



Safety Handbook

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INTRODUCTION

PLEASE remember that a bicycle is a vehicle under the Ontario Highway Traffic Act (HTA). This means you are responsible for obeying all traffic laws, the same as other road users.

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1. CHECK YOUR BIKE

Ensure your bike is in safe operating condition.

- check the brakes—working with proper clearance and no frayed cables;
- check the gears to ensure they are shifting properly;
- clean and lubricate your chain;
- make sure that your quick releases are properly closed;
- ensure your tires are properly inflated;
- ensure any accessories (kickstands, racks, panniers, etc.) are securely fastened;

- ensure nothing is hanging loose (including clothing) that could become tangled in the gears, brakes or wheel; and
- ensure you have a working bell—it is the law.

2. CHECK YOUR CLOTHING & EQUIPMENT

Ensure that you have

- a properly-fitted and fastened helmet;
- a horn or bell--required by law;
- a mounted red rear reflector and front white light (for riding at night);
- water bottle(s);
- spare tube, tire levers & pump;
- basic bike tool kit;
- proper shoes—no flip flops or sandals (except sandals made for cycling); and
- DO NOT WEAR HEAD PHONES.

3. RIDING DOUBLE FILE

When cycling in Ontario, it is legal to ride double file but **ONLY WHEN SAFE TO DO SO** and only on roadways—never on pathways. It is **NOT** legal to ride double file in Quebec. **NEVER** ride double file over a crest of a hill.

Use courtesy and common sense. Revert to single file when approaching or overtaking a car, or when a car is coming behind. Have a system for singling up and communicate it verbally and via hand signals.

There is no defined system for moving in while reverting to single file. Whether you choose to move in behind or in front of the other cyclists, **COMMUNICATION** of the chosen action is essential and it is critical that the outside rider confirm it is indeed safe (sufficient room to move back in) so that he or she will not be causing a domino-effect pile-up **BEFORE** making the move.

4. CLIMBING & DECENDING

When travelling uphill or downhill, stay several bike lengths apart to prevent crashes due to sudden mechanical failures (i.e. problems with chains and derailleurs) or changes in speed, like if the rider in front of you suddenly stands up to climb out of the saddle.

Riding Efficiently On Hills

When riding up a long hill, the best technique is to shift to lower gears to maintain pedal speed as long as you can. Sitting with a fast cadence is more efficient than standing with a lower one. However, standing is often faster and is not a bad technique for short climbs.

As you slow down, shift to a smaller gear to maintain a steady cadence. Don't wait until you run out of momentum or feel pain in your legs before you shift. Shift down one gear at a time to keep cadence constant and avoid losing momentum. Also, back off your power slightly as the chain will more easily move to new sprockets and chain rings with less tension.

Cliplless pedal systems or clips and straps allow you to pull on the up stroke as well as push on the down stroke to distribute the workload all available muscle groups.

Try a "sit-stand-sit-stand" routine for long, difficult climbs. Alternate sitting and standing every 10 or 15 revolutions to give large muscle groups a periodic rest. When changing from standing to sitting, keep the cadence constant to avoid "roll back" effect.

5. WIND

Treat the wind like a long, steady grade. Focus on your cadence and technique. Keep your body low and your cross-section small. Maintaining an aerodynamic body position will significantly reduce wind resistance. Drop bars allow you to take the most advantage of a low body position.

Headwinds drain energy and reduce your speed. Keep this in mind when planning a day's route and/or turnaround point. In a strong, steady headwind or crosswind, riding in a pace line or using other drafting techniques will lower the group's workload and help everyone enjoy themselves by allowing the group to share the work.

6. GROUP SIZE & SPACING

Group sizes on the road are generally kept to a maximum of about eight or ten. Keep at least one metre between bikes unless drafting. If the total number of club members on a ride is larger than this, it will be broken up into two or more smaller groups on the road in order to take less space and enable cars to pass more easily.

When passing through an intersection, ALWAYS look for yourself to ensure the way is indeed still safe. While the way may have been clear for the person ahead of you, you may no longer have sufficient time to make it through the intersection.

7. SEE & BE AWARE

Riding in a group in traffic is not a time for zoning out or being inattentive. Be aware of your surroundings, anticipate any problems or challenges, and plan accordingly. Stay alert, keep your eyes on the road ahead.

When you see a potential problem, ask yourself the following questions:

- Is the bus picking up 2 or 20 passengers? Do I really have time to pass safely?
- Is the dog loose or secured?
- Is the car really turning or has its signal been stuck on for the past 10 minutes?
- Is the intersection really clear or is someone running the red light?

Watch out for road hazards, and both shout it out (i.e. "hole!") and point to the problem, thus alerting cyclists behind you and averting collisions and/or flat tires. Do this for

- wet leaves (especially if there is a puddle underneath);
- big puddles;
- changes in the road surface such as potholes and cracks;
- glass;
- fallen obstacles;
- storm grates;
- gravel, rocks or sand; and
- railroad tracks—slow down, shoulder check, signal, move out and cross at right angles.

8. BE SEEN

Always be visible in motorists' line of vision. Choose the correct road position to remain visible. Wear bright colours!

Give yourself a margin of 3 feet or 1 m from the edge of the road or curb. DO NOT hug the curb; this severely limits your options and flexibility to avoid sudden obstacles and keeps you out of the peripheral vision of the motorist. DO NOT hug the median at intersections. You may tend to blend in with the light fixtures or mail boxes. When stopped, hold your visible position of 3 feet or 1 m from the edge of the road or curb.

When turning, be in the centre of the lane and move quickly and safely through the intersection.

9. BE PREDICTABLE – STRAIGHT LINE RIDING

Always ride predictably. Ride in a consistently straight line within 3 feet or 1 m from the edge of the road. Pick an imaginary straight line parallel to the edge of the road and try to stay on it.

DO NOT meander, swerve or weave in and out, which can be annoying or dangerous both cyclists and motorists behind. Riding predictably enables any cyclists behind you to follow you more safely without having to constantly readjust their speed and position to make room for you to come back in.

Should you need to swerve to avoid an obstacle on the road, both shout it out (i.e. "hole!") and point to the problem. Shoulder check to confirm the maneuver is safe, alerting cyclists and motorists behind you. Should you need to slow, turn or stop, SIGNAL accordingly to alert cyclists and motorists behind and avoid collisions.

10. SIGNALLING

It is imperative to communicate your intention to stop, change lanes, turn, and generally manoeuvre around traffic, obstacles, construction etc. Hand signals are like turn signals and brake lights for cyclists. They help motorists know what you will do next.





Use an open palm with spread fingers for maximum visibility. Shoulder check BEFORE signalling, while maintaining straight line riding. Return your hands to your handlebars when crossing or turning at an intersection.

As shown below, there are two methods to signal right-hand turns. The decision of which to use is situational: Ask yourself, "On what side of me is the intended audience?" (i.e. is there traffic merging from the right) and signal accordingly.

DO NOT signal however if it is too dangerous to take your hands off the handle bars (i.e. railway tracks).

When passing other cyclists, always pass on their left side, and call out "On your left!" so they know that you are coming and are not startled.

Hand Signals

	
Left Turn	Slow/Stop
	
Right Turn	alternate Right Turn

11. LEFT-HAND TURNS

Always turn left from the centre or the left side of the lane. Shoulder check, signal, shoulder check again, then move to the centre or left side of the lane. Yield to approaching traffic before turning.

Mechanics Of The Turn

Signal prior to entering the intersection to communicate your intentions. Make the turn with both hands on the handlebars for maximum control.

Another Option – Bike Box

Cycle through the intersection, stopping at the opposite corner. Turn your bike to face in the direction you want to go and wait until it's safe to proceed or for the light to turn green if at a controlled intersection.

12. DESTINATION POSITIONING

When stopped at an intersection with the intention of continuing straight through DO NOT block the right turn lane. Take the position in the current lane of the lane you are moving to and wait for the light to change either in front of, or behind other traffic also continuing straight. Your destination (on the other side of the intersection), should be clear to motorists behind you, by where you are positioned on the road.

13. TRUCKS

Take extra care when entering intersections with trucks. Trucks have large blind spots and may not be able to see cyclists when making right-hand turns.

When stopped at an intersection, assume a position IN FRONT OF or BEHIND the truck, NEVER BESIDE. This position keeps the cyclist out of the driver's blind spot and removes the cyclist from the hazard of being crushed by a right-turning vehicle.

Leave extra room behind to prevent a 'roll-back' collision. Heavy loads can cause the truck to roll back.

Trucks require a lot of space to stop, so ensure there is adequate distance for the truck to stop before pulling in front of a truck.

Stay far enough back to be visible in the side view mirror.

Do NOT rely on your bell or voice to alert the driver of your presence—respect the driver's limitations and keep a safe distance away.

Trucks passing cyclists (in either direction) can create a gust of wind powerful enough to throw a cyclist off balance. When anticipating a large truck, stop pedalling and concentrate on keeping your front wheel straight.

14. ROAD HAZARDS

Railway Tracks

Ride over all tracks at a 90-degree angle to avoid catching your wheels. Pre-plan this manoeuvre by first shoulder-checking to confirm it is safe to move out, signal, shoulder-check again and steer perpendicular to the tracks. It is also best to:

- Stop pedaling and keep pedals horizontal to ground;
- Rise off the saddle and flex arms and legs to absorb the shock; and
- Keep both hands on the handle bars.

Sand & Gravel

Hitting sand or gravel with road bike tires can be extremely dangerous.

- Avoid sudden turning and try to go as straight as possible;
- Unclip one pedal to allow for quick recovery in the event of a skid; and
- Call out 'gravel' or 'sand' to warn other riders.

15. CYCLING AND THE LAW

A bicycle is a vehicle under the Ontario Highway Traffic Act (HTA). This means that, as a bicyclist, you have the same rights and responsibilities to obey all traffic laws as other road users. Cyclists charged for disobeying traffic laws will be subject to a minimum set fine and a Victim Surcharge fine of \$20.00 for most offences (please note set fines below are subject to change).

The following legislative changes to Bill 31; Transportation Statute Law Amendment Act (Making Ontario's Roads Safer), came into effect 01 Sep, 2015, and are directed at encouraging cycling, promoting road safety, and sharing the road.

Changes directed at drivers:

"Dooring", which commonly refers to someone who opens a parked motor vehicle door into the path of a cyclist or other traffic.

Higher set fine of \$365 (includes victim fine surcharge and court fees) + three (3) demerit points; drivers who choose to contest the charge could be subject to a fine up to \$1,000 + three demerit points, upon conviction.

One-metre Rule: Drivers must keep a one-metre (3 feet) distance when passing cyclists. Set fine of \$110 (includes victim fine surcharge and court fees)

Changes directed at cyclists:

HTA s62(17) - Lights

- Section 62 of the Act is amended to require Cyclists to have proper lights, reflective materials and reflectors on their bicycles (and that includes e-bikes) and motor-assisted bicycle (mopeds). HTA s62(17) says: When on a highway at any time from one-half hour before sunset to one-half hour after sunrise and at any other time when, due to insufficient light or unfavourable atmospheric conditions, persons and vehicles on the highway are not clearly discernible at a distance of 150 metres or less, every motor-assisted bicycle and bicycle (other than a unicycle) shall carry a lighted lamp displaying a white or amber light on its front and a lighted lamp displaying a red light or a reflector on its rear, and in addition white reflective material shall be placed on its front forks, and red reflective material covering a surface of not less than 250 millimetres in length and 25 millimetres in width shall be placed on its rear.

Set fine: \$110 (includes victim fine surcharge and court fees.)

HTA 144/136 - Traffic signals and signs

Stop for red lights and stop signs and comply with all other signs. Section 144 of the Act is amended to allow for traffic control signals that are specific to bicyclists. In locations where there are both bicycle traffic control signals and regular traffic control signals, bicyclists will be required to obey the bicycle traffic control signals.

Set fine: \$85.00.

HTA 140(6)/144(29) - Riding in crosswalks

Subsection 144 (29) of the Act is amended to remove the prohibition against riding or operating a bicycle along a crosswalk.

HTA 153 - One-way streets

Ride in the designated direction on one-way streets.

Set fine: \$85.00. This is however amended to allow for the designation of a bicycle lane on one-way streets that goes in the opposite direction.

- HTA 156 - Paved Shoulders

Section 156 of the Act is amended to permit bicycles to be ridden or operated on the paved shoulder of a highway that is divided into two separate roadways.

The following are the remaining key sections of the HTA concerning cyclists:

- HTA 144/136 - Traffic signals and signs

Stop for red lights and stop signs and comply with all other signs.

Set fine: \$85.00.

- HTA 147 - Slow moving traffic travel on right side

Any vehicle moving slower than the normal traffic speed should drive in the right-hand lane, or as close as practicable to the right edge of the road except when preparing to turn left or when passing another vehicle.

Set fine: \$85.00.

- HTA 142 - Signalling a turn

Before turning, look behind you and signal your turn. Cyclists can use their right arm to signal a right turn.

Set fine: \$85.00.

- HTA 140(1) 144(29) - Crosswalks

Yield or stop for pedestrians at crosswalks.

Set fine: \$85.00.

- HTA 166 - Streetcars

Stop two metres behind streetcar doors and wait until passengers have boarded or departed and reached the curb.

Set fine: \$85.00.

- HTA 175 (12) - Stopped school buses

Stop for stopped school buses when the upper alternating red lights are flashing.

Set fine: \$400.00.

- HTA 75 (5) - Bell

A bike must have a bell or horn in good working order.

Set fine: \$85.00.

- HTA 64(3) - Brakes

A bike must have at least one brake system on the rear wheel. When you apply the brakes, you should be able to skid on dry, level pavement.

Set fine: \$85.00.

- HTA 218 - Identification

Cyclists must stop and identify themselves when required to stop by police for breaking traffic laws. The police officer will ask you for your correct name and address.

Set fine: \$85.00.

- HTA 630 - Expressways

Bicycles are prohibited on expressway/freeway highways such as the 400 series, the QEW, Ottawa Queensway and on roads where "No Bicycle" signs are posted.

Set fine: \$85.00.

• HTA 178(2) - Passengers

Passengers are not allowed on a bicycle designed for one person.

Set fine: \$85.00.

• HTA 178(1) - Attaching to a vehicle

You are not permitted to attach yourself to the outside of another vehicle or streetcar for the purpose of "hitching a ride."

Set fine: \$85.00.

• HTA 104 - Helmets

Every cyclist under the age of eighteen must wear an approved bicycle helmet. Parents or guardians shall not knowingly permit cyclists under sixteen to ride without a helmet.

Set fine: \$60.00.

• HTA 179 - Dismounted bicyclist

Cyclists are required to ride on the right-hand side of the road. If you are walking your bike on a highway where there are no sidewalks, you are considered a pedestrian and you should walk on the left-hand side of the road facing traffic. If it is not safe for you to cross the road to face traffic, you may walk your bike on the right-hand side of the road.

Set fine: \$35.00.

16. DRAFTING OR PACE LINE RIDING

Normally KNBC club groups DO NOT ride in pace line formation, however knowing how to safely do so can certainly help an experienced group of riders work approximately 20% or more efficiently together over long distances and in strong headwinds. Do NOT try until you have absolutely mastered consistent straight line riding.

A pace line is a straight line formation used by a group to get the maximum effect from drafting. Riders stay in the 'slipstream' of the rider in front, leaving 8" – 18" between wheels. This allows the group to share the effort, with each rider taking a turn at the front. It works best in a small group (4 to 6 riders); larger groups may use a double pace line BUT only when safe to do so.

The group changes leaders at mutually-agreed times or distances. The leader signals time to change with verbal or hand signal, shoulder checks, pulls out to the left, lets the group pass and rejoins the back of the group. The new leader keeps a constant pace—no speeding up.

Stronger riders can do longer pulls at the front but be careful to NOT increase the speed. Weaker riders can stay at the back and "sit in" by leaving a gap for the previous leader to move into.

By far the greatest danger is touching front wheel to back. You must stay alert and pay attention to the riders in front of you. Your hands need to always be close to your brakes and you should NEVER ride in a pace line with aero bars.

The leader is responsible for:

- Selecting the best path and pace for the group; and
- Communicating road hazards to those behind (hand and verbal).

The group is responsible for:

- Riding straight and at a steady pace;
- Determining how they wish to signal position changes (switching the front rider);
- Determining how often and in what order they wish to change;
- Communicating road hazards from the leader to those behind (hand and verbal); and
- Maintaining independent decision making, always being aware of their particular or individual safety considerations, (i.e. if an intersection is no longer clear), and communicating accordingly.