikearlington.com
BikeArlington, a program of Arlington County Commuter Services within the Dept. of Environmental Services, partners with citizens and businesses to encourage more people to bike more often.
- ▶ **Washington Area Bicyclist Association (WABA)** 202-518-0524, waba@waba.org, waba.org
WABA promotes bicycling for fun, fitness, and affordable transportation; advocates for better bicycling conditions and transportation choices for a healthier environment; and educates children, adults, and motorists about safe bicycling.
- ▶ **WashingtonAreaBikeForum.com**
An on-line community where D.C.-area cyclists can ask and answer questions about any bicycling-related topics—including new rider issues, bike maintenance, and commuting routes.

Government Contacts

- ▶ **District of Columbia** 202-299-2186
info@godcgo.com, godcgo.com/biking
- ▶ **Maryland: Montgomery County** 240-773-2989
mcdot.CommuterServices@montgomerycountymd.gov
montgomerycountymd.gov/content/dot/transit/commuter/page6.asp
- ▶ **Maryland: Prince George's County** 301-952-3594
info@ppd.mncppc.org, pgplanning.org
- ▶ **Virginia: Dept. of Transportation** 800-835-1203
TTY 711, vabiking@vdot.virginia.gov
virginiadot.org/programs/bk-default.asp
- ▶ **Virginia: Arlington County** (see BikeArlington, above)
- ▶ **Virginia: City of Alexandria** 703-838-3800
localmotion@alexandriava.gov, alexandriava.gov/localmotion
- ▶ **Virginia: Fairfax County** 703-324-BIKE
bicycleprograms@fairfaxcounty.gov
fairfaxcounty.gov/fcdot/bike

Area Bike Laws and Maps

- ▶ Bike law info: waba.org/resources/laws.php
- ▶ Local bike maps: waba.org/resources/maps.php

To Order This Booklet for Free

Contact WABA (contact info shown above), or
<http://commuterpage.com/freepubs/freepubrequest.cfm>

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