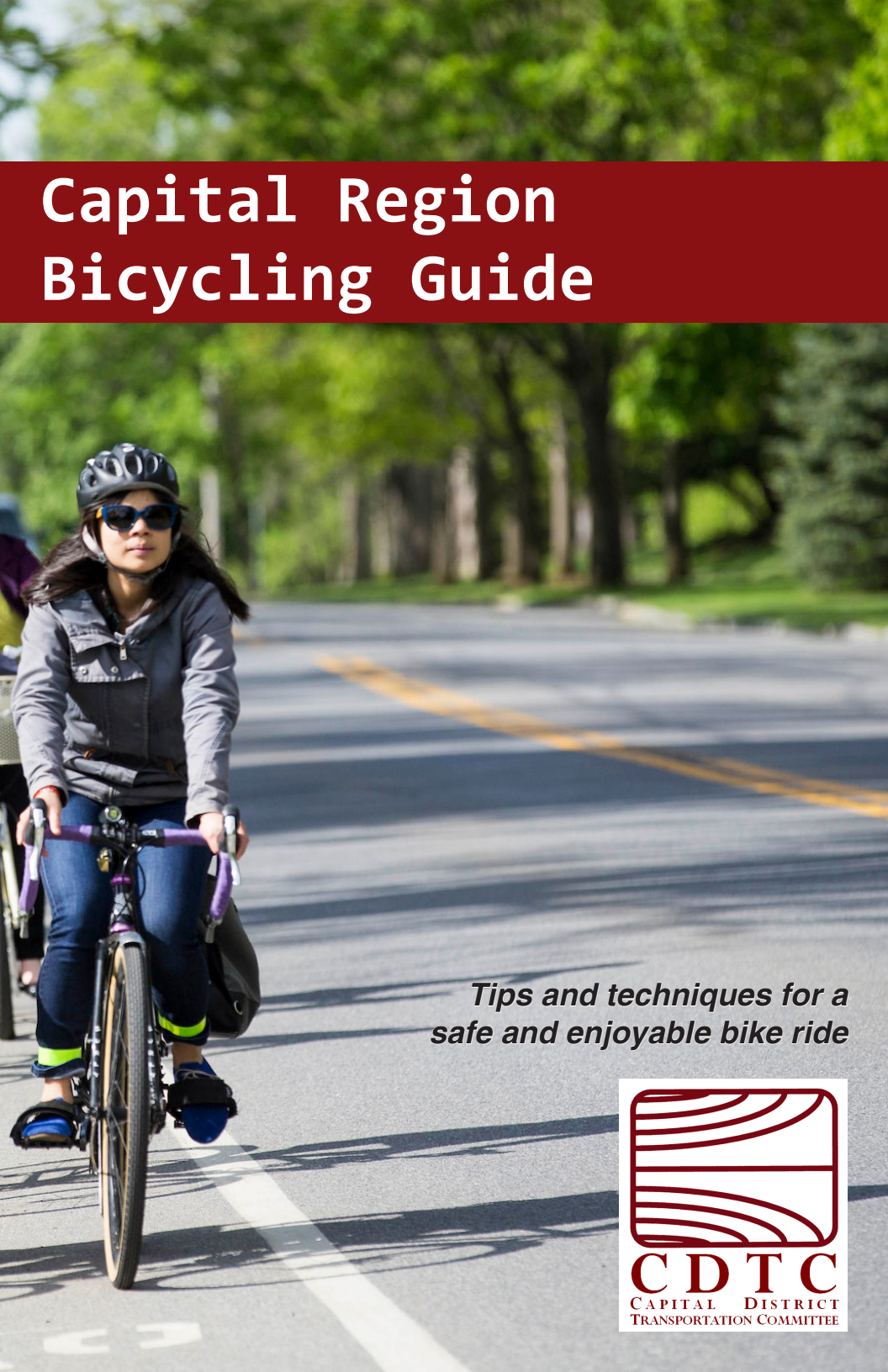
# Capital Region Bicycling Guide



*Tips and techniques for a safe and enjoyable bike ride*

CDTC
CAPITAL DISTRICT TRANSPORTATION COMMITTEE

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*Capital District Transportation Committee, 2019*
*For additional copies, contact CDTC at:*
*cdtc@cdtcmpo.org or (518)458-2161*

# BENEFITS OF BICYCLING

## Why bike?

*Save time, save money, improve your health, help your community, and have fun!*

### Save Time

Most trips in town are less than 2 miles. This means even at an easy pace you can arrive in about 10 minutes on a bike, with no parking hassles.

### Save Money

Ever drive to the supermarket and then stop by the gas station? When you bike you can skip that second stop – you've already purchased your bike's fuel! The more you bike, the more money you'll save on automobile maintenance, gas, oil changes, parking, etc.

### Improve Your Health

The National Institute of Health suggests that significant health benefits can be obtained with 30 minutes of moderate physical activity per day. Did you know that riding your bike can sharpen your mind and reduce stress? You don't have to ride like you're racing to feel the positive effects of bicycling — you just need to run a few errands or enjoy a ride around your neighborhood!

### Help Your Community

So you want to reduce air and water pollution, create safer streets for kids, support a quieter neighborhood, lessen the need for expensive road repair, and connect with your neighbors and community? Ride a bike!

# CHOOSING A BIKE

*Making sure that your bike fits you correctly can be crucial to enjoying biking. Most bike shops will help you adjust your bike so that it's set up for maximum comfort. Here are a few key considerations!*

## Bike Type

There are many different types of bikes that fit into all different budgets and types of riding you plan on doing. Mountain bikes, hybrids, folding bikes, and touring bikes with upright handlebars and wider tires are well suited to shorter trips on city streets and using unpaved trails, while road bikes with drop handlebars and narrower tires may be a better choice for faster long-distance trips.

Visit a local bike shop or two – they'll be glad to help you find a bike that's right for you.

## Bike Size

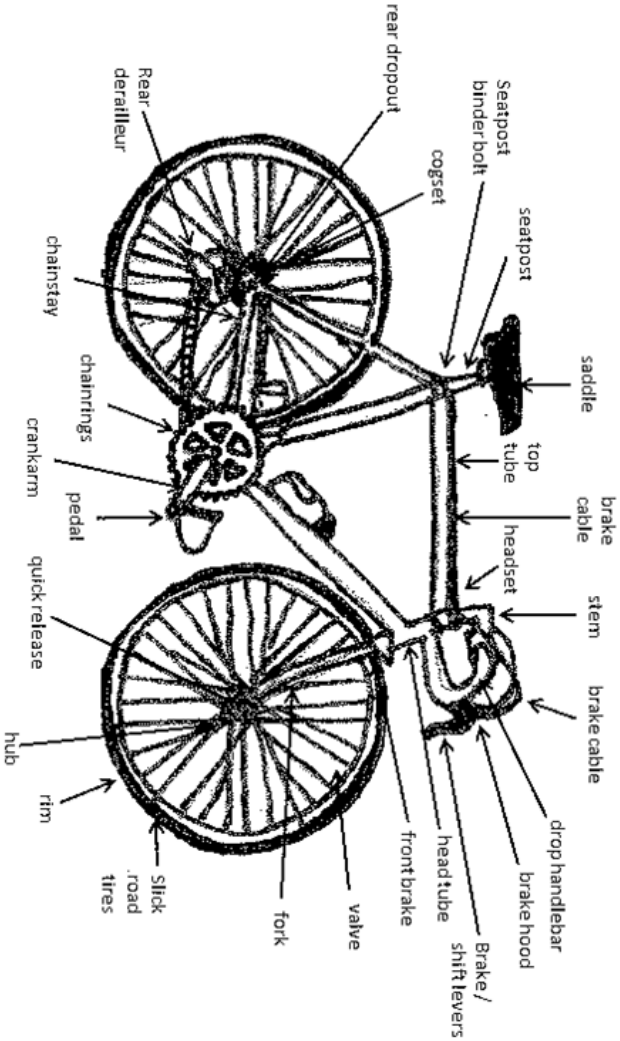
Most bike shops will help you figure out the best fitting bike for you. If your bike's frame is too tall, too short, or too long, it can be very hard to adjust the other components to make you comfortable. Here are some general guidelines:

- For on-road riding there should be about 1 to 2 inches between the top bar of the bike frame and your inseam.
- For off-road riding, there should be about 3 to 4 inches between the top bar of the bike frame and your inseam.

# GET TO KNOW YOUR BIKE

*Many people know the basic parts of a bike, but do you know how all the pieces of a bicycle should work together to create a comfortable ride?*

## BIKE ANATOMY 101



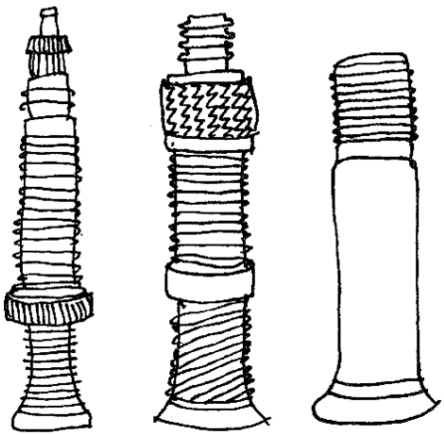
# ADJUSTING YOUR SEAT

The key adjustments to a seat are:

1. Angle: start out level, then find what is comfortable.
2. Height: with your pedal at the bottom of the pedal stroke and your heel on the pedal, your leg should be completely straight (then your leg will be slightly bent when riding normally).
3. Front to Back: experiment until you find the most comfortable reach to the handlebars.

# TIRE PRESSURE

Keeping tires correctly inflated helps avoid flat tires and makes your ride easier. The easiest way to check the pressure is using a pump with a gauge. If you look closely, the recommended tire pressure is listed on the side of your tire. If you don't have a gauge, pump up your tires so that it is difficult to push your fingers into the tire. The tire should be firm! There are three kinds of tire valves (see illustration) and most tire pumps are adaptable. However, if you have Presta valves, it's a good idea to carry a valve adapter so you can fill up at a gas station or convenience store.



# TIRE WEAR AND TEAR

It is common for tires to wear out after about 1,000 miles of riding. Tires can also get brittle with age. Check the sides of your tires (the sidewalls) for significant cracks; this may mean you need new tires. Frequent flat tires may mean the tread is thin and needs replacing.

# WHEEL ALIGNMENT

A wheel should not wobble when it rotates. A wobbly, "untrue" wheel can rub against the brake pads and cause your brakes to perform poorly. To check, turn your bike upside down and spin the wheels while looking closely at the brake pads. The gap between the rim and the brake pad should stay relatively constant.

# BRAKES

When you squeeze your brake levers, they should stop before they touch the handlebars. If they don't, tighten the brake cable. Your brakes may have a cable adjusting barrel that allows you to do this easily. Also, keeping your wheel rims free of dirt and grease will improve brake performance considerably. Periodically use an old rag to wipe the grime off the rims, especially when you've been riding during wet weather. Also, brake pads (the hard rubber pads that rub the wheel rim when you brake) wear down, and eventually wear out. Many have a "wear line" showing you when they need replacement. Ask your local bike shop – brake pad replacement is relatively inexpensive, and good brakes for your bike are essential.

*In New York, every bicycle must have a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement.*

# QUICK RELEASE

Many bikes have quick release levers on the wheels. Make sure that the levers are solidly locked (snug and curved in towards the bike). Inspect the quick releases visually every time you ride. If you have questions about how to lock a quick release lever, stop by your friendly local bike shop.

# CHAIN

Lean your bike against a wall or, better yet, have someone hold it for you. Crouch beside the bike and slowly rotate the pedals backward, checking to make sure the chain turns smoothly. Wipe the grit off your chain with a rag then sparingly apply a chain lubricant and wipe off the excess with a rag. Replacing worn, rusty chains is a cheap way to prevent expensive damage to the gears.

# GEARING UP
# Required Bicycle Gear

## HELMET

You should wear a helmet every time you ride, no matter the distance.

*Helmets are mandatory in New York for everyone under the age of 14 years old.*

Keep in mind that bicycle helmets are designed to withstand one crash only. Even if you cannot find a crack or any other structural damage on your helmet after a crash, replace it immediately, and never buy a used helmet.

Buy a helmet that meets the U.S. Consumer Product Safety Commission (CPSC) standard for bicycle helmets. A helmet must be constructed of thick, firm polystyrene or other shock-absorbing materials. The helmet should cover the top of your forehead and have only limited movement front to back and up and down, with a strong strap and fastener. Many helmets come with foam pads to be used for comfort and sizing, these should touch the head at front, back, sides, and top. The chin strap should be snug and meet just below the ears. Do not wear the helmet on the back of the head, and move all hair obstructions, like ponytails, out of the way.


☑ Has CSA, ASTM, CPSC or SNELL label inside

☑ Pads touch head at front, back, sides, and top

☑ Helmet sits level – about 2 fingers above eyebrow

☑ Chin strap is snug. Straps meet just below ears.

☑ Vision and hearing are not blocked.

☒ No cracks, dents, or damage

☒ No hair in way

☒ No hats or kerchiefs

☒ Do not wear on back of head

# LIGHTS

*Bicyclists must use lights one half hour after sunset until one half hour before sunrise. You must have a white light on the front visible 500' to the front, a red light in the back visible 300' behind you, and at least one of those lights must be visible 200' on either side.*

Bicycle headlights and taillights can be purchased at any bike shop or sporting goods store. Bicycle lights are generally sold as LEDs with solid and flashing light settings. (Using flashing lights are an option that may help motorists see you better.) Rechargeable lights and battery-powered lights have now become equally common options.

# BELL

*All bicyclists must have a bell* or other audible device (but not a siren or whistle) that can be heard at least 100' away.

# GEARING UP
## Additional Bicycle Gear

## LOCKS

Cable locks are flexible steel cables with two ends that lock together with a key or combination. A thick-gauge metal chain is similar but is excessively heavy.

U-Locks are large u-shaped shackles usually locked with a key. As these are rigid, they also help to keep your bike standing while it is locked up, so it won't get knocked over by the wind or bumped by a fellow cyclist locking up her bike.

## WATER BOTTLE

While riding your bike, make sure to drink enough water to match the intensity of the ride, the heat of the day, and your body's needs—the average recommendation is one 16-ounce bottle per hour in cool weather, up to as many as four bottles per hour in extremely hot weather. Make sure your bike is equipped with a water bottle!

## FENDERS AND CHAIN GUARDS

Even if you don't normally ride in the rain, fenders make riding on wet or dusty streets a much more tolerable experience. They prevent rain and dirt from being kicked up from your wheels onto your feet, back, and legs. Rain mixed with mud and gasoline residues cause damage to your chain and other bicycle parts. The more wheel coverage a fender offers, the better! There are various fender designs and sizes available at your local bike shop. Also use a chain guard to protect your chain and your pants/legs!

## LAYERING

Layering can be the key to staying comfortable when riding in wet and/or cold weather. Multiple layers can be a low cost alternative to performance clothing. In addition, a layer can easily be added or removed to improve comfort on the fly. Try a base layer that breathes, another layer that provides warmth and an outer layer that keeps out the wind and rain.

## GLOVES

Wearing gloves serves two purposes: they can protect your hands from the elements and can prevent aches and pains in your hands and wrists. Use full-fingered gloves in cooler weather and half-fingered gloves in warmer weather.

## RAIN GEAR

Water-resistant and waterproof clothing can make year-round riding a breeze. A good rain jacket with a longer flap in the back is a good start. If you desire you can also buy rain pants, waterproof gloves, helmet covers, or shoe covers.

## EYE PROTECTION

Glasses can protect you from rain, bugs, and flying gravel from cars. Sunglasses can help protect you from flying objects, glare, and the sun. Safety glasses from a hardware store are also a popular, inexpensive favorite.

## CHILD SEATS

Child seats can be mounted on a bike – usually above the rear wheel. The child is secured into the seat by safety straps. Keep in mind that because of its height, this type of carrier alters your center of gravity while riding!

## TRAILERS

Trailers attach to the rear of your bike and are the best for carrying large loads – children, pets, groceries, or even furniture! Most bike trailers (or “buggies”) are designed to carry children or pets, along with some shopping bags or backpacks. Bike tag-alongs or trail-a-bikes are designed for older children and allow the child to pedal along with you. For any of these devices, check the manufacturer’s specifications for safe use, and any age or weight limitations.

## MESSENGER BAGS

A basic backpack is very convenient for small loads, but can make for a hot and awkward ride when loaded. A “messenger bag” has a single strap that goes across your chest and rests on your shoulder. It’s convenient for commuting and carrying books, papers, electronics, or similar loads.

## BASKET

Baskets are generally an inexpensive option for carrying more weight. Baskets can attach to the front or rear of your bike. Some are collapsible and others are easily removable.

## CARGO RACK

For carrying even more cargo, a rear rack is extremely useful. You’ll need one to use panniers and some baskets. Panniers are bags that attach to a rear rack, and are usually waterproof and removable.

## SHOES AND PEDALS

Generally, any shoe will do. Choose something casual and comfortable with a good traction sole. Toe clips (cages attached to the pedals that your foot slips into) can be added for better pedaling efficiency. A more technical alternative is a pair of clip-less pedals that require special cleated shoes.

## BRIGHT REFLECTIVE CLOTHING

Drivers may not be looking for cyclists, or anything for that matter, so be as conspicuous as possible. During the day, light and fluorescent-colored clothing is very visible, but at night reflective gear (vest, arm/leg band) is best. Do not rely on clothing to keep you safe; always be on the lookout for distracted and dangerous drivers!

## MIRRORS

There are two different types of mirrors: helmet-mounted and handlebar-mounted. Mirrors can help you check traffic behind you. When changing lanes or turning left, do not rely on mirrors alone. Scan over your shoulder to be sure the path is clear.

## NUTRITION

The average bicyclist burns over 500 calories per hour — that's about two slices of pizza! In addition to keeping hydrated, make sure you fuel your body properly before and after each bike ride to avoid fatigue.

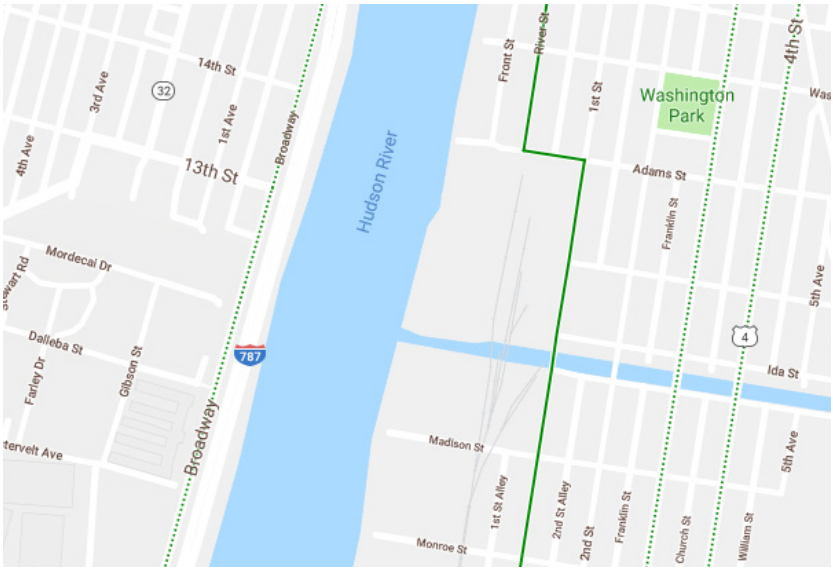
## LEG BANDS

Leg bands are a cheap and easy way to keep your pant legs from getting caught in the chain and free of chain grease.

# WHERE TO RIDE
## Picking a Route

If you drive, you may know a quick route to get somewhere, but don't always take into account pavement, hills, or road hazards. While bicycling, all of these things become important. The more frequently you ride a route, the quicker you'll find more comfortable alternatives. If you haven't already made a trip by bike, the following can help plan the most pleasant and comfortable routes.

Pick the most enjoyable route! Is there a trail nearby where you can ride to avoid traffic? Or a park? Try using Google Maps for online bicycling directions, like in the image shown below. Maps can help steer bicyclists towards roads with bicycle markings, nearby trails, and shared-use paths. If you are unsure about the route, test it out on a weekend or a day off.




*Google Maps now shows bike lanes and trails with dark green lines, and bicycle friendly routes with dashed green lines.*

Talk to other bicyclists as well. Ask around your office or visit www.iPool2.org to find a commute buddy. You may find others that are interested in joining you or who are already biking the same route. Don't be afraid to search Twitter and Facebook, too!

## BIKE PARKING

Numerous businesses and organizations have installed bike racks on site or on the sidewalk nearby. If there's no bike rack close by, you may choose to lock up to an immovable object (e.g., fence). Make sure to use an object that cannot be easily removed. Never lock your bike to a short object - such as a sign - which a locked bicycle can be lifted over.

Make sure you lock your bike frame to the rack with either a U-lock or Cable lock. At a minimum, you should put your lock through your frame and the rear wheel. This is especially important if you have a quick release wheel. If you only lock the wheel, the rest of your bicycle can be detached and carried away. Options for locking the frame and both wheels include:

1. Remove the front wheel and lock to the rest of the bike,
2. Use a U-lock for the front wheel and frame, and run a cable lock through the U-lock and rear wheel.

# BIKES AND BUSES

CDTA has easy-to-use bike racks on the front of all regular route buses. This means you can plan to bike somewhere along a bus route and take the bus back! Each rack can hold up to 2 bikes, including children's bikes (but not tricycles or tandem bicycles). The racks are available on a first-come, first-served basis.

## How to Load Your Bike:

1. As the bus approaches, have your bike ready to load. Remove water bottles and any loose items from the bike.
2. Wait until the bus has come to a complete stop. Signal to the driver that you will be loading your bike.
3. Make sure to always load and unload your bike from the curb side. Do not stand in or near oncoming traffic.
4. To release the rack, squeeze the center handle and slowly lower it. Always load the back of the rack first.
5. Place your bike in the wheel well, making sure the front wheel is placed on the side labeled "front wheel."
6. Pull up and out on the support arm and hook the arm securely over the front wheel.

## How to Unload Your Bike:

1. Tell your driver you will be unloading before you reach your stop.
2. Raise the support arm off the tire. Move the support arm down, out of your way.
3. Lift your bike out of the rack.
4. Fold up the bike rack if there is no other bike in the rack.
5. Move over to the curb, clear of the bus and traffic.

See CDTA's how-to video at: www.cdta.org/bikeable-bus/73

# HOW TO RIDE SAFELY

Traffic laws apply to bicyclists on New York State roadways. That means bicyclists must obey the rules of the road like drivers of any motor vehicle. Drivers must also treat bicyclists as equal to motor vehicles! See the Resources section at the end of this booklet on where to find more detailed information on bike safety and the law.

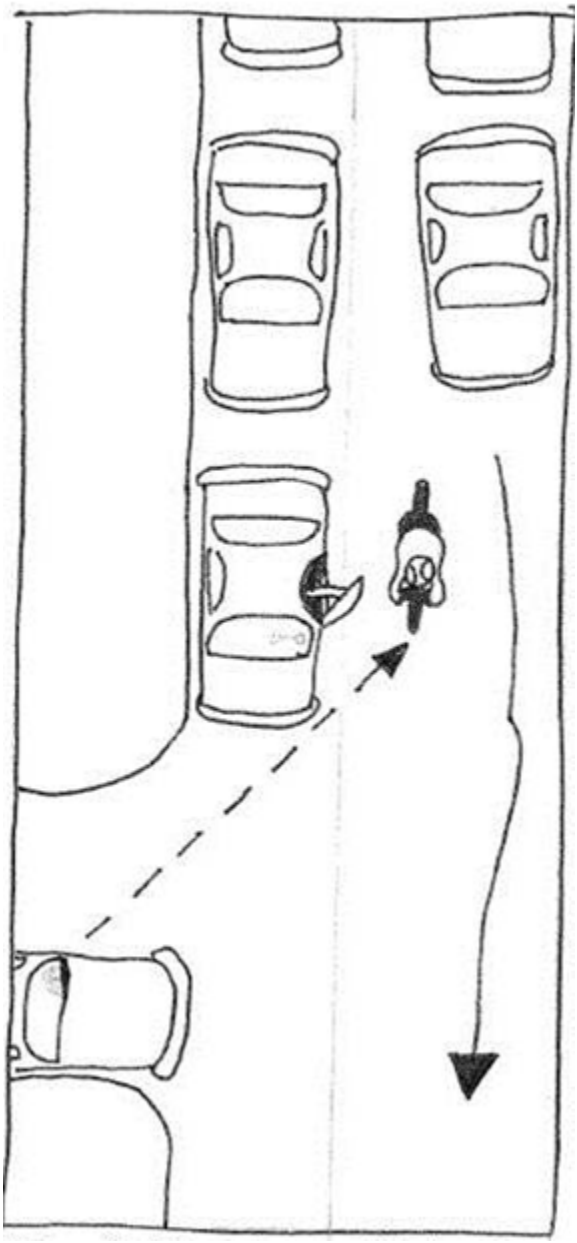
Ride in the same direction as other traffic. Motorists aren't looking for bicyclists riding on the wrong side of the road.

When moving slower than traffic, ride "near the right-hand curb or edge of the roadway or upon a usable right-hand shoulder" except when:

- Overtaking or passing another bicycle or vehicle,
- Preparing to execute a left turn,
- Avoiding impediments such as hazards or pedestrians,
- The lane is not wide enough for safe passing by a motor vehicle.

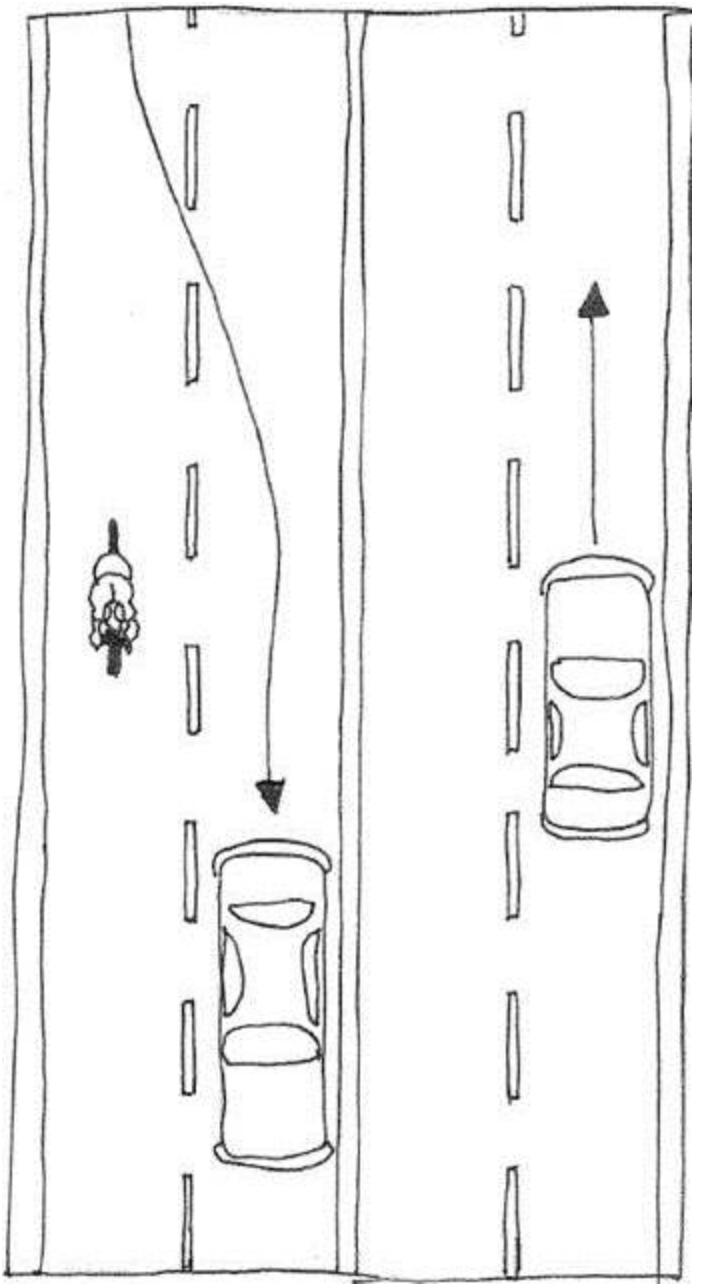
In all of the above cases, a bicyclist may need to "take the lane" (ride in the middle of the lane) to avoid being squeezed up against the curb or parked cars by passing motor vehicle traffic. Bicyclists should attempt to maintain a straight line of travel, and avoid weaving in and out of the parking lane. This helps make you more visible and predictable to other road users.

Bicyclists may also ride side-by-side, but should avoid impeding traffic.



*Ride a safe distance from hazards to increase your safety. When you ride, ensure:*

1. *turning motorists see you,*
2. *motorists overtaking you will give you room, and*
3. *to avoid the "door-zone" of parked motor vehicles.*



*On a multi-lane road with narrow lanes, ride in the middle of the right lane.*

## BIKE LANES

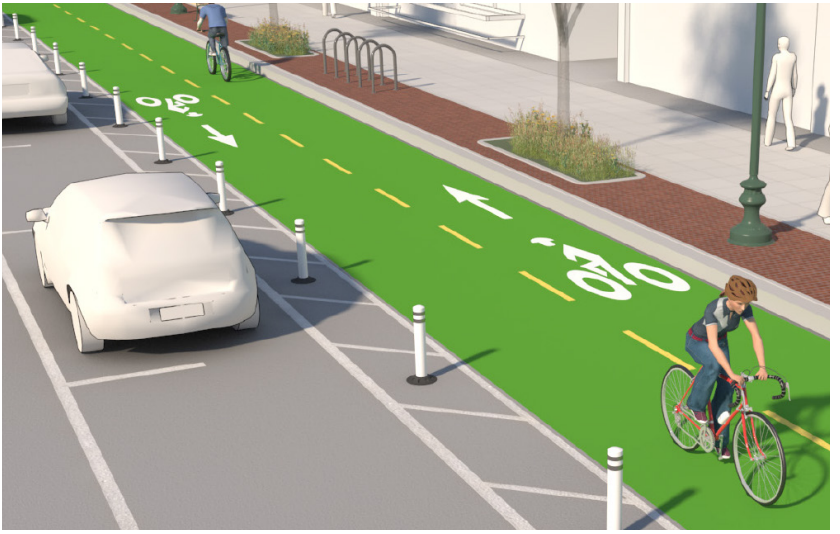
When a bike lane is available, always ride in the bike lane unless it is unsafe to do so. Bike lanes provide a designated space that is not shared with motor vehicles. If a bike lane is adjacent to parked cars, be careful to stay out of the “door-zone” and always watch for turning vehicles.

## SHARED LANES

Shared lanes, marked with “sharrows” (shown below), are motor vehicle lanes where cars should be particularly attentive towards bicyclists. However, while bicycling, use caution and be aware that sharrows do not improve safety — they are just a reminder for drivers to share the road!

## PASSING

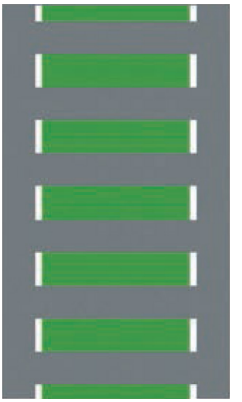
You’re permitted to pass a motor vehicle on the right or left if there is enough space to do so safely. Do so very carefully – if you have any doubts about whether it’s safe, don’t do it.



## GREEN PAINT

Bike lanes with green paint help drivers to know when a space is only meant for bicyclists!

## DASHED LINES



Occasionally a bike lane will have dashed white or green lines. These are places where a motor vehicle may need to cross the bike lane to access a turn lane, bus stop, or other curbside area. Always be aware of nearby motor vehicles when approaching intersections or parts of bike lanes with dashed line.

## CAR DOORS

When riding next to parked cars, be alert to car doors opening suddenly in front of you. Give yourself a buffer by riding a little farther away from the “door zone.”

## BIKE BOXES

Bike boxes are areas designated for bicyclists to move from a bike lane out in front of cars. They make bicyclists more visible to drivers, and facilitate easier left turns.

## TWO-STAGE TURN BOXES

Merging across traffic on a busy street to make a left turn can be a difficult maneuver. Here's a way to turn safely:

1. Ride through the intersection on the right side of the road.
2. Stop near the curb and turn toward your intended direction.
3. Proceed with caution, obeying traffic controls, when it is safe to do so.

# TRAFFIC SIGNAL DETECTION

Some traffic signals are triggered by electrically-charged wires buried in the pavement. When a vehicle stops over the wires, the metal disrupts the current, which sends a signal to the traffic signal control box. While a car is easily detected by the sensors – and a pedestrian can push a button to get the "walk" sign – a bicycle (with relatively little metal) must be in the right spot to be detected.

If you find yourself waiting at a red light for longer than seems necessary and there is no car coming to trigger the signal, check the pavement. If it appears to be cut out and filled in again with asphalt, try positioning your bicycle over the cut out area and leaning the frame down. This may help trigger the light in your favor. Alternatively, you could dismount and use the pedestrian controls to change the light.

# SIDEWALKS

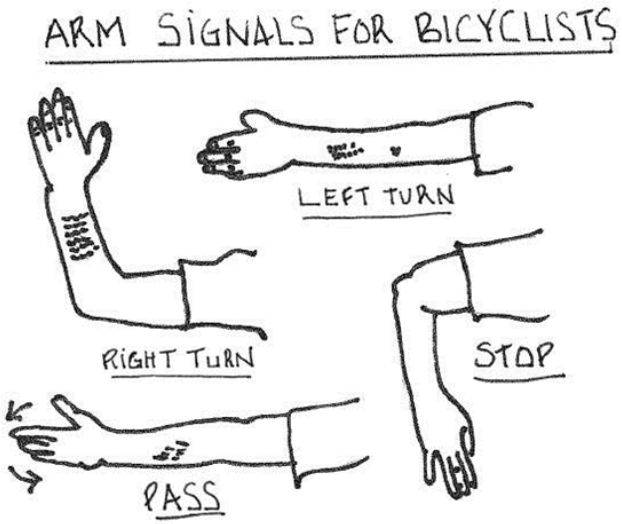
Do not ride on the sidewalk unless it is absolutely necessary. Only young children should consistently ride on a sidewalk. Be cautious if you must use the sidewalk and always yield to pedestrians.

# MULTI-USE PATHS

Multi-use paths (or shared-use paths/ trails) are generally dedicated off-road routes shared by pedestrians and bicyclists. Bicyclists can ride side-by-side except when passing other users. Otherwise, you should ride on the right, pass carefully on the left, and audibly signal your intention with your voice or a bell. Be particularly courteous towards pedestrians and runners – pass them slowly and make your presence known.

# HAND AND ARM SIGNALS

Hand and arm signals indicating a turn are required of bicyclists at least 100 feet before a turn. When approaching a turn you'll often need both hands for braking and your own general safety, so it is best to signal before approaching the turn. However, if you have an available hand then continue to signal your intention. If you can, make eye contact with motorists to make sure they see you.



# RIDING TECHNIQUE

## POWER START

Making a smooth and quick take-off is deceptively easy. Here's how:

1. Straddle your bike's frame in front of the saddle/seat. Hold the brake levers so the bike won't roll.
2. Lift your right foot (if you're "left-footed," start with your left foot instead) and put it on the pedal. Turn the crank backwards until the pedal is at 2 o'clock position – forward and high.
3. Let go of the brakes and push down on the pedal. The first pedal stroke starts the bike moving and lifts you up to the saddle.
4. When the opposite pedal comes to the top position put your foot on it for the second pedal stroke.

## BRAKING

Get to know your brakes. Rear wheel brakes (usually the right hand lever) are very different from front wheel brakes. The front brake has more stopping power than the rear, but also requires more skill to avoid stopping too abruptly. For emergency braking, (1) shift your weight toward the rear of the saddle and get your torso as low as possible while (2) applying even pressure to both brakes. Practice this, too!

## TURNING AND CORNERS

Slow down before you turn. Braking while turning can cause you to skid. For additional stability while turning, keep the inside pedal up.

# SHIFTING GEARS

Use your gears to keep your pedaling speed (aka “cadence”) fairly constant and easy. Downshift to an easier gear when coming to a stop so that when you start up again you’ll be in an appropriate gear. For going up hills, shift to an easier gear before you begin pedaling uphill. A cadence of about 60 to 80 pedal revolutions per minute is a good target for most cyclists.

# CHECK YOUR BLIND SPOT

(Also called: Shoulder Checking or Looking Behind)
Cyclists need to check traffic behind them when changing lanes or merging, just as drivers do. Practice the “shoulder check” in a vacant parking lot until you can do it without swerving. If your neck doesn’t like turning that far to look over your shoulder, try releasing your left hand and pivoting at the waist and hips – the knee on the side you’re turning to can point out a bit. Also, mirrors (either the helmet or handlebar mount) can be helpful, although they’re not a complete substitute for shoulder checking/scanning.

# STAY OUT OF THE BLIND SPOT

If you need to ride alongside a motorist, use extreme caution – make sure you stay out of the driver’s “blind spot” especially at locations where a driver could turn across your path, like intersections and driveways.

- Stay a little bit ahead of the vehicle so the driver can see you in front of them, or
- Stay far enough back so that if the vehicle suddenly turns right or stops you’ll be able to stop your bike safely.

## TWO-STAGE LEFT TURN

Riding in traffic to make a left turn can be challenging. However, you can cross in two stages by riding straight through an intersection along the right side, before stopping and turning your bike towards your ultimately intended direction. See page 25 for a visualization with a marked bike box, but remember that you can cross in two stages at any intersection even if a box isn't marked!

## ROAD HAZARDS

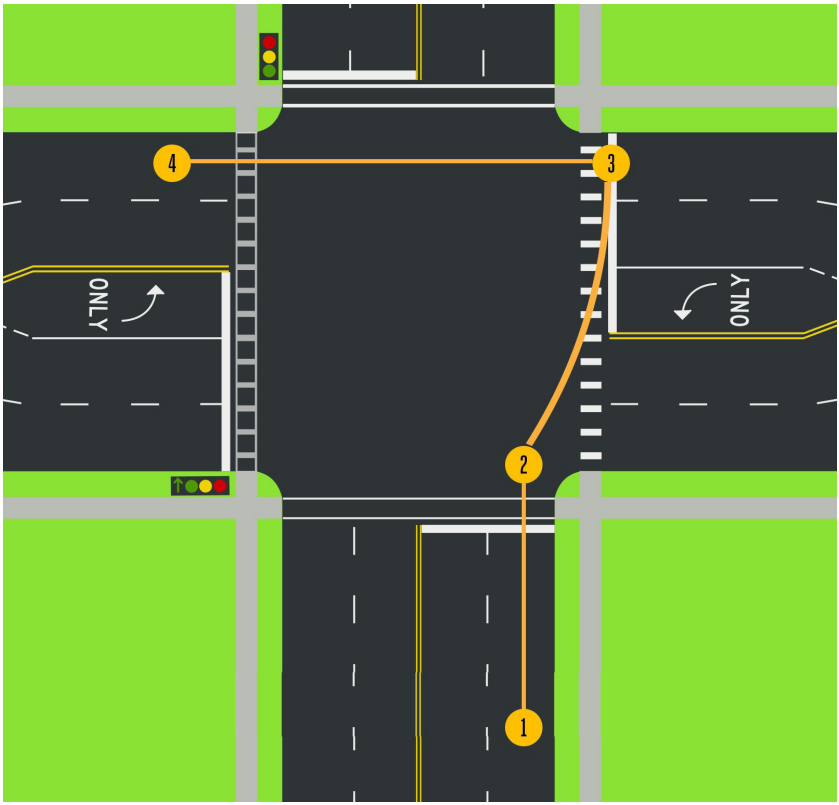
Wet leaves, drain grates, metal utility covers, thermoplastic road markings, and gravel are just a few things that can pose problems for cyclists. When riding over any of these surfaces, especially when wet, avoid braking and turning simultaneously. For any rough surface, shift some of the weight off of your seat and onto your hands (handlebars) and feet (pedals).

## RAILROAD TRACKS

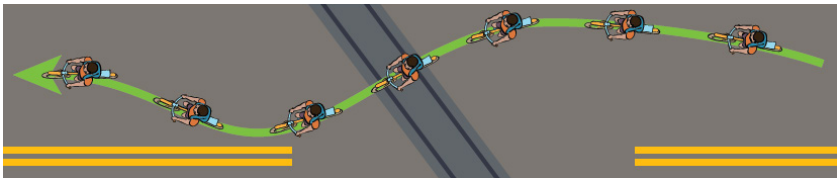
Cross railroad tracks at as close to a 90 degree angle as possible (perpendicular to the tracks). This will help keep your bike's wheels from getting stuck or sliding on the rails. Railroad tracks are slippery, especially when wet, so don't alter your direction or speed as you cross. If you can't get a good crossing angle or if the surface looks too rough, it's okay to walk your bike across.

## WHEN IN DOUBT, SLOW DOWN

When biking, it's easy to pull over to the side of the road and assess the situation. Slowing down also decreases your stopping distance, giving you more time to react to the unexpected.




*To make a two-stage left turn, proceed through the intersection, stop in front of cross traffic, and reorient your bicycle towards your intended direction.*



*Cross railroad tracks at as close to a 90 degree angle as possible.*

# RESOURCES

## BIKE REPAIR & MAINTENANCE

Troy Bike Rescue – www.troybikerescue.com
518.328.4827

Albany Bike Rescue – www.albanybikerescue.org

Bikeatoga Workshop (Saratoga Springs)
www.bikeatoga.org

Electric City Bike Rescue (Schenectady)
www.electriccitybikerescue.org

## MAPS

Capital District Regional Bike-Hike Map
www.cdtcmpo.org/maps

Mohawk-Hudson Bike-Hike Trail Map
www.cdtcmpo.org/maps

New York State Canal Corp. – www.canals.ny.gov/trails

## BOOKS

Bike Repair & Maintenance for Dummies, by Dennis Bailey & Keith Gates

It's All About the Bike: The Pursuit of Happiness on Two Wheels, by Robert Penn

Joyride, by Mia Birk

Just Ride, by Grant Peterson

# GROUP RIDES

Mohawk-Hudson Cycling Club
www.mohawkhudsoncyclingclub.org

Albany Bicycle Coalition
www.albanybicyclecoalition.com

# OTHER ORGANIZATIONS

CDPHP Cycle! (Regionwide) – www.cdphpcycle.com

Albany Bicycle Coalition – www.albanybicyclecoalition.com

Cornell Local Roads Program – www.bike.cornell.edu

League of American Bicyclists – www.bikeleague.org

New York Bicycling Coalition – www.nybc.net

Pedestrian and Bicycle Information Center
www.pedbikeinfo.com

Parks & Trails New York – www.ptny.org

# NOTES:

CDTC
CAPITAL DISTRICT
TRANSPORTATION COMMITTEE

*For additional copies,*
*contact CDTC at:*
*cdtc@cdtcmpo.org or (518)458-2161*