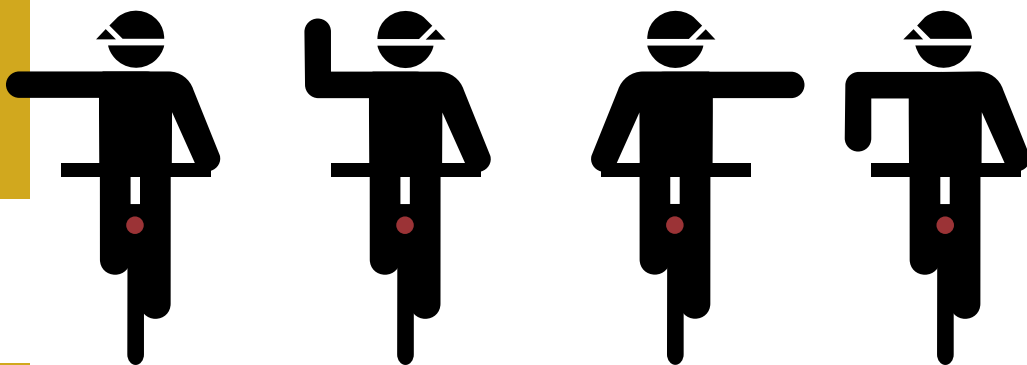
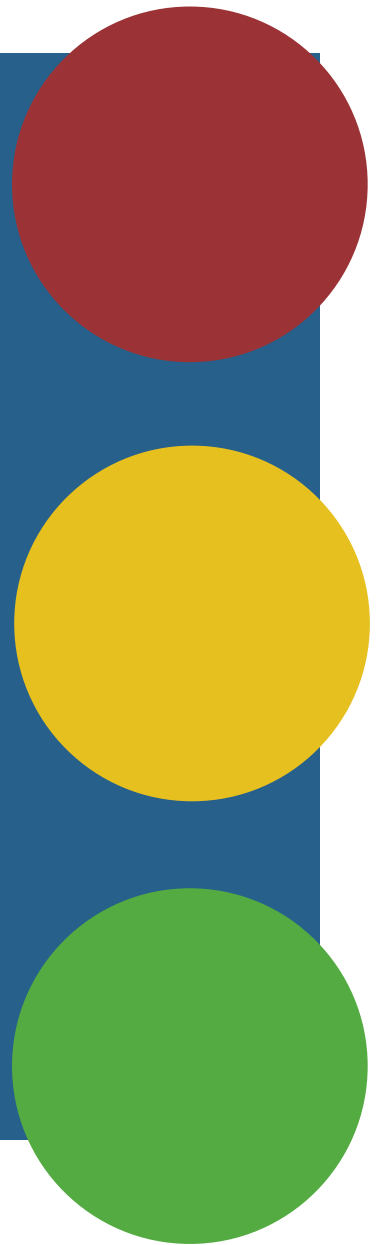


On-Street Cycling Safety



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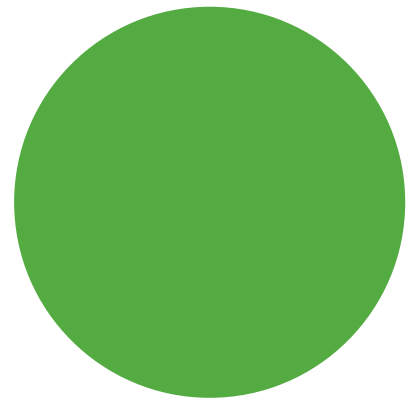
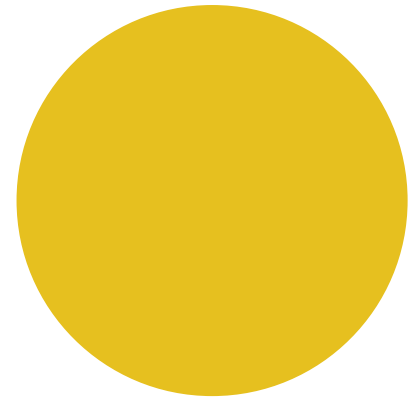
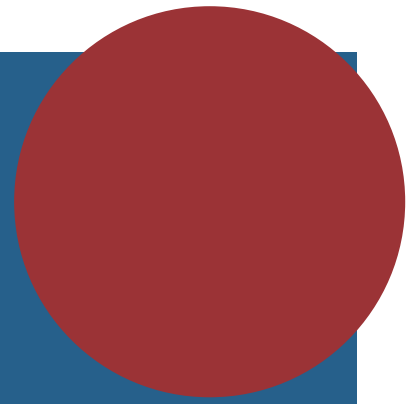
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THE CITY OF
CALGARY

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ON-STREET CYCLING SAFETY

Traffic Skills



Traffic Skills

This section outlines the basic traffic skills and knowledge required to cycle safely and legally in and around the city of Calgary. This section includes information on the legal status of bicycles, basic traffic signals and signage, and extensive tips for cycling in traffic and on city roads.

The Fundamentals

There are several key factors that cyclists must remember at all times, whether they are cycling on the road or on the pathways:

- **Be alert** – Cyclists must ride defensively and be alert at all times. Cyclists are vulnerable, and any accident no matter how small is potentially serious.
- **Ride predictably** – Motorists cannot read your mind. Ride predictably and follow the rules of the road, so that you do not confuse other road users.
- **Be seen** – Make sure that motorists and pedestrians know you are there. Whether you are riding at night, during the day, on the pathway or on the roadway, visibility is essential for safe travel.

Rules of the Road

The Alberta Traffic Safety Act defines the bicycle as a vehicle. When traveling on the road, cyclists have all of the same rights and responsibilities as a motor vehicle. To operate safely in traffic, all road users including cyclists, must obey the same road rules.

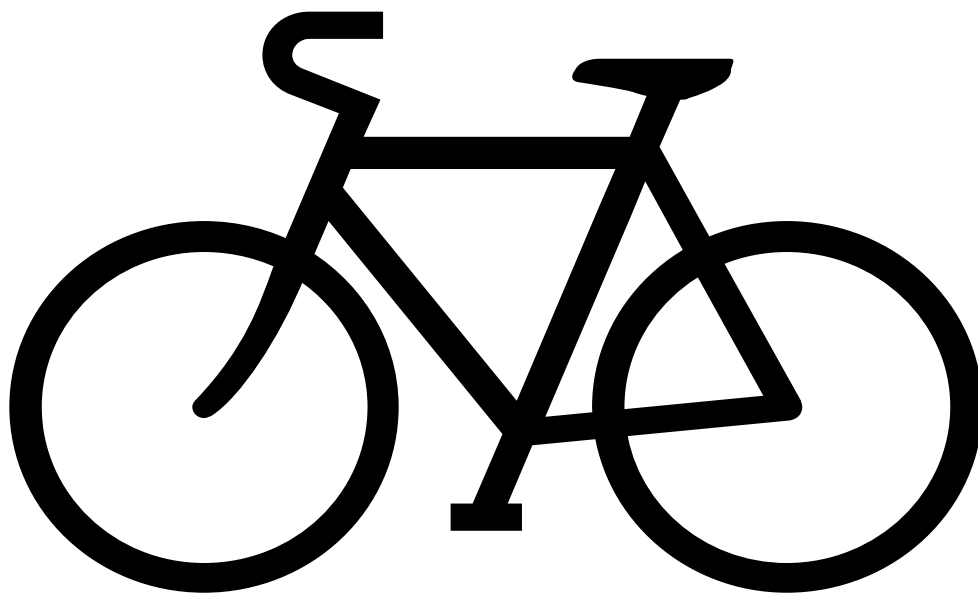
For example, as a vehicle a cyclist must yield to pedestrians, stop at stop signs, and travel with the flow of traffic. Conversely, motorists should not give cyclists the right-of-way at crosswalks unless they are walking their bicycle. When you walk your bike you are a pedestrian. When you ride your bicycle you are a vehicle.

Bicycles are legally permitted on all Calgary roads except:

- Deerfoot Trail from 64 Avenue North to Marquis of Lorne Trail in the South.
- Stephen Avenue Mall (8 Avenue SW) from 1 Street East to 3 Street West from 6 a.m. to 6 p.m.

Generally bicycles travel slower than other vehicles. Based on this assumption it is important to remember the following general road rules:

- Slower traffic stays right.
- Slower traffic must give way to faster traffic when safe and practical.



Basic Signs and Traffic Signals

Because the bicycle is defined as a vehicle under the Alberta Traffic Safety Act, it is important that as a cyclist you follow the rules of the road. The following provides a summary of basic traffic signs and signals. If you require more detailed information, consult the [Alberta Basic License Driver's handbook](#) or [The City of Calgary Traffic Tips brochure](#).

| | | |
|--------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| RED |  | A right turn is permitted after a full stop. A left turn onto a one-way street from a one-way street is permitted after coming to a complete stop. |
| YELLOW |  | Slow down and stop. |
| GREEN |  | Proceed when safe to do so. |
| ARROW |  | Proceed only in the direction of the arrow. |

| | | |
|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| FLASHING RED |  | Stop. Proceed only when safe to do so. |
| FLASHING YELLOW |  | Slow down. Proceed with caution. |
| FLASHING GREEN |  | You may proceed. Opposing traffic is facing signals. |
| FLASHING ARROW |  | Traffic is moving in the direction of arrow. May proceed if the way is clear. |

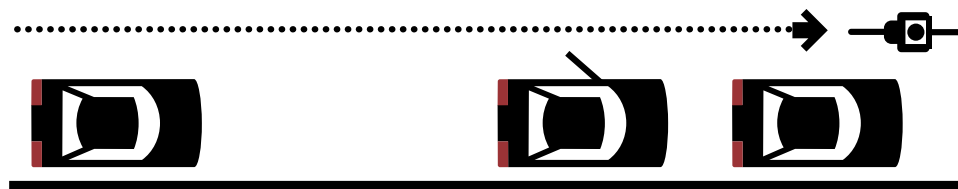


a. Stop sign. b. Yield sign.
c. One-way sign.

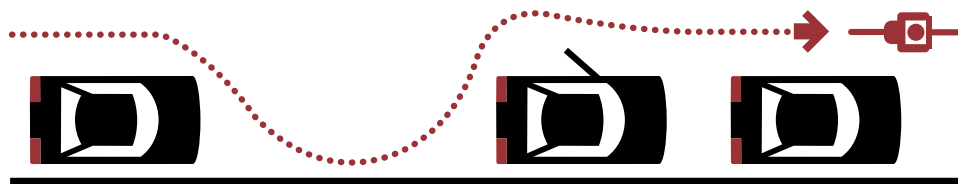
Travelling Straight

When travelling on city roads, keep the following in mind:

- Ride predictably and in a straight line.
- Use the right-hand curb lane (except when it becomes a right-turn only lane) and stay at least one metre from the curb to avoid roadside hazards.
- When cars are parked, ride in a straight line at least one metre away from the parked cars to avoid car doors that may open.



Use straight path. One metre from parked cars.

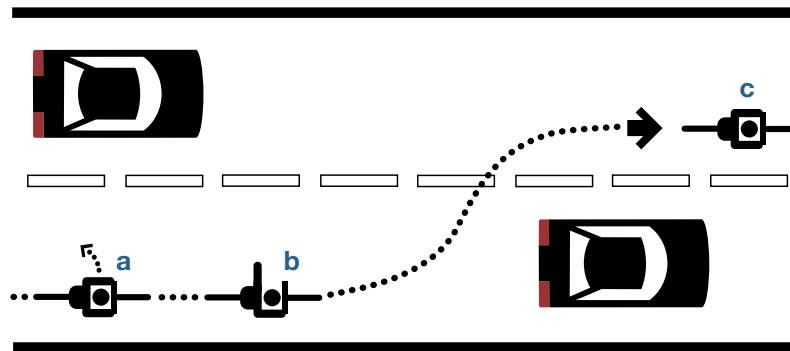


No.

- When lane width is less than 3.5 metres, it is legal to take the whole lane by riding in the centre of the lane.
 - This will discourage motorists from squeezing by when there is not enough room.
- You may also take the whole lane when you are travelling at the same speed as other traffic.

Changing Lanes

- If you want to change lanes you must wait for an opening in traffic since vehicles in the other lanes have the right-of-way.
- If you are travelling at or near the speed of traffic: wait for an opening, shoulder check, signal your intention, and then move to the right-hand side of the new lane.
 - In some situations it may be advisable to first go through these steps to move to the left side of your current lane, and then repeat this process to shift to the right-hand side of the left lane.

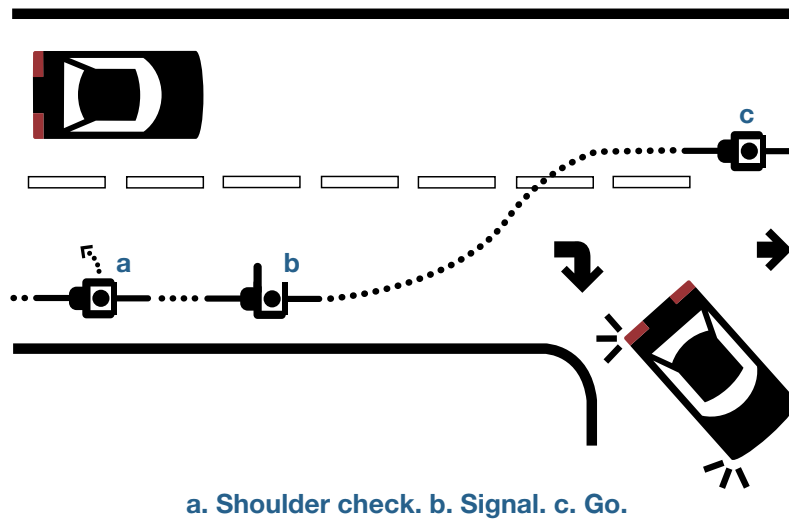


a. Shoulder check. b. Signal. c. Go.

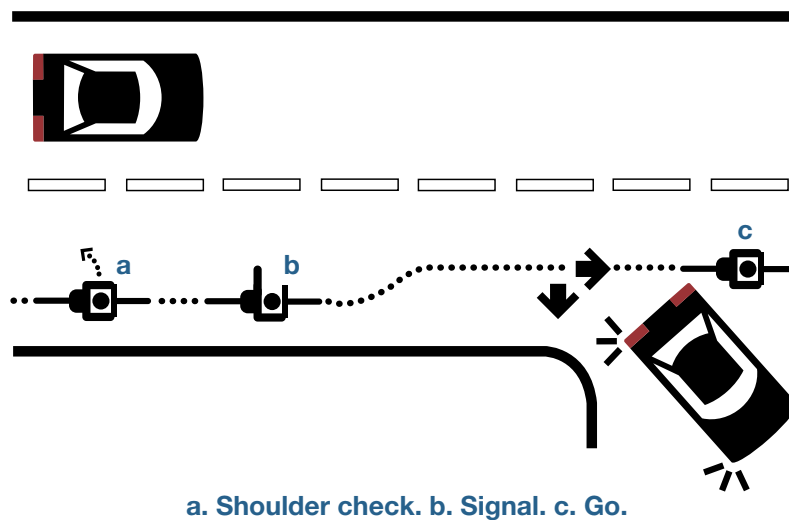
- When the relative speed between you and other traffic is high: wait at the curb for a large gap in traffic that will allow you to cross all lanes at once.

Turning Lanes

- If the right curb lane is about to become a right-turn-only lane and you wish to go straight: shoulder check, signal, and move to the adjacent through-lane.



- If you wish to continue travelling straight, and the right most lane presents the option of either going straight or turning right, take the middle of the lane before proceeding.



Intersections

The majority of bicycle accidents involving a motor vehicle happen at intersections. These tips can help you travel through intersections safely:

- Move through traffic signal intersections quickly and cycle defensively.
 - Watch for vehicles turning across your path and be prepared to avoid them.
 - Always enter the intersection either ahead of or behind vehicles to ensure that motorists see you.
 - Always watch for traffic signal changes and be prepared to stop.
- Where there are no traffic controls, yield the right-of-way to the vehicle on your right.
- When you are approaching an all-way stop, the first vehicle to arrive at the intersection has the right-of-way. When two vehicles arrive simultaneously, the vehicle on the right has the right-of-way.
- If you stop at an intersection and wish to proceed straight through, take the middle of the right-hand through lane, and move back to the right side of the lane as you clear the intersection.
- Always try to establish eye contact with motorists to ensure that they see you and that they acknowledge when you have the right-of-way.

Right Turns

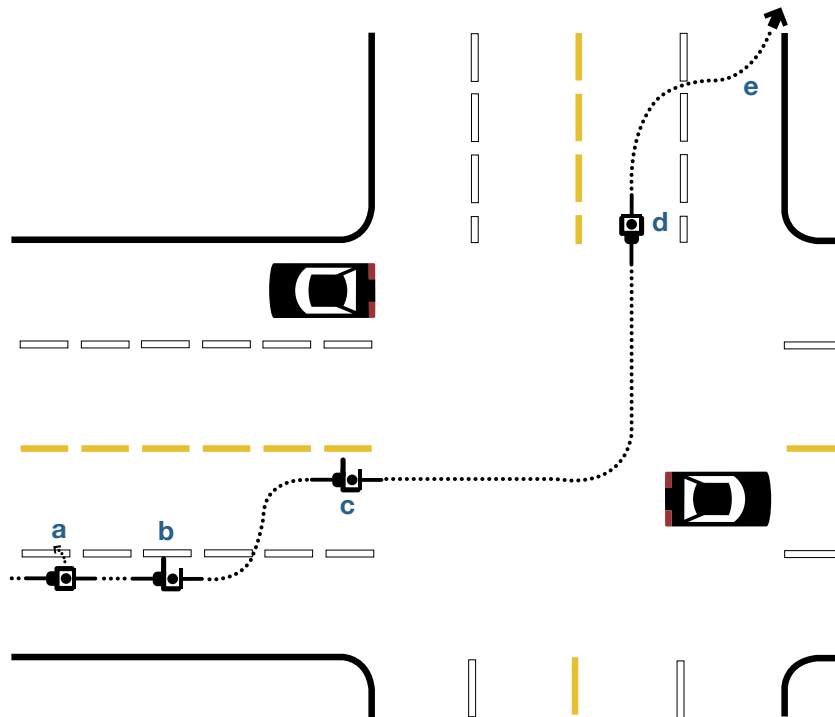
Right turns are simple to make if you follow these steps.

- Well ahead of the turn, move to the right-most lane.
- Shoulder check for overtaking traffic.
- Signal the turn.
- If applicable, stop for pedestrians, red traffic signals or stop signs before turning.
- Turn when your path is clear.

Left Turns

There are three basic ways to turn left at an intersection. Choose the method that best suits your skills and the volume and speed of traffic in which you are travelling.

- **Pedestrian Turn** – Walk your bicycle across the pedestrian crosswalks.
- **Perimeter Turn** – Ride straight through the intersection to the rightmost through lane travelling in your intended direction. Dismount, turn your bike, remount and proceed as a vehicle when it is safe and legal to do so.
- **Vehicular Turn** – When conducting this type of turn, plan early. Shoulder check, signal your intention, wait for space then move left to the right-hand side of the turning lane, or if there is no turning lane, position yourself just to the right of the road centre. On a road with multiple turn lanes, use the right-most left turn lane. At the intersection, signal, wait for opposing traffic to clear and then make your turn. Complete your turn in the equivalent of the lane you turned from. After you have made your turn, shoulder check, signal and return to the right curb lane.



a. Shoulder check left. b. Signal. c. Change lanes. Signal. d. Turn left into the equivalent lane when clear. e. Shoulder check right. Signal. Move right.

On high speed or rural roads, you should time your left turn so that you can complete the whole turn at once. You do not want to get caught in the middle of high speed traffic. If it is not safe to make a left turn, slow down or stop at the right edge of the road, and wait for an opening in traffic in which you can make your turn safely.

Entrance and Exit Ramps

- To enter and exit a roadway using a ramp, signal your intention and simply follow the right-hand curb of the ramp.
- To proceed past a short exit ramp, shoulder check as you approach the ramp and when an opening appears, signal and move to the right side of the through lane.
- To proceed past a long or uphill exit ramp, ride along the exit lane until it diverges, wait for an opening, and then cross the exit lane perpendicularly to continue travelling in the through lane.
- When an entrance ramp merges with your lane, watch for merging traffic and maintain your position in the through lane.

Large Vehicles

Bus, truck, and motor home drivers have large blind spots where they are unable to see passing vehicles. Remember: if you can't see the driver's face in the window, then the driver can't see you. Only pass to the left of buses and trucks driving in the curb lane.

Be cautious of large trucks, buses and motor homes that are turning right. Of particular concern are vehicles with trailers. Because the vehicle hinges in the middle, the front wheels travel a much different line than the rear wheels. This presents a potentially dangerous situation for cyclists. Ensure that you always exercise caution when cycling near large vehicles, and never pass them on the right-hand side.

LRT and Railway Tracks

To cross tracks safely, cross the tracks at a right angle. Plan your crossing well ahead of time, and put yourself in the best position to make a right angle crossing. Be especially cautious when crossing wet or icy tracks because they tend to be slippery.

ON-STREET CYCLING SAFETY

Cycling Hazards



Cycling Hazards

Road Hazards

Surface Problems

Surface hazards exist on every street, especially close to the curb. Cyclists must watch for:

- **Holes, depressions and raised surfaces.** Either carefully manoeuvre around these obstacles, or ride over them slowly.
- **Loose or slippery surfaces.** Go over these slowly and corner carefully, keeping the bike as upright as possible. When braking on gravel or sand avoid using the front brake.
- **Sharp objects.** Avoid riding over objects such as nails, glass and sharp metal. When a tire goes flat, slow down gently to a stop and then walk your bike. Be prepared for this common problem and carry a spare tube, tire levers, pump, and repair kit.

Riding on Sidewalks

- Riding a bicycle on the sidewalk is generally not permitted within the city of Calgary. While some cyclists may feel safer riding on the sidewalk, statistics actually indicate that sidewalk riding increases the risk of collision at intersections.
- Where the Bylaw permits bicycles on the sidewalks, yield to pedestrians, and be cautious when riding off the sidewalk and onto the street.
- You should walk your bicycle on pedestrian crosswalks and overpasses. If you walk your bike across a crosswalk you have the right-of-way. Legally, you do not have the right-of-way if you are riding your bicycle.

Weather Hazards

Wet Weather

Wet weather makes roads slippery, so you must ride your bike differently:

- **Braking:** Except for disc brakes, most bicycle brakes work poorly when wet or muddy. Test your brakes out on a quiet street to see how they work when wet. Apply your brakes lightly well in advance of your stop in order to dry them off and improve their effectiveness.
- **Cornering:** Because you have less traction, corner slowly with little leaning.
- **Puddles:** When possible, avoid puddles. They can hide potholes, broken glass and other nasty surprises.
- **Metal, Paint and Wood:** Surfaces such as manholes, wooden surfaces, and even lines painted on roads are especially slippery when wet. Slow down and corner carefully on these surfaces.
- **Visibility:** Visibility is poor in wet weather. Wear bright clothing, and if necessary use your lights.

Cold Weather

Cold weather presents unique challenges for the cyclist:

- **Frost and Snow:** Ride slowly using a medium gear and primarily the rear brake. Use the front brake delicately if at all. Corner carefully without leaning.
- **Black Ice:** Go straight and avoid braking or turning. On large patches, walk your bike.
- **Tires:** On snow and ice, fat, heavily treaded tires are best. Lower the pressure in your tires slightly to increase the tires' surface contact with the road. In extremely icy conditions studded tires may be helpful.
- **Hypothermia and Frostbite:** When you ride in cold weather, wear good headgear, mitts and footgear, and ensure that your face and neck are covered. A well-prepared rider can still ride comfortably at almost any temperature.
- **Where to Ride:** Because of ice and snow buildup along road edges, you will have to ride closer to the middle of the road. Do so cautiously, and be prepared to pull over for overtaking traffic.
- **Visibility:** In the winter there are fewer cyclists on the road and the days are shorter. Take extra measures to ensure that your bike is well lit, and you are highly visible to other road users.

Cycling at Night

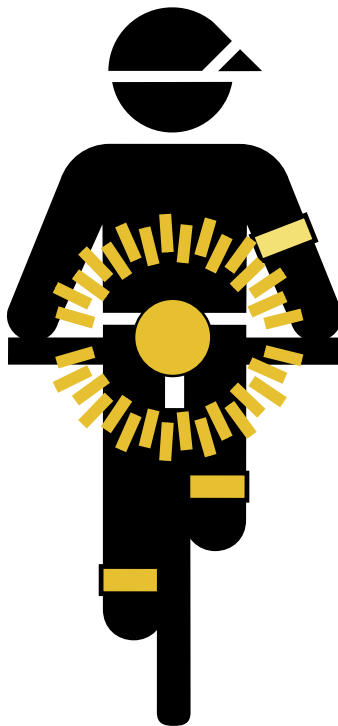
The key to safe night cycling is to be visible, and to be ready to deal with drivers who don't see you:

- **Lighting:** By law you must have at least:
 - One headlight, but no more than two.
 - One red tail light.
 - One red reflector for the rear.

Generally, blinking lights are more effective at grabbing motorists' attention than a solid beam.

- **Reflectors:** Pedal reflectors, white reflective strips on your front fork, and red reflective tape on your chain stays can help to make you more visible. Reflective bands on your wrists make hand signals more visible.
- **Clothing:** Bright colours like yellow and white stand out well at night. Reflective material on your clothing, backpack or panniers also helps others see you.

Dawn and dusk are especially dangerous times to ride because of reduced visibility. Sunglasses help, especially if they have polarized lenses.



ON-STREET CYCLING SAFETY

Handling Skills



Handling Skills

Developing good handling skills is essential for safe cycling. Handling skills are best practiced away from traffic in a large, flat area such as an empty parking lot.

Getting On and Off

In order to start and stop safely in traffic, you must be able to get on and off your bike smoothly. Practice starting from beside your bicycle and straddling your bicycle. You should also practice stopping and straddling your bike, and stopping and getting off your bike.

Straight Line Riding

Riding in a straight line is essential for riding safely in traffic. Practice by following a painted line in a parking lot. The key to riding in a straight line is to look ahead about 15 to 20 metres.

Shoulder Checking

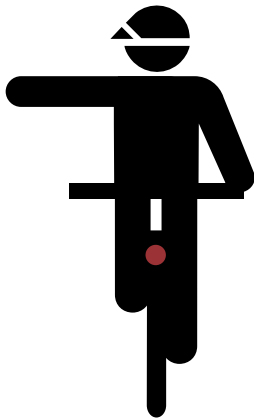
Shoulder checking involves looking back over your shoulder to see what is happening in traffic behind you. It is difficult to shoulder check without wandering from a straight path, so you should practice this skill. Although mirrors are helpful, they are not a replacement for shoulder checking.

Turning

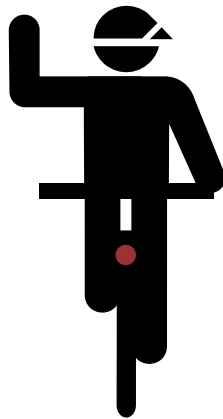
Turning accurately can be tricky. Turning should be fluid and smooth. Shift some additional weight to the front wheel, and turn with your inside pedal up. Figure eights and slalom riding are great ways to practice your turning skills.

Basic Hand Signals

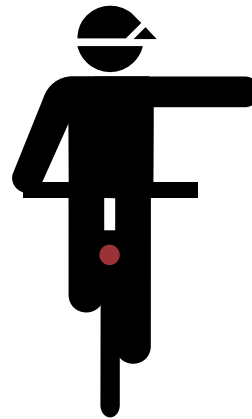
Hand signals require being able to ride with only one hand on the handlebars. In general, you should use your left arm when signaling. Ensure that both hands are on the handlebars when actually turning, and remember that signals may be omitted when doing so would compromise the safety of the cyclist.



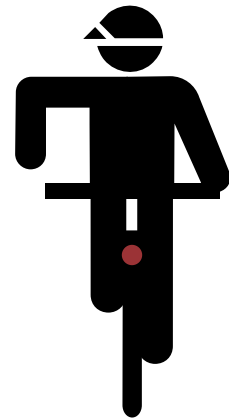
LEFT TURN



RIGHT TURN



ALTERNATIVE RIGHT



STOP

Braking

On a bicycle with hand brakes, the front brake does 80 per cent of the braking, while the rear brake helps to keep the bicycle under control. To stop quickly, apply more pressure to the front brake than the rear brake. If the back wheel starts to skid, let up on the front brake. For increased control, shift your hips back on the saddle and keep your weight low over the frame. Practice braking to determine how fast you can stop under different conditions.

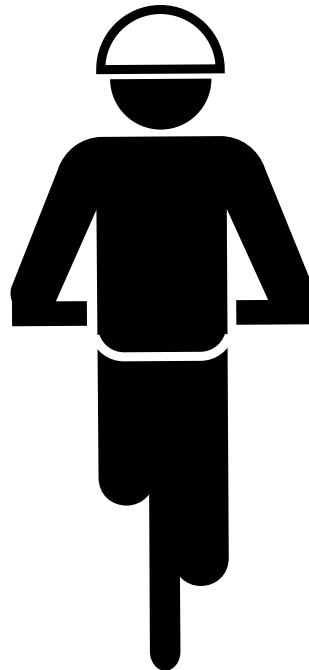
Slow Riding

On a bicycle, when you ride slower your balance is less stable. Try practicing all of your handling skills at slower speeds. Developing your ability to operate at slow speeds will lower your chances of falling.

Shifting Gears

Smooth gear shifting is a key skill. The following guide can help you select the right gear:

- Shift into a low, easy gear before stopping.
- Use low, easy gears when going uphill. Shift to a lower gear before you lose momentum.
- Use a higher, harder gear if you begin to bounce in the saddle from pedalling too fast.
- On level ground you should use a gear that allows your legs to spin at about 70 to 100 rpm.
- Always pedal forward when shifting gears.
- Reduce pedal force when shifting gears.
- Avoid pedalling slowly and pushing hard in your highest gear. This can cause knee problems; and
- Avoid cross-chaining—using both the large chainring and the large sprocket on the back, or using both the small chainring and the small sprocket on the back.



ON-STREET CYCLING SAFETY

The Safety Check



The Safety Check

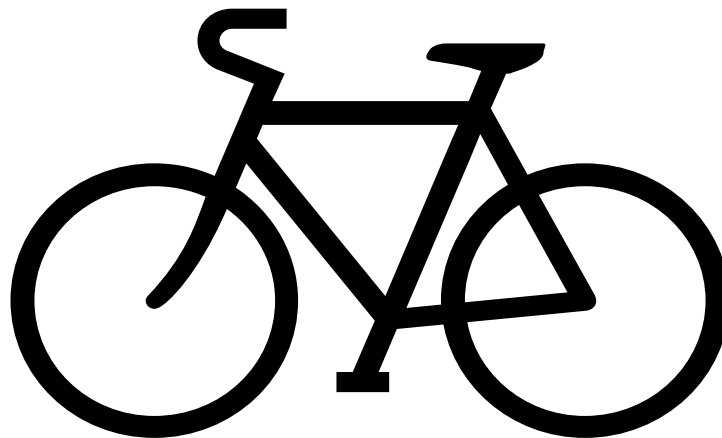
It is important that both you and your bike are properly equipped for safe riding. For your own safety make sure you have the following:

- **Helmet:** Wear a proper cycling helmet in good condition. Helmets should be marked clearly with a sticker indicating that they meet helmet safety standards such as CSA, SNELL, ASTM, ANSI, or BSI.
- **Clothing:** Wear reflective clothing in bright colours or light tones.
- **Bell:** All bicycles must be equipped with a bell, horn, or gong.
- **Lights:** By law, bicycles must be equipped with both a headlight and taillight for night riding. Generally, blinking lights are more effective at grabbing motorists' attention than a solid beam.

In addition, a cyclist must be able to tell if his or her bicycle is safe to ride. This basic cycling safety checklist can help. If you feel your bike is unsafe to ride, consult a qualified bicycle mechanic at your local bike shop:

- **Bolts:** check that the bolts on your seat, seat post, handlebar stem and axles are tight.
- **Headset:** Check that the handlebars turn freely and that there is no play in the bearings when you apply the front brake and rock the bike back and forth.
- **Brakes:**
 - Check that the nuts on the brake bolts are tight.
 - Ensure that brake pads do not touch the rims unless you are squeezing the brakes.
 - Brake levers should stop at least 2.5 centimetres from the handlebars when fully applied.
 - Make sure brake pads do not rub on tire side walls when applied.
 - For coaster brakes, ensure the bolt holding the brake arm to the frame clip is tight.
 - Check for excessive wear on the brake pads. Most break pads have grooves in them. When the grooves are almost worn away they should be replaced.

- **Axles:**
 - Check wheel bearings for looseness by shaking the wheel from side to side. There should be no significant movement.
 - Check bottom bracket bearings by grasping the crank arms and moving from side to side. The axle in the bottom bracket should turn freely but not move from side to side.
 - Check for tightness in dropouts, making sure that quick release levers are clamped tightly shut, not simply screwed tight.
- **Chain Slack:** If your chain sags, your rear derailleur may need repair, or your chain may be too long.
- **Shift Levers:** Derailleur levers should move easily when you shift, but they should not move on their own.
- **Derailleur Movement:** Make sure your derailleur does not throw your chain right off the chainring or sprockets.
- **Tires:** Inflate tires to recommended pressure as indicated on the tire side walls. Check tires for wear, bald patches, sidewall cracks and bulges.
- **Spokes:** Check for loose, bent or broken spokes.
- **Wheels:**
 - Make sure wheels are centered in the frame and that they do not touch the brakes.
 - Check for side-to-side wobble and up-and-down travel by watching the wheel spin past the frame and brakes. Any more than 3 millimetres or an eighth of an inch wobble is a cause for concern.



ON-STREET CYCLING SAFETY

Bicycle Fitting



Bicycle Fitting

A bicycle that fits properly is both safe and comfortable. This discussion of bike fit will concentrate on two important points: frame height and seat height. Bike fit is more complicated than this however, and should involve discussing frame length, seat position, handlebar stem length and rise, and crank arm length. Visit your local bike shop to ensure that your bike is properly adjusted for you and your cycling needs.

General Guidelines

- It is better to ride a bike that is too small than too big.
 - Smaller bikes are easier to handle, and it is easier to modify a small bike to fit you correctly.
- Generally, men have longer torsos and shorter legs than females.
 - Because most bicycles are designed for males, females may need to ride a bike that is 2 – 4 cm smaller than the size recommended in this section.



Frame Height

The correct frame height varies with the style of bike and the type of riding you do.

- Bicycles with drop handlebars, such as touring or racing bikes:
 - When standing flat-footed over the bike there should be between 2 and 5 cm of clearance over the top tube.
- Bicycles with “flat” handlebars, such as mountain bikes:
 - For on-street use the fit should be the same as that described above.
 - For exclusively off-road use, there should be between 7.5 and 10 cm of clearance above the top tube.
 - For all-around riding, the clearance above the top tube should fall in between the above two options, for example about 5 – 7 cm of clearance.

Seat Height

All styles of bicycles have the same “correct” seat height. Determine seat height as follows:

- Sit on the saddle of the bike with the pedal at the lowest point on its path of travel.
- Place your heel on the pedal of the bike. Your leg should be fully extended in this position. This means that when you ride your bike with the balls of your feet on the pedals, there will always be a slight bend in your knees.

