

Advanced Traffic-Bicycling

(an introduction and supplement to the Advanced Traffic-Bicycling manual)

**Endorsed by the Florida Highway Patrol and Colorado State Patrol (2005), and
All San Diego Area Police Chiefs and Sheriffs (2007)**

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Drivers: Please wait your turn, and always pass safely – no matter where, no matter what.

Please don't 'squeeze' the cyclists! Change lanes as needed to pass safely. Please remember that public roads were not built just for cars; before cars existed, roads in the USA were already being paved for bicyclists. Over 100 million Americans are not licensed to drive motor vehicles; but they still have a fundamental civil right to travel by their own power on all public roads; in safety, and under the equal protection of the law.

Every State Drivers Manual requires that overtaking motorists:

"Adjust speed for pedestrians, bicyclists, slow-moving vehicles, blind curves, and hills.

These conditions make the posted speed limit unsafe. By law, you must drive slower.

It is your responsibility to adjust your driving to assure everyone's safety." (Va. DMV)

Cyclists: You can PREVENT collisions -- by using traffic rules, lots of arm signaling, and when your lane narrows, ride closer to its center. Take more space & you'll get more space.



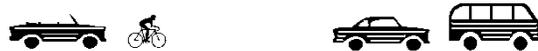
When safe cycling space narrows, politely merge into the traffic lane with the cars, moving right again only when safe. Use a brief (½ sec) slow-signal to alert drivers coming up behind that you're slow, and acknowledge those waiting behind to pass. Don't hug the curb, parked cars, or squeeze over – that sends a message to drivers behind that you've squeezed over so they can squeeze past! Don't put yourself in a squeeze, and don't allow others to squeeze you.

Bicycle Safety in Traffic? It's Not About The Helmet.

Yes, helmets are a very good idea, and an important safety backup. But helmets don't prevent collisions from happening. The moment you start to ride in or near traffic, the first principle of bicycle safety becomes preventing collisions. That takes behaving seriously in traffic, **and** getting some real adult level training. Most people barely ride at child-level: they have no training beyond a bike rodeo, and have never read a Bicycle-Drivers Manual. All they know is helmet, flag, and arm signals -- and don't even use that!

Advanced Traffic-Bicycling is much, much more than defensive driving, getting eye-contact or assuming you're invisible. Through better education, cyclists learn to identify problems and dangers specific to bicycling in traffic -- then they **prevent** them (including collisions and squeeze-by's) by using advanced signaling, lane-positioning, merging and emergency skills. They are able to safely compensate for the mistakes of others, just like others compensate for us.

Better Education makes it easier and safer everywhere, on every road, bikelane or not.



No, it isn't perfect; there will always be some who honk or yell or drive rudely, and everyone makes mistakes. But even with bikelanes, one needs these same skills to safely and cooperatively negotiate with traffic that is crossing and turning through the bikelane -- at driveways, intersections, bus stops, and parking spaces.

Advanced Traffic-Bicycling begins with studying traffic-cycling, or taking classes from instructors who are certified by the League of American Bicyclists. Opinions and advice from those without formal training won't be based on scientific analysis of common car/bike collisions and cyclist/driver mistakes.

Cyclists can enjoy the same level of safety as drivers -- by having the same level of training.

That's why all this is taught in special classes to bike-police (ipmba.org), and in **Advanced Traffic-Bicycling** classes nationwide. Retired Charlottesville VA Police Chief J.W. Rittenhouse elegantly sums it all up:

"Bicycling lawfully down a public road presents no danger to anyone.

Everyone must wait their turn. Sometimes you wait behind a cyclist, sometimes they wait behind you.

It's all just common sense, good education and training, and standard traffic rules."

Advanced Traffic-Bicycling manual: [Bicycling Street Smarts](#) BikeXprt.com/streetsmarts/index.htm

Classes: League of American Bicyclists: BikeLeague.org

<< Bike/Ped Arm Signals >> **Not For Drivers!**

One of the easiest ways for those not in a car to prevent collisions is by using frequent arm signals designed specifically for them.

In fact, without a car body to obstruct them, arm signals become much more prominent and extremely effective -- far more so than for drivers. A fully-extended arm is entirely visible and relatively large compared to the torso. We can maximize that full-arm, it's flash of motion and color, and use either arm to indicate all possible directions. With it we can guide misjudging drivers and catch the attention of distracted ones. Frequent arm-signaling also helps one be seen as a "serious" road user; increasing cooperation, respect, and taking active control of one's own safety.

The standard arm-signals we currently teach were developed over a hundred years ago, designed for car-drivers and their limitations: only the lower arm visible (barely), appears quite small relative to the vehicle, and is limited to one side. That's been the same for over a century now -- time for an update!

<< Bike/Ped Arm Signals >> (brief!, full-arm, big motions, palm and fingers flat together)

Catch attention? Raise arm, **WAGGLE** hand.

Car coming up behind? Briefly **SLOW**-Signal

Changing line of travel? In heavy traffic? **POINT** Your Direction.

Car ahead may pull across too soon? **HALT!** Signal.

Stop Sign? **At least** stop pedaling, signal slow, scan, and be ready to stop.

(Existing law in a few states; a safe, proven advance in traffic-law evolution; & a vast improvement over existing realities.)

The most basic and useful signal is to briefly Raise Arm/WAGGLE Hand for attention. Similar to waving hello, this simple friendly alert serves in any situation, for any reason, at any time. It's particularly good for the young and elderly, who find it difficult to judge when to use other signals. Drivers will often smile or wave in response; some even call out thanks. Like a beacon, a vertical wagging hand (palm and fingers together flat) creates an alternating light/dark flashing; more visible than waving, flags, etc. It's especially useful for crossing streets: in this age of distracted driving, looking once before crossing a street is simply not enough. Teach children to cross streets with a raised waggle-hand while looking all around, **ALL** the way across.

POINT Your Direction. In addition to left/right, by using either arm we can signal all directions and any change in line: moving a few feet sideways, angling across or anywhere. Point straight ahead (palm vertical, hand flat) when cycling straight in heavy traffic or busy intersections; it helps a surprising amount.

Briefly **SLOW**-Signal when cars are coming up behind a bike. The sudden flash of motion and color on one side (standard drivers slow-signal: arm out to side, forearm and fingers down, palm to rear) subtly alerts drivers to reevaluate safe passing-width, helping most wait patiently and pass safely. Very important to keep it brief, though; too long and drivers think you are signaling them to stay-back. We don't want to control them; just alert them that there's a slow vehicle ahead.

Briefly **HALT!** Signal if a car ahead might pull across too soon. This prevents all-too-common right-of-way collisions. Drivers often look cyclists right in the eye, yet still pull out or across dangerously. Like directing traffic, **HALT!** works very well to prevent this (arm out straight ahead, palm and fingers up).

The Ride-Right Rule For Bicyclists? Don't Stay Right!

That's right. The primary law for cyclists is the Ride-Right Rule, which in most states is a long, rambling sentence that is almost always misread to mean "always stay as far right as possible." And that's wrong.

This law begins with "ride as far right as is (safely) practicable". That means only as far right as one is safely "able-to-practice". Not in the gutter, not in glass or debris, and not squeezed over near parked cars -- keeping a safe space zone all around is required safe practice for all road users. Please remember that the word "safely" is implicit in this, and every other sentence, of every vehicle code.

That's only the first part of this multi-paragraph, single-sentence law. Of equal importance, the rest lists some of the many conditions where **safe cyclists don't STAY over to the right:**

"Cyclists slower than traffic shall ride as far right as is safely practice-able;

- except to safely avoid parked cars, moving vehicles, people or animals;
- except to safely avoid objects, surface debris, or ANY possible hazards;
- except to safely pass others or turn left;
- except where a traffic lane is narrow, and a bicycle and vehicle at speed cannot pass safely, side by side, within the lane." (see your state law for actual text)

In these situations, there is only one other basic law for cyclists -- and it requires that cyclists behave exactly the same as safe drivers:

"Every person riding a bicycle shall have all of the rights, and all of the duties, applicable to other drivers." (see your state law for actual text)

So by law, cyclists must signal, look behind, wait their turn; then politely MERGE left (not swerve) into line with traffic -- exactly the same way drivers change lanes. Bikelane or not, they ride in the traffic lane, a few feet more left than usual, until all possible hazards are past. Then, once it's safe, they signal and move right again.

Please note that merging into a busy traffic lane on a bike is no harder than changing lanes in a car -- in fact, it's exactly the same procedure. Some may think this unsafe for bicyclists, but this is normal practice for all slow drivers: move to the right when it's safe, but use a full lane when needed. The law is the same for bicyclists precisely because this is the best and safest way to operate a bicycle in traffic.

Imagine driving a car on your local roads at a very slow speed. Where the road is wide, you signal and move right to let others pass. When it narrows or obstructions lie ahead (parked cars, sand, debris, people), you don't squeeze over with inches to spare; you merge left and use the full lane -- just like any safe driver. If a line of several cars builds up behind, you keep going until there's a safe place to pull over and let them pass.

While bicyclists share their lane if it's completely safe to do so, traffic law never requires them to squeeze over. Doing so often causes cyclists to collide with parked car doors, slide on sand or debris, or get squeezed between hazards. Conditions like these are quite common when bicycling. Traffic law clearly says that to avoid them, don't stay right. In these conditions the law specifically instructs bicyclists to be safe by behaving as all other drivers do.

Those who've taken **Advanced Traffic-Bicycling** classes, or studied the science of it in-depth, will fully merge into a traffic lane whenever needed for safety; even if a bikelane is present. They do so to ride safely clear of opening car doors, wrong-way cyclists, and other hazards that appear on every trip. It's especially important to ride nearer the center of narrow lanes -- if drivers behind see a cyclist squeezing over, they think that's a message for them meaning they should go ahead and squeeze past!

Politely taking enough space for your own safety is the heart and core of skillfully, safely, and enjoyably cycling in traffic. You can't be safe unless you're willing to take some space. Any delay to others is usually less than a minute.

All drivers delay others: traffic behind slows even more when cars diagonal or parallel-park, or turn left. Most drivers don't mind a brief wait behind, if the cyclist **POLITELY** merges into line. That includes one or two brief slow-signals to drivers behind, to acknowledge them and help them wait patiently (arm out, all fingers straight down -- very briefly out and back).

Sadly, most bicyclists in the USA don't use these or most other traffic skills. It's not really their fault. Most have no formal cycling education, and many have actually been taught to do things that are illegal and dangerous -- such as riding fast on sidewalks or the wrong side of the road. We simply don't teach bicyclists in-depth how to politely cooperate with the hundreds of drivers who pass safely every day.

3 Common Driver Problems:

- * when drivers are passing too close: ride a foot or two more left than usual. When you hear drivers behind approaching, make a brief (½ sec) slow-signal, or raise arm and waggle hand. Once drivers realize they'll have to cross the center line to pass safely, they'll usually move well over or wait behind. (BicycleSafe.com)
- * when drivers often pass you, then turn across: ride a few feet more left than usual as you approach an intersection. Staying far right is a signal to drivers nearby that you're either very slow, or turning right.
- * when a driver ahead might pull-out or turn across too soon: merge a few feet left and hand-signal Halt! But also learn and be ready with an emergency quick-turn. (BikeLeague.org)

3 Common Cyclist Mistakes:

- * cyclists who don't keep a straight line, riding with the traffic-flow. Move sideways just like drivers change lanes: signal, **look behind**, **wait your turn**, **negotiate with drivers** for a place in line with traffic.
- * cyclists who don't ride at least a door-width from car doors, curbs, and other hazards by politely merging into the lane with traffic. Merge before the road narrows or bikelane ends. Never ride in the car-door zone!
- * cyclists who don't "clear the intersection": scanning for red-light-runners when starting on a green-light.

<< Bike/Ped Arm Signals >> Make Drivers Behave **Better!**

- * **Point** your direction (full-arm, all fingers) before changing line of travel, and to be noticed in heavy traffic.
- * **Slow-signal** (briefly!) once or twice to drivers coming up behind: helps them wait patiently and pass safely.
- * **Halt! signal** to drivers ahead who might pull out or turn across too soon.
- * **Waggle hand** with raised arm when you need to catch attention.
- * **At Stop-signs, at least** stop pedaling, signal slow, scan, and be ready to stop.

(Existing law in a few states; a safe proven advance in traffic-law evolution; & a vast improvement over existing realities.)

And Please -- Be Polite!

- * Try to keep groups fully within one lane; even a slight overlap into adjacent lanes frustrates drivers.
- * On sidewalks and crowded paths, go slow. YOU TOO must adjust speed to assure safety for all.
- * Call out & wave "thank-you" to bad drivers who reluctantly do right, so they'll do better for the next cyclist.

Cyclists Fare Best When They Are Taught to Act, and Are Treated By Others, as Lawful Drivers of Vehicles (John Forester)

Police, bicycle-commuters, and highly-trained cyclists nationwide all agree that the best way to improve overall bicycle safety is through in-depth traffic-bicycling classes. Advanced Traffic-Bicyclingsm is already taught in various forms by several organizations, including the Int'l. Police Mtn. Bike Association (ipmba.org), Can-Bike (in Canada), the Boy Scouts of America, and by hundreds of instructors trained by the League of American Bicyclists (bikeleague.org). It is widely supported by these groups and more because it is based upon using ALL rules of the road to communicate needs and cooperate with drivers.

"Many know how to ride bikes; why do we need training? Far fewer know how to cycle in complex traffic. ... Taught by certified instructors across the country, the League of American Bicyclists is able to educate cyclists how to safely, legally, and efficiently use bicycles as a means of transportation. In addition to the skills and knowledge imparted ... this certification has been recognized as evidence of serious training in safe, legal riding techniques." International Police Mountain Bike Association www.IPMB.org

"The main purpose of bike safety education is to minimize crashes and injuries. In order to do that, you have to know the most common causes of crashes." Cpl. Tom Sipin, Bicycling Instructor-Trainer (WI-D.O.T.)

"Bicyclists need to know that they can easily make themselves safe and respected on nearly every road. Millions of bicyclists manage to ride in traffic every day, year after year, without collision or trouble. Many of these "Cooperative Cyclists" have learned to use all the rules of the road to cooperate with other drivers: to signal, merge, yield, change lanes and use lights at night. They are rarely squeezed past, and studies show that they are much safer than other cyclists."

Florida Highway Patrol, State Safety Office <http://www.flhsmv.gov/fhp/html/BST.htm>

"The rules of the road follow easily understood principles and provide equal protection for all. Nobody can operate safely without the ability to obey these principles. This kind of safety is self-deployed wherever needed, increases in effectiveness with every use, at no additional cost, and provides complete coverage by being used at every time and location where its use is in any way advantageous."

John Forester, M.S., B.E., Traffic-Bicycling Engineer www.johnforester.com
author, "Effective Cycling" and "Bicycle Transportation Engineering"

"The attitude toward safety in swimming, boating, scuba diving, and other activities which involve some risk, stands in stark contrast to the "I learned everything there is to learn in kindergarten" attitude that is prevalent in bicycling." John Allen, Traffic-Bicycling Expert BikeXprt.com/streetsmarts/index.htm
author of State Bicycle-Divers Manuals for PA, OH, FL, AZ, ID, CA

"Nobody ever died from not knowing how to play flag football. Yet we spend tax money teaching kids its nuances in gym classes, while bicycle safety is still foreign to most school curriculums." Don Cuerdon

"The average American reckons the odds of his or her dying in a car accident this year to be about 1 in 70,000; the real figure is closer to 1 in 7,000 ... There is a 1-in-40,000 chance we will be killed as a pedestrian this year. Riding a bicycle is less risky, where we run about a 1-in-130,000 chance of being killed."

The Book of Risks, by Larry Laudan.

Overall, bicycling is safer than motorcycling, horse-riding, water-skiing, climbing ladders, and even swimming. 9 of 10 bicycling injuries are falls -- no car involved. In car/bike collisions, two-thirds of cyclists walk away after minor treatment. The number of persons who die while bicycling in the US is very small: fewer than 800 per year. That's compared to 4,000 motorcyclists, 5,000 pedestrians, almost 40,000 inside cars and trucks, over 60,000 from air pollution, and hundreds of thousands from a long-term lack of daily aerobic exercise.

(Nat'l. Highway&Traffic Safety Admin. figures)

"Public streets are highways, and every citizen has a right to use them each citizen has the absolute right to choose for himself the mode of conveyance he desires ... subject to the sole condition that he will observe all those requirements that are known as the 'law of the road.' This right of the people to the use of the public streets of a city is so well established and so universally recognized in this country that it has become a part of the alphabet of fundamental rights of the citizen." Kansas State Supreme Court

Cyclist Education is The Key to Cyclist Safety

Imagine if people drove around the roads at random: no stopping, yielding, keeping a straight line, taking turns, checking behind, or obeying traffic rules of any kind. If we all drove that way, public roads would be total, utter chaos! Fortunately, we have carefully designed, commonly accepted rules of the road, which make driving a well-organized, cooperative, and relatively safe activity.

Traffic rules create a dance of mutual cooperation that enables drivers of different size vehicles, moving at different speeds around each other, to communicate, cooperate, take turns using the road, adjust for minor errors, and be relatively safe overall. Every road user must learn to politely and safely "dance" with traffic.

This dance requires that one communicate and cooperate by the rules with others on the dance floor. Those who don't annoy or bump into people nearby, or step on their toes, and everyone has to compensate for their rudeness. This is not mosh-dancing! Traffic rules define the safest way known for sharing public roads -- and for sharing the ideal of safety for everyone on them.

And it's not just for drivers. Everyone operates on streets and in traffic throughout their lives. Children walk and ride on sidewalks (with crossing traffic at every driveway), then they cross streets, and soon start bicycling on neighborhood roads. Later they bike in or near traffic, and then start driving.

We should be teaching and reteaching traffic education continuously, throughout life, in a progression from alert pedestrian to cooperative cyclist to safe driver.

Thank you for your thought and consideration.

Ms. Lauren Cooper Howard and **Retired Police Chief J.W. Rittenhouse**

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