



# THUNDER BAY GUIDE TO ALL-WEATHER CYCLING





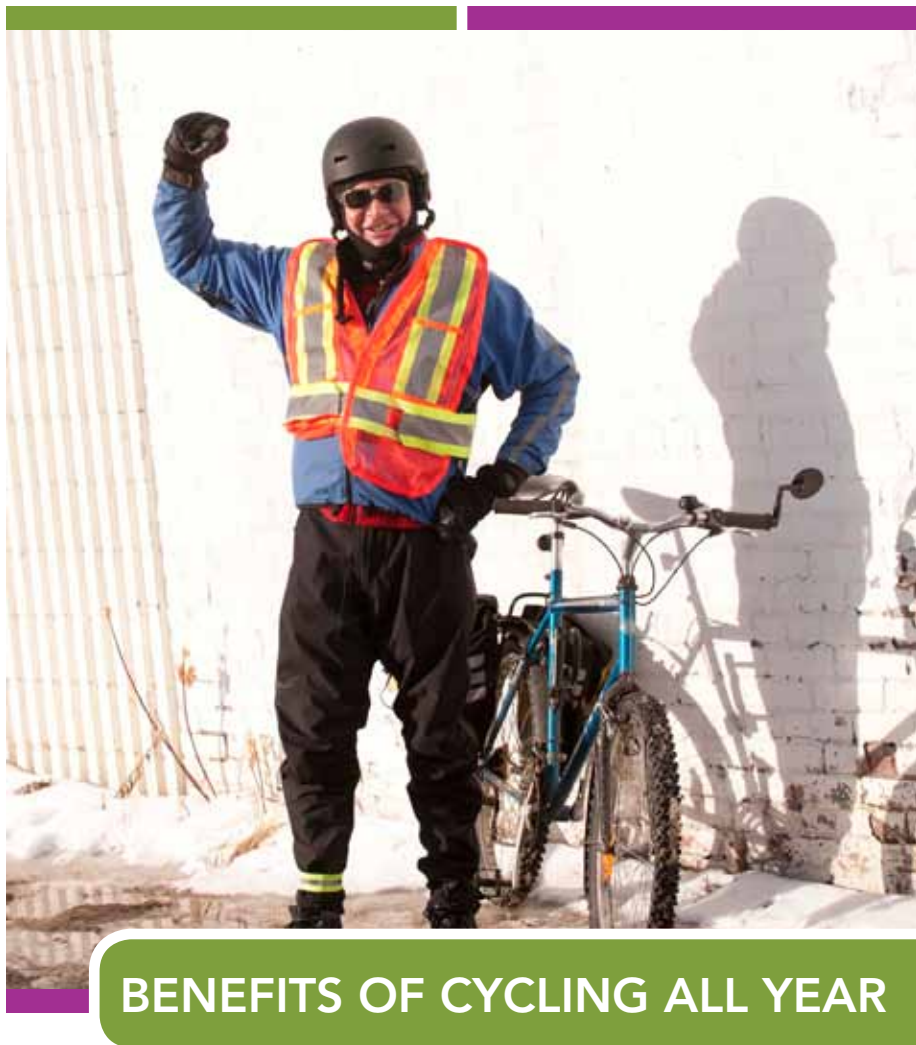
## “ARE YOU CRAZY?!?”

This thought crosses most people’s minds when thinking about cycling as a year-round mode of transportation. People get all bundled up to go skiing in freezing temperatures; winter cycling is much the same.

Some of the most beautiful days for biking are in late fall and early spring when the air is fresh and the sun is still warm. In fact, experienced cyclists may want to consider cycling through the winter on days when the roads are clear.

In Thunder Bay, the roads can remain clear of snow and ice into November and sometimes December. A longer cycling season will lead to many benefits for your health, your wallet, and the environment.

This guide is not intended to be exhaustive but it does provide ‘best practices’ for safe cycling in all weather.



## BENEFITS OF CYCLING ALL YEAR

- Physical activity - Physically fit people are less likely to develop heart and lung disease, hypertension, certain types of cancer, or type II diabetes.
- Pollution prevention – If each person, living five kilometers from their workplace or school, biked an average of three times per week, each person would prevent 360 kg of GHG emissions annually.
- Transportation savings - It costs the average Canadian \$.70 per kilometer to operate a car (CAA Driving Costs 2010). Cycling is free!
- Enjoyment - During the colder months, cycling provides time outdoors in the fresh air and sunlight.



## HOW HARD IS WINTER RIDING?

Many cold weather cycling commutes are very pleasant and safe. Winter days are often bright and sunny, with clean, clear roads. However, travel time tends to increase by approximately 30%, so plan ahead!

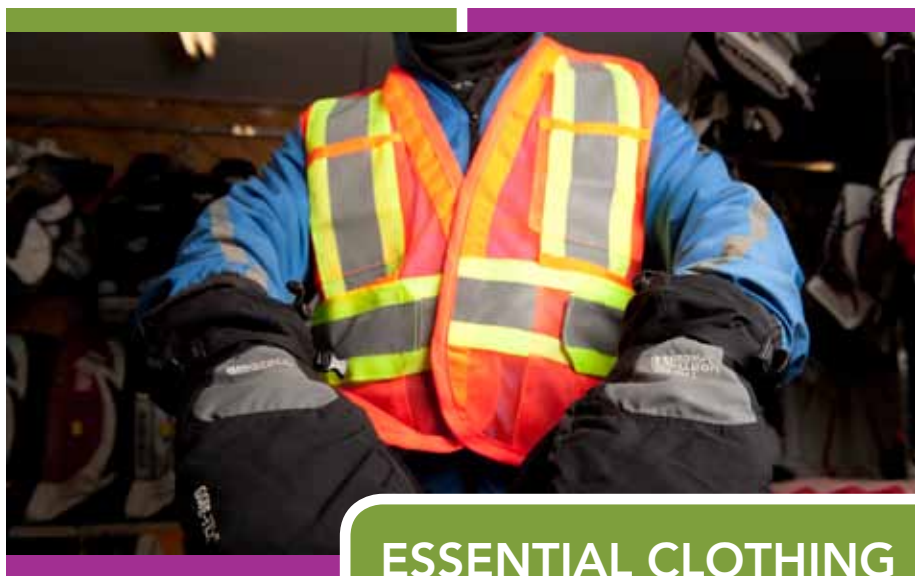
In the winter, choose your routes with extra care. Choose shorter routes with lower traffic volumes, and minimal hills and corners. This helps to prevent accidents. Have alternate routes planned; a snowfall can make your normal route unsafe. When Thunder Bay's multiuse trails are cleared, they provide a great alternative to riding on the road.

Keep in mind that Thunder Bay's bike lanes are not maintained from Nov. 15 to May 14. Snow and road debris that accumulates in the bike lanes will not be cleared until May 15.

Use your best judgment when confronted with challenging weather. For example, during a snow storm, choose another mode of transportation. After a heavy snow fall, don't ride until the roads have been cleared.

Remember, winter cycling is not a day-in, day-out commitment. Pick your cycling days according to the weather and your mood. Don't push yourself, but when you ride, enjoy the unique beauty of winter weather.





## ESSENTIAL CLOTHING

### Cold and Wet Weather

Dressing appropriately in cooler weather is crucial for an enjoyable ride. The main problem, contrary to popular belief, is not keeping warm, but keeping cool. Cycling is an aerobic activity, which means that your body produces heat – much more than when walking. Most first-time, all-weather cyclists overdress.

If you are slightly cool when you step outside, you're probably dressed properly. You don't need cycling-specific clothes, just wear thin layers to reduce bulk.

In cold weather, the most important areas to consider are: head, hands and feet. These areas are more susceptible to the cold and are vulnerable to frostbite. Be careful with glasses, watches, and zippers. Metal objects touching your skin can cause frostbite.

The most critical aspect of appropriate dress is clothing that maintains your visibility. Visibility on roads is reduced in rainy conditions and winter days are short. To maintain visibility:

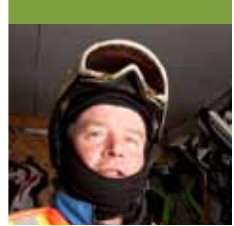
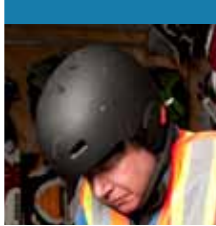
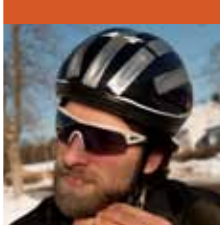
- Wear reflective clothing
- Wear bright yellow, orange, or white;
- Install bicycle reflectors and lights;

## Head

*If your feet are cold, put on a hat.*

Between 50% and 65% of your body heat is lost through the head, so it is essential to keep it covered. To conserve body heat:

- Wear thin, lightweight, wind-resistant toques, headbands, or balaclavas under your helmet;
- Avoid hoods: they restrict peripheral vision;
- Buy a winter-specific cycling helmet;
- Use sun glasses, ski goggles, safety goggles to protect your eyes;
- Tape over the vents on your helmet: or buy a helmet cover;
- Wear a scarf to cover your neck and face;
- Cover your ears.



## Hands

Because hands are stationary, they are very susceptible to cold weather. Warm hands have the dexterity to control the bicycle. To keep your hands warm, remember:

- Mitts are warmer than gloves – Ski mitts are perfect;
- Use layers of thin mitts rather than one pair of heavy mitts;
- Try two layers - an outer layer of wind resistant mitts and an inner layer of gloves that allow for dexterity;
- 'Lobster Mitts' offer the dexterity of gloves and the warmth of mitts.



## Feet

Warm, dry feet are essential, so wear water resistant, warm footwear to ensure comfort. Some examples include:

- Warm hiking boots, winter boots, or neoprene booties;
- Wool or fleece socks (not cotton);
- Avoid pedals with clips, cages, or straps;
- Plastic bags over socks and inside shoes to keep your feet dry;
- Waterproof shoe-covers protect your feet in all conditions.

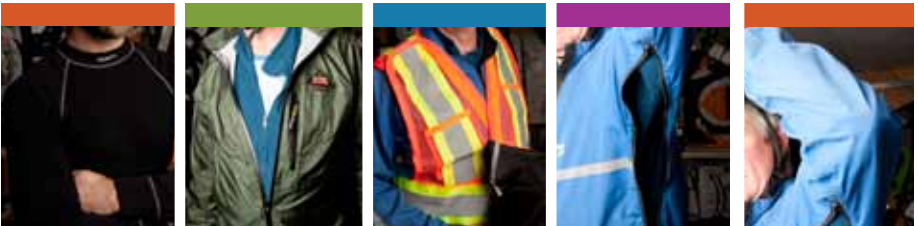


## Torso

Keeping your upper body warm is relatively easy. In fact, to keep cool, you'll want several layers, so choose a jacket that is both waterproof and breathable. Avoid materials made with cotton, as they hold moisture against your skin. Your outer jacket or a shell should be long so it won't ride up and expose your torso to drafts. It should also be large enough to allow for layers underneath.

Here are some general tips:

- Have a wicking material next to your skin (base layer);
- Dress according to the weather: temperature, precipitation, and winds;
- Your shell should be a bright colour and have reflective piping;
- Underarm zippers allow for better temperature regulation;
- Articulated elbows and shoulders provide a comfortable reach.



# Legs

Your legs are easy to keep warm – they're doing all the work, but be sure to protect your knees! Knees are vulnerable to cold, and have little padding. Working cold joints can cause damage. Keep your legs dry and protected from the wind. As an outer layer, materials like denim should be avoided because they retain moisture and don't insulate. Keep in mind:

- Waterproof and breathable outer shell pants are best;
- A thermal mid-layer (fleece or wool);
- Moisture wicking base layer;
- Loose fitting pants with a warm base layer works for most weather;
- Keep your pant legs tucked in and wear a reflective ankle strap.







## BICYCLE CHOICE AND EQUIPMENT

With a properly outfitted bike, all-weather cycling can be almost as safe and easy as summer cycling.

### The Right Bike

*The key is; 'the simpler your bike, the less maintenance it will need'. Gears, suspension, and cables require extra care.*

- 1 Use an old, inexpensive bike; mountain bikes offer good handling;
- 2 Avoid bikes with suspension – cold and salt ruin them;
- 3 Have few gears, go single speed, or use an internal gear hub;
- 4 Coaster brakes, drum brakes, and cantilever brakes are low-maintenance.

### Essential Equipment

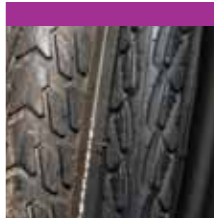
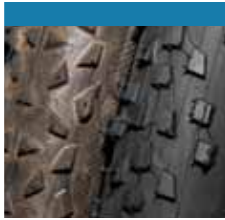
Key improvements can be made to your bike that will increase your comfort and safety:

- 5 Lights - front and rear – and reflectors. Because of short winter days, lights are your best safety measure;
- 6 Rearview mirrors enable you to remain aware of traffic without twisting to see behind you;
- 7 Fenders are essential for staying dry and keeping you and your bike clean;
- 8 Pedals: use flat pedals. Toe clips, straps, and cages are dangerous;
- 9 Racks and saddlebags are better than a backpack. Wet and icy roads are slippery. Saddle bags and racks lower your centre of gravity and increase stability.

# Tires

*Tire choice is important because tires determine how a bike will handle in different conditions. Here are some general recommendations:*

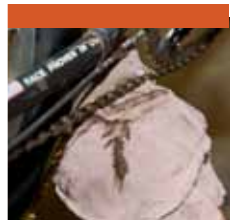
- Reduce tire pressure to the low end of the recommended range (written on tire sidewall) - this will increase traction;
- Thick-tread mountain bike tires will increase traction/grip on snow;
- Thin tires will cut through snow and slush, down to the pavement;
- Studded tires: Noisy on pavement but good for ice. If you can only afford one, choose a front studded tire;
- Cheap tires have more oil in their rubber, so they slip more on ice. Expensive tires have more natural rubber and have better ice traction.



# Maintenance

*All-weather cycling will expose your bike to dirt and salt. These elements wear out your gears and bearings. Follow these maintenance tips:*

- Clean and lubricate your chain regularly (wax-based lubricants accumulate less debris);
- Brush away snow from the rear derailleur and gears with a large bristle brush;
- Check your brakes regularly. Make sure both brake arms move freely. If they don't, bring your bike to a bike shop;
- Keep your bike outside: snow and salt won't melt into its parts;
- If you bring it indoors, wipe your bike down with an old towel;
- Before riding: check your bike lights for brightness and clean your reflectors.





## RIDING TECHNIQUES

Cycling in wet or snowy weather can be fun but be conscious of the dangers these conditions pose. Braking, turning, and road debris can cause accidents, so the all-weather cyclist has to be aware of additional hazards and ride with extra care.

**Caution:** Not every day is a cycling day. Some days it is better to leave your bike at home. Riding in the rain or snow is a challenge even for very highly skilled cyclists. Ride with discretion.

All Thunder Bay Transit buses are equipped with bike racks - If the weather changes throughout the day, making conditions unsafe, take advantage of this service.

- Remember that drivers can't stop as quickly or maneuver as well. Narrower roads mean that sharing the road takes extra caution;
- Icy conditions are extremely dangerous. Never ride on icy roads.

Note: Thunder Bay's bike lanes parking restrictions are only in effect from May 15 to Nov. 14, each year. During the fall and winter months the lanes are not maintained. Use at your own risk!

# Key Principles

*Always keep these in mind when riding in wet and cold conditions:*

- Calculate extra time into your commute so that you can ride slower;
- Stay on bright streets with good street lighting;
- Choose roads with low traffic volumes;
- Choose short routes with minimal hills and corners to help prevent falls;
- The nights are longer and darker in the winter – be as visible as you can;
- Too hot? Try cycling slower. Too cold? Try cycling faster;
- Make eye contact with motorists. Ensure that they see you as they don't expect cyclists;
- Always have a bailout plan: if you are in a bad situation, always have a safe way off the road.



# Riding Techniques

*These techniques can prevent injuries and make you more stable:*

- Start slowly so that your body can warm up;
- Pedal smoothly and keep your upper body and arms relaxed;
- In general, ride in a straight line;
- Ride in the tracks of motor vehicles. Tracks give you a drier surface and better traction;
- Ride more slowly to allow for maximum traction;
- Shift often to prevent snow from jamming your gears.



## Avoiding Trouble

*There are certain road conditions that can cause problems, so watch out!*

- Avoid leaves, mud, and other material that may be slippery;
- Snowdrifts cause you to ride further out in the lane. When you move out, communicate your intention by signaling to other traffic;
- Avoid slippery surfaces like painted lines, metal bridges, and sewer grates;
- Railway tracks are especially dangerous in wet conditions;
- If you encounter black ice, ride straight - don't pedal and don't brake; just gently coast;
- Snow, snowbanks, and puddles may hide ice or potholes. Avoid them!





## Braking

*Braking safely on a wet or slippery surface is the biggest challenge when riding. Follow these tips:*

- When stopping, allow yourself twice the normal stopping distance;
- Brake gently!
- Use both brakes, but use the rear more. Front brakes cause the front wheel to slide out;
- Do not brake on slippery surfaces (leaves, ice, metal, paint). If you must, gently use the rear brake;
- Always try to brake on dry/clear patches of asphalt;
- Lightly pump your brakes to clean snow and water from your rims.



# Turning

*When turning, you are fighting your own momentum. A great time to slip!*  
*Avoid slipping by using these techniques:*

- Take corners slowly;
- Don't lean into turns: keep your bike and body upright;
- Take extra care to inform drivers of your intentions;
- Additional time for signaling will help others be aware of your intentions and be mindful of your needs.



# Conclusion

If you're properly dressed and riding cautiously, all-weather cycling can be a safe and practical way to commute. Use these general tips on how to dress for different weather to develop a system that suits you. Practice the cycling techniques provided in this guide and be extra attentive on the road. The most important thing to remember is; in inclement weather, a little extra caution and planning goes a long way toward keeping you safe and healthy.

Please don't let this Guide go to waste! Pass it on to your friends and colleagues. A digital version is available at [www.thunderbay.ca/activetransportation](http://www.thunderbay.ca/activetransportation)

## Further Information

This guide is the product of the collective knowledge, work, and experience of the cycling community. We'd like to acknowledge these resources:

- <http://ottawa.ca/residents/onthemove/travelwise/cycling/weather/>
- [http://www.toronto.ca/bug/cold\\_weather.htm](http://www.toronto.ca/bug/cold_weather.htm)

## Winter Cycling Websites

- <http://www.bikewinter.org>
- <http://www.icebike.com>
- <http://www.allweathersports.com/winter/winter.html>
- <http://www.blayleys.com/articles/WinterTips/wintertips.htm>

## Useful Links

### Active Transportation Thunder Bay

- [www.thunderbay.ca/activetransportation](http://www.thunderbay.ca/activetransportation)
- [www.ecosuperior.org/article/active-transportation-130.asp](http://www.ecosuperior.org/article/active-transportation-130.asp)
- (807) 625-2163

### Environment Canada Daily Weather Forecast

- [www.weatheroffice.ec.gc.ca](http://www.weatheroffice.ec.gc.ca)

### Ministry of Transportation of Ontario

*Cycling Skills: A Guide for Teen and Adult Cyclists*

- [www.mto.gov.on.ca](http://www.mto.gov.on.ca)
- (800) 268-4686

**Printing of this Guide made possible with the support of:**



**Acknowledgments:** We would like to thank Gareth Pritchard and Kim McGibbon for graciously agreeing to be our models for this Guide. We would also like to thank EcoSuperior, the Thunder Bay District Health Unit, EarthWise Thunder Bay, and the Active Transportation Committee for all their input in developing this Guide.

