

BECOME A BETTER STREET RIDER WITH “THE PACE 2.0”

The street is not a racetrack: How to ride swiftly and safely on the road.

September 16, 2013 By Nick Ienatsch 17 Comments

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*As a moto-journalist since 1984, I've witnessed motorcycle and tire technology soar each year ... but there hasn't been a commensurate decrease in crashes. And in 1986 I got scared: Senator John Danforth's legislation to limit horsepower had me imagining our sport decimated by politicians, and the vision made me sick. Luckily, I was in a position to do something about it: I wrote *The Pace*.*

*And every weekend my group of friends, most of whom had won at least a class championship at Willow Springs International Raceway, rode *The Pace*. These were seriously talented riders, but like you, we each had to work Monday morning. Our pace evolved from the dual desires to enjoy a modern sportbike and survive a potentially deadly sport in a dangerous world. It was the best of times, and riders around the planet read and adopted *The Pace*.*

*So here we are more than 20 years later. *The Pace's* message continues to ring true in many ways but I want to review and strengthen the best of the message and make amendments to the worst. Let's call it *Pace 2.0*.*

The Good

The separation of street and track has to be stressed in riding groups. One leader, changing as frequently as desired. Passing within the group only after a wave-by. Keeping an eye on your friends because you're riding with your friends, not against your friends. Your goal is not money and a trophy, it's to get to breakfast every Sunday, tour Europe at a fun pace, enjoy a modern motorcycle on great roads, ride with your friends.

Riding against your friends is what a racetrack is for. Go to a track day. Enter a club race. Reserve the street for riding with your friends at a pace that allows you a margin of error for the unexpected, because not only is street riding much less predictable than track riding, but there are many more immovable objects to hit should things go wrong.

Limiting straightaway speed makes sense from so many angles. Radar traps usually hide on the straights and going fast in a straight line is just so ... simple. Rushing corner entrances on the street continues to lead the list of causes of single-bike crashes, and riders who do it in right-hand corners with oncoming traffic die.

Give yourself a straight-line speed limit when you're out sport riding. There are a few states that have mandatory jail time for speeds over 100 mph, so setting your own limits might save major hassle. Want to go seriously fast all day? Visit your local racetrack ... Bonneville ... Maxton ... El Mirage ... the dragstrip. On the street, know that lots of speed all the time will eventually catch you out.

REAL-WORLD RIDE



ROADRACING CHAMPIONS FIND and maintain a pace that keeps them near the front. The stakes for street riders are higher due to the ever-changing and uncontrolled environment; finding an enjoyable, survivable pace on today's exemplary bikes takes mental forethought and physical skills. Physical skills start with scanning eyes that feed information to calm and smooth hands. Mental forethought begins with relentless concentration and the constant thought, "What's next?" Every ride, practice for the inevitable emergency when suddenly everything counts.

- **SPEED:** Street crashes often are a result of going too fast for conditions. Master brake control for safety!
- **HAZARDS:** The street offers many challenges: Ride your own pace and never feel pressured to ride someone else's.
- **COMFORT:** Feeling uncomfortable with your street pace is often a prelude to a crash. Use a track to push your limits.
- **TECHNOLOGY:** Bikes and tires are improving ... are you? Experts designed your bike: Ride it better, it will work better.

I'm a fan of small, constant corrections. Talk about all this stuff in your group. Talk about mistakes you make or see. What makes you uncomfortable? Be tactful, but don't put up with idiots in your group. Reduce their idiocy or move them or yourself out. This sport is edgy enough; don't hang around with riders making bad decisions.

The Pace considers body position, and discussion of this circles back to outright speed in an environment that is basically uncontrolled, the opposite of what is found on a racetrack. Roadracers hang off their bikes to run less lean angle and street riders can do that, too, except that I've seen riders hang off their bikes on the street and then increase their speed until they're running "fun" lean angles. Because of hanging off, these "fun" lean angles can be at extremely high speeds. When a surprise happens, the extra speed is a killer. Dragging a knee on the street is insane and a clear indication of mistaking public road for the track. The track is the place with an

ambulance 60 seconds away ... room to run off ... tech inspection ... corner workers ... rules governing direction ... no oncoming traffic. Do I sound preachy? I hope so.

So, The Pace talks about not hanging off, first as a speed control, and second to appear less guilty to officers of the law. I shift my body to the inside of the bike, moving my head a bit to load the inside footpeg to help the bike turn, saving the big hang-off move for unexpected gravel/hazards or a surprisingly tight corner. Relaxed and mellow and innocent, sir.

All that said, I have two friends who hang off in the corners and have the discipline to run sane speeds. Can an article teach judgment and discipline? No, hospitals teach that.

The Bad

In The Pace I wrote that you might not see a brake light flash all day. This is misleading. Readers could interpret this to mean that using the brakes is wrong, and I should have been much clearer. Yes, riding up Angeles Crest Highway with almost no corners below 50 mph, seeing the brake light would be uncommon because we weren't hammering the throttle on the straights. But if you went with us to tight-and-twisty Stunt Road in Malibu, you'd see lots of brake lights.

Brakes. Yes. To not only control your speed, but your steering geometry, too. That is the biggest and most important clarification in The Pace 2.0: The use of brakes. You go to the brakes anytime you need your speed controlled more than is possible by simply closing the throttle. The faster you ride, the more brakes you will use, all things (like lean angle) being equal. If you're in the habit of slamming on the brakes at every corner entrance, you are definitely not riding The Pace and that big speed and abruptness will eventually hurt you. If you use a little brake pressure to trail-brake (brake while turning) into the occasional corner, you've got the right idea.

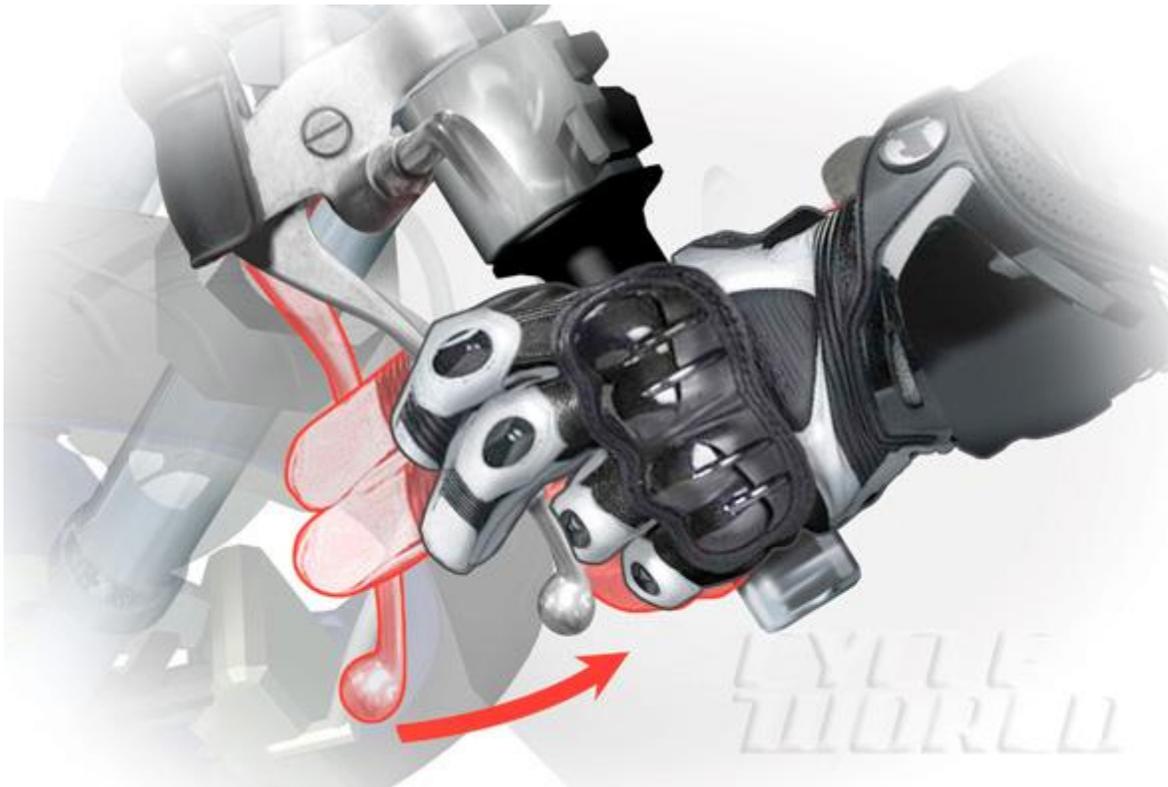
THE CONTROLS

MULTI-TASKING: This sport rewards subtlety and punishes abruptness. Learn to move quickly but smoothly.

THE HANDS OF the onboard engineer can do a lot to make a perfect bike evil and an evil bike perfect. Your left hand is the slipper clutch, your right hand is the compression and rebound damping adjuster. Your palms will be heavily loaded under braking, but your elbows shouldn't be locked. Holding light, steady throttle midcorner keeps the bike on line.



THE ART OF SMOOTH: The tire will take a tremendous load, but not an abrupt load. Focus on smooth initial throttle application/brake pressure, especially at lean angle or on suspect surfaces. Also, focus on brake release: You'll find you're in control of your bike's rebound and compression damping.



DOWNSHIFT LIKE A REAL PRO: Even with a slipper clutch, blip the throttle to bring up rpm to match the lower gear before releasing the lever. Also, don't snap out the lever too quickly. Real pros use two fingers and pull in only enough to disengage the clutch plates.

Pace 2.0 Updates

The Pace 2.0 wants you to add this to your riding portfolio: "I can go to the brakes any time during my ride." Yes, even leaned over in your favorite corner. In my book, *Sport Riding Techniques*, on fastersafer.com and at Yamaha Champions Riding School, I give each tire 100 points of total grip. If you're leaned over and using 98 points (98 percent of the front tire's grip is going to cornering forces), you have two points left for braking. Most riders aren't subtle enough with initial braking to be able to use the remaining two points, so this subtlety is something Pace 2.0 wants you to master. Know that your ability to squeeze on one or two points of brakes is the difference between the bike running wide across the centerline because of no brake application (no speed or geometry control), or the bike steering into the corner and delivering you safely to breakfast.

For those who say their bike stands up in the corner when they brake, this is almost always a result of too much initial lever force, which bottoms the fork and flattens the tire (and its contact patch) too abruptly, upsetting the bike. This sport is more subtle than these riders understand.

Same with initial throttle. Make your first application of power so smoothly that the suspension loads and the tire loads, and the contact patch expands...smoothly. More rubber, more grip.

Traction loss is rarely a simple case of using too many total points; far more often it is a case of points being added too quickly. Read that sentence again, please. Quit grabbing, stabbing, hammering—and quit "flicking" the bike into the corner. Add braking, throttle and steering points in a linear manner so when you do creep up to the tire's maximum, it has a chance to gently slide and warn you about its limit.

MASTER GEOMETRY



CONTROL FORK DIVE: Under hard braking the fork will collapse about five inches. But it's the pace at which it collapses that really counts. To retain grip in an emergency, train yourself to never, ever, grab or stab at the brake lever. Use your car, truck, van or bicycle to always practice this “never stab.”

A COMPRESSED FORK aids turn-in through improved geometry and a bigger tire contact patch (see below). But it has to be in the effective travel range: Releasing brakes before turn-in extends the fork and the bike wants to run wide. Get to the turn-in point with excessive brake pressure and the fork is too collapsed, again forcing the bike to run wide. Learn to use the brakes for both speed and geometry control.

In the second article, on The Pace, my views on trail-braking started to evolve because racing was teaching me so much. For speed on the track or safety on the street, you must be able to use some brake pressure at lean angle. On the street in corners you brake for, do your best to “leave the brake light on” at corner turn-in so you are taking advantage of slightly better steering geometry provided by fork compression.

The Pace 2.0 needs you to understand the formula $\text{Radius} = \text{mph}$ (and $\text{mph} = \text{Radius}$), and not just in theory. You need to feel it. Find an empty parking lot and ride in a circle at a given lean angle, one that you're comfortable with. Pick this lean angle, and then gently accelerate while doing your best to hold that very same lean angle. Then do it again and gently decelerate, again holding the same lean angle. Increase your speed and your radius increases, slow your speed and your radius decreases. Steady throttle holds it. After this exercise, you'll realize how insane it is that some new riders are being taught to increase throttle and push on the inside handlebar if they enter a corner too fast.

Getting your brain in gear before your bike goes into gear is a big part of 2.0. Call it being in the moment or having a plan or focusing. Most important is clearing your head and asking: What's next? That two-word question, repeated often during your ride, might go further to reduce crashes than anything except better brake use. What's next? Write it on your triple clamp, mutter it out loud, whisper it every five seconds, maybe yell it out to your friends just before the faceshields snap shut.

Riders of longer, heavier bikes should master both front and rear brakes because, in an emergency, each brake does about 50 percent of the work. I've headed Harley-Davidson's “Back to the Track” program for years and can tell you firsthand that the best stops and speed control on a cruiser/dresser/bobber utilize both front and rear brakes in roughly equal measure.

Perhaps the biggest myth lies in the sportbike world where riders have heard “never touch the rear brake.” The advice should be “never stab the rear brake.” Yes, in an emergency situation, it might only provide a small percentage of the overall stopping power due to a

sportbike's weight transfer, but this sport is all about small percentages. If you miss the car in your lane by one foot, you've missed the car, right? Add rear-brake finesse to your riding portfolio.

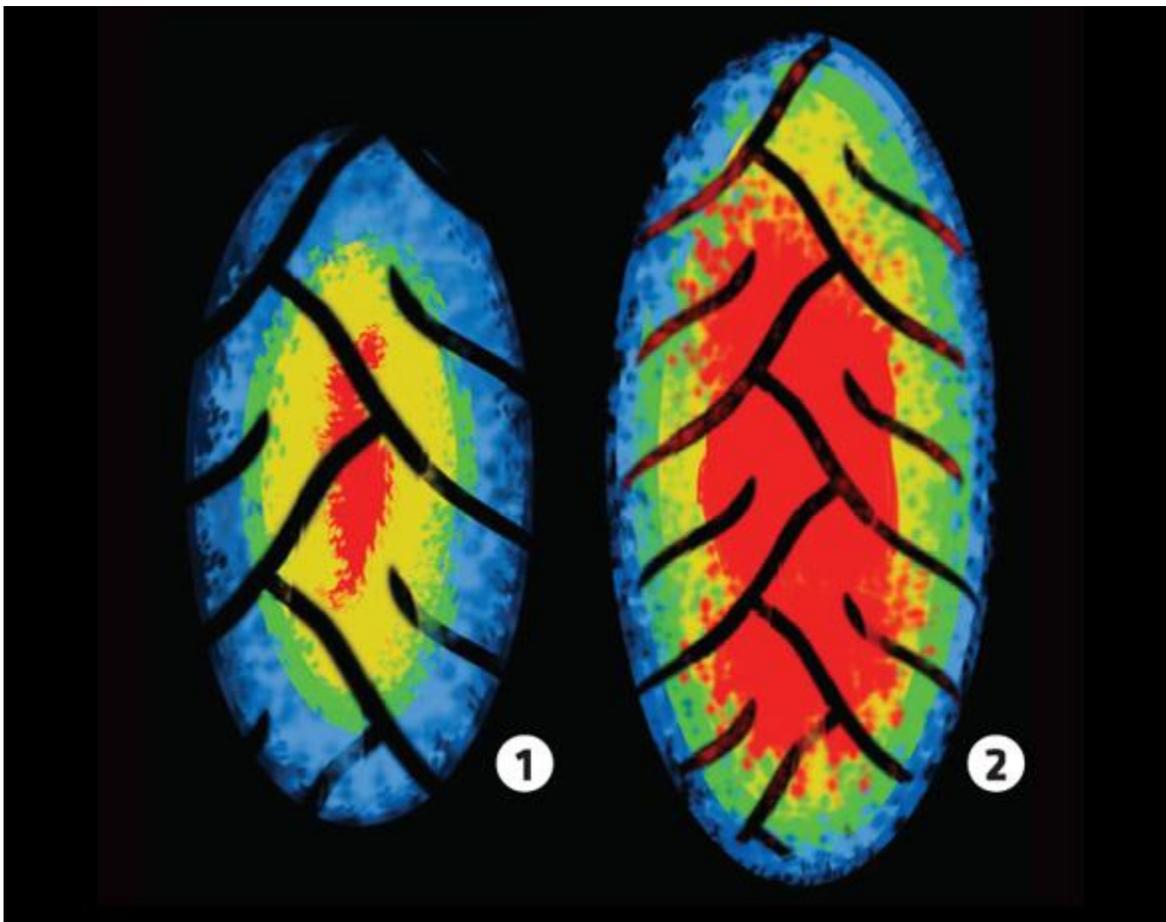
Twenty Years

We've all evolved over the last 20 years, but bikes have evolved more quickly than most riders. What I believe and teach (and do on every ride or drive) really counts when the pace is up or the grip is down.

Let me close 2.0 with this: Most of us don't approach our riding improvement seriously enough. Get relentlessly focused on your riding, don't put up with riding errors, don't think "good enough" is: When you add speed to mistakes, you don't just hit the ball into the net. Our riding mistakes not only hurt bodies and wallets, but our sport, as well. Consider giving this article to your friends, or adopting it for your club. More important: Carefully evaluate the riding advice out there and seriously study how you ride your pace. It may help save our sport.

Riding well is the most wonderful feeling in the world, the reason we're all hooked, and that's what The Pace celebrates. You're riding quick and controlled. Your friends file through a tight, left-right-left with the fluidity of a rushing stream. Your mirror is filled with friends riding your pace, using their eyes, brakes, throttle and body to ride with you. You arrive together. You and our sport are healthy tomorrow. The best.

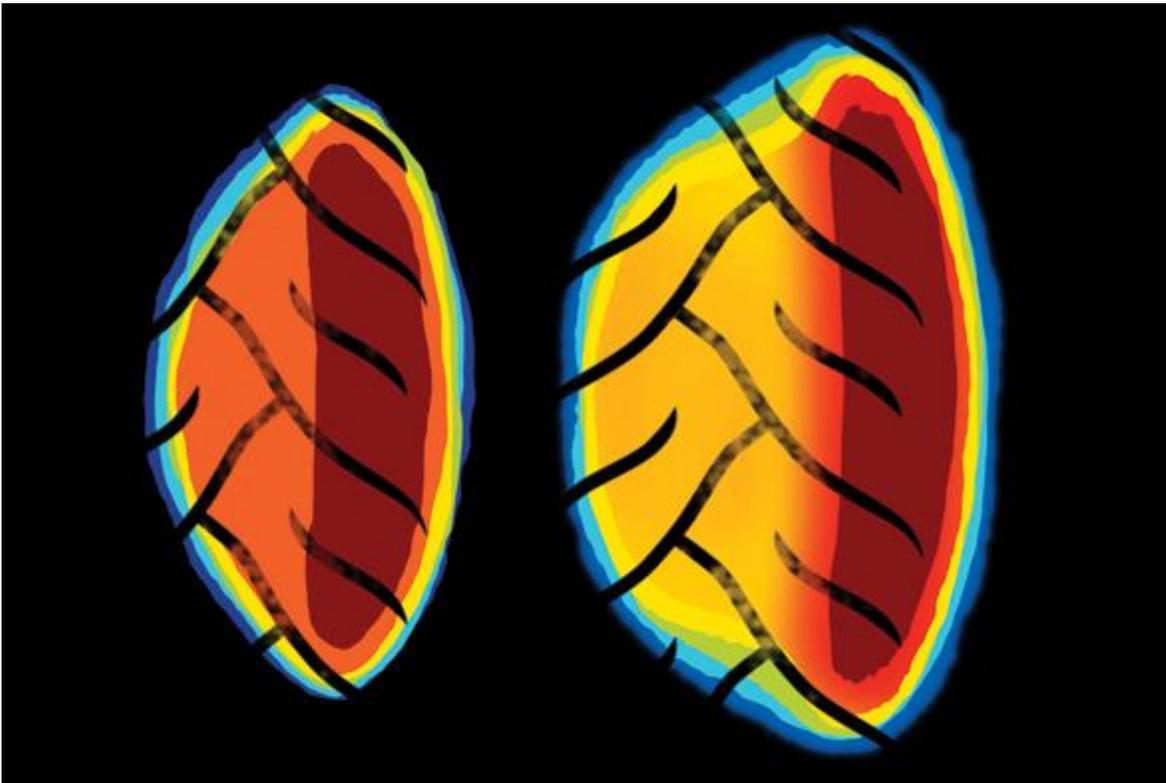
Control the Contact Patch



OF THE TWO tires above, which has more grip? Correct, #2. More rubber touching the road is more grip. And the best riders in the world are constantly working to be riding on #2. You can, too.

Imagine coming into a corner on the brakes: Your front contact patch is expanded and you're on the #2 tire, lots of rubber on the road. But before you turn into the corner, you jump off the brakes, the fork springs rebound and suddenly you're on the #1 tire. And then you ask that tire to take a cornering load! Leaving a bit of brake pressure on at the turn-in point will give you more rubber on the road. It's called trail-braking and you need to do it to win championships or ride your chosen pace all your life. You're trailing off brake pressure as you add lean angle, trading "braking points" for "lean-angle points." And riding on the #2 tire is faster and safer.

The same applies for corner exits. Apply throttle smoothly midcorner to transfer weight rearward and you will always be accelerating on the #2 tire with more grip.



AT LEAN The more leaned you are, the more the contact patch looks like this. Same smooth loading principles apply.