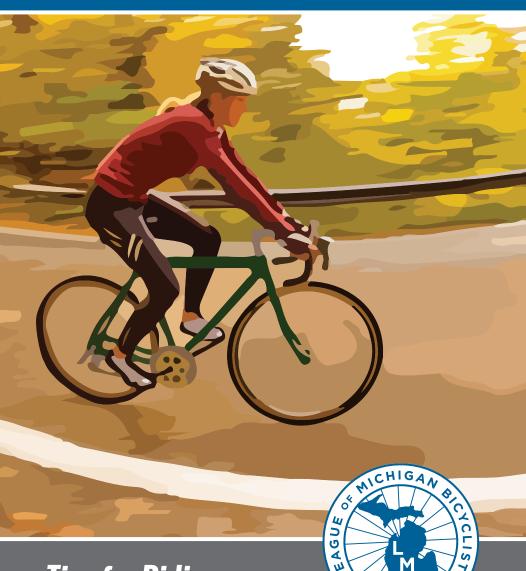
# WHAT EVERY MICHIGAN BICYCLIST MUST KNOW



EST. 1981

Tips for Riding Legally and Safely

## What Every Michigan **Bicyclist Must Know**

is your guide to bicycling safely and enjoyably on Michigan roads and trails. Although it includes information about many Michigan traffic laws, it is not a legal document or a substitute for the Michigan Vehicle Code (MVC), the Michigan Uniform Traffic Code (UTC) or local ordinances. For the current MVC and UTC, see www.LMB.org/mvc and www.LMB.org/utc.

What Every Michigan Bicyclist Must Know is published by the League of Michigan Bicyclists (LMB). To request additional copies of this booklet call (517) 334-9100, email wembmk@LMB.org or visit www.LMB.org/wembmk.

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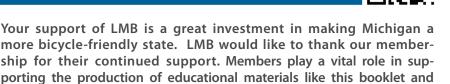
by Edward C. Shipman, a 2012 Michigan Bicycling Photo Contest winner.

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## **SUPPORT SAFE CYCLING**



more bicycle-friendly state. LMB would like to thank our membership for their continued support. Members play a vital role in supporting the production of educational materials like this booklet and programs such as our Bike and Ped Safety Education for law enforcement. Please join the movement at www.LMB.org/join.



## **ABOUT LMB**

The League of Michigan Bicyclists (LMB) is a statewide 501(c)(3) non-profit membership organization. Our mission is to promote bicycling and the safety of all bicyclists on Michigan roadways. If you are interested in becoming more involved, please contact the LMB office regarding volunteer opportunities.

#### **Education**

Education plays a key role in improving conditions for bicycling. LMB seeks to educate bicyclists, motorists, engineers, and law enforcement personnel. These efforts include developing materials like this booklet, which is distributed to bike clubs and shops, police departments, libraries, organizations, and anyone interested in promoting safe bicycling. LMB also develops and distributes training materials for law enforcement, parents, bicycle commuters, and those interested in running bike rodeos. LMB supports Safe Routes to School in Michigan and serves on the Governor's Traffic Safety Advisory Commission Pedestrian and Bicycle Safety Team, the Michigan Complete Streets Advisory Council, Healthy Kids Healthy Michigan Coalition, and works with other like-minded groups focused on advancing bicycle safety.

#### **Advocacy**

LMB is a key resource for legislators and other policy makers. Annually, LMB hosts the Bicycle and Trail Advocacy Day at the State Capitol. LMB staff and volunteers regularly represent the interests of Michigan bicyclists at public hearings and committees at all levels of state and local government.

#### **Tours**

LMB Bicycle Tours – from weekend family rides to week-long fully supported tours – show that bicycle touring is a healthy, safe, easy, and fun way to experience Michigan. Tour proceeds are a major funding source for LMB's many programs to make Michigan a more bicycle-friendly state. Learn more at www.LMB.org/tours.

#### **Publications & News**

LMB's Michigan Bicyclist Magazine keeps members and the general public abreast of legislation, legal trends, current events, and features stories on bicycle touring, commuting, engineering, education, promotion, safety, and physical conditioning. LMB's annual Ride Calendar is a comprehensive publication of Michigan's many single and multi-day rides, tours, races, and other bicycle-related events. LMB also distributes a regular E-Newsletter to keep supporters updated of current local, state, and national bicycling issues.

## **TABLE OF CONTENTS**

<b>★</b> SAFETY EQUIPMENT	3
% BEFORE YOU RIDE — ABC QUICK CHECK	4
<b>★</b> ANATOMY OF A BIKE	5
♠ RULES OF THE ROAD	6
<b>★ HAND SIGNALS</b>	6
<b>★ ROAD &amp; LANE PLACEMENT</b>	7
${\mathfrak H}$ Dangers of Sidewalk riding	8
₼ BICYCLE SIGNS & ROAD MARKINGS	9
₼ BRIDGE AND STATE PARK INFORMATION	11
${\mathfrak H}$ Night riding/bad weather riding	12
	13
₼ DEALING WITH ROAD RAGE	14
<b>★</b> THEFT PREVENTION	14
₼ What if there's a crash?	17
♣ GUIDE TO BUYING A BICYCLE	
♣ PROPER BIKE FIT	20
${\mathfrak H}$ Tips for fitting a bike helmet	21
${\mathscr I}_{\!$	22
& FIXING A FLAT	30



Also Available from LMB: What Every Young Michigan Bicyclist Must Know, A Guide for Youth. www.LMB.org/wembmk

What Every Michigan Bicyclist Must Know and What Every Young Michigan Bicyclist Must Know were both recognized by the Governor's Traffic Safety Advisory Commission with an Outstanding Traffic Safety Achievement Award.

## **SAFETY EQUIPMENT**



#### **ESSENTIAL EQUIPMENT**

- 1. Properly fitted helmet. Wear it every time you ride. Wearing a helmet can prevent brain injuries. (See Tips For Fitting a Bike Helmet, page 21)
- 2. Bright-colored and/or reflective clothing to be as visible as possible.
- 3. Tire pump, tire levers, patch kit, and spare tube.
- 4. Water bottle and holder (often called a cage).
- 5. White front headlight as well as a red rear reflector and light. Use to increase visibility day or night. Strobe/blinking mode increase battery life.
- 6. Identification and pertinent medical information. Consider Road ID.
- 7. Cell phone in case of an emergency and to document issues.

#### **HELPFUL EOUIPMENT**

- 8. Mirror on your handlebar, helmet, or glasses to improve your overall awareness and to see trailing vehicles and riding companions.
- 9. Lock to secure your bike. (See Theft Prevention, page 14)
- 10. Reflective leg bands to increase visibility and keep pants off chain.
- 11. Shatter-resistant protective eye wear (+clear glasses for dark conditions.)
- 12. Handle-bar or saddle bag to carry items.
- 13. Bell or horn to warn others of your approach, especially on trails.
- 14. Multi-tool to help with basic repairs. A crescent wrench is helpful with certain bikes. (See Fixing a Flat, page 28)

## BEFORE YOU RIDE-ABC QUICK CHECK

## A

#### is for Air

- ★ Inflate tires to rated pressure listed on tire sidewall.
- & Use tire gauge to ensure proper tire pressure.
- Check for damage to tire tread and sidewall. Always replace damaged tires.

## B

#### is for Brakes

- ★ Inspect brake pads for wear; replace if worn past wear indicators.
- Check pad adjustment; make sure they do not rub on tire or "dive" into spokes.
- Check brake-lever "travel". With brakes applied, there should be at least 1" between the lever and handlebar.

## C

### is for Cranks, Chain, and Cassette

- & Ensure crank bolts are tight. Only lube the threads, nothing else.
- ★ Check chain for wear. 12 links should measure no more than 12 1/8" long.
- If chain skips on freewheel/cassette, you may need an adjustment or a new chain and/or freewheel/cassette.



### is for Quick Releases

- & Wheel hubs need to be tight in the bike frame. Your hub quick release should engage at 90°.
- Hub quick releases should point to the back of the bike to ensure they don't catch on anything (releasing the wheel).
- 6 Ensure quick releases are completely closed without being obstructed by the frame or fork.
- Inspect brake quick releases to ensure that brake cables are re-engaged.

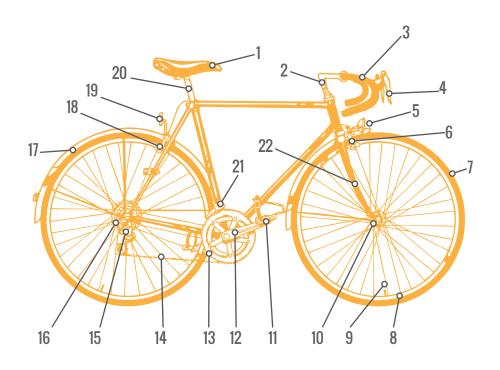


### is for "Check it Over"

- ♣ Inspect the bike for loose or broken parts. Tighten, fix, or replace them before you ride.
- Take a quick ride to ensure everything is working properly.
- Pay extra attention to your bike during the first few miles.

If you are not comfortable making any of these adjustments, bring your bike to a local shop for a basic tune up.

## **ANATOMY OF A BIKE**



- 1 Saddle
- 2 Stem
- 3 Handlebars
- 4 Brake/Shift Levers
- 5 Headlight/Reflector
- 6 Front Brake
- 7 Tire
- 8 Rim
- 9 Spokes
- 10 Front Wheel Hub
- 11 Pedals

- 12 Crank Arm
- 13 Chain Ring
- 14 Chain
- 15 Rear Derailleur
- 16 Cassette/Freewheel & Rear Wheel Hub
- 17 Fender
- 18 Rear Brake
- 19 Reflector/Rear Light
- 20 Seat Post
- 21 Front Derailleur
- 22 Fork

## **RULES OF THE ROAD**

#### **Bicyclists' Rights and Responsibilities**

When riding a bicycle on Michigan roads you should follow the same rules as motorists. Bicyclists can be ticketed for violating traffic laws (See *Michigan Vehicle Code*, page 22). Road users are safer and happier when we show respect and consideration for one another on the roads.

#### DANGEROUS BEHAVIOR

#### **Bicyclists**

- & Riding against the direction of traffic
- 5 Failing to yield when required
- Running stop signs or red lights
- & Riding at night in dark clothing and/or without lighting
- & Riding unpredictably (weaving in and out of travel lane)
- "Hugging" the curb or riding on sidewalks
- & Riding while distracted or intoxicated

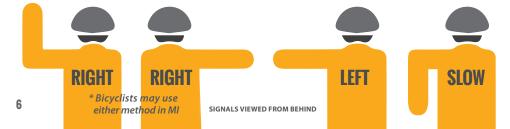
#### **Motorists**

- 5 Failure to yield to a bicyclist when required
- & "Squeezing" a cyclist by passing too close (less than 3 feet)
- Turning immediately in front of a bicyclist
- Driving too fast for conditions
- ♠ Opening driver-side door into a bicyclist's path
- Driving while distracted (such as texting) or intoxicated
- 5. Blasting your horn or harassing bicyclists in other ways

For more tips on safely sharing the road, visit www.shareMIroads.org

## HAND SIGNALS

- $\rlap{\%}$  Obey all traffic signs and signals. Cyclists are not exempt from traffic laws.
- Signal your intentions clearly and in plenty of time.
- 💰 Signal right turns with an extended right arm OR upturned left arm.
- Signal left turns by extending your left arm straight out to the left.
- Signal stopping or slowing by extending your left arm straight down with your palm facing rearward.
- & If riding in a group, point to and call out hazards to other bicyclists.

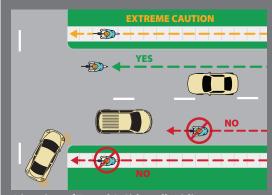


## **ROAD AND LANE PLACEMENT**

Motorists who don't share the road endanger bicyclists. They often "don't see" cyclists, or understand the road hazards and conditions that bicyclists face. They also often misjudge the speed of bicyclists. Help protect yourself by riding smart and following all traffic laws.

#### Ride Safe, Be Safe

- Ride predictably, consistently and attentively.
- Stay to the right, but don't hug the curb.
- While you are not required to use them, bike lanes and shoulders are often the safest place to ride, especially where motor vehicle speeds exceed 45 MPH or heavy traffic is present.
- When these are not present, properly engineered, maintained, or if traffic conditions warrant, "take the lane".
- 5 To take the lane, position yourself as if you were a car by riding in the right wheel track of motorized traffic. This places you within the motorists' field of vision and allows you space to move away from traffic to avoid debris, hazards such as car doors opening, and "crowding" by other vehicles. Riding here also properly positions you to make left turns or to pass other road users



#### Direction of Travel & Sidewalk Riding

Always ride in the direction of traffic. Sidewalk riding is very dangerous (and in some cases illegal) as drivers often don't notice you. If you do ride on sidewalks, be extra alert when crossing driveways and intersections, and always yield to pedestrians.



Lane Placement to Avoid Hazards & "Squeezing"
By riding away from the curb in the right wheel track of vehicles (aproximately 24" inches away from the road edge) you discourage drivers from "squeezing" you, by passing too closely in the same travel lane.



#### Two Abreast Rules & Etiquette

Riding two abreast is legal in Michigan. Bicyclists, however, can receive citations for riding more than two abreast. Bicyclists often ride next to one another when dangerous road conditions exist that make it unsafe for drivers to pass in the same travel lane. LMB encourages bicyclists to be courteous and "single up" when other road users are present and it is safe to do so.

- When riding two abreast, be mindful of the other roadway users and single up when it is safe for others to pass. You may <u>never</u> ride more than two abreast. Remember, sharing the road is a twoway street.
- Never ride against traffic (on the left side of the road). You may, however, ride with traffic in the far left lane on oneway streets.
- When stopping for a rest or emergency, move completely off the road and into the shoulder
- At intersections, make eye contact with drivers. A simple head nod can help ensure they acknowledge your presence.
- Many railroad tracks cross roads diagonally. To prevent catching your tire in the track, especially under wet conditions, always cross at a right angle.
- When moving out into the travel lane, look behind you first, and signal your move to the left when clear.



## DANGERS OF SIDEWALK RIDING

#### Sidewalk riding is very dangerous — you are <u>invisible</u> when on sidewalks!

Motorists are looking in the road and not for sidewalk traffic moving at high speeds such as bicyclists. They often don't see bicyclists there, especially at driveways and intersections. Sidewalks themselves pose dangers to bicyclists. Poor maintenance, uneven surfaces, gaps, and pedestrians make sidewalks difficult and dangerous for bicycles to navigate.

Bicyclists are never required to use sidewalks or side paths. If you must ride on a sidewalk (and local ordinance does not prohibit it):

- Yield to pedestrians and walk bikes in crowded areas.
- Provide an audible approach warning by ringing your bell or calling out "passing on your left".
- Match for inattentive motorists; never assume they see you.
- Ride with the direction of traffic (on the right side of the road).

LMB recommends children under 10 ride on sidewalks, as they may not be mature enough to make the decisions necessary to safely ride in the street. Extra caution should be used at driveways and intersections, following the same rules as if they were on-road.

## **BICYCLE SIGNS & ROAD MARKINGS**

#### **Bike Lanes**

A bicycle lane is a portion of a street adjacent to the travel lane that is reserved for bicyclists. They are typically on the right side of the road and are designated with pavement markings with arrows that direct bicyclists in the direction of travel. Bike lane



signs are typically also placed alongside the road. Cars are not permitted to park in, or make turns from, a bike lane. A properly designed intersection will always place the straight thru bicycle traffic to the left of a right turn lane.

SHARE THE

ROAD

#### **Segregated Bicycle Facilities**

Segregated bicycle facilities are a form of cycling infrastructure consisting of marked lanes, tracks, shoulders, or paths designated for use by cyclists and from which motorized traffic is excluded. Physically separated bicycle facilities, like cycle tracks, use physical barriers, parking, or bollards to separate the bicycle lane from the adjacent motor vehicle travel lane. Others, like buffered bike lanes, simply use paint markings to create the buffer space. Some bike lanes also use green pavement markings or sharrows to bring attention to transition areas such as designated right-turn lanes. These markings are designed to alert motorists and bicyclists that they are at a potential conflict area. In these areas, all road users should exercise heightened awareness.

#### **Sharrows & Share the Road Signs**

While motorists are always required to share the road, shared lane markings, or "sharrows" alert drivers that they are likely to encounter bicyclists. Sharrows also indicate proper lane position for bicyclists to make them more visible

to drivers as well as assist bicyclists in avoiding hazards such as car doors swinging open. Sharrows are often used in conjunction with Share the Road signs on roads where bike lanes are not feasible.

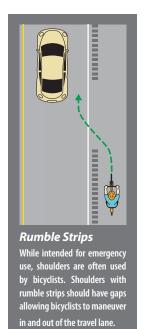
Diagram 1: Buffered bike lane with right turn lane. Green pavement markings show the cross-over or conflict zone. Drivers must yield to cyclists going straight. Diagram 2: Sharrows are used on bicycle corridors where bike lanes are not feasible. They direct drivers to watch for bicyclists and guide cyclists where to ride in the road in order to avoid hazards such as debris or the "door zone". Drivers should slow down and only pass when they can safely leave at least 3-5 feet between them and the bicyclist.



#### **Shoulders & Rumble Strips**

Shoulders run along the edge of the roadway and are designed to accommodate stopped vehicles and for emergency use. Paved shoulders, however, are also often used by bicyclists. Bicyclists are not required to ride on shoulders. While shoulders are often the safest place to ride, especially on roads with higher speeds or traffic volumes, it is important to note that shoulders may not be as well maintained as the improved portion of the roadway.

Some shoulders incorporate rumble strips, which are a countermeasure for reducing crashes caused by leaving the road. The use of rumble strips should be avoided on popular bicycle routes and should only be installed on shoulders that are six feet wide or greater. Best practices should be followed regarding placement and gap spacing so bicyclists can safely maneuver between the shoulder and the travel way.



#### **Bike Routes & U.S. Bicycle Routes**

Bike Routes help bicyclists navigate within and between a variety of destinations in urban, suburban, and rural areas by informing them of recommended route direction. Sometimes bike routes offer distance markers to specific destinations. While Bike Routes typically utilize lower traffic roads, they do



not necessarily use roads with designated bicycle facilities such as bike lanes.

US Bicycle Routes (USBR) connect two or more states, a state and an international border, or other USBRs. Routes are officially designated by the American Association of State and Highway Transportation Officials (AASHTO.) USBR's are networks of roads and trails intended to facilitate cross-state travel by long-distance touring bicyclists comfortable riding



with traffic. Michigan currently has three: USBR 10 from Iron Mountain to St. Igance, USBR 20 from Ludington to Marine City and USBR 35 from Sault Ste Marie to New Buffalo. See page 31 for more info.

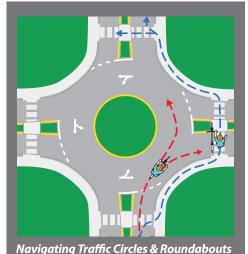
#### **Bicycle Signal Actuation**

Signs and roadway markings sometimes are used at signalized intersections to indicate the location where a bicyclist should position themselves in order to trigger a signal change. Most traffic signals that fail to trigger for bicyclists can easily be adjusted to recognize their presence. Contact the proper road authority to notify them of any malfunctioning traffic signals.



#### Traffic Circles & Roundabouts

Roundabouts and traffic circles are circular intersections where entering traffic yields to vehicles traveling counter-clockwise around central island. Bicyclists can use them as a pedestrian or in the same manner as a vehicle. When crossing as a pedestrian, dismount the bicycle and cross using the sidewalks. When using them similar to a motor vehicle, bicyclists should center themselves in the lane so they are more visible to motorists and to prevent motorists from attempting to pass them. They should then follow the same procedure as a vehicle.



Bicyclists can use roundabouts and traffic circles either as a pedestrian or in the same manner as a vehicle. When using them similar to a motor vehicle, bicyclists should center themselves in the travel lane ("take the lane") in order to make themselves

more visible to motorists and to prevent unsafe passing.

## **BRIDGE AND STATE PARK INFO**

#### **Bicycling on Major Michigan Bridges**

- **6** Ambassador Bridge Detroit: Bicyclists are prohibited.
- Blue Water Bridge Port Huron: Riders will be transported with their bicycles at the convenience of the Authority. Phone: 810-984-3131.
- **Solution :** International Bridge Sault Ste Marie: Bicycles can be ridden across to Canada. There is a toll. You need your passport or acceptable ID.
- Mackinac Bridge St. Ignace/Mackinaw City: Riders will be transported with their bicycles at the convenience of the Authority. Upon arriving at the bridge (toll plaza on north end, pay phone on south end), contact Authority and inform them of your needs. Groups of 10+ should contact the Authority at least 24 hours prior to arrival. Phone: 906-643-7600.
- **Some ferry services** also carry bicycles. Visit www.LMB.org/ferries

#### **State Parks**

- Mhen visiting a state park by bicycle, there is no entry fee.
- When arriving at a state park by bicycle, you are always guaranteed space to camp, even if the campground is full. You will be required to pay the appropriate camping fee for the space used.

## **NIGHT RIDING**

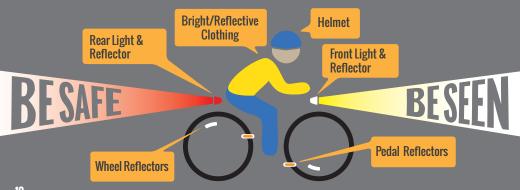
You can never be too visible on a bicycle. In addition to bright lights, bright and reflective clothing make you more visible — and safer.

- Always wear proper safety gear, especially a helmet.
- The law requires you to have a white front light, red rear reflector, and pedal reflectors. For extra visibility, LMB strongly recommends adding one or more red rear lights to your bike and person.
- Always wear brightly-colored, high-visibility, reflective clothing.

## **BAD WEATHER RIDING**

We all get caught in bad weather at some point. In addition to having the proper clothing and safety gear, be aware of the following when riding in bad weather:

- Bad weather conditions makes it more difficult for drivers to see you. Use front and rear lights and wear high-visibility, reflective clothing to improve your visibility.
- Wet weather makes your "grip" on the road less stable. Be extra careful, especially when making turns.
- Wet weather affects your stopping distance. Lightly apply your brakes to wipe moisture off your rims before applying them fully to stop.
- A Roadways are slickest when it first starts to rain because of the oil dropped from cars mixing with the rain.
- Snow and ice create traction problems. Reducing tire pressure helps. Knobby mountain bike or studded tires are best for winter riding.
- Be extra cautious when riding in the rain or snow, especially when riding up or down steep hills. Bridges, painted surfaces, utility covers, and other metal in the roadway and trail are slippery when wet.



## **RULES FOR PATHS & TRAILS**

#### **GUIDELINES FOR MULTI-USE TRAILS AND PATHS**

Paths and trails are often shared by users of all ages and abilities, including bicyclists, walkers, joggers, roller-bladers, pets, and parents pushing strollers. The great variety of users and their varying speeds and mobility can make trail riding more unpredictable than riding in the roadway.

- & Be courteous.
- & Always wear a helmet and use safety gear.
- & Ride to the right.
- A Ride single-file when other users are present.
- Always yield to other, slower path users.
- When stopping for a rest or emergency, move completely off the trail.
- Avoid wearing headphones so you are aware of faster users approaching from behind.
- Control your speed, slow down, and use caution when approaching or overtaking other path users.
- 6 Before passing others, say "on your left," or ring your bike bell.
- 5. Don't spook children or animals; always yield to them.
- 6 Obey all traffic signs and signals at road crossings.
- Use proper lights if riding before daylight or after dusk.
- 6 Point to trail hazards and call out to riders behind you: "Gravel", "Glass" etc.
- & Use traffic hand signals when appropriate.

For more information on Michigan trails, visit www.michigantrails.org

#### **GUIDELINES FOR MOUNTAIN BIKING TRAILS**

Know your equipment and abilities. Carry food, water, and gear for changing weather conditions.

- **Ride only on open trails** Respect closures, don't trespass, and obtain authorization if required.
- **Leave no trace** Be sensitive to the environment; stay on existing trails and pack out what you take in (wrappers, litter, etc.)
- **Control your bicycle** Pay attention! Anticipate problems and keep your speed under control.
- Bicyclists always yield Make your approach known and be courteous. Always yield to uphill users. When stopping for a rest or emergency, move completely off the trail.
- Never spook animals Animals startle easily and can create danger for you and others. Always yield when approaching a horse and ask the rider how to proceed.

For more information on mountain biking in Michigan, visit www.mmba.org



## **DEALING WITH ROAD RAGE**

If a motorist makes you feel threatened or attempts to harm you (including throwing something at you or "buzzing" you):

#### At the Scene

- % Never assault your assailant, either physically, verbally, or with hand gestures. This will escalate the situation.
- ♠ Note the license plate number and, if possible, a description of the driver.
- If you have a camera phone, try to take a photo/video of the license plate, car and/or driver.
- 56 If the driver stops and attempts to prolong the situation call 911 immediately.
- 6 Don't trade information with the other party; let the police gather any pertinent information.

#### **Afterward**

- Report the incident to your local police department and request a report. If you were not actually injured, police may not be willing or able to file a criminal complaint, but they are required to file a report and should follow up by warning the offending driver.
- ♠ If the offender is a commercial driver, inform his or her employer.
- Contact your attorney. You may be able to press criminal assault or file assault and battery charges.

## THEFT PREVENTION

Any lock can be broken, given enough time and the right tools, but there are ways to reduce theft risk.

#### **Precautions**

- If possible, take your bike indoors with you. Your next best option is locking it where you can still see it. Otherwise, lock your bike in a highly visible, well-lit area as close to your destination as possible.
- Always lock your bike, even if you are only going to be gone for a minute. Stealing an unlocked or improperly locked bike only takes a few seconds.
- Never lock only your bike's front wheel; thieves can still detach the frame and take it.
- Lock your frame and wheels to something solid and permanent. A thief can lift a bike over and off a sign post.
- \* Take anything removable unlocked wheels, seats, computers, lights, bike bags, etc. with you. If you can remove it, so can a thief.

#### **Locks & Cables**

- U-locks tend to be the strongest type of lock. Cable locks are only a minor deterrent to a bike thief. If you can, remove your front wheel and U-lock it to the rear wheel and the frame so that you fill the "U" of your U-lock.
- You can add cables, locking quick-releases, and/ or seatpost bolts to secure your wheels and seat.
- ★ Lock your bike to a bike rack, when available.
- Don't lock your bike to fire hydrants, police and fire call boxes, traffic-signal poles, handicap ramps, and bus or loading zone posts. Also avoid trees and never block public right of way on sidewalks.

#### In Case of Theft

- File a police report at the local police station, with details of the theft, including your bike's serial number. Request a case number.
- Cite the case and serial numbers whenever you communicate with the police.
- 5. Follow up by phone periodically to see if your bike has been recovered.
- If you have purchased "scheduled item" insurance on your bike, contact your insurance agent. Otherwise, you must weigh the cost/benefit of filing a homeowners insurance claim.
- Create a Google Alert with your bike's description to receive email notifications if your bike is posted for sale on sites like Craigslist and Ebay.

#### **Serial Numbers & Registration**

Even if the police recover your stolen bike, you won't get it back without the serial number. They need proof of ownership. Ask your bike shop to show you your bike's serial number on the frame and on the sales paperwork. Some communities will register serial numbers to help you recover your stolen bike. It's also a good idea to keep a photograph of your bike on file.

#### **LOCK UP SMART**

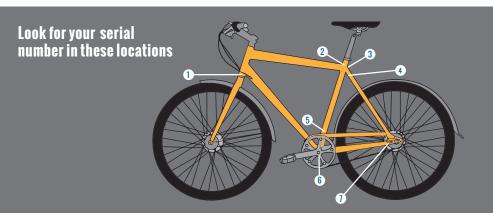


Lock the front wheel and the frame. Use a cable to secure the rear wheel.

#### **Method 2**



Lock the quick release front wheel alongside the frame and rear wheel.



## **DEALING WITH DOGS**

Dogs can sense fear, so try to remain calm if you encounter an angry canine. You will feel more confident, and the dog likely will sense this too. Dogs tend to be territorial. Once you leave "their" territory, they will usually lose interest. However, if a dog does chase you, here are some options. Think ahead of time about which are right for you.

- Don't try to outrun the dog unless you are a very strong rider. If you can't completely outrun it, the dog may catch your wheel and knock you down.
- & While on the bike, don't try any maneuvers beyond your handling skills.
- has loud, firm voice say, "No!" "Bad dog!" "Go Home!" or other common commands.
- Carry pepper spray. Practice reaching and using it while riding. Protect your eyes from "blowback" by not aiming it into the wind. Don't carry or use anything illegal in Michigan.
- & Carry an "English Bobby"-style or dog-training whistle; they can often stop charging dogs in their tracks and send them home.
- Just stop. If you do, the dog may also stop, allowing you to walk or ride slowly away.
- 6 Get off your bike quickly; if the dog attacks, use your bike as a barrier.
- If a dog is a repeated problem, try to photograph it. Send a polite complaint letter with the photo to the owners, with copies to the police and local animal authority. In the letter say that, if the dog hurts someone, the letter constitutes notice to the homeowners, which may be used in a lawsuit against them.



## WHAT IF THERE'S A CRASH?

Bicycle crashes do happen, but most crashes actually do not involve vehicles or other people. Typically, bicyclists lose control on a bad surface or hit a fixed object. If you are involved in a crash, don't ignore even a minor injury. Some injuries may not be apparent until later on due to the adrenaline rush from the crash. Here are some tips if you are in a crash involving another vehicle or person:

#### At the Scene

- If you're hurt, don't move unless you're sure you won't add to your injuries.
- If you're not hurt, call 911 for medical help for the injured.
- Apply immediate first aid to anyone injured.
- & Keep a level head so you can ask questions and take notes.
- ★ Get the following information:
  - **Drivers:** Name, address, phone, license number, plate number, vehicle model and year, insurance company, and policy number.
  - **Mitnesses:** Names and phone numbers.
  - **Modern School** Market States and badge numbers. If a police report is filed get the number.
- & Use your cell phone to take photos/video of the scene and to take notes.

#### **Protecting Your Rights**

- 5. Do not admit anything. Simply state the facts.
- ♣ Do not say you're "OK." You may not know until later. If asked, simply say something like, "I will know more after I visit my doctor."
- shelf asked about your bicycle, say, "I will have to have a professional check it for damage and get a repair estimate."
- Insist that the investigating officer records your account of the crash for his/her crash report.

#### **Afterward**

- & While it is fresh in your memory, write down exactly what happened.
- & Call your own insurance agents (Michigan is a "no fault" state.)
- & Keep a copy of all medical bills and papers regarding the crash.
- ★ Keep any damaged clothes or equipment (including your bike) as they may help your case if you end up in court.

- 6 Contact an attorney, especially if there is any dispute as to who was at fault.

## **GUIDE TO BUYING A BICYCLE**



Buying the right bicycle requires a little homework. The payoff will be a trusted friend that will deliver many years of fun, help you stay healthy and reduce pollution – all while transporting you comfortably and safely. Answer these questions and you'll be ready to start shopping!

#### What type of riding will you do?

The major categories of bicycles are mountain bikes, hybrids (subcategories: comfort and city bikes), road bikes, touring bikes, BMX, and recumbents. Start your search by asking yourself: what types of surfaces do I expect to ride on, what distances do I want to ride, and at what speed do I want to travel?

#### What surfaces will you ride on?

- Paved roads and bike trails/paths Road, touring, hybrids and recumbent bikes with "slick" tires work well on hard, smooth surfaces. Mountain bikes with larger knobby tires can also be used on smooth surfaces, but they will make you work harder to travel at the same speeds.
- Gravel roads, dirt trails and wilderness terrain The straight handlebars and wide, knobby tires of a mountain bike make it easy to navigate almost any surface. Fat tire bikes are another alternative.

#### What distances will you ride?

- Short rides (2-3 miles) City cruisers; comfort bikes; hybrid bikes; mountain bikes.
- Moderate distances (up to 10 miles) Comfort bikes; road and touring bikes; recumbents.
- Longer distances (30 or more miles a day) Road bikes; touring bikes; recumbents.

#### What speed will you ride?

- *Relaxed cruising* Cruisers; comfort bikes; hybrids.
- Moving quickly, but not racing Road bikes; touring bikes; mountain bikes with smoother tires; recumbents.
- ★ High speed or racing Road bikes; recumbents.

#### New or Used?

Buying a used bike is like buying a used car – you can get a good deal or a lemon. Whether you buy the bike from a store or from a private seller, think about how the bike handles when you ride it. Note how the bike responds when you go around corners, over obstacles, brake hard, down hill or up hill. Sit in the saddle and stand on the pedals. Are you too stretched out or too cramped? Is the bike responsive, sluggish, or twitchy? Is it heavy? Are the brakes and shifters easy to use? Everything on the bike should work perfectly. Shifting should not skip, the brakes should not screech and should stop when you want without flinging you over the bars. The wheels should turn evenly and be balanced. All of the quick-release levers should be firmly hand-tightened with everything clean and well-lubed.

#### What size bike will you need?

Do you have proper clearance (at least 1" for a road bike; 2-3" for a mountain bike or hybrid) when you straddle your bike with both feet flat on the floor? Do you feel cramped or stretched out when you're riding? Bikes are not T-shirts. If you're buying for a child, don't buy a bike that's too big and expect them to be safe while "growing into it." It should fit the rider now, not later. If it is too small or too big, they will have trouble controlling it and be much less safe. Quality children's bikes have both great resale value and "hand-me-down" potential. Cheap bikes tend to wear out quickly.

#### Where do you plan to buy your bike?

You can buy bicycles on the internet, via mail-order catalogs, at department stores, and in bicycle shops. Your best bet is a bike shop where you feel welcome and comfortable. Bike shops are the best source of ongoing advice, proper equipment, and analysis of your particular needs. They are also knowledgeable about local conditions and know the best places to ride in your area. You may have to visit several shops to find the right shop and the right bike. Ask yourself:

- 5 Do they ask about what kind of riding you want to do?
- Do they spend time with you choosing a bike with the right fit?
- Do they have a place to go for test rides?
- Do they explain the warranties and check-ups you can expect?
- 6 Do they clearly show you how to operate new technology?

Try to find a shop you like within reasonable riding distance, so that it's easy to get there and so you can easily enjoy the benefits of being a customer.

A list of LMB member shops can be found at www.LMB.org/shops

## **PROPER BIKE FIT**

Correct bike fit can be a highly technical process. However, the suggestions listed below are "rules of thumb" for a good fit.

#### Frame Size

Stand over the top tube. There should be 1-3" of clearance between the frame and your crotch.

#### **Saddle Angle**

The angle of the saddle should be close to horizontal. Start with it parallel to the ground and then adjust accordingly.

#### Saddle Height

The most efficient seat height is when your legs are completely extended at the bottoms of the pedal stroke with your heels on the pedals, which will give you a slight bend in your knee when pedaling.

#### **Saddle Fore/Aft Position**

Slide saddle forward or back so that with the crank arms parallel to the ground, a line going straight down from the bony protrusion just below your forward kneecap passes through the center of the pedal axle.

#### **Handlebar Height**

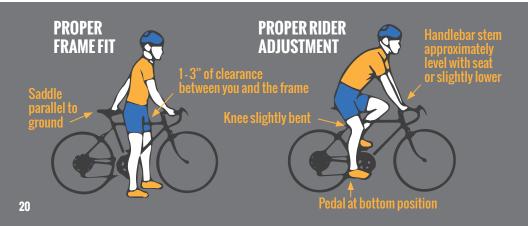
Height should be adjusted for comfort first. Keep in mind that bars adjusted too high will result in pain from too much weight on the saddle.

#### **Handlebar Reach**

Place your elbow on your saddle nose and extend your arm and fingers towards the handlebars. The tips of your fingers should touch your handlebars.

#### **Handlehar Width**

Handlebars should be about the same width as your shoulders.



## TIPS FOR FITTING A BIKE HELMET



## **7** FINGERS ABOVE EYEBROWS

#### Step 1 - Position:

The helmet should sit level on the person's head and low on his/her forehead — one or two fingerwidths above eyebrow. It should feel snug but not too tight. You should be able to look up with your eyes and see the helmet.



## SHAPE STRAP UNDER EARS

#### Step 2 - Side Straps:

Adjust the slider on both straps to form a "V" shape under, and slightly in front of the ears. Lock the slider in place.



## FINGER SPACE UNDER CHIN

#### Step 3 - Chin Strap:

Buckle the chin strap. Tighten the strap until it is snug, so that no more than one or two fingers fit under the strap.

All new bicycle helmets sold in the United States today must be tested and meet the uniform safety standard issued by the U.S. Consumer Product Safety Commission (CPSC). There is no difference in safety performance between a \$20 helmet and a \$200 helmet. The difference is in the weight of the helmet and the number of air vents. Replace any helmet that is involved in a crash, damaged, or has been outgrown.

## MICHIGAN COMPILED LAW-BIKES & THE LAW

The following is a summary of the Michigan Compiled Law (MCL) pertaining to bicyclists. Local ordinances may not supersede MCL unless explicitly specified in state statute. For more details concerning the following laws and penalties, please visit www.LMB.org/laws.

#### 1. What is the definition of a bicycle?

#### MCL 257.4 defines "bicycle" as:

"...a device propelled by human power upon which a person may ride, having either 2 or 3 wheels in a tandem or tricycle arrangement, all of which are over 14" in diameter."

#### 2. Where do Michigan laws apply to bicyclists?

#### Section 257.656(3) of the MCL states:

"The regulations applicable to bicycles under sections 656 to 662 shall apply when a bicycle is operated upon a highway or upon a path set aside for the exclusive use of bicycles, subject to those exceptions stated in sections 656 to 662."

#### 3. Is a bicycle considered a vehicle in Michigan?

No. MCL <u>257.79</u> defines a "vehicle" as "every device in, upon, or by which any person or property is or may be transported or drawn upon a highway, except devices exclusively moved by human power…"

#### 4. Does a bicyclist have to obey the same traffic laws as a motorist?

#### Yes. Section 257.657 of the MCL states:

"Each person riding a bicycle...upon a roadway has all of the rights and is subject to all of the duties applicable to the driver of a vehicle by this chapter, except as to special regulations in this article and except as to the provisions of this chapter which by their nature do not have application."

This includes obeying stop signs and stop lights.

#### 5. Does a bicyclist have to signal their turns?

#### Yes. Section 257.648 of the MCL states:

- **(4)** "When a person is operating a bicycle and signal is given by means of the hand and arm, the operator shall signal as follows:
  - (a) Left turn...extend...hand and arm horizontally.
  - **(b)** Right turn...extend...left hand and arm upward or... right hand and arm horizontally.
  - (c) Stop or decrease speed...extend...hand and arm downward."

#### 6. Does a bicyclist have to ride with the direction of traffic?

#### Yes. <u>Section 257.634 (1)</u> of the MCL states:

"Upon each roadway of sufficient width, the driver of a vehicle shall drive the vehicle upon the right half of the roadway..."

Since a bicyclist has all the rights and is subject to all the duties applicable to the driver of a vehicle according to **Section 257.657** then they must ride in the right half of the roadway.

#### 7. Where in the right half of the roadway must a bicyclist ride?

#### Section 257.660a of the MCL states:

"A person operating a bicycle upon a highway or street at less than the existing speed of traffic shall ride as close as practicable to the right-hand curb or edge of the roadway except as follows:

- (a) When overtaking and passing another bicycle or any other vehicle proceeding in the same direction.
- **(b)** When preparing to turn left.
- (c) When conditions make the right-hand edge of the roadway unsafe or reasonably unusable by bicycles, including, but not limited to, surface hazards, an uneven roadway surface, drain openings, debris, parked or moving vehicles or bicycles, pedestrians, animals, or other obstacles, or if the lane is too narrow to permit a vehicle to safely overtake and pass a bicycle.
- (d) When operating a bicycle in a lane in which the traffic is turning right but the individual intends to go straight through the intersection.
- (e) When operating a bicycle upon a 1-way highway or street that has 2 or more marked traffic lanes, in which case the individual may ride as near the left-hand curb or edge of that roadway as practicable."

## 8. Can a bicyclist be given a ticket for impeding traffic if they are traveling on a roadway and obeying all rules of the road?

No. Bicyclists are considered traffic based on MCL <u>257.69</u> and have the same rights and responsibilities applicable to the driver of a vehicle according to MCL <u>257.657</u>. The spirit of the impeding traffic statute, MCL <u>257.676b</u>, is intended to refer to stationary objects such as a vehicle parked across the roadway with the intention of obstructing traffic. Some bicyclists have been warned or even cited with violating MCL <u>257.676b</u>. More than one Michigan judge, however, has ruled that the statute does not apply to bicyclists lawfully traveling on a public roadway.

**MCL** <u>257.69</u> states: ... "traffic means pedestrians, ridden or herded animals, vehicles, street cars and other conveyances either singly or together while using any highway for purposes of travel."

#### 9. May bicyclists ride two abreast?

Although riding single-file is often safest, bicyclists are allowed to ride two-abreast on roads; MCL <u>257.660b</u> states:

"Two or more individuals operating bicycles upon a highway or street shall not ride more than 2 abreast except upon a path or portion of the highway or street set aside for the use of bicycles."

#### 10. Is it legal to ride between lanes?

No. The MCL does not allow "passing between lanes of traffic." Bicyclists may only pass on the right if there is a dedicated bicycle facility.

## 11. Must a bicyclist ride on the sidewalk? Is it legal? What about crosswalks?

The MCL does not require bicyclists to ride on the sidewalk and LMB does not generally recommend it because it creates safety hazards to the bicyclist and to pedestrians. The MCL also does not prohibit sidewalk riding, but does offer a provision to allow it to be regulated locally through ordinance and posted signs. <u>Section 257.660c</u> of the MCL states:

- (1) "An individual operating a bicycle upon a sidewalk or a pedestrian crosswalk shall yield the right-of-way to pedestrians and shall give an audible signal before overtaking and passing a pedestrian.
- (2) An individual shall not operate a bicycle upon a sidewalk or a pedestrian crosswalk if that operation is prohibited by an official traffic control device.
- (3) An individual lawfully operating a bicycle upon a sidewalk or a pedestrian crosswalk has all of the rights and responsibilities applicable to a pedestrian using that sidewalk or crosswalk."

#### 12. Must a bicyclist ride in a bike lane or a side path?

No. The MCL does not require bicyclists to use bike lanes, even if present. In 2006 <u>Section 257.660 (3)</u> of the MCL was amended, removing "bicyclists" from being required to use side paths.

#### 13. Is it legal to ride on a limited-access highway (expressway)?

No. Section 257.679a(1) of the MCL states:

"... nor shall a...bicycle, except as provided in this section...be permitted on a limited access highway in this state. Bicycles shall be permitted on paths constructed separately from the roadway and designated for the exclusive use of bicycles."

#### 14. Does a bicyclist have to wear a helmet?

Although the MCL does not require bicyclists to wear helmets, LMB strongly recommends wearing one because they can prevent a vast majority of brain injuries.

#### 15. Does a bicyclist have to use lights?

#### Yes, if riding at night. MCL 257.662 states:

(1) "A bicycle...being operated on a roadway between 1/2 hour after sunset and 1/2 hour before sunrise shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front and with a red reflector on the rear which shall be visible from all distances from 100 feet to 600 feet to the rear when directly in front of lawful lower beams of head lamps on a motor vehicle. A lamp emitting a red light visible from a distance of 500 feet to the rear may be used in addition to the red reflector."

LMB strongly recommends using a rear red light when bicycling in the dark. A bicyclist may only use a white light on the front. A blue light is reserved for emergency services and may not be used. A white light may not be used on the rear of a bicycle. Red is the preferred color for the rear.

**MCL** <u>257.662 (4) and (5)</u> also makes it illegal to sell a bicycle or bike pedal without pedal reflectors, or a bike without "either tires which have reflective sidewalls or with wide-angle prismatic spoke reflectors."

#### 16. Does the law require brakes on bicycles?

#### Yes. MCL 257.662(2) states:

"A bicycle shall be equipped with a brake which will enable the operator to make the braked wheels skid on dry, level, clean pavement."

#### 17. Is it legal to park on the street? Can bicyclists park on a sidewalk?

Yes, as long as pedestrians and vehicles are not blocked. MCL <u>257.660d</u> states:

- (1) "An individual may park a bicycle\* on a sidewalk except as prohibited by an official traffic control device.
- (2) An individual shall not park a bicycle\* on a sidewalk in such a manner that the bicycle impedes the lawful movement of pedestrians or other traffic.
- (3) An individual may park a bicycle\* on a highway or street at any location where parking is allowed for motor vehicles, may park at any angle to the curb or the edge of the highway, and may park abreast of another bicycle.
- **(4)** An individual shall not park a bicycle\* on a highway or street in such a manner as to obstruct the movement of a legally parked motor vehicle.
- (5) Except as otherwise provided in this section, an individual parking a bicycle\* on a highway or street shall do so in compliance with this act and any local ordinance."

<sup>\*</sup> Amended effective March 19, 2019 to add "or an electric skateboard equipped with handlebars" (i.e. e-scooter) to each clause.

#### 18. Is it legal to use a cell phone while riding a bike?

Only if the cell phone is in hands free mode. MCL 257.661 states:

"A person operating a bicycle...shall not carry any package, bundle, or article that prevents the driver from keeping both hands upon the handlebars of the vehicle."

#### 19. How about texting while cycling?

All Michigan drivers are prohibited from texting while driving under MCL <u>257.602.b.</u> Since bicyclists have the same rights and responsibilities as drivers (MCL <u>257.657</u>), it is illegal for a bicyclist to text while cycling on Michigan roads.

## 20. Is there a three foot passing law in Michigan? Can a driver pass bicyclists in no-passing zones?

Yes. Public Acts 279 and 280 of 2018 came into effect in September 2018. MCL *257.636* states:

- (2) The driver of a motor vehicle overtaking a bicycle proceeding in the same direction shall pass at a safe distance of at least 3 feet to the left of that bicycle or, if it is impracticable to pass the bicycle at a distance of 3 feet to the left, at a safe distance to the left of that bicycle at a safe speed, and when safely clear of the overtaken bicycle shall take up a position as near the right-hand edge of the main traveled portion of the highway as is practicable.
- (3) Notwithstanding section 640, if it is safe to do so, the driver of a vehicle overtaking a bicycle proceeding in the same direction may overtake and pass the bicycle in a nopassing zone.

Additionally, at least nine Michigan communities (including Ann Arbor, Dearborn, Grand Rapids, and Kalamazoo) have enacted local five-foot passing ordinances.

## **21.** What other rules must a motorist obey when following bicyclists? MCL *257.627* states:

(1) "A person operating a vehicle on a highway shall operate that vehicle at a careful and prudent speed not greater than nor less than is reasonable and proper, having due regard to the traffic, surface, and width of the highway and of any other condition then existing. A person shall not operate a vehicle upon a highway at a speed greater than that which will permit a stop within the assured, clear distance ahead."

Motorists must have their vehicle under control when following a bicyclist to be able to react safely if the bicyclist has to make an emergency maneuver.

#### 22. Can you be charged with a DUI while riding your bicycle?

No. Although it would be dangerous to ride a bicycle while intoxicated, a bicycle is not a motor vehicle according to the MVC. DUI applies only to motor vehicle operators. Other laws may apply however, such as Public Intoxication or Reckless Endangerment.

## 23. What are the penalties for a bicyclist violating the Motor Vehicle Code? MCL 257.656 states:

- (1) "A person who violates any of sections 656 to 661a is responsible for a civil infraction.
- (2) The parent of a child or the guardian of a ward shall not authorize or knowingly permit the child or ward to violate this chapter."

## 24. If a bicyclist is cited for a violation, does it go on their driving record? No. The violations are civil infractions and do not go on a person's driving record. There are no points associated with a bicycle violation.

## 25. Is it legal to carry another person on a bicycle? What about a child seat? No, unless the seat is designed to be attached. This would allow for the legal use of a child seat since it is designed to be attached to the bicycle. MCL 257.658 states:

- (1) "A person propelling a bicycle ... shall not ride other than upon and astride a permanent and regular seat attached ...
- (2) A bicycle ... shall not be used to carry more persons at 1 time than the number for which it is designed and equipped."

#### 26. Is it legal to grab onto another vehicle to "hitch a ride"?

No. MCL 257.659 states

"A person riding upon a bicycle ... shall not attach the same or himself to a streetcar or vehicle upon a roadway."

#### 27. What is the definition of a roadway?

MCL 257.55 states:

"Roadway means that portion of a highway improved, designed or ordinarily used for vehicular travel." Therefore the gutter is not considered part of the roadway.

## **28.** Is there any law against motorists opening their doors into bicyclists? *Administrative Rule R28.1498 Rule 498 (1)* states:

"A person shall not open a door of a vehicle in a manner that interferes with or impedes the flow of traffic."

A bicycle would be included under this protection, since it is legally traffic according to **MCL** <u>257.69</u>; "... traffic means pedestrians, ridden or herded animals, vehicles, street cars and other conveyances either singly or together using any highway for purposes of travel."

#### 29. Can a motorist park or drive in a bike lane?

No. Administrative Rule R28.1322 Rule 322 states:

- (1) "A person shall not operate a vehicle on or across a bicycle lane, except to enter or leave adjacent property.
- (2) A person shall not park a vehicle on a bicycle lane, except where parking is permitted by official signs
- (3) A person who violates this rule is guilty of a misdemeanor."

#### 30. Does a bicyclist have to carry a driver's license?

No, the law does not require you to carry a driver's license.

LMB, however, strongly recommends that all bicyclists carry some type of picture ID when riding. Law enforcement or safety personnel may need to identify you in case of an emergency. If you have health issues of any kind, it is critical that you carry identification that identifies you and your health issues.

## 31. What is the definition of an electric bicycle, or e-bike? How fast can it go? Does it matter if you have to pedal?

An e-bike is defined by a seat, pedals, and an electric motor of 750 watts or less. A class 1 e-bike can be motor-assisted up to 20 miles per hour when pedaling. A class 2 e-bike can also have a throttle to engage the motor without pedaling. A class 3 e-bike can be motor-assisted up to 28 miles per hour when pedaling. According to MCL <u>257.13e</u>:

"Electric bicycle" means a device upon which an individual may ride that satisfies all of the following:

- (a) The device is equipped with all of the following:
  - (i) A seat or saddle for use by the rider.
  - (ii) Fully operable pedals for human propulsion.
  - (iii) An electric motor of not greater than 750 watts.
- **(b)** *The device falls within 1 of the following categories:* 
  - (i) Class 1 electric bicycle. As used in this subparagraph, "class 1 electric bicycle" means an electric bicycle that is equipped with an electric motor that provides assistance only when the rider is pedaling and that disengages or ceases to function when the electric bicycle reaches a speed of 20 miles per hour.
  - (ii) Class 2 electric bicycle. As used in this subparagraph, "class 2 electric bicycle" means an electric bicycle that is equipped with a motor that propels the electric bicycle to a speed of no more than 20 miles per hour, whether the rider is pedaling or not, and that disengages or ceases to function when the brakes are applied.
  - (iii) Class 3 electric bicycle. As used in this subparagraph, "class 3 electric bicycle" means an electric bicycle that is equipped with a motor that provides assistance only when the rider is pedaling and that disengages or ceases to function when the electric bicycle reaches a speed of 28 miles per hour.

## **32.** Can a bicyclist ride an e-bike on a state trail? Does it matter what kind of surface the trail has?

If the trail is paved with asphalt or crushed rock, or a rail trail, a class 1 e-bike can usually go on it, although it depends on local regulations. MCL <u>324.72105</u>:

- (2) All of the following apply to the operation of an electric bicycle on a trail subject to this part:
  - (a) An individual may operate a class 1 electric bicycle on a linear trail that has an asphalt, crushed limestone, or similar surface, or a rail trail. A local authority or

- agency of this state having jurisdiction over a trail described in this subdivision may regulate or prohibit the operation of a class 1 electric bicycle on that trail.
- **(b)** An individual may operate a class 2 or class 3 electric bicycle on a linear trail that has an asphalt, crushed limestone, or similar surface, or a rail trail if authorized by the local authority or agency of this state having jurisdiction over the trail.
- (c) Except as otherwise provided in this subdivision, an individual shall not operate an electric bicycle on a trail that is specifically designated as nonmotorized and that has a natural surface tread that is made by clearing and grading the native soil with no added surfacing materials. A local authority or agency of this state having jurisdiction over a trail described in this subdivision may allow the operation of an electric bicycle on that trail.
- (3) Subsection (2) does not apply to the use of electric bicycles on a congressionally authorized public trail system.

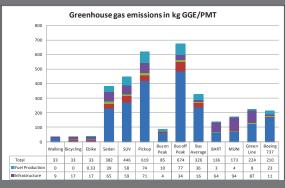
## **33.** Can a driver be ticketed if a bicycle rack on their vehicle covers up the license plate?

No. Governor Snyder signed our obstructed license plate bill, HB 5100, into law on May 16, 2018. MCL <u>257.225</u> now states:

(2) A registration plate shall [...] be maintained free from foreign materials that obscure or partially obscure the registration information and in a clearly legible condition. The attachment to the rear of a vehicle of a tow ball, bicycle rack, removable hitch, or any other device designed to carry an object on the rear of a vehicle, including the object being carried, does not violate this subsection.

A recent life-cycle analysis study on greenhouse gas emissions for e-bikes vs. other forms of transportation found e-bikes are:

- 13 times more efficient than an SUV
- 11 times more efficient than a sedan
- 10 times more efficient than a bus, on average
- About equal in impact to a conventional bicycle or walking



Source: Dave, Shreya (February 2010). "Life Cycle Assessment of Transportation Options for Commuters" (PDF). Massachusetts Institute of Technology. via https://en.wikipedia.org/wiki/Electric\_bicycle citation 69.

## **ROUTES AND TRAILS**

Trail maps and route info are available from a variety of organizations, including those shown below. For up-to-date map resources, visit www.LMB.org or contact info@LMB.org.



tory and Map

www.michigantrails.org

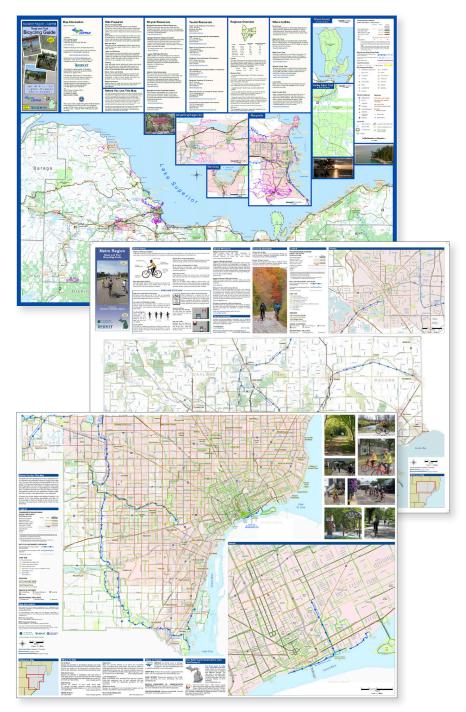
**U.S. Bicycle Route System: Maps and GPS Resources** 

www.adventurecycling.org

Mich. Mountain Biking Trails

www.mmba.org

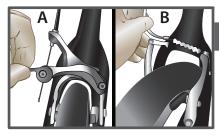




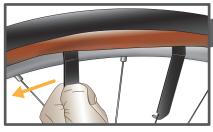
MDOT Road and Trail Biking Maps www.LMB.org/mdot-maps

## **FIXING A FLAT**











#### **BASIC TOOLS**

- Spare tube
- Tire lever
- Pump or inflator
- 6" crescent wrench (if wheels are bolted on)
- Patch kit (not pictured)

#### **RELEASE BRAKES**

- A. On side-pull brakes, there is usually a tension-release lever on the side.
- B. On cantilever brakes, remove cable from arm.

#### **REMOVE WHEEL**

Unlock quick-release lever or loosen wheel nuts, and remove wheel from frame. If removing rear wheel, shift chain to smallest cog first.

#### **UNSEAT TIRE**

Use tire lever to unseat tire from rim on one side only.

#### **REMOVE TUBE**

Reach into tire and pull tube out. Generally, first pull the part of the tube that is opposite the valve stem.



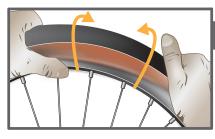
#### **CHECK TIRE/TUBE**

Run a cloth on the inside of the tire and across the tube to check for embedded objects such as glass, nails, etc. Find and patch leak in tube with patch kit if applicable.



#### **INSTALL NEW/FIXED TUBE**

Slightly inflate tube to give it shape. Put valve stem in first.



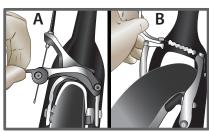
#### **PUT TIRE BACK ON RIM**

Carefully work tire back on rim, making sure not to pinch tube between rim and tire. Start with section by valve stem. Push valve stem upwards to make sure it is not caught between tire and rim.



#### **PUMP TIRE**

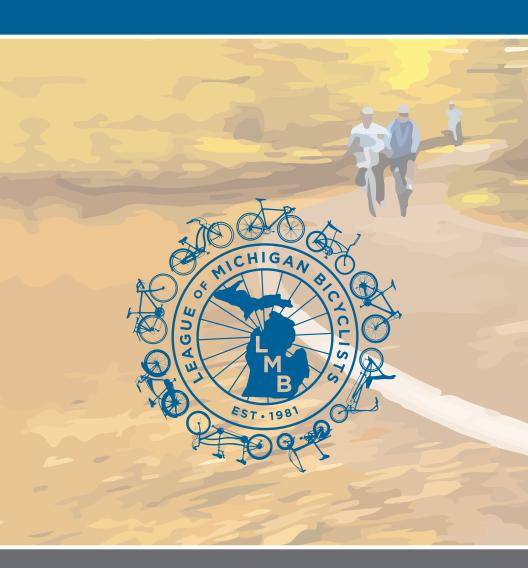
Use your pump or inflator to re-inflate the tire. The proper PSI will be listed on the wall of the tire.



#### **REPLACE WHEEL**

Put the wheel back into the frame. Close the quick release mechanism or tighten the nuts for the wheel. Remember to re-engage your brakes.

## **LEAGUE OF MICHIGAN BICYCLISTS** MAKING MICHIGAN BICYCLING BETTER



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