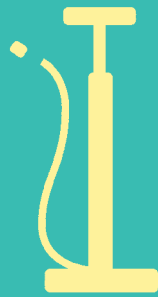
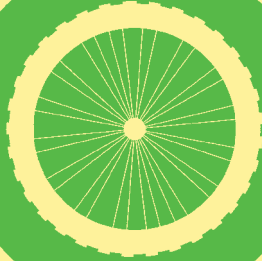
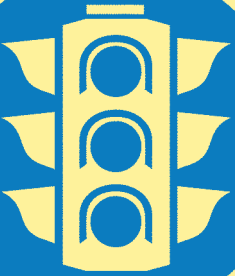
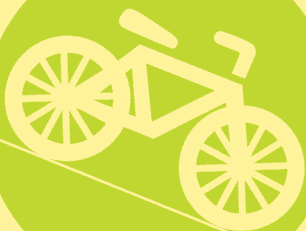
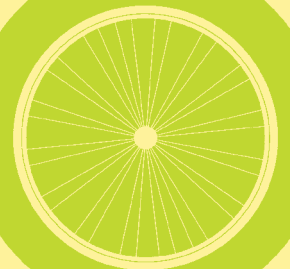


**RIDE**  
RESOURCES  
at your fingertips



# CYCLIST TIP SHEETS

ANSWERS TO ALL OF YOUR  
CUSTOMERS' QUESTIONS



| RULES OF THE ROAD

| TIPS FOR COMMUTERS

| BEGINNING CYCLING

| ADVANCED CYCLING

| BICYCLE MAINTENANCE

| MISCELLANEOUS CYCLING TIPS



**RIDE**  
**RESOURCES**  
at your fingertips

Dear NBDA Member:

The National Bicycle Dealers Association and League of American Bicyclists share the belief that independent bicycle dealers must be the “go to” place for people to get good information about bicycles and bicycling.

We are working together to provide you with tools and resources to help establish or confirm your shop as an essential community resource: giving you the Bike Shop Advantage.

This book, and the enclosed CD, will allow you to print personalized tip sheets to answer many of your customers’ most common questions. These information sheets were written by experts at the League of American Bicyclists. These Ride Resources at Your Fingertips are designed to give you easy answers to common questions, freeing up your staff time and reinforcing your status as the source for bicycling knowledge among your customers.

This reference book, and the entire partnership, is designed to:

- Help your customers — especially first time buyers — enjoy their riding experience more
- Give your customers the confidence and skills to ride more often and in more places, and
- Give new customers another reason to visit your store and discover the value of their local bike shop.

Please contact the League or the NBDA for more details. You can find a current list of cycling instructors at [www.bikeleague.org](http://www.bikeleague.org).

We value the relationship between the League and NBDA and we welcome your feedback and comments on these materials and other ways in which we can collaborate in the future.

*Fred Clements*

*Andy Clarke*

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# RULES OF THE ROAD

## THE LEAGUE OF AMERICAN BICYCLISTS' RULES OF THE ROAD

### **1. Follow the law.**

Your safety and the image of bicyclists depend on you. You have the same rights and duties as drivers. Obey traffic signals and stop signs. Ride with traffic; use the rightmost lane headed in the direction you are going.

### **2. Be predictable.**

Make your intentions clear to motorists and other road users. Ride in a straight line and don't swerve between parked cars. Signal turns, and check behind you well before turning or changing lanes.

### **3. Be conspicuous.**

Ride where drivers can see you; wear bright clothing. Use a front white light and red rear light and reflectors at night or when visibility is poor. Make eye contact with drivers. Don't ride on sidewalks.

### **4. Think ahead.**

Anticipate what drivers, pedestrians, and other bicyclists will do next. Watch for turning vehicles and ride outside the door zone of parked cars. Look out for debris, potholes, and utility covers. Cross railroad tracks at right angles.

### **5. Ride Ready.**

Check your tires have sufficient air, brakes are working, chain runs smoothly, and quick release wheel levers are closed. Carry repair and emergency supplies appropriate for your ride. Wear a helmet.

### **6. Keep your cool.**

Road rage benefits no-one and always makes a bad situation worse.

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cycling tips, visit  
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# RULES OF THE ROAD TRAFFIC PRINCIPLES

## **First come, first served**

- A cyclist has a right to occupy a safe space on the road
- First operator to a four way stop has the right to go first
- Vehicles merging into your lane must give you the right of way

## **Ride on the right**

- Always ride with the flow of traffic
- Do not ride on the sidewalk
- Allow yourself room to maneuver around roadway hazards

## **Yield to traffic in busier lanes**

- Roads with higher traffic volumes should be given right-of-way
- Always use signals to indicate your intentions to switch lanes
- Look behind you to indicate your desire to move and to make sure that you can
- Traffic in your destination lane has the right-of-way
- Making eye contact with drivers lets them know that you see them
- Signal and make your lane change early, before you need to

## **Speed Positioning**

- Position yourself relative to the speed of other traffic
- Left-most lane is for fastest moving traffic, right-most for slower traffic

## **Intersection Positioning**

- Position yourself in the right-most lane that goes in the direction of your destination
- Ride in the right third of the lane
- Avoid being overtaken in narrow-lane situations by controlling the lane

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# RULES OF THE ROAD

## LANE POSITIONING

### Laws

- Most bicycle laws use the same language regarding where cyclists should drive
- Directions to ride “as far to the right as practicable” appears in most laws
- No clear definition of practicable has been identified, but it is **not** as far right as possible

### Safety

- Do not ride in the gutter or where you often find poor road conditions and constant hazards
- Give yourself ample room to your right to maneuver in an emergency
- Ride in the right third of the lane if there is not sufficient room for lane sharing

### Traffic rules

- Slower moving vehicles travel to the right of faster moving ones
- Motorists are looking for other vehicles in or near the travel lanes, not against curbs
- Follow the same rules as motorists including yielding right-of-way and signaling

### Hazards

- If a lane narrows ahead or is blocked by another vehicle, establish your position in traffic early
- Avoid riding where glass and other trash accumulates on the right side of roadways
- Grates and gutterpans should be avoided by positioning yourself away from them

### Ride on the right

- Ride in the same direction as traffic; stay far enough away from curb to avoid hazards
- Ride in the right third of the right-most lane that goes in the direction you are going
- Control the lane if traveling the same speed as traffic or in a narrow lane

### Visibility

- Always ride in or near a travel lane; stay visible by riding where drivers are looking
- Wear bright clothing at night as well as during the day
- Do not pass on the right; motorists are not looking for other vehicles there

### Parked cars

- Ride in a straight line, not in and out of parked cars on the side of the road
- Beware of cars merging into the roadway from a parallel parking position
- Always ride far enough away (3 feet) from parked cars to avoid hitting a door opened in front of you

### Control the lane

- If there is insufficient road width for cyclists and cars
- If traveling the same speed as other traffic or if hazards narrow the usable width
- Before intersections and turns to assert your position on the roadway

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# RULES OF THE ROAD

## LANE CHANGING AND TURNS

### Positioning for turns

- Before a turn: scan, signal and move into the lane that leads to your destination
- Ride in the right third or middle of the lane, as lane width dictates
- Keep in mind the relative speed between you and other traffic; plan accordingly

### Avoiding turn lanes

- If your lane turns into a right turn only lane, change lanes before the intersection
- Changing lanes too late could result in an overtaking motorist turning in front of you
- Maintain a constant position relative to the curb or shoulder during a turn

### Beware of blind spots

- Many drivers do not expect to see cyclists on the roadway
- Do not ride next to another vehicle unless you are in a different lane or passing
- If you can't see bus, truck or car mirrors, drivers can't see you

### Signaling

- Signal your intention to turn or change lanes if your speed is near other traffic
- Left arm out and down with palm to the rear to indicate stopping
- Left or right arm straight out to indicate left or right turn

### Scan

- Constant identification of potential hazards in front and behind as well as to each side
- Scanning allows you to avoid dangerous situations before they happen
- Scan for motorists, road conditions, pedestrians, animals, traffic signals

### Act

- Relative speed may require you to move quickly and decisively when it is safe to do so
- In high speed overtaking traffic situations, cross all lanes at once when safe
- Move after signaling in low- and same-speed traffic situations

### Improvise

- If you get caught between lanes while crossing traffic, ride the white line until clear
- Ride to red light then move to left turn lane if volume and speed do not allow crossing
- Your safety is paramount while changing lanes; if traffic is too heavy, use crosswalks

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## RULES OF THE ROAD

# HOW TO AVOID GETTING DOORED

### Lane positioning

- Ride with your handlebars at least three feet from parked cars
- Never swerve between parked cars; use the outside of the next car as your guide
- Avoid riding on the right side of any stopped car, especially if it is near the curb

### Sudden stops

- If a car stops in front of you suddenly, stop, look for exiting passengers, then pass on left
- Make sure that you stop safely before you release the handlebar to signal and pass
- Maintaining control of your bicycle is the most important task

### Intersections

- Before turning, look for cars double-parked in your destination lane
- When turning, control the lane so you don't get forced to the right of a stopped car

### Bike lanes

- You do not have to ride within a bike lane if you are avoiding a hazard
- Cars must not drive in bike lanes but bikes may leave bike lanes at any time
- Regardless of bike lane position, never ride within three feet of any parked car

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# RULES OF THE ROAD

## HOW TO RIDE IN BIKE LANES

### **Safety considerations**

- Bikes are not required to travel in bike lanes when preparing for turns
- Never ride within three feet of parked cars; beware of the door zone
- Avoid bike lanes that you think are poorly designed or unsafe; alert your local government

### **Intersections**

- Avoid riding in lanes that position you on the right side of a right turn lane
- Always signal as you move out of a bike lane into another traffic lane

### **Debris**

- Report obstructions and poor maintenance to your local government
- Avoid riding immediately adjacent to curbs where trash collects
- If debris forces you out of the bike lane, signal your move out into traffic

### **Parked cars**

- Never ride within three feet of parked cars
- Watch for brake lights, front wheels, signals and driver movements
- Position yourself in the field of vision of a motorist pulling out of a parking space

### **Right turns**

- Ride in the rightmost lane that goes in the direction that you are travelling
- Avoid riding in lanes that position you on the right side of a right turning motorist
- Move out of the right turn lane if you are not turning right

### **Left turns**

- Move out of the bike lane well in advance of the intersection; signal every move
- Position yourself in the rightmost left-turning lane
- Reposition yourself after executing the turn; remain clear of parked cars

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## TIPS FOR COMMUTERS

# BIKE SECURITY

### Visibility

- Lock your bike in a highly visible area close to pedestrian traffic
- Streetlights provide additional security at night
- Avoid locking your bike behind large objects that obscure visibility

### Securing your bike

- Lock your frame, wheels, seatpost and anything else easily removed
- Seat/seatpost locks are one-time installations and are available at your local bike shop
- Lock your bike to a large metal immovable object

### U-locks

- Rigid and U shaped with a cylindrical lock core that is impossible to pick
- Made of heavy tempered steel that is very hard to break
- Most secure, most expensive, hardest to use locks; considered the standard in cities

### Cable locks

- Great for short time periods where your bike is highly visible and a low chance of theft
- Manufacturers are combining security of U locks with ease of use of cable locks
- Smaller, lighter, less expensive, easier to use but less secure than a U lock

### Carrying a lock

- Most locks come with a mount for your bike to keep the lock out of the way
- Backpacks, panniers or any other bag is a quick, easy place to stow a lock
- Be sure that the lock does not interfere with safe operation of the bike

### Time factor

- Short periods away from your bike require a less secure lock; try a cable lock
- The longer you will be away from your bike, the more secure it should be
- Use the combination of a U lock and a cable lock for overnight parking

### Extras

- Register your bike with a local and/or national registration service
- Register your key numbers with the company that made your lock
- Mark your bike in an identifiable way to aid in its recovery if stolen

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## TIPS FOR COMMUTERS

# CARRYING CARGO

### Rear rack

- Your first and primary rack should load cargo on the rear of your bike
- Carry the majority of your weight in panniers
- Attach reflectors and lights to rack so bags don't obscure them

### Front rack

- Your secondary rack that should be used only when rear rack is also loaded
- Low rider or standard racks are available; use what suits your preference and pannier
- More weight in the front panniers will make your bike less stable

### Panniers

- All different sizes and features to fit any budget and use
- Some are waterproof but you can always buy a waterproof cover
- Make sure that your ankles don't hit panniers when attached to your bike

### Packing panniers

- Load specific-use items in same pannier; one for food, clothing, tools, etc.
- Pack high-use items, such as raingear and socks, close to the top of each pannier
- Avoid packing pointed items directly against pannier that could tear them

### Trailers

- Trailers allow you the quickest easy-on, easy-off carrying system
- Remember to carry trailer-specific tubes, tools and repair parts

### Packing your Trailer

- Use a trailer-specific bag with sectioned compartments that will aid organizing
- Rain gear and other quick-need items can be lashed to the top of the bag
- In waterproof bags, pack heavy items towards the front of the trailer

### Rain

- Avoid wet gear by packing things in plastic bags inside panniers
- Every stitch hole offers water a possible entrance into your panniers and bags
- Rain covers minimize the weight that can be added by wet packs

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## TIPS FOR COMMUTERS

# COMMUTER GEAR BASICS

### Picking a bike

- You can commute on any bike as long as it is good working order
- Road bikes, mountain bikes, hybrids, cross bikes, touring bikes all work great
- The bike should reflect your riding style; relax on a 3 speed or hammer a road bike

### Carrying capacity

- A rear rack and panniers, a basket on the front or a backpack all work well
- Panniers are most expensive and are usually waterproof; use them if you have them
- Baskets don't carry much and backpacks can make you sweat through your clothing

### Fenders

- Full fenders are recommended; use quick release or standard bolt-on style
- The roadways can be wet from other things besides rain
- Fenders also keep dirt and mud off of your clothes

### Lights

- Headlights are mandatory at night; white in front with a rear reflector in back
- A red light on the rear of the bike increases visibility at night
- Check batteries and replace them as soon as the light begins to dim

### Safety

- Always wear a helmet while riding your bike no matter what
- A helmet is your last line of defense against injury in an accident
- Prevent injury by knowing the rules of the road and acting predictably

### Tools

- Bring only tools that you know how to use; a pump is a necessity
- Prepare for breakdowns with regular inspections of your bike
- Carry a multi-tool with allen wrenches, screwdriver, chain tool; know how to use them

### Spare parts

- Carry a spare tube and patch kit at all times; keep another spare at work
- Know the condition of your bike and its parts by inspecting it regularly
- Keep a few spare parts that need regular replacement at work

### Lock

- Use a high-security U-lock; don't wait until your bike is stolen to invest in a good lock
- Lock your bike to an immovable object in a highly visible area
- Secure both wheels and other components if they can be easily removed

### Flat prevention

- Tire liners and flat resistant tires go a long way to help decrease flat tire occurrence
- Replace tires when they are worn out; check pressure with a gauge
- Familiarize yourself with how much air your tires lose each week

### Reflection

- Make sure that motorists, cyclists and pedestrians can see you at night
- Wear bright or reflective clothing; apply reflective tape to helmet and bike
- Ankle straps keep pant legs out of the chain and usually have a reflective strip

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# TIPS FOR COMMUTERS

## HOW TO COMMUTE BY BICYCLE

### Sharing the road

- Bicycles are vehicles and should act and be treated as such on the roadways
- Laws that apply to motorists apply to cyclists as well; ride on the right, with traffic
- Ride in the right-most lane that goes in the direction that you are travelling

### Signals and signs

- Obey all stop signs, traffic lights and lane markings
- Look before you change lanes or signal a turn; indicate your intention, then act
- Identify hazards and adjust your position on the roadway accordingly

### Safety

- If the lane is too narrow or you are going the same speed as traffic, control the lane
- Be visible and predictable at all times; wear bright clothing and signal turns
- Always wear a helmet to protect your head in the event of a crash

### Route choice

- Consider distance, traffic volume, road width and condition, and terrain
- Some routes may be a bit longer but much more pleasant; carry a map for detours
- Allow extra time for a new route; try riding different routes on the weekend

### Bike parking

- Try to find an indoor parking area in your office or building in which to keep your bike
- Lock your bike to an immovable object in a highly visible area out of the elements
- Ask your employer or building owner to provide safe, covered parking

### Clothing options

- If you have a short commute, ride in your work clothes at a relaxed pace
- Cycling specific clothing is an option for longer, more strenuous rides
- Use waterproof and breathable fabrics to stay comfortable and dry

### Showering

- Showering should not be necessary in the morning when it is cool outside
- Many workplaces have showers located in the building; inquire about access
- Some health clubs offer shower-only memberships for a few dollars a month

### The bike

- Any bike that you feel comfortable on will work; make sure it is in good working order
- Consider weather protection such as fenders and a rack for carrying capacity
- Invest in a rechargeable headlight; helmet and handlebar mounts are available

### Maintenance

- Have your bike checked over by your local bike shop
- Learn how to repair a flat, fix a chain and inspect your brake pads for wear
- Replace tires when they are worn out; use tire liners if you experience excessive flats

### Weather

- Heat, cold and precipitation require special preparation for you and your bike
- Fenders and rain gear keep out the rain; use layers and wind proofing for cold days
- Some cycling-specific gear can provide relief on hot days; it keeps you cool and dry

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# TIPS FOR COMMUTERS OVERCOMING BIKE COMMUTING EXCUSES

## **I'm out of shape**

- Ride at an easy pace; In a few months you will be in great shape
- Ride your route on a weekend to find the easiest way to work
- You will improve your fitness level when you become a regular bike commuter

## **It takes too long**

- The average commuter travels at 10 mph; the more you ride, the faster you will get
- Trips of less than three miles will be quicker by bike
- Trips of five to seven miles in urban areas may take the same time or less as by car

## **It's too far**

- Try riding to work and taking mass transit home, then alternating the next day
- Combine riding and mass transit to shorten your commute
- Ride to a coworker's house and carpool to work

## **No bike parking**

- Look around for a storage area in your building or office
- Stash your bike in a covered, secure place such as a closet or even your office
- Formally request that your employer provide bike parking or lock it up outside

## **My bike is beat up**

- Tell a reputable bike shop that you are commuting and have them tune up your bike
- If you can't maintain your bike yourself, identify bike shops near your route
- Make sure that your bike is reliable and in good working order before you start riding

## **No showers**

- Most commuters don't shower at work; ride at an easy pace to stay cool and dry
- Ride home at a fast pace if you want a workout; shower when you get there
- Health clubs offer showers; get a discounted membership for showers only

## **I have to dress up**

- Keep multiple sets of clothing at work; rotate them on days you drive
- Have work clothes cleaned at nearby laundromats or dry cleaners
- Pack clothes with you and change at work; try rolling clothes instead of folding

## **It's raining**

- Fenders for your bike and raingear for your body will keep you dry
- If you are at work, take transit or carpool to get home; ride home the next day
- Take transit or drive if you don't have the gear to ride comfortably in the rain

## **The roads aren't safe**

- Obey traffic signs, ride on the right, signal turns, stop at lights, wear bright clothing
- You are at no greater risk than driving a car
- Wear a helmet every time you ride

## **I have to run errands**

- Bolt a rack to the back of your bike to add carrying capacity
- Make sure that you have a lock to secure your bike while you are in a building
- Allow yourself extra time to get to scheduled appointments and find parking

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# TIPS FOR COMMUTERS RAIN RIDING

## Cornering

- Make your turns slowly and consistently; no jerky movements
- Keep your weight on the outside pedal in the 6 o'clock position
- If you need to brake in a turn, apply the brakes slowly

## Braking

- Water on the rims will lubricate your brake system making it hard to stop
- Apply the breaks lightly to clean off the rims before you need to stop
- Allow a greater distance for stopping

## Hazards

- Bridges, metal grates and painted lines and crosswalks can be very slick
- Avoid puddles as they may conceal deep potholes
- During the first few minutes of rain, oil seeps from the roadway making it very slick

## Protect yourself

- Visibility can be limited during a storm; wear bright clothing
- Keep your eyes free of debris with yellow or clear lenses in your glasses
- Wear waterproof clothing that is breathable with layers underneath

## Protect your bike

- Front and rear fenders will keep you and your bike dry
- Lube your chain before and/or after a wet ride to replace the lube that washed off
- Drip chain lube down into your brake and shifter cables to avoid rust

## Bike

- Keep the water from your tires out of your face with full-length fenders
- A rear rack can shield you from water from your back tire
- Fenders are available in quick-release versions for easy on and off

## Jacket

- A waterproof and breathable jacket with hood is the best for rain riding
- Underarm pit zippers allow you to ventilate your body without letting water in
- Hood should fit over helmet; back of jacket should be longer for protection

## Pants

- Waterproof and breathable material is the best for rain pants
- A velcro/zippered cuff will help you get them on and off over shoes
- Make sure that your chainrings do not cut rain-pants; use a rubber band or ankle strap

## Feet

- Waterproof and neoprene socks are available at most outdoor stores
- Booties will cover shoes and prevent water from entering
- Sandwich bags inside of shoes, over socks can help keep your feet dry

## Hands

- Waterproof and neoprene gloves are available from most manufacturers
- Neoprene keeps water next to skin but allows the body to warm it, like a wetsuit
- Gloves should provide wind protection and access to shifters

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## TIPS FOR COMMUTERS

# WHY COMMUTE BY BIKE

### **Fight pollution**

- Automobiles produce toxic substances that pollute the ground, air and water
- Burning fossil fuels creates CO2 that contributes to global warming
- Automobiles also produce noise pollution

### **Stay fit**

- Bicycle commuting allows you to include your workout in your daily schedule
- Riding a bike instead of your car sitting in traffic is less stressful
- Staying in better shape will decrease your chances of getting sick

### **Avoid traffic delays**

- Off-road trails, bike lanes and wide curb lanes allow you to ride past traffic
- Bike commuting takes less time when you account for car parking and traffic
- Longer rides can result in less traffic and more enjoyment of your commute

### **Save money**

- Maintenance costs for your automobile will decrease, as will your gas bill
- You will save money on parking (and tickets)
- You won't have to have a membership to a gym to workout

### **Enjoy your commute**

- Arrive at work refreshed and full of energy; ride off stress after work
- Commuting under your own power gives you a sense of accomplishment
- Take the long way home and ride through a park or along a local river

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# BEGINNING CYCLING ABC QUICK CHECK

## **A is for air**

- Inflate tires to rated pressure as listed on the sidewall of the tire
- Use a pressure gauge to insure proper pressure
- Check for damage to tire tread and sidewall; replace if damaged

## **B is for brakes**

- Inspect pads for wear; replace if there is less than 1/8" of pad left
- Check pad adjustment; make sure they do not rub tire or dive into spokes
- Check brake level travel; at least 1" between bar and lever when applied

## **C is for cranks, chain and cassette**

- Make sure that your crank bolts are tight; lube the threads only, nothing else
- Check your chain for wear; 12 links should measure no more than 12 1/8 inches
- If your chain skips on your cassette, you might need a new one or just an adjustment

## **Quick is for quick releases**

- Hubs need to be tight in the frame; your quick release should engage at 90°
- Your hub quick release should point back to insure that nothing catches on it
- Inspect brake and seat quick releases to insure that they are closed tightly

## **Check is for check it over**

- Take a quick ride to check if derailleurs and brakes are working properly
- Inspect the bike for loose or broken parts; tighten, replace or fix them
- Pay extra attention to your bike during the first few miles of the ride

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# BEGINNING CYCLING BICYCLE CLOTHING BASICS

## Always wear a properly fitting helmet

- Make sure that the helmet fits on top of the head, not tipped back
- Always wear a helmet while riding a bike, no matter how short the trip
- After a crash or impact on your helmet, replace it immediately

## Shorts

- Bike shorts include a pad to increase comfort while in the saddle
- Tight, close fit keeps fabrics from rubbing your skin and causing irritation
- Bike shorts should be worn alone or under another pair of lightweight shorts

## Jerseys

- Technical fabric of jerseys pulls moisture off of your skin to keep you dry
- Jerseys do not absorb moisture; they do not get heavy with perspiration
- On cold days, cotton will absorb water and hold it next to your skin, chilling you

## Shoes

- Stiff soles of cycling shoes allow better power transmission to pedals
- Mesh vents allow air to circulate around feet keeping them dry
- Shoes are usually designed to accept cleats for clipless pedals

## Glasses

- Protect your eyes from wind, dirt, debris and the sun while riding
- Your front wheel or someone else's rear wheel can shoot glass or dirt at your face
- Keep perspiration out of your glasses with a thin headband around your forehead

## Gloves

- Provide padding to help increase comfort and relieve numbness while riding
- Protect your hands in the event of a fall with cycling specific gloves
- Experienced cyclists can clean glass and debris off of tires with gloves while riding

## Tights

- Keep your legs warm and out of the wind with full-length tights when it's cold
- Muscles function better when they are warm and protected from the elements
- Full-length leg warmers which can be removed during a ride are also a good idea

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# BEGINNING CYCLING EFFICIENCY ON THE BIKE

## Use lower gears

- Most beginning cyclists push too big a gear; down shift and spin a smaller gear
- Low cadence will cause you to fatigue faster and might cause knee pain
- Try to spin about 90 rpms; you'll have more energy and get a better workout

## Starting

- When stopped, don't push off the ground to get started
- Leave one pedal in the two o'clock position; push down when you are ready to go
- You will have enough momentum to balance and put your other foot on the pedal

## Relax

- You should be comfortable while you ride
- Relax while you ride; it takes energy to grip the handlebar in fear
- Change hand positions often, slightly bend your elbows, stretch your neck while riding

## Don't rock the boat

- Make sure that your saddle height is adjusted properly
- Too high and your hips rock; too low causes knee pain
- You should have a slight bend in your knee at the bottom of the pedal stroke

## Skip the soft shoes

- Soft-soled shoes absorb pedaling energy and slow you down
- Stiff-soled cycling shoes help you transfer more energy to forward motion
- Toe clips and clipless pedals attach your foot to the pedal which increases efficiency

## Red light, green light

- Restarting from a stop uses more energy than a slowing and not stopping
- Time it so that you hit the intersection on green so you don't have to stop
- Make sure that you are aware of how your actions affect other vehicles around you

## Avoid the wall

- Listen to your body while you ride to avoid hitting the wall of exhaustion
- Eat before you are hungry and drink before you are thirsty to avoid fatigue
- If you experience a lightheaded feeling, get off the bike and get some fluids

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# BEGINNING CYCLING HELMET FIT

## Wear a helmet

- A helmet is your last line of defense in a crash; never ride without one
- Helmets can reduce serious head injuries by 85% in a crash
- A helmet will not protect your head if it is not properly fit

## Helmet Fit

- Make sure that the helmet fits on top of the head, not tipped back
- Always wear a helmet while riding a bike, no matter how short the trip
- After a crash or any impact that affects your helmet, replace it immediately

## Shell and pads

- Find the smallest helmet shell size that fits over your head
- Helmet pads should not be used to make a helmet that is too big fit your head
- Leave about two-fingers width between your eyebrows and the front of the helmet

## Straps

- The straps should be joined just under each ear at the jawbone
- The buckle should be snug with your mouth completely open
- Periodically check your strap adjustment; improper fit can render helmet useless

## Ventilation

- In general, the more vents the better; improper ventilation can cause overheating
- Helmets with good ventilation can actually be cooler than riding with no helmet at all
- More vents usually mean a higher priced helmet; buy one that you are proud to wear

## Colors

- Helmets come in all different colors in different models; buy a highly visible color
- Shell color does not affect the temperature of the helmet against your head
- Pick a color that encourages you or your kids to wear it

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# BEGINNING CYCLING SHARING THE PATH

## Courtesy

- Respect other trail users; joggers, walkers, bladders, wheelchairs all have trail rights
- Respect slower cyclists; yield to slower users
- Obey speed limits; they are posted for your safety

## Announce when passing

- Use a bell, horn or voice to indicate your intention to pass
- Warn others well in advance so you don't startle them
- Clearly announce "On your left" when passing

## Yield when entering and crossing

- Yield to traffic at places where the trail crosses the road
- Yield to other users at trail intersections
- Slow down before intersections and when entering the trail from the road

## Keep right

- Stay as close to the right as possible, except when passing
- Give yourself enough room to maneuver around any hazards
- Ride single file to avoid possible collisions with other trail users

## Pass on left

- Scan ahead and behind before announcing your intention to pass another user
- Pull out only when you are sure the lane is clear
- Allow plenty of room, about two bike lengths, before moving back to the right

## Be predictable

- Travel in a straight line unless you are avoiding hazards or passing
- Indicate your intention to turn or pass
- Warn other users of your intentions

## Use lights at night

- Most trail users will not have lights at night; use a white front and red rear light
- Watch for walkers as you will overtake them the fastest
- Reflective clothing does not help in the absence of light

## Do not block the trail

- For group rides, use no more than half the trail; don't hog the trail
- During heavy use periods (holidays and weekends) stay single file
- Stop and regroup completely off of the trail

## Clean up litter

- Pack out more than you pack in
- Encourage others to respect the path
- Place all litter in its proper receptacle

## Limitations for transportation

- Most paths were not designed for high-speed, high volume traffic
- Use paths keeping in mind their recreational nature
- It might be faster to use roads and avoid the traffic on the paths during heavy use

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# BEGINNING CYCLING

# SHIFTING AND GEARS

## Front derailleur

- Left shifter controls the front derailleur and which chainring your chain is on
- Used less frequently than rear deraillieur
- Shifting requires more attention than the rear derailleur but is done less frequently

## Rear derailleur

- Right shifter controls the rear derailleur; this is the fine tuning of the gear range
- Used most frequently to account for minor changes in terrain
- Two or three shifts down is equal to one shift down on the front derailleur

## Chainrings up front

- Bikes come with two or three chainrings; three is for mountain biking and touring
- These are low, medium and high range or low and high for road bikes with two
- Small ring is low gear for climbs, middle ring for flats, big ring for descents

## Cassette in the rear

- The smaller the cog on the cassette, the harder the gear is to push
- Most bikes have 7, 8, or 9 cogs; rear derailleur moves the chain from one to another
- Many front and rear gear combinations overlap

## Pedaling

- Pedal at about 90 rpms both climbing or descending; it's faster than you think
- Shift into an easier gear before you need it; before a climb instead of during one
- You should be using the same pedal force and cadence to climb as you do to descend

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# ADVANCED CYCLING TIPS

## CLIMBING AND DESCENDING

### Climbing Technique

- Maintain a high cadence to avoid stress on your knees
- Start in a lower gear; upshifts are easier than downshifts
- Keep upper body relaxed; elbows in, back straight, loose grip on the bars

### Climbing Attitude

- Confidence will help you ride the entire hill without stopping
- Be mentally tough and push yourself; the mind tires before the body
- Concentrate on form and breathing; the hill will soon disappear behind you

### Climbing Efficiency

- Eat before you are hungry, drink before you are thirsty; every 20 minutes
- Rests should only last a minute or two; don't let the body think it's over
- Practice breathing and climbing techniques to be more efficient on the bike

### Gearing for Climbs

- A comfortable gear will be a factor of your fitness level
- Choose a gear that will allow you to spin comfortably; avoid excessive knee stress
- Use a lower gear to avoid exhaustion during the climb

### Endless climbs

- Combine sitting and standing to stretch and work different muscle groups
- Concentrate on your breathing; try to keep it at a constant level throughout the climb
- Remember to eat and drink every 20 minutes to maintain energy output

### Speed control

- If you do not know the road or traffic volume, ride with extra caution
- Hazards are harder to avoid at high speed, especially while turning
- Do not overtake motorists unless the road allows it

### Ride predictably

- Remain in the same portion of the roadway down a curvy descent
- Take the lane if you are traveling the same speed as motorists
- Take the lane if the road is narrow and curvy regardless of speed

### Brakes

- Make sure that your brake pads have at least 1/8" of wear left on them
- Brake pads should hit only the rim; pads rubbing the tire can cause a blowout
- There should be 1" or more between the lever and bars with brakes depressed

### Braking technique

- Long descents require uniform pressure on front and rear brakes
- Constant braking can overheat the rims resulting in loss of braking response
- Brake before a curve

### Safety

- Riding upright will increase wind resistance and help slow you down
- Always keep both hands on the bars; slow down if the bike shakes at high speed
- Slow down for wet rides; ask ride leaders about general road conditions

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## ADVANCED CYCLING TIPS

# GROUP RIDING

### Be predictable

- In a group, your actions affect those around you, not just yourself
- Riders expect you to continue straight and at a constant speed
- Signal your intention to turn or slow down before you do so

### Use signals

- Use hand signals to indicate turns and point out hazards to others
- Left or right arm straight out to indicate left or right turn
- Left arm out and down with palm to the rear to indicate stopping

### Give warnings

- Riders should call out right turns, left turns and stops in addition to signaling
- Announce turns before the intersections to give riders a chance to position themselves
- Try to avoid sudden stops or turns except for emergencies

### Change positions correctly

- Slower moving traffic stays to the right; faster traffic to the left
- Pass slower moving vehicles on the left; announce your intention to do so
- Announce passes on the right clearly as this is not a usual maneuver

### Announce hazards

- Most cyclists do not have a full view of the road while riding in a group
- Announce potholes and other hazards so others can avoid them
- Call out the hazard and point down to it, either left or right

### Watch for traffic from the rear

- The last rider should frequently check for overtaking cars
- Announce "car back" clearly and loudly
- It is also helpful to announce "car up" on narrow roads or when riding two abreast

### Watch out at intersections

- Leader should announce slowing or stopping at intersections if necessary
- Cyclists should not follow others through intersections without scanning
- Each cyclist is responsible for checking cross traffic; if you must stop, signal

### Leave room for cars

- On narrow road or during climbs, leave space between every three or four riders
- Motorists will utilize the shorter passing intervals to pass the group
- Good relations with motorists is the responsibility of every cyclist

### Stop off road

- When stopping for mechanicals or regrouping, always move clear off the road
- Only if conditions permit should you move back onto the road as a group
- Always yield to traffic in the roadway

### Ride single file

- It is illegal in some areas to ride more than two abreast
- Ride single file between intersections; double up when the group stops and communicate your next step
- When taking the lane, double up and take the whole lane

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## ADVANCED CYCLING TIPS

# LIGHTS AT NIGHT

### Visibility

- By law, you must have a front white light and red rear reflector in most states
- Motorists are familiar with white meaning front and red meaning rear
- Front lights can illuminate your path or simply make you visible at night

### Wattage

- Inexpensive lights seldom light your path; at about 3 watts, they make you visible
- Lighting systems are available that put out 45 watts with a halogen bulb
- Most full-time commuters use at least a 10 watt system with a rechargeable battery

### Power sources

- From AA batteries to nickel-metal-hydride rechargeables, the options are endless
- Self-contained, rechargeable batteries have the best life and brightest light
- Simple AA powered lights have lower initial cost but frequent battery replacement

### Helmet vs. bar mount

- Helmet mounted lights allow you to get the attention of motorists by looking at them
- Bar mounted lights make you look more like a vehicle but only point forward
- The ideal situation is one helmet light and one bar-mounted light for safety

### Rear lights

- A red rear blinking light is much more conspicuous than a passive reflector
- Make sure that your light is visible to motorists and not pointing up or down
- Clear obstructions from the back of the bike that would block the light

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## ADVANCED CYCLING TIPS

# ON-BIKE STRETCHING AND EXERCISES

### Reasons to stretch

- Reduce tightness and strain in your neck, back, shoulders, arms and face
- Ride longer with less fatigue; recover faster with post-ride stretches
- Always warm-up muscles before stretching; cold stretching can cause injury

### Be careful

- Never attempt these stretches while riding in a group or paceline situation
- Check for traffic, slow down and maintain control of your bicycle
- Attempt only on smooth, flat, dry pavement

### Lower and middle back

- With one hand on the bar, reach back and place your forearm across your lower back
- Twist your upper body toward the hand that is behind you; hold for 5 seconds
- Look over your shoulder and move that shoulder back while moving the other forward

### Shoulder and neck

- Reach across chest to opposite shoulder as far as comfortable; hold for 5 seconds
- Lift shoulders towards your ears until you feel tension
- Hold for 5 seconds, then slowly roll back to original position

### Fingers and forearms

- Place hand on hip, palm down, fingers up; straighten elbow to stretch for 10 seconds
- Place fingers on handlebar and push down to stretch forearms; hold for 5 seconds
- Bend hand back as far as possible; rotate wrist back and forth; hold for 5 seconds

### Face and jaw

- Open your mouth in an "O" then move your lips right to left to stretch cheek muscles
- Open your mouth wide to stretch jaw muscles
- Never clench your teeth while riding

### Back

- Arch your back while lowering your head slightly
- Then straighten your back and lift your head up to straighten your spine
- Hold each for 5 seconds; perform both stretches consecutively

### Legs

- While coasting, straighten one leg in the 6 o'clock position and drop your heel
- In the 3 and 9 o'clock position, stand and drop both heels; switch feet and repeat
- Hold each stretch for 10 seconds and repeat

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## ADVANCED CYCLING TIPS

# PACELINES AND DRAFTING

### Drafting

- Following closely behind another rider cuts down on wind resistance
- Only draft off of someone whose riding style or experience you trust
- Always inform the rider in front that you are on their wheel; between 6" and 18" back

### Paceline

- A group of riders drafting off of each other is a paceline; the leader dictates pace
- Front rider must communicate obstacles to riders behind; last rider watches traffic
- Pay close attention to those ahead and behind; be able to react safely and quickly
- 

### Rotation

- Riders in a paceline take turns 'pulling' the group along through the wind
- To move from the front, check traffic, pull out to the left and move to the back
- The second rider is now the leader and provides draft for allotted time or distance

### Signals

- Lead rider must signal debris and hazards in roadway as well as stops and turns
- Point in direction of hazard and announce 'grate' or 'gravel' for other riders
- Rear rider is responsible for signaling intentions to following traffic

### Dangers

- Do not draft on high traffic roads or roads with frequent intersections
- There is very little room for error when riding very close to others
- Crashing in a paceline has a domino effect, which may knock down riders behind you

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# BICYCLE MAINTENANCE

## FLATS AND PATCHES

### Punctures

- Glass, thorns, nails, staples, screws; anything sharp can cause a flat
- These result in slow leaks that can take up to 48 hours to go completely flat
- Usually easily repaired with patch kit; not normally associated with severe tire damage

### Pinch flats

- Compression of the tube between your rim and a hard surface
- Known as 'snakebites,' these are dramatic, audible flats that deflate quickly
- Hard to repair with patches; replace tube or use oval patches; rim damage possible

### Tire damage

- Improperly adjusted brakes can rub through tire and cause tube to blow out of tire
- Maintaining proper tire pressure helps prevent flats and maximizes rolling efficiency
- Worn tires leave less rubber between the tube and the road, decreasing flat protection

### Rims

- Spokes and sharp spots on the inside wall of the rim can cause flats
- Recurring flats are usually caused by sharp metal on the rim or part of a spoke
- Use a file or sandpaper to buff off the sharp spot and remove any burrs

### Flat forensics

- Carefully studying where the hole in the tube will allow you to find its cause
- Make sure that you keep the wheel, tube and tire in the same orientation
- Flats may be caused by imperfections in the tube; these may be impossible to detect

### Find the hole

- Pump tube with air; listen and feel around the tube for the leak
- Mark hole with chalk or hold under your thumb
- Use the sandpaper or another abrasive to rough up tube around hole

### Apply glue

- Apply glue to the size of a quarter, centered around the hole
- Allow two to three minutes for glue to set; glue will turn cloudy
- Make sure that the glue area is slightly larger than the patch

### Apply patch

- Remove patch with plastic still attached; do not peel plastic off of patch
- Place sticky, non-plastic side down, centered over hole
- Slide it around in a small circle to ensure even distribution of glue

### Wait and hold

- Hold patch firmly between thumb and forefinger for about three minutes
- Time taken now will ensure that your patch will hold later down the road
- If at home, place tube flat between two books and place heavy object on top

### Check it

- Inspect to make sure that the patch bonded to tube all the way around
- Plastic will keep glue from sticking to inside of tire; wipe off excess
- Patches can last forever if properly applied

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# BICYCLE MAINTENANCE

## FIX A FLAT

### Remove wheel

- Front: undo brake then wheel quick release and remove
- Rear: shift into smallest cog in rear, undo brake then hub quick release; remove
- Rear: set bike upside down on handlebars and seat before opening hub quick release

### Deflate tire

- Remove remaining air by depressing valve
- Schraeder is larger, spring loaded valve and must be depressed; car style valve
- Presta is all-metal, air sprung narrow valve; unscrew then press

### Remove one side of tire from rim

- Using tire levers, unseat one side of tire; start away from valve stem
- For tight rim/tire combinations, multiple tire levers are needed; do not use metal levers
- Many mountain and hybrid bikes tires will come off by hand; practice at home

### Remove tube

- Remove tube from tire; avoid valve damage by starting away from valve
- Keep tube and tire in same relative position to each other to aid in finding puncture
- Inspect tube for hole; mark for patching or use your spare tube for replacement

### Inspect inside of tire

- Feel inside of tire for the cause of flat; use caution as the cause may cut your finger
- Remove thorn, glass, staple, nail or whatever caused your flat
- Inspect tire for damage caused by flat

### Install new or patched tube

- After repairing damaged tube or retrieving spare, inflate tube to give it round shape
- Fold back tire to allow access to valve hole; insert valve first then tube into tire
- For presta valve, screw valve closed and install valve nut loosely against rim

### Reseat tire bead

- Start reseating tire by hand at valve hole; work in both directions
- Push valve partially back through rim to insure proper seating of tire bead
- Visually inspect tire bead to insure proper tire seating on rim

### Inflate tire

- Inflate tire slowly, checking for bulges which might indicate improper bead seating on rim
- Deflate if bulge occurs; carefully re-inspect and reseat bead on rim
- Inflate to desired pressure

### Install on bike

- Front: install wheel; tighten hub quick release and attach brakes; make sure the wheel is straight
- Rear: install wheel by placing chain on top and bottom of small cog
- Rear: push pulley closest to you forward; drop hub down into frame and tighten

### Ride away

- Check brake and hub quick releases; make sure that tire does not rub brakes or frame
- Check rear derailleur to make sure that shifting is still smooth
- If anything is wrong, the wheel is probably crooked; make sure wheels are in straight

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# BICYCLE MAINTENANCE PACKING YOUR BIKE

## Tools

- 4mm, 5mm and 6mm hex wrenches and pump
- Pedal wrench (open ended 15mm wrench might work)
- Small blade or pocket knife to cut cardboard and open box on arrival

## Materials

- Obtain a bike box and plastic fork protector from a local bike shop
- Get extra cardboard boxes to reinforce inside of box and protect the bike
- Packing tape, sandwich bag, rag, bubble wrap or newspaper (optional)

## Packing

- Remove pedals, front wheel and quick release, stem from steerer tube and seatpost
- Insert bike in box; turn handlebars to allow them to fit; stick seatpost near rear wheel
- Insert front wheel in front of and just above cranks; cranks should be horizontal

## Precautions

- Insert fork protector into fork, wrap frame in bubble wrap or newspaper (optional)
- Fold a piece of cardboard and place it inside of box, below and in front of fork
- Place a piece of cardboard between wheel and frame, wheel and box

## Helpful tips

- Put pedals and front quick release in sandwich bag with pedal wrench and rag
- Pack tools and pedal bag together in easily accessible bag or pannier
- Twist tie a seatpost rail to rear wheel or rack so it can't fall out

## Potential problems

- Holes can magically appear in the box during flight/shipping allowing things to fall out
- Avoid storing helmet or small items in the box with the bike; panniers add protection
- Sealed items may explode during air transport, including tubes and lube

## Tracking

- Write daytime name, address and phone number at least four times on outside of box
- Write 'fragile' in large letters on every side of the box
- Look for bike in special or oversized cargo area of airport

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# BICYCLE MAINTENANCE TOOLS FOR THE ROAD

## Know your ability

- Take tools for work that you can perform
- Try to fix things if you are sure that you can improve how they work
- Do not depend on others for your mechanical needs

## Know your bike

- Maintain your bike or let a bike shop do it for you; twice a year for heavy use
- Catch problems before they happen on the road with regular inspections
- If you have hard to find items on your bike, stock up when you can

## Know your ride

- If you are going to be far from civilization, prepare with extra tools or parts
- For short rides, you might not carry any tools if you don't mind walking
- Urban areas may have more glass in the roadway; bring patches and a tube

## Know your tools

- Tire levers, tube, pump and patch kit for flats
- Allen wrenches, chain tool and screwdriver for mechanicals
- Understand which tools are needed for your bike; tools don't fix things, people do

## Know your options

- If you carry a phone for emergencies, make sure you have reception on your ride
- First aid can be an important part of a tool kit; know how to use it
- Stop to help others but only attempt to fix what you know you can

## Tire maintenance

- Tires naturally lose air over time; if you don't pump them up, they will go flat
- Floor pumps work best at home; they move the most air and are easy to use
- Skinny tires need air almost daily; fat tires need air weekly

## Tire emergencies

- Hand pumps work well in emergency situations; convenience over performance
- CO2 is fast and easy but can be tricky; carry a pump as backup
- Long skinny pumps for high-pressure skinny tires; short fat pumps for fat tires

## Valves

- Know your valves, presta or schraeder; carry an adapter just in case
- Both types of valves can be damaged; some tire sealants can clog valves
- Presta valves tend to hold air better than schraeder valves

## Pressure preference

- Recommended pressure is printed on tires; be careful if you go higher or lower
- Mountain bike commuters frequently inflate tires to 80 psi for faster going
- Tandem riders can inflate hybrid tires to 90 psi or more

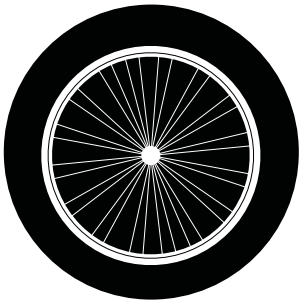
## Air pressure tips

- Use the largest tube that fits your tire; it will hold air longer and resist flats better
- Check your tire pressure with a gauge before every ride
- Find a favorite pressure for your tires and stick to it; it may change with different tires

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## MISCELLANEOUS CYCLING TIPS

# ANTICIPATING MOTORIST ERRORS

### Left turn

- Motorists often misjudge the speed of oncoming cyclists and turn into them
- Make eye contact when approaching a motorist positioned for a left turn ahead of you
- Maintain a straight line unless you need to execute a instant turn or quick stop

### Right turn

- Right turning motorists may turn just after overtaking a cyclist; avoid blind spots
- Be aware of overtaking motorists in high traffic situations with constant scanning
- Watch the front wheel of the car or look for a signal and avoid them as they turn

### Crossing

- Motorists may not recognize a cyclist's right to the road and pull out in front of them
- Do not ride so far to the right that you are not in the motorist's normal scanning area
- Announce your presence loudly to try and get a motorist's attention before they move

### Prevention

- Always wear bright clothing to make yourself more visible day and night
- Learn to recognize when motorists will turn and when they will wait
- Ride predictably where you will be seen and always wear a helmet just in case

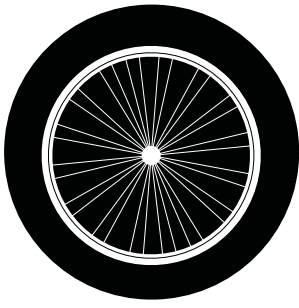
### Assert yourself

- Plan to take your right of way but be prepared to act to avoid collision
- Use hand signals, a bell, your voice, lights, anything to get the attention of motorists
- Always be aware of a safe way out of danger whether you expect to use it or not

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## MISCELLANEOUS CYCLING TIPS

# REACTING TO DOGS

### **Priorities**

- Make sure that you do not hit the dog; you will fall and you might kill the dog
- Stay in control of the bike; if you panic then you might lose control and fall
- Try to not hurt yourself or the dog; you are just riding and he is just being a dog

### **Non-aggressive approach**

- Continue pedaling and ride past the dog; he is protecting his territory and should stop
- Remember that some dogs bark and chase for fun with no intention of attacking
- The faster you and your feet are moving, the less likely you are of being bitten

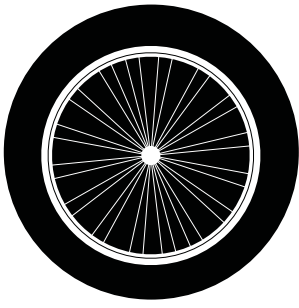
### **Aggressive approach**

- Yelling at the dog will usually startle the dog enough to get him to disengage
- Spray water from your waterbottle into his face; he'll get a drink and back off
- Physical violence and pepper spray should only be used in extreme cases

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## MISCELLANEOUS CYCLING TIPS

# TOURING

### Visibility

- Exert greater caution on hills and corners which limit cyclists' visibility
- Motorists do not expect to encounter cyclists on low volume roads
- Motorists are familiar with the triangle as a warning sign; attach one to your bike

### Equipment

- Bring tools and parts to deal with mechanical failures which can leave you stranded
- Water, food, sunscreen and first aid all are necessities on rural rides
- Choose a bike that is capable of handling gravel or poorly maintained roads

### Route planning

- Use an updated area map for all rides; a compass or GPS unit can also be helpful
- Plan routes based on availability of supplies and your willingness to carry them
- Passing through small towns will allow you to rest, fuel up and get your bearings

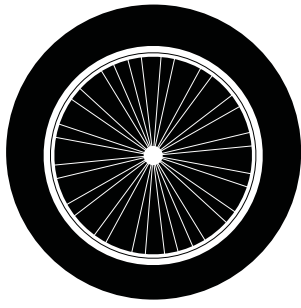
### Weather

- Be aware of possible changes in weather and pack accordingly
- Strong headwinds can severely slow your pace; be prepared to alter your course
- Be prepared for the worst that you can expect that season on any given day

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## MISCELLANEOUS CYCLING TIPS

# TIPS FOR TANDEMS

### Who's the captain?

- The front rider or captain is usually the heavier or more experienced cyclist
- Captain sets the pace, decides when to shift and brake, and steers
- Letting the stoker know what is going on is the Captain's responsibility

### Who's the stoker?

- The lighter or less experienced cyclist sits in the back (it's more relaxing anyway)
- Stoker must pay attention to the captain and communicate about pace
- Let the captain know when you need to read-just something, take a drink or rest

### Mounting the bike

- Captain should mount bike and stand flat-footed while holding bike upright
- Stoker mounts bike and straps or clips in to pedals
- Captain should get one foot on pedal in 2 o'clock position then stand up and take off

### Shifting

- Captain should call out up and down shifts to stoker
- Front derailleur shifts should be announced and practiced with extra care
- Captains should be mindful of the experience level of the stoker and not scare them

### Braking

- Some tandems have stoker-controlled drag brakes for the faint of heart
- Disk, linear pull and rim brakes are available on tandems
- Hard braking on a tandem is easy to do with all of that weight; just tell the stoker

### Stopping

- It is the captain's job to make sure the tandem comes to a controlled stop
- Support the stoker by removing one foot and leaning slightly to that side
- Remove other foot quickly and hold tandem upright, allowing stoker to dismount

### Comfort

- More comfortable seats are a necessity on a bike that you will mostly stay seated on
- The captain has it easy, sitting between the wheels is the smoothest place to be
- Add a suspension seatpost for the stoker; they can't prepare for bumps

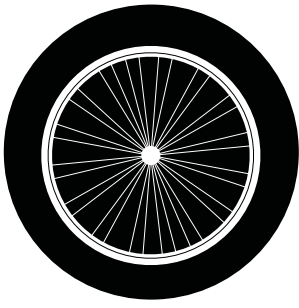
### Choosing a tandem

- If you're a mountain biker, try a full-suspension tandem for off-road fun
- Most road tandems can accept up to 40mm wide tires for comfort and stability
- Some inexpensive production tandems are great buys; custom ones can be expensive

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## MISCELLANEOUS CYCLING TIPS

# KIDS AND BIKES

### When

- Once a child can hold their head up and fit a helmet, they can be a passenger
- Until about age five, kids should ride in a child seat, or better yet, a trailer
- Kids need basic motor skills to operate a bike

### Traffic

- Explain to kids how traffic works; they have only been passengers
- Teach them about yielding, passing, predicting and traffic law
- Bicycle riders have to obey the same rules as cars and buses

### Helmets

- Let them pick out their helmet and they will want to wear it; wear yours also
- Make sure that the helmet fits the child properly; level on the head and snug
- Replace the helmet after a crash

### Balance

- Lower the seat and remove the pedals so your child can touch the ground
- Practice balancing in an open field or vacant parking lot
- Have the child practice riding in circles as well as in a straight line
- Show them how to use the brakes; get them to skid the rear wheel

### Starting and stopping

- Children should learn to stop before entering the roadway
- Look left, then right, then left again before proceeding
- Driveways, sidewalks and crosswalks are potential danger zones

### Riding straight

- Use a painted line in a parking lot
- Straight-line riding will allow drivers to predict what the child will do
- Predictability is important in any traffic situation; kids don't know this

### Scanning and signaling

- Have the child ride straight and look back at you without swerving
- Children must scan for traffic in front of them as well as behind before signaling
- Teach them how to signal right, left and stop and when to do it

### Neighborhood ride

- Plan a ride with your child around your neighborhood and discuss possible dangers
- Allow your child to lead
- Include them in the planning of the ride

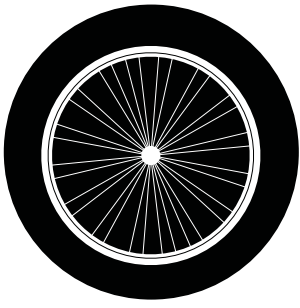
### Transportation choices

- Bikes are vehicles; this is their introduction to driver's training
- Plan a route with your child to get them to a friend's house or school by bike
- At about 10, kids are ready for longer trips; make sure they make safe decisions

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## MISCELLANEOUS CYCLING TIPS

# BUYING YOUR CHILD A BIKE

### Sizing

- Your child should be able to straddle the top tube with both feet on the ground
- Adjust the reach of the handlebars so the child is comfortable and sitting upright
- Bikes should not be 'grown into'; buy a bike that safely fits your child

### Hand vs. pedal brakes

- Pedal brakes should be the child's first brakes; teach them to stop at a fixed point
- Small children may not be able to use hand brakes due to lack of strength and reach
- Use lever 'reach adjusters' to bring brake levers closer for smaller hands

### BMX

- Dirt jumping requires safety gear including full-face helmet, shin pads and gloves
- Beginners should also consider elbow pads, knee pads and wrist guards
- Not all bikes are strong enough to jump; check with your local bike shop

### Freestyle

- Flatland trick riding requires safety gear; helmet, glove and shin pads are important
- Freestyle bikes have 'pegs' on front and rear axles that allow standing
- Never allow your child to transport other children on their bike

### Mountain

- Children should wear a helmet and gloves when mountain biking
- Ride or walk with your child so you know the trails that they will be riding
- Set specific boundaries for where your child can and cannot ride

### Growing into a bike

- Don't buy a bike that does not fit your child; too small later is better than too big now
- Quality bikes will be easier to resell; they last longer as hand-me-downs also
- Make sure that your child's bike fits them by checking with your local bike shop

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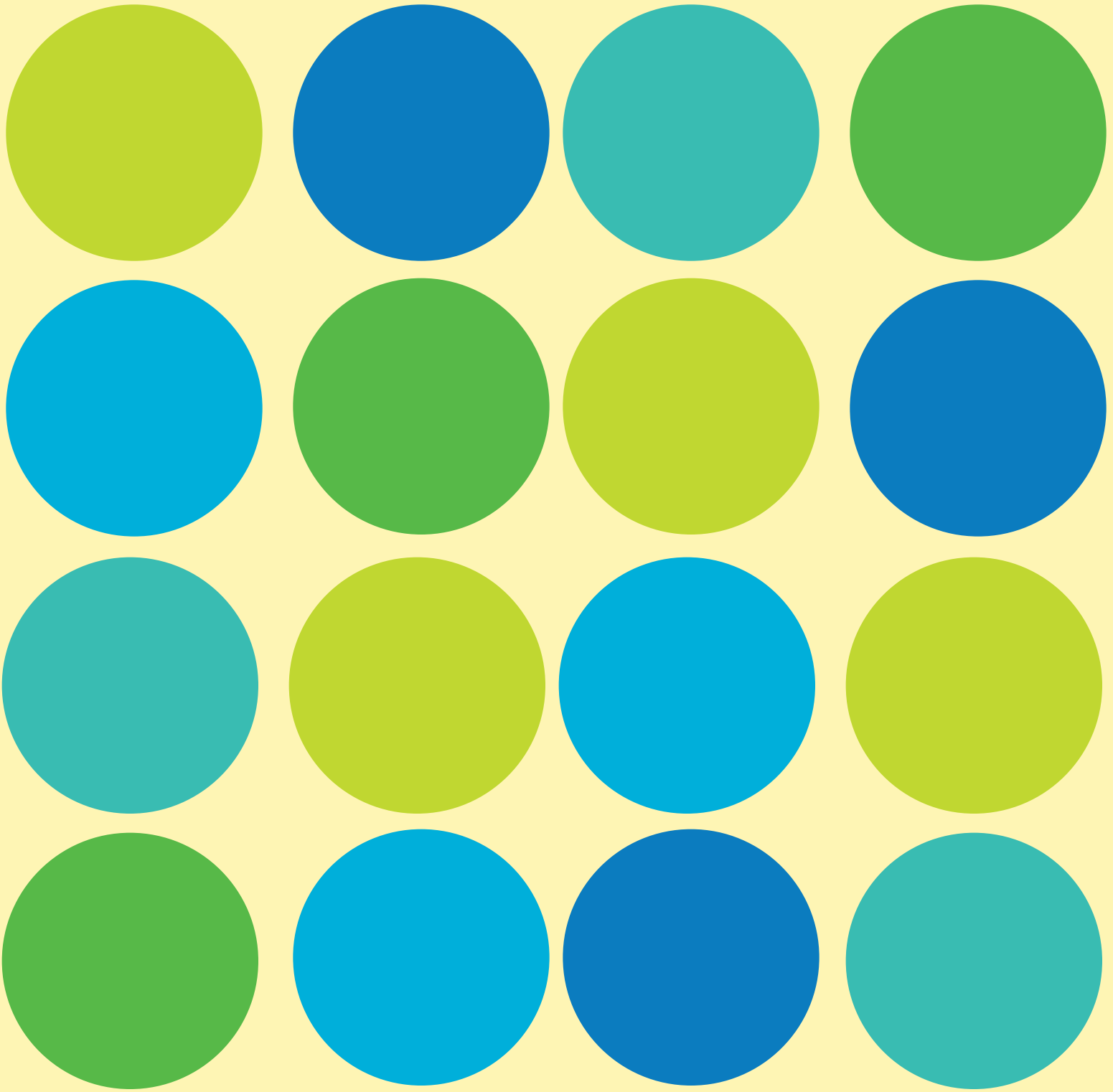
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