V E R M O N T

An Introduction to the Fun and Rewards of Bicycle Commuting

BICYCLE COMMUTER'S GUIDE

PRODUCED BY VERMONT AGENCY OF TRANSPORTATION BICYCLE AND PEDESTRIAN PROGRAM

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Partners

May is National Bike Month and many communities sponsor "Bike to Work" days or weeks to raise awareness about bicycle commuting. In Vermont, a number of community organizations sponsor Bike to Work events in either May or June.

Past sponsors include:

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Acknowledgements

The original text of the Bicycle Commute Guide was produced by the Capital Bicycling Club, Olympia, Washington, www.capitalbike.org and Climate Solutions, Olympia, Washington, www.climatesolutions.org. Contact Climate Solutions at 360-352-1763 or email info@climatesolutions.org for information on developing a guide in your area.

Produced by the Vermont Agency of Transportation, Bicycle and Pedestrian Program with funding assistance from the Federal Highway Administration.

Modifications and print production assistance by ***Stark Mountain Productions***
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Table of Contents

Why Bike Commute? 4
- Bike Commute Options

Bike Basics 5
- The "Anatomy" of a Bicycle
- Bike Fit

Outfitting Your Bike 5
- Headlights & Taillights
- Basic Repairs
- Fenders
- Mirrors

Outfitting Yourself 6
- Helmets
- Gloves
- Visible Clothing
- Comfortable Clothing
- Cold Weather Clothing Tips

Riding Safely & Legally 8
- Proper Bicycling Form
- Traffic Laws and Bicycling
- Signal Before Turning/Changing Lanes
- Riding in Traffic
- Riding in the Rain
- Riding at Night
- Riding in Winter
- Drainage Grates
- Crossing Train Tracks
- Dealing With Harassment

Doing the Commute 10
- Getting Started
- Talking With Your Employer
- Dressing for Work
- Washing Up

Bicycle Security 12
- U-Locks
- Cable Locks

You Can Do It! 13

The Bike Shop 14
- Bike Fit Tips
- Quick Releases
- Helmet Fit & Adjustment
- Safe Bike Check List

Resources 15
- Organizations
- Internet Resourses
- Books

This Guide will Prepare You for the Fun and Rewards of Bicycle Commuting... Ready... Set... Ride!

Vermont State Statute

VSA T. 23, Chap. 13, subchapter 12 §1136 (c) Every person riding a bicycle is granted all of the rights and is subject to all of the duties applicable to operators of vehicles, except as to those provisions which by their very nature can have no application.

The morning air is clear and crisp as you set out for work on your bicycle. As you head down the street and begin to limber up you notice how your neighbor's garden has grown over the past few weeks. You exchange a friendly wave with someone out for a morning run. It's amazing, just a few months ago your bike sat in the corner of your garage, waiting for a fair-weather weekend to come along. Now you use it daily for commutes and errands and the travel coffee mug in your car is gathering dust. The accessories and clothing that help you bike commute in all conditions are quickly being paid for by savings in gasoline and wear and tear on your car. Soon you will actually be saving money.

Waiting in line at a traffic light, you notice that most of the cars only have one occupant. What if they were on bikes or buses or carpooling you wonder — how much traffic congestion would that reduce? When you first started bike commuting, you were thankful for that light because it was a chance to catch your breath, but now your fitness has improved to the point that only biking up the big hill on your route makes you breathe hard. You used to call that hill "Little Mansfield," but now it's just another part of your morning. You are feeling awake and motivated as you pull into your workplace and lock your bike right next to the entrance of the building, while car drivers troll around the parking lot, searching for empty spaces. Once inside, you head for the bathroom to clean up and change clothes. Ten minutes later, you are in your office, ready for the day ahead. Outside, your bike awaits your imminent return for a relaxing ride home after work...

Why Bike Commute?

Bicycling is a quiet, clean, efficient, healthy and fun way to travel. Since half of all daily trips in this country are five miles or less, bicycling is a practical way to travel to and from work or school, or for doing errands. Combined with transit, cycling can also be part of a commute over longer distances. Bike commuting is easy but it may require some small adjustments in your daily routine.

This guide was created to ease the transition and make the experience safer and more enjoyable. If you're new to bike commuting, it may take a little while to develop your routine. But be persistent — you'll not only arrive at work alert and motivated and back at home relaxed, you'll save a lot of money too! Even veteran commuters should find some helpful tips in this guide.

Bike Commute Options

If doing your whole commute by bike is impractical or you need to build up your fitness, try these alternatives:

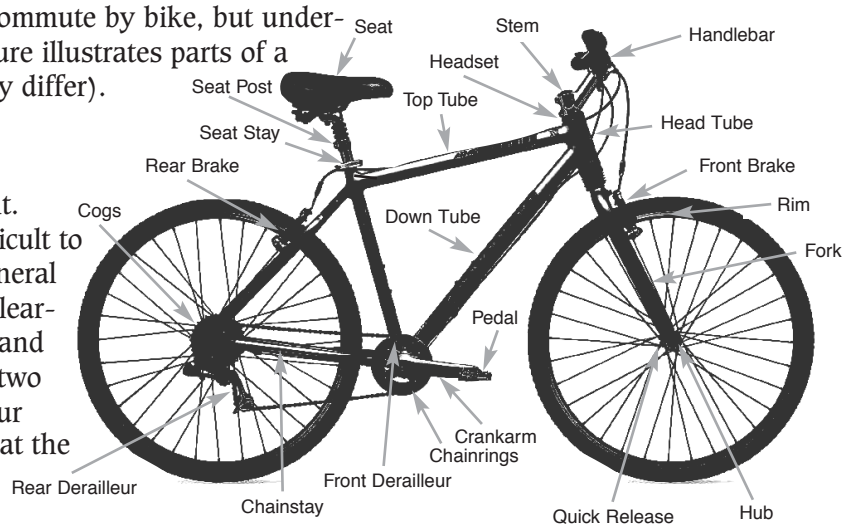
- Bike to a bus stop and take the bus the rest of the way to work.
- Bike to a park-and-ride facility and lock your bike at a bike rack or take your bike to work on the bus (contact your local transit provider for more information on bicycle accommodations).
- Drive to a park-and-ride facility and cycle to work from there.
- Bike to a co-worker's and carpool from there.
- Drive to work and cycle home. The next day, ride to work and then drive home.
- Combine biking with a vanpool if possible. Ask the vanpool manager to mount a bike rack on the vehicle. Then you can take the vanpool in the morning and cycle home in the afternoon.
- Bike one day a week to start and consider that day a "special treat."

When taking your bike on transit vehicles, ask your local transit provider for instructions and always communicate with drivers before you load and unload your bike.

Bike Basics

The "Anatomy" of a Bicycle

You don't need to have mechanical expertise to commute by bike, but understanding how your bicycle works is helpful. This figure illustrates parts of a bicycle you should be familiar with (your bicycle may differ).



Bike Fit

Proper bike sizing and fit are extremely important. Having too large or too small a bike can make it difficult to control and can lead to discomfort or injury. As a general rule for road bicycles, you should have one inch of clearance between the top tube and your crotch as you stand astride the bike. Clearance should be approximately two inches for a "hybrid" or "cross" bike and three to four inches for a mountain bike. See "**The Bike Shop**" at the end of this guide for more information on proper bike fit.

Outfitting Your Bike

Certain accessories can make bike commuting safer and more enjoyable. Prioritize spending on safety-related items. Keep in mind that you get what you pay for and since bike commuting is very economical, you will save money in the long run.
To make choosing among the wide variety of bicycle accessories a less daunting task, think about your needs, talk to friends and employees at your local bike shop and read equipment reviews in bicycle publications.

Headlights & Taillights

Headlights are required by law for night riding and taillights are a good addition to the required rear red reflector. Lights vary greatly in their quality of construction, mounting design, amount of light they supply and "run time." Bicycle headlights are divided into three categories:

- Non-rechargeable headlights: While these lights are inexpensive initially, battery costs pile up and so does the hazardous waste they create in spent batteries.
- Rechargeable headlights: Larger up-front costs are more than made up for by savings from reusable batteries, plus rechargables reduce hazardous waste.
- Generator-powered lights: Generators are inexpensive and don't require any batteries. Unfortunately, most generator systems are not as bright as battery-powered lights. Additionally they only produce light when the bicycle is moving (yet it is important to remain visible even when stopped).

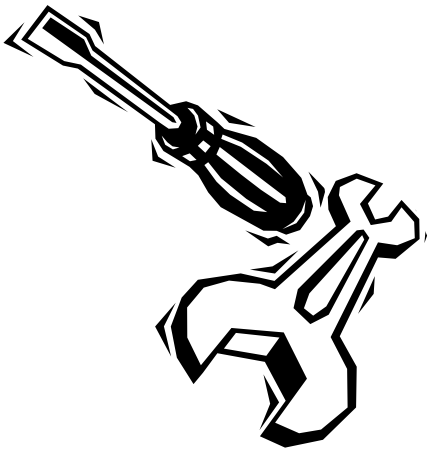
Regardless of what system you use, consider keeping a spare headlight with you on your commutes in case you forget your main light or it is not usable (due to dead batteries or mechanical failure). Make sure the spare light can be mounted on your handlebars or on your helmet.

Vermont State Statute

Title 23 Chapter 13, Subchapter 12
§ 1141. Equipment on bicycles.
(a) No person may operate a bicycle at nighttime unless it is equipped with a lamp on the front, which emits a white light visible from a distance of at least five hundred feet to the front, and with a red reflector on the rear, which shall be visible at least three hundred feet to the rear when directly in front of lawful upper beams of head lamps on a motor vehicle. Lamps emitting red lights visible to the rear may be used in addition to the red reflector.

Basic Repairs

It's a good idea to carry a basic tool kit with a small set of allen wrenches, a tire patch kit, and tire levers. Mount a pump on your frame as well and make sure you know how to fix a flat before you need to! Flat repair is often featured in bicycling magazines and is always included in repair manuals. Products such as puncture-resistant tires and tubes and "tire liners" can help prevent flats. Inquire at your local bike shop. Including a rag in your tool kit can help you stay clean in the event of a mechanical problem. Carrying emergency spare change or a calling card will enable you to arrive at work on time in case you encounter a problem you cannot address immediately.



Fenders

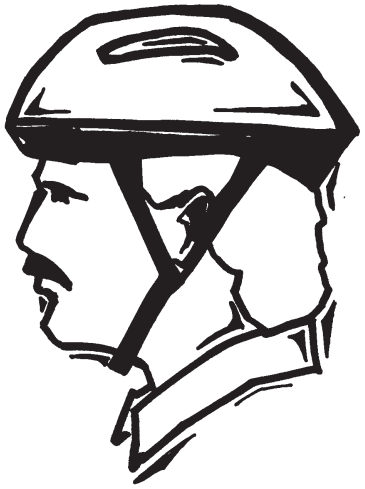
Fenders are a must for cycling in wet conditions. They nearly eliminate spray from your wheels, keeping you drier, cleaner, and more comfortable. They also keep your bike cleaner, reducing the need for maintenance. Various designs of fenders are available. The more wheel coverage a fender offers, the better.

Mirrors

Many cyclists use mirrors to keep track of traffic behind them. Mirrors come in two basic types: helmet-mounted and bar-mounted. Helmet-mounted mirrors are constantly in your field of view, requiring just a quick glance to check the road behind, but some find them distracting. Bar-mounted mirrors are not in the field of view, but often are subject to vibration from the road. Although mirrors can help you keep tabs on traffic, they are not a substitute for looking behind you before changing lanes.

Outfitting Yourself

Outfitting yourself for bike commuting consists of wearing safe and comfortable clothing. Safe clothing should be your priority, while comfortable clothing can make your commute more enjoyable.



Helmets

Of the 1,200 deaths that occur annually in the U.S. from bicycle accidents, 75% are due to head injuries. Using a helmet can reduce the chance and severity of injury and may even save your life. It can only do so if properly sized, adjusted and consistently worn (see **"The Bike Shop"** section for information on helmet fit). Here are some important points about helmet use:

- The helmet should be worn level on your head. If tilted back, it will not protect your forehead.
- Bicycle helmets are designed to withstand one crash only. Structural damage is not always visible, so always replace a helmet that has been in a crash and never buy used helmets.
- Light or fluorescent-colored helmets make you more visible to motorists. Reflective tape, available at bike shops, can be applied to helmets to enhance visibility at night.
- You can never tell when a crash is going to occur, so wear your helmet every time you ride, no matter how short the trip.

Wear your helmet level on your head... not tilted back

Gloves

Gloves are both safety clothing and comfort clothing. They protect hands in the event of a crash, improve grip and reduce road vibration. Heavier, full-finger gloves make riding in cold or wet weather more comfortable.

Visible Clothing

Wearing clothing or accessories (e.g. reflective arm/leg bands, vests) that make you more conspicuous can help make up for the fact that drivers often are not used to scanning for objects smaller than cars. In daylight conditions, fluorescent or light-colored items are very visible, but at night, reflective items are most effective at increasing your visibility. Motorists will appreciate your efforts to make yourself more visible to them and may be more considerate.

Comfortable Clothing

Bike Shorts

Bicycling shorts reduce friction in the crotch and often provide some cushioning. For short commutes, they may not be necessary.

Rain Gear

Rain gear comes in two main types: breathable and non-breathable. Non-breathable fabric can cause you to overheat and sweat, though even breathable fabrics will be overtaxed by vigorous cycling. The effectiveness of rain gear depends a lot on the ventilation it offers. Look for large “pit-zips” in the jacket to allow perspiration to evaporate. Rain pants should be long enough to cover the top of your footwear to help keep your feet dry. The cuffs of the pants should cinch snugly against your ankles to keep them from getting snagged on anything (like your bike’s chain).

Footwear

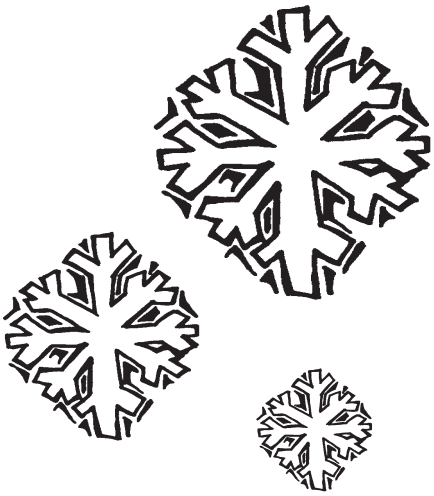
Ideal cycling footwear is stiff-soled, waterproof and comfortable to walk in. Some cyclists use special shoes but common footwear such as hiking boots or sneakers may suffice for your commute. Experiment to see what footwear gives you the best combination of comfort, efficiency and convenience. You can also get waterproof booties that fit over most any footwear (even dress shoes).

Cold Weather Clothing Tips

Remember the cool-weather-cycling axiom: “If you are warm when you leave home, you are over-dressed.” You may feel chilly at first, but remember, cycling generates significant heat and you will warm up after a few minutes in the saddle. In cold weather, put a thin, wicking layer against your skin to keep yourself dry. Then use an insulating layer on top of that, and finally, if you need, a wind or rain jacket. Make sure the jacket has full front zippers and/or pit-zips to allow for ventilation.

Ear warmers and head coverings like hats or balaclavas enable you to cycle comfortably in cold weather. Head coverings may require helmet readjustment.

If you have to be wet (due to rain or perspiration), at least be warm. Avoid cotton, which loses its ability to insulate when wet. Stick with synthetics which stay warm when wet and dry out quickly.



Proper Bicycling Form

Braking

Brakes are among the most important parts of your bike to keep in good working order. The front brake delivers approximately 70% of a bicycle's stopping power, yet many underutilize it because they are afraid of flipping the bike. By shifting your weight backwards as you brake, your bike will remain stable. The harder you need to brake, the more you should shift your weight backwards.

For maximum stability, brake before (not during) a turn, especially in wet or gravelly conditions.

Looking Behind

Cyclists often swerve when they look over their shoulders prior to changing lanes or initiating turns. To minimize this tendency, concentrate on isolating your shoulders from your neck as you move your head to look. Try bringing your chin to the shoulder you want to look over instead of just turning your head to the side. Practice this technique in an empty parking lot until you can look without swerving.

Getting the Most From Your Multi-speed Bike

Using a multi-speed bicycle is similar to driving a "stick-shift" car — you shift gears in order to keep the engine revving at a reasonable pace. On a bicycle, *you* are the engine, and you should use the gears to allow you to pedal with minimal effort. A "cadence," or pace, of 60-80 revolutions per minute is a good target for novice cyclists, with higher cadences appropriate as one becomes more skilled. On a quiet but hilly road, try pedaling at a constant cadence up and down the hills by using different gears. Shifting in order to maintain a comfortable pedal cadence may initially require a little practice but will soon become intuitive. Pedaling at a higher cadence is better for your knees and will allow you to ride faster and farther.

Riding Safely & Legally

Riding safely and legally starts with having a well-maintained bike. See the **Safe Bike Checklist** in **"The Bike Shop"** to make sure your bicycle is in proper working condition.

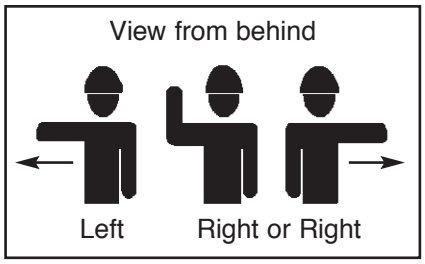
Traffic Laws and Bicycling

In *Effective Cycling*, John Forester writes, "Cyclists fare best when they act and are treated as drivers of vehicles." Why? When cyclists follow traffic laws they travel in a predictable fashion, communicating their intentions to other road users. It's not just a good idea, it's the law — state law grants all the rights and duties of vehicles to bicyclists. Always remember to:

- Ride in the direction of traffic.
- Obey all traffic signals including stop signs and lights.
- Travel as far to the right in the travel lane *as practicable* when moving slower than traffic, except when utilizing a left-turn lane or avoiding a right-turn lane when traveling straight.
- Always pass on the left (although overtaking other vehicles when you are either utilizing a bike lane or are in a right-turn lane is legal).
- Utilize turn lanes when available.

Signal Before Turning/Changing Lanes:

For left turns: extend the left arm straight out to the side.
For right turns: either extend the left arm to the side and up or extend the right arm straight out to the side.
To signal for a stop or a decrease in speed: extend the left arm to the side and down.



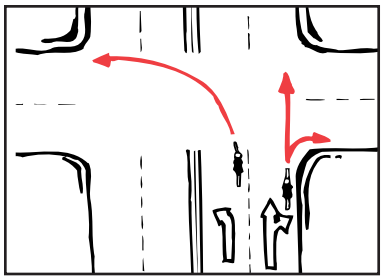
Riding in Traffic

Here are some more tips to help you ride safely and predictably:

General Tips

- Maintain as straight a line of travel as possible — avoid swerving in and out of the parking lane. Keep approximately three feet from parked cars so that an opened door will not obstruct your path. This will also make you more visible to drivers approaching from side streets or driveways.
- Be alert when riding in traffic. Continually scan for potential hazards such as road debris, potholes, car doors that may suddenly open in your path, other road users pulling into your path from side roads or driveways, etc.
- Cycling two abreast in Vermont is legal, though it is illegal to impede the normal flow of traffic.
- Ride with confidence and make eye contact with other road users.
- At stop signs and lights, do not advance to the stop line by passing cars on the right. Instead, wait in the traffic queue unless you are in a striped bike lane or utilizing a turn lane.

- At intersections, position yourself in the rightmost lane (or portion of it) that best reflects your travel intentions (i.e. use through lanes only when traveling straight, use dedicated turn lanes only when turning).
- When using turn lanes that serve two destinations (i.e. a left and straight or a right and straight lane), ride on the side of the lane nearest your destination.
- It is legal (and safest) to occupy the center of a travel lane when you are traveling at traffic speed or when cars cannot pass you safely (see sidebar, "Taking the Lane").
- Sidewalk riding is more dangerous than street riding (and in some areas is illegal) due to reduced sight distances and reaction times. If you must use the sidewalk, be extremely cautious, especially when making the transition to and from the roadway or crossing driveways, and always yield to pedestrians.
- Be aware that although shared use (commonly referred to as "bike") paths may not have auto traffic, they may have traffic that is less predictable and more dangerous than streets. Keep alert for pedestrians, skaters, pets and less-experienced cyclists. Communicate with these path users and announce your intention to pass them (on their left).



Utilize the rightmost lane or portion of a lane that goes to your destination

Riding in the Rain

Riding in wet conditions affects your bike's handling.

Remember these wet-weather cycling tips:

- Allow more time for braking.
- Sewer covers, drainage grates, railroad tracks and traffic-lane striping can be slippery when wet. Avoid braking or turning while traveling on them.
- Avoid puddles which may hide potholes or other road-surface irregularities that can cause you to lose control.
- Rain is usually accompanied by decreased visibility, so take appropriate precautions (see **Outfitting Your Bike** and **Outfitting Yourself** sections).

Riding at Night

At night, road hazards are less visible to you, and you are less visible to drivers. State law requires you to use a white headlight visible from 500 feet and a red rear reflector. Blinking red lights are effective, but are not an acceptable substitute for a rear red reflector. If you use only a blinking rear light, make sure it also complies with state law as a reflector. Using both a rear light and a red reflector is recommended. Rear lights can fail (e.g. dead batteries, electronic or mechanical failure) and reflectors need incoming light to function (and not all road users have and use proper headlights).

Additional reflectors or reflective tape on any moving part of the bike (wheels, pedals, etc.) will increase your visibility. Helmets, the highest point on your body when cycling, are also good places for reflective tape and front and rear lights. Helmet-mounted headlights illuminate wherever you look and allow you to get other drivers' attention by momentarily aiming your headlight at them.

Think you've got all the visibility bases covered? See how you look to motorists by having a friend wear your visible clothing and ride your light-equipped bike at night. Shine car headlights on them from the front, sides and back. You may find the results illuminating!

Taking the Lane

Assess the situation to decide how far to the center of the lane you need to travel to be safe versus unduly delaying motorized traffic. Taking the full lane is generally safest when traveling for short stretches on lower-speed roads (25-35 mph). On higher speed roads, it may be safer to reduce your speed and stay further to the right rather than compete with faster vehicles for the full lane.

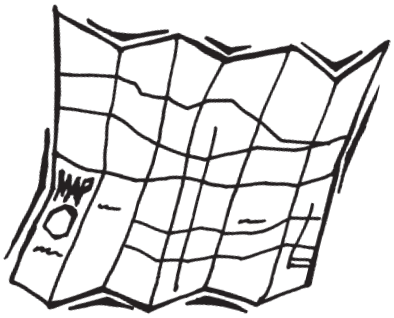
You may find it necessary to take the lane in the following kinds of situations:

- when traveling at traffic speeds and you need to prevent motorists from inadvertently cutting you off;
- when descending a hill and you need extra space due to your speed;
- when lane width does not permit a motorized vehicle behind you to safely pass;
- when road conditions (potholes, road debris or parked cars) preclude you from riding farther to the right.

To be safest, use both the required red rear reflector and a red flashing rear light.

Riding in Winter

With the right clothing (see the **Outfitting Yourself** section) and some special riding skills, you may find that you can continue to bike commute through a good part of the winter. A key point to remember is that motorists will not expect to see bicyclists in the winter. Here are a few tips for those frosty outings:

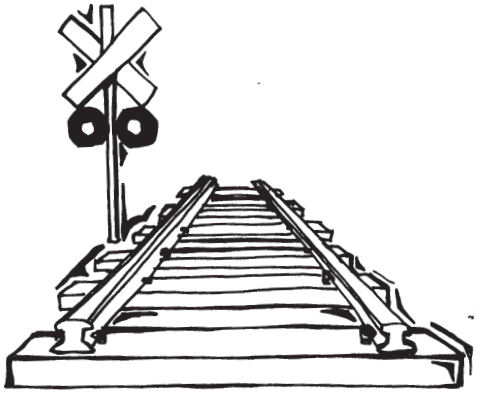


- Make yourself extra visible and establish eye contact with drivers.
- Use studded tires and lower your tire pressure to help with traction.
- Skip a day of riding when the conditions are too hazardous, such as freezing rain.
- Brake with great care, and principally with the back brake. Using the front brake may result in lost front wheel traction.
- Reserve the limited traction of the front wheel solely for steering and avoid sharp or sudden turns.
- Find areas of undisturbed snow, as it will offer additional traction. Ice is just plain difficult and best avoided.

These are just a few basic tips for winter riding. For an extensive discussion of all aspects of riding in winter, go to the ICEBIKE web site at www.icebike.com.

Drainage Grates

Some drainage grates can trap or deflect front wheels, causing loss of control, so look for and avoid them. Public works departments are often willing to retrofit such grates with "bike-friendly" models. Help them out by calling and telling them where the safer grates are needed.



Crossing Train Tracks

Train tracks, a significant hazard for cyclists, can almost always be crossed safely by taking a few precautions:

- Approach the tracks at a 90-degree angle.
- Unweight your front wheel slightly and stand with knees and elbows bent as you cross, in order to absorb road shock from the uneven road surface.
- Tracks are slippery, so do not alter your course or speed as you cross them.

However, the safest way to cross railroad tracks is to dismount and walk your bike across.

Dealing With Harassment

Most motorists are courteous and happy to share the road with cyclists, but unfortunately, the small minority of drivers who are rude or threatening stand out. Harassment can make a commute unenjoyable or even dangerous. Fortunately, it rarely occurs. If harassed, try to keep your cool and remember that your safety is the priority. You will rarely convince an irate motorist to share the road, and besides, you don't want to provoke a person unstable enough to harass you in the first place. Your best bet is to develop your riding skills, know your rights, ride legally and try to keep calm in the event you are harassed. Noting a car's license plate, description and occupants may help when reporting an incident to the authorities.

Doing the Commute

Getting Started

Plan your commute route before you ride it the first time, then test it out on a day off. Prepare for your test ride as if you were actually going to work so that you get a good idea of how long it will really take you. Leave a little early the first few times you bike commute until you get used to the routine and your fitness builds up. Consider asking around the workplace for bike commute buddies to ride with. You may find others who already bike commute or are considering doing so.

Talking With Your Employer

Let your supervisors know that you're going to start bike commuting and ask for their support. If you work at a large organization, they may offer incentives to encourage bicycle commuting and even small employers should be supportive of employees improving their health and making the community more livable by bicycling. Your employer can help by supplying secure bike parking, places to hang both your biking and working clothes, and facilities for washing up. You might even inspire your colleagues to join you in cycling to work!

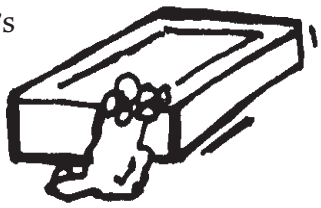
Dressing for Work

If your office has an informal dress code, you might find it easy to bike in some or all of your work clothes, especially on sunny days. If your work requires that you wear formal business clothing most or all of the time, or you have a lengthy commute that makes biking in your work clothes impractical, you'll probably find it easier to leave a variety of clothing at your office. Some commuters transfer almost their entire business wardrobes to their offices! At work, you can keep your clothes tidy by storing them in a locker room or in your office. You can use part of a desk drawer to hold small, foldable items and hang the rest in a locker, closet, or behind a door in your office.

- Suit separates, like jackets, slacks and skirts, are ideal for keeping at work because they require infrequent cleaning and need only be switched as seasons change. When they need cleaning or pressing, look for a cleaner near your office or one that provides pick-up and delivery service. Or, swap clothing on days that you drive, carpool, or take public transit.
- If you plan to bring your work clothes in daily on your bike, it's a good idea to keep at least one neutral shirt or blouse at your workplace in case you forget. Pack easily wrinkled clothing by rolling several pieces together, with the least-likely-to-wrinkle clothes on the inside.
- Cotton knit dresses, separates, and sweaters don't wrinkle easily, can be stored in a drawer, and can look as formal as pressed shirts and skirts.
- Keep a supply of dress shoes in the colors you need at the office (your shoes will also last longer from not being worn outside as often!).
- It's handy to keep a stash of accessories like ties and scarves, socks, stockings, and clean underwear in your office.

Washing Up

Cleaning up after your bike commute can be done at even the smallest work places, but it's more pleasant if your office has shower facilities. At a minimum, you can get satisfactorily washed up with a wash cloth and small towel in your office restroom. As with your clothing, don't forget to keep a stash of the toiletries and clean towels you'll need at your office.

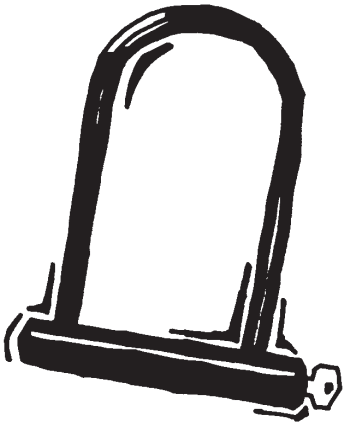


If your workplace doesn't have showers and you aren't comfortable without one, find a nearby gym where you can shower and change. Then you can walk, ride slowly, or take public transit to work. If you want to get more exercise, but can't clean up adequately at work, bike in at a moderate pace or take the bus with your bike to avoid getting sweaty before work. In the afternoon, make your bike ride home your workout.

Bicycle Security

Nothing is theft-proof and no locking system is perfect, but you can take steps to ensure that your bike is a less-attractive target to a thief:

- Consider where and how long your bike must be parked when deciding how to secure it. If possible, keep your bike in your office or in a secured room at your workplace.
- If your bike must be parked outside, lock your frame and both wheels to an immovable object. Don't lock your bike to a sign or other object that can be easily unbolted, bent, cut or removed. Pick a well-traveled, lighted place — thieves dislike working in exposed areas.
- Consider leaving your heavy U-lock at work, locked to the bike parking rack, and carrying a light cable lock with you for quick errands. At work, use both locks because thieves need different large, bulky tools for each type of lock. This requires more time and more risk for the thief, plus some thieves only carry tools to break one kind of lock, not both, making your bike impossible for them to steal.
- When not in use, cable locks can be wrapped around the seatpost and U-locks can often be carried on a rear rack. This frees up space on the frame for other accessories.
- Many lock manufacturers offer warranties that will cover the cost of a replacement if your bike is stolen while using their lock. Be aware that such insurance may not be free. Read the product fine print.
- Take all easily removed accessories with you when leaving your bike unattended.



U-Locks

U-locks are among the strongest locks available, but they are heavy and rigid — if they cannot get around an object such as a pipe, they cannot secure your bike. One of the main ways U-locks are broken is by inserting tools inside the "U" to pry it open. Minimize this space by getting as small a U-lock as is practical. Then, take up the remaining space by locking your front wheel along with the rear wheel and frame when securing your bike.

Cable Locks

Cable locks offer more flexibility and are lighter weight than U-locks. Because they usually offer less security, they're best used in well-traveled areas and on quick errands. Cable locks with the lock built in are lighter and more convenient than those that require a separate combination or padlock. Some "all-in-one" cables are opened with keys while others are combination locks. You won't have to keep track of a key if you choose one with a built-in combination lock.

You Can Do It!

Many people find that when they give bike commuting a try, their initial concerns fall by the wayside and they discover what a fun and exhilarating experience it is. Bike commuting is a great way to:

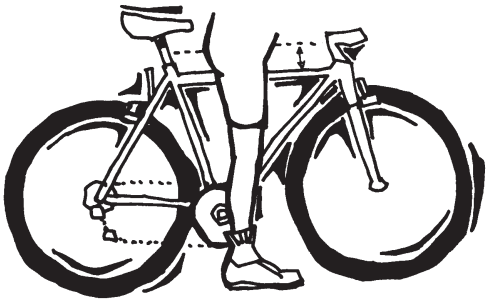
- re-discover your neighbors and your community;
- get exercise on a regular basis and reduce stress;
- increase your energy at work;
- save a lot of money;
- reduce wear and tear on your car and on roadways;
- reduce air and water pollution and traffic congestion.

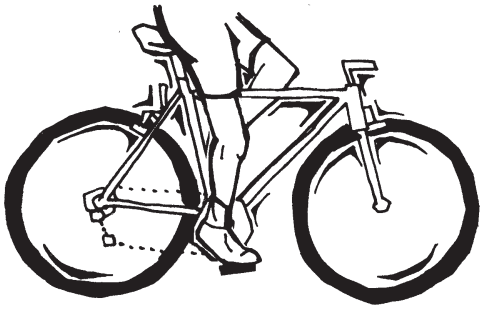
Hopefully this guide has been helpful in making bike commuting easier and more enjoyable for you. More help is available! The following sections provide some technical bike-oriented information and provide contacts for getting additional support information on bicycle commuting. ***Ride safely and have fun!***

Ready, Set, RIDE!

Here's a recap of the things you'll have to address before bike commuting:

- ✔ make sure your bike operates safely;
- ✔ acquire safety equipment and clothing;
- ✔ choose a route to and from work;
- ✔ choose office and commuting clothes and determine storage options;
- ✔ find secure workplace storage for your bike;
- ✔ assess if bike commuting will require any schedule adjustments.





The Bike Shop

This section has tips on how to adjust a properly sized bicycle, how to make sure your bike is in good operating condition, how to adjust your helmet and how to properly use quick releases.

Bike Fit Tips

Once you know what size bicycle frame you need, seatpost height, saddle fore/aft position and saddle tilt adjustments should be checked.

- Seatpost height should be adjusted so that when seated on your bike there is a slight bend in your knee when your leg is at the bottom of a pedal stroke.
- Fore/aft saddle position: Adjust saddle so that with cranks level (nine o'clock and three o'clock positions), a line descending from just below your forward kneecap will pass through the pedal axle. Ask a bike shop for help on this one!
- Adjust the saddle so it is level initially, and make small adjustments if necessary. You may have to adjust the "reach" (horizontal size) of your bicycle so that your back, neck and arms are comfortable. Reach adjustments are made by either adjusting stem height, or exchanging the stem or handlebar for one that gives you proper positioning. Arms should be slightly bent to provide cushion from road shock and your hands should completely enclose the handlebar and easily reach the brakes.

Special Fit Notes for Women

Most bikes are designed for men's proportions, but women's proportions are different (their torsos, arms and hands are smaller and their "sit bones" are spaced wider). As a result, women may need to spend a little extra time to achieve proper bike fit, but having a comfortable bicycle is well worth the effort. Bikes specifically designed for women's proportions are becoming available. Alternatively, an existing bike may be retrofitted with items like shorter stems, wider saddles and smaller brake levers. Talk to your local bike shop for more information.

Quick Releases

Many bicycles are equipped with quick release mechanisms that hold your seatpost height adjustment and clamp the wheels to your bicycle's frame and fork. Learning the proper way to use quick releases is very important for safe bicycle operation and, fortunately, it's very easy.

Quick releases have a lever on one side and an adjusting nut on the other. The adjusting nut is used to change the amount of clamping force generated as the lever is moved from the open to the closed position. When correctly adjusted, clamping action will start when the lever is half way through its travel. Practice using your quick releases by opening and closing them a few times while changing the adjusting nut's position.

Remember to follow these rules when using quick releases:

- Make sure wheel axles are all the way in the dropouts and that the wheel is centered in the frame/fork before closing the quick release.
- When closed, most quick-release levers curve towards the bike, and the word "close" or "closed" can be seen. These visual cues can help you notice when quick releases are or are not used properly.
- Check all quick releases prior to riding.

Helmet Fit & Adjustment

Since helmets can reduce the chance and severity of head injury, making sure your helmet fits and is correctly adjusted is one of the most important prerequisites to cycling. Follow the four steps below to adjust your helmet. Periodically recheck the adjustment of your helmet.

1) Helmet Sizing: Right out of the box, the helmet should fit your general head shape. Ignoring the straps for now, place the helmet on your head, making sure it is level. Wiggle the helmet around — if there is significant side-to-side or front-to-back movement, it is too large or is the wrong shape

or both, and it will not work properly. If you are having trouble getting past this first step when shopping for helmets, try other brands; certain manufacturers' helmets run narrow, while others' run wide.

2) Adjusting the Junction Buckles: Ignoring the chin buckle for now, adjust each pair of straps so that the junction buckles are situated just below your earlobes. This step can be difficult but it is very important. Use a mirror to help.

3) Adjusting the Chin Buckle: Close the chin buckle and adjust the straps so that the buckle is roughly centered under the jawbones.

4) Final Check: When the chin buckle is engaged, all straps should be snug against the head. If any of the straps aren't snug, readjust them now, keeping in mind the previous steps. When the helmet is properly adjusted, you should be able to slip a finger under the straps. The straps should snap back into position when you remove your finger. Do a final check of the helmet fit by gently yet firmly trying to push it off your head from the front, back and the sides. If the helmet is easy to push off, yet all straps are properly adjusted, try another model and/or make of helmet.

Safe Bike Checklist

A well-maintained bicycle is safer and more enjoyable to ride. The following checklist will help you ensure safe operation of your bike:

✔ Saddle, Handlebars (Stem) & Pedals

These allow you to control your bike, so make sure they are securely fastened. Stems and seatpost have "minimum insertion" marks, which should not be exposed (if either mark is visible, the component is over-extended and may break without warning during use). Bike shops carry longer seatposts and taller stems to safely accommodate any riding position.

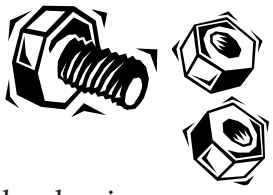
✔ Tire Inspection & Inflation

Make sure tires are in good condition (no splits in sidewall or tread). Inflating tires to their recommended pressure keeps them in place, helps prevent flats and increases your bike's efficiency.

✔ Brake Inspection

- Squeeze both brake levers. If the levers touch the handlebar, your brakes need to be adjusted. Bike shops or repair manuals can show you how to make adjustments.
- Replace frayed or rusted cables and damaged housing.
- Inspect the brake pads to make sure they contact the rim squarely and will not touch either the tire or the spokes. The small cutouts on brake pads are "wear indicators" — when they are no longer visible, the pads should be replaced.

✔ Nuts & Bolts



Regularly check your racks, fenders and other accessories to make sure they are mounted securely.

✔ General Maintenance

Learn the basics for keeping your bike in shape. Regular cleaning, lubing and inspection of your bike will help you spot potential trouble before it develops further.

Resources

Organizations

Vermont Agency of Transportation Bicycle and Pedestrian Program
802-828-5799 or 828-0059

Vermont Bicycle and Pedestrian Coalition
P.O. Box 4003
Burlington, VT 05406-4003
(802) 861-3300
becka@vtbikeped.org
www.vtbikeped.org

CATMA (Campus Area Transportation Management Association)
14 South Williams Street
Burlington, VT 05401
802-847-0223
CATMA@uvm.edu
www.uvm.edu/~catma

Local Motion, Inc.
On the Burlington Waterfront Bike Path
1 Steele Street #103
Burlington, VT 05401
Tel (802) 652-BIKE(2453)
info@localmotionvt.org

Internet Resources

The Pedestrian and Bicycle Information Center includes extensive resources for all aspects of non-motorized transportation.
www.bicyclinginfo.org

League of American Bicyclists
LAB is a national organization advocating for bicyclists. You can get a copy of their National Bike Month Event Organizer's Kit through their web site at
www.bikeleague.org

Books

Bicycling Street Smarts by John S. Allen. The definitive booklet for learning to ride in traffic.
Rubel BikeMaps
PO Box 401035
Cambridge, MA 02140
617-776-6567
info@bikemaps.com
www.bikemaps.com

Urban Bikers' Tricks & Tips by Dave Glowacz. A comprehensive book on all aspects of bicycle commuting.
Wordspace Press
773-292-0932
wordspace@compuserve.com
www.askmrbike.com
1-800-888-4741

VTrans Working to Get You There
Vermont Agency of Transportation

Vermont Agency of Transportation

Bicycle and Pedestrian Program

1 National Life Drive, Drawer 33

Montpelier, VT 05633

Coordinator – (802) 828-5799 or

Assistant Coordinator – (802) 828-0059

Fax (802) 828-5712