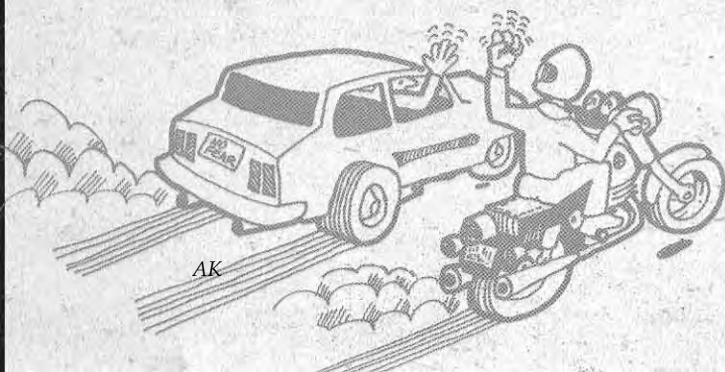


Urban Traffic



Survival

S U R V I V A L



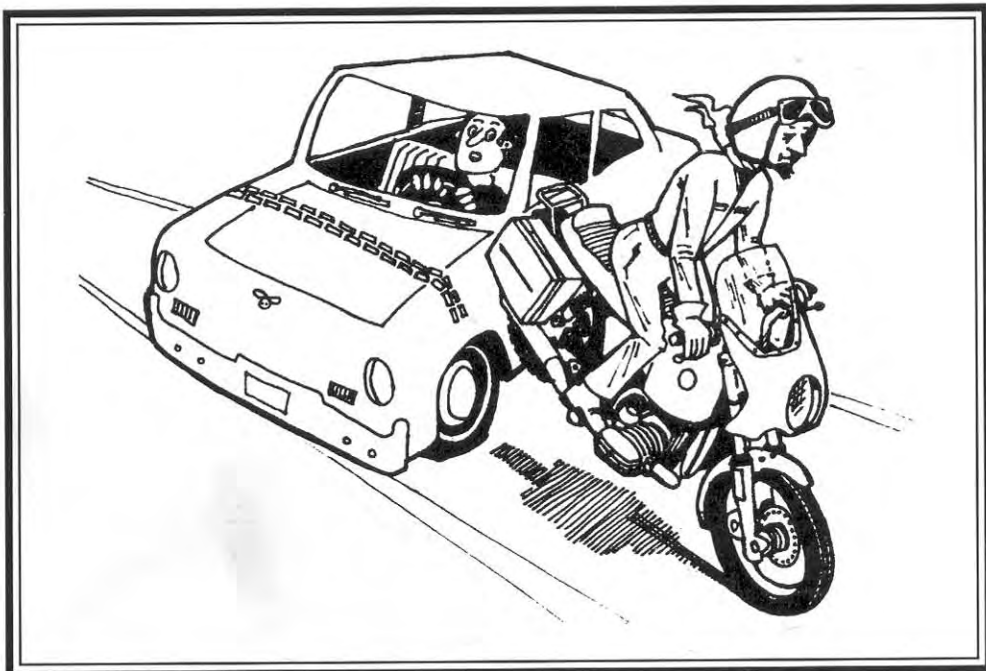
CHAPTER 4

URBAN TRAFFIC SURVIVAL

City Traffic

Occasionally, I get the opportunity to go motorcycling through some far-away places. The travels have always been great, but I'm constantly surprised at what the folks back home think about the relative dangers of riding around a foreign country on a motorcycle. A few years ago, I had the opportunity to join a tour across South Africa on a BMW GS Dual Sport. The most frequent question my coworkers asked about the trip was, *Aren't you concerned about your personal safety?* Well, sure, I was concerned about my safety, but I wasn't as concerned about getting caught up in a race riot as I was concerned about surviving South African traffic. Let's face it: riding around in traffic on a motorcycle involves some big risks, no matter what country you're in.

Sure, you could get assassinated in Afghanistan or firebombed in Bloemfontein, but you're more likely to get crunched by a cabbie in Cincinnati or totaled by a truck in Toledo. In other words, getting mugged, shot, torched, or blown to bits by some fanatical terrorist isn't a traveler's worst nightmare. The traveling motorcyclist's greatest hazard—most anywhere in the world—is motor vehicle traffic.



Best Advice for Travelers

So, if you are concerned about personal safety, my absolutely, positively best advice about travel is: (drum roll please) **STAY OUT OF CITIES**. Go anywhere you want, but just don't ride into big cities. Cities are a combat zone of cars, trucks, busses, trains, trolleys, donkey carts, bicycles, skateboards, and other assorted wheeled vehicles; all seemingly trying to smash into each other at high velocities. It's not the sort of environment a clever person would choose to ride into on a motorcycle.

But You're Going to Do It Anyway, Right?

Well, okay, I know you're going to ignore my advice and ride into cities anyway. Maybe you live in the city. Or maybe you live in the suburbs but you ride into the big city because a motorcycle is the only vehicle you can find a parking place for. Or maybe you have a burning desire to snap a photo of your motorcycle with the statue of Liberty in the background, or you're headed for Disneyland and you've got to get through San Bernardino, or you are headed for Sturgis, and somehow end up on a one-way street into downtown Chicago. Maybe, like myself, you get really nutzo and choose a motorcycle for the daily commute to work. Whatever the reasons for zooming into the city on motorcycles, we'd be wise to work on our traffic survival skills. So, park your "scooter" outside the garage door there, pour yourself a cup of your favorite beverage, pull up that creaky chair, and let's get started.

Sudden Collisions

The first thing to realize about "sudden" collisions is that they seldom occur as suddenly as most accident victims think. Now, if you suddenly realize you are on a collision course with a Chicago cab, just a second or two away from impact, the rest of the crash may seem awfully quick. But the suddenness is often a matter of not observing what is happening until too late in the process, typically within the last second or two. If you know where to look, how to look, and what to look for, you can almost always spot a potential collision several seconds before the point of impact. And once you understand what is happening, you can usually make a little correction to avoid riding into the problem.

One of the reasons cities are so hazardous is just the amount of stuff going on all at once. We've got multiple lanes of traffic, vehicles weaving around in all directions, cross-traffic squirting out at intersections, double-parked cars, jaywalking pedestrians, aggressive bicyclists, roaring trucks, oil-dripping busses, slick plastic arrows, sunken railroad tracks, grated bridge decks, man-eating potholes, and millions of traffic signs and signals—some of which are confusing—and that's just the good stuff. Whatever is out there demands our attention at once, and any one problem is capable of causing us grief. The paradox is that we've somehow got to be aware of all the hazards at once, but there are usually too many hazards to keep track of at any one moment. Let's share a few ideas on how to deal with this paradox.

The first idea is to separate the hazards. Although it often seems as if everything is demanding our attention at once, it is possible to separate our awareness of the hazards, if only by a few feet or a few milliseconds. Of course we can't make the other guys move farther apart or go more slowly, but we can observe them over more distance or more time by looking farther ahead.

One trick is to get in the habit of scrutinizing stuff w-a-a-a-y down the road. The farther ahead you spot trouble, the more time you have to observe it, make a decision about it, and deal with it. You won't have to do any sudden panic maneuvers

because you will make a few simple adjustments early on, and just stay out of harm's way. The safety experts often recommend looking 12 seconds ahead. That's the distance you will be covering during the next 12 seconds, which translates into about as far ahead as you can see any details. To put this another way, you want to spot any problems 12 seconds before they get close enough to become a hazard to you.

Look 12 Seconds Ahead

Looking 12 seconds ahead is a good habit to get into, but we're talking about more than just staring down the road with glazed eyeballs. We need to be good observers. By *observe* I mean really keeping our eyes moving to take in as much as possible, and making judgment calls about what's happening.

Try this exercise right now: Go back and read the previous paragraph again, but this time read one line at a time, and spend 2 seconds scrutinizing the world around you before reading the next line. See if you can remember what you're reading while also observing details of what's happening around you—the current time, what TV channel is on, who else is in the room, the color of the car driving by, what pictures are on the wall behind you, and so forth. It's not easy, is it? The temptation is either to look around and stop reading, or continue reading and ignore the observing. But don't we do something similar as we simultaneously ride the bike and observe traffic around us? And consider this: Once you record in your memory what time it is or

who else is in the room, you have a pretty good idea of what's going on. The only items you need to study on subsequent glances are things that have changed.

It's the same way in traffic. We need to be aware of everything, but we can focus momentarily on those things that are in the process of becoming potential hazards. For example, the big rattling car transporter rolling along in the next lane may scream for attention, but one or two glances may confirm that it's not really a problem. That oncoming car approaching the intersection ahead isn't demanding attention, but I know that left-turners are a frequent hazard for motorcyclists, so I need to focus on that car, not on the noisy truck.

Danger Zones

Intersections are danger zones where we especially need to focus our attention. Folks with poor judgment are very likely to make mistakes at intersections, pulling out in front of other drivers, making quick turns, jamming on the brakes, or motoring through red lights. Recognize that intersections are anywhere vehicles can cross paths, whether they be divided eight-lane arterials or two lanes that cross in the shopping mall parking lot.



Intersections are danger zones where we especially need to focus our attention.

For the record, about three-fourths of all motorcycle crashes are collisions with cars, and about one-fourth of all motorcycle crashes are the result of car drivers making quick left turns across the paths of motorcyclists.

It's also worthwhile to note that collisions with cars zooming out of alleys account for a good percentage of intersection smashos, and a disproportionate share of motorcyclist fatalities. Never mind who is at fault, the motorcyclist is the one who gets hurt.

Separate the Hazards

Just as we can mentally separate our observations of what is happening around us, we can physically separate ourselves from hazards. We can move the motorcycle farther away from hazards and we can separate one hazard from another by changing lane position or speed. For example, if that rattling car transporter is too much of a distraction being so close, I can speed up, slow down, or change lanes to get farther away. Likewise, I can move away from a slow-moving car that's in the process of collecting a gaggle of trouble around it, or I can change lanes to move further away from a car that's poking its nose out of an alley.

Since intersections are trouble enough, I try to separate myself from other hazards before I get to an intersection. If I am being tailgated by an aggressive driver or paced by someone in an adjacent lane, I take steps to move farther away. If at all possible, I move away from trucks or busses, primarily because they block my view. I'd rather not allow myself to be a victim of whatever happens, and I prefer not to let the hazards multiply. Take control of the situation to continuously improve the odds in your favor. Don't be squeezed into a corner or boxed into a trap if you can help it.



Move away from view-blocking trucks or buses.

I Didn't See You

If you allow another motorist to knock you down, you'll hear the same excuse: *I didn't see you.* Sometimes an errant driver has looked down at the poor motorcyclist lying miserably crunched under a bent motorcycle and let slip: *Gosh, I didn't see you. You were coming so fast, and you were wearing black leather, and, besides,*

you didn't have your headlight turned on. Certainly there are occasions when the other driver really couldn't see the motorcyclist, but many veteran motorcyclists have a sneaking suspicion that the excuse is mostly a cop-out. When a driver attempts a sudden left turn in front of a motorcyclist and doesn't make it in time, we shouldn't expect to hear, *I saw you but I was in a hurry and I figured you'd get out of my way.*

This repeated *I didn't see you* excuse of the knocker-downers has led some safety experts to believe that the problem simply is that motorcycles are inconspicuous in traffic. The solution, theoretically, is to be more conspicuous. The suggestions are to wear bright colored riding gear, blind everyone else with the headlight on high beam, and screw on a Yosemite Sam *Back Off* mud flap.

Most of the high-mileage riding friends I know roll their eyes at the conspicuity stuff. *Friends don't let friends wear pink leathers*, they sneer. Perhaps the veterans have a more realistic understanding of the *I didn't see you* myth and suspect that conspicuity stuff is more of a magic talisman than a dependable safety device. (Magic talismans are supposed to ward off evil with no effort on the part of the wearer.) Conspicuity devices are based on the assumption that the other guy will get out of the way of the motorcyclist if only he can see you. The veterans know that avoiding collisions depends on being prepared to get out of the way of the other guy, whether he sees you or not.

We can't control every situation, though, and like it or not we often depend upon other motorists not to run us over. Motorcycles are narrower and more difficult to see in traffic. Other motorists don't always comprehend how rapidly a motorcycle is approaching because a single 7-inch diameter headlight doesn't really give them a clue about its approach speed. So a case can be made for motorcyclists to be a little more visible for the benefit of those drivers on the road who are really trying to avoid collisions. Most importantly, if you are still in the process of learning the tactics of traffic survival, you really are more dependent upon other drivers to stay out of your way, and you should help them out by being as conspicuous as you can. Whatever your experience level, you'll have to arrive at a level of conspicuousness that meets your needs and fits your limits of sensibility.

If you think it might help to increase your conspicuity, here are some suggestions:

- ★ Consider light colored riding gear such as tan, silver, yellow, or bright blue.
- ★ Add brightly colored vanity stripes to your darker colored leathers, or wear a bright reflective vest over your jacket.
- ★ Choose a helmet in a lighter, brighter color, or a helmet design with bright stripes.
- ★ When shopping for a new machine or repainting your faded bike, give priority to a bright paint scheme.
- ★ Use amber running lights on the front of your bike, as widely spaced as practical and legal.
- ★ For nighttime rides, add reflective tape to the back end of your saddlebags, tour trunk, and helmet. Add multiple red taillights, preferably spaced wide apart.

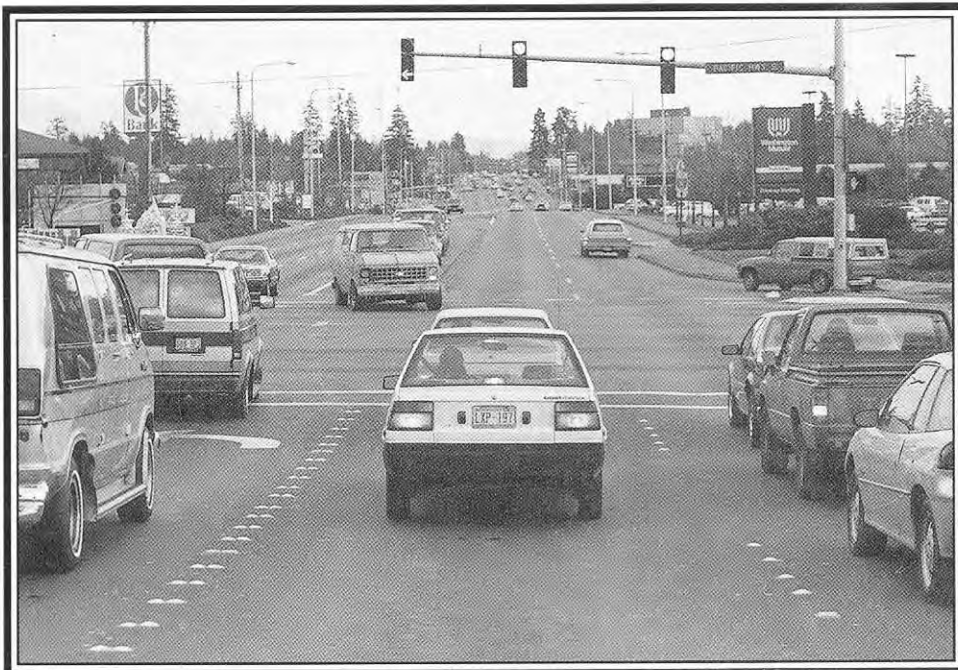
Move It or Lose It

I've already suggested that the wise rider can learn to make simple adjustments to avoid hazards, reducing the need to make rapid evasive maneuvers.

Okay, I wasn't quite honest about that. We can learn to avoid almost all accidents, but once in a while we really do encounter a sudden hazard we had no way of seeing or predicting. For example, a large rock suddenly tumbles down onto the road just as you come along, or a black horse escapes his corral on a rainy night and stands in the middle of the road. When you suddenly realize you're 2 seconds from impact, you'll do whatever you're in the habit of doing. If you're in the habit of using the front brake to the limits of traction, you'll squeeze the brake lever without thinking about it. If you're in the habit of pushing on the grips to quickly lean the bike, you'll do a quick swerve without wasting any time. That's why I keep repeating the same advice: Practice emergency avoidance maneuvers such as quick stops and emergency swerves at least once each season, and practice all the right cornering techniques even when you don't have to. But surviving city traffic requires more than just perfect evasive maneuvers. You've got to figure out what's going on in traffic and learn to predict what's going to happen before it happens.

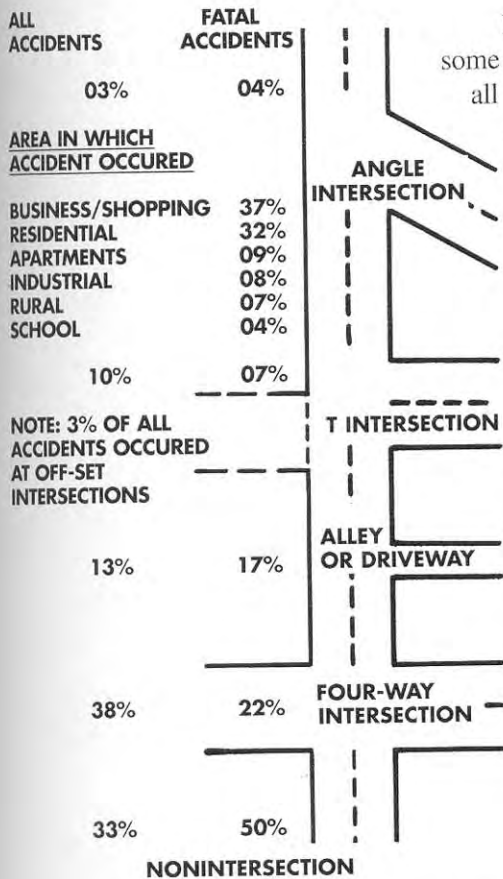
Booby Trap Intersections

Cities are full of booby traps for the unwary motorcyclist. Collisions with other vehicles are high on the motorcyclist's danger list. Novice street riders may assume that keeping the rubber side down is simply a matter of learning skills such as balancing, shifting, and throttle control. Experience soon teaches us that avoiding motorcycle accidents involves outsmarting as well as outmaneuvering other motorists.



The classic left-turner

Intersection booby traps are often disguised as a car waiting for us to ride through. Suddenly, the car zooms across our path and ***Snap!*** the trap closes. Statistically, about two-thirds of all motorcycle accidents and half of all motorcycle fatalities occur at intersections. The unwary get about 2 seconds to avoid a collision, and a lot of novice riders slam into the side of the car without even reaching for the front brake.



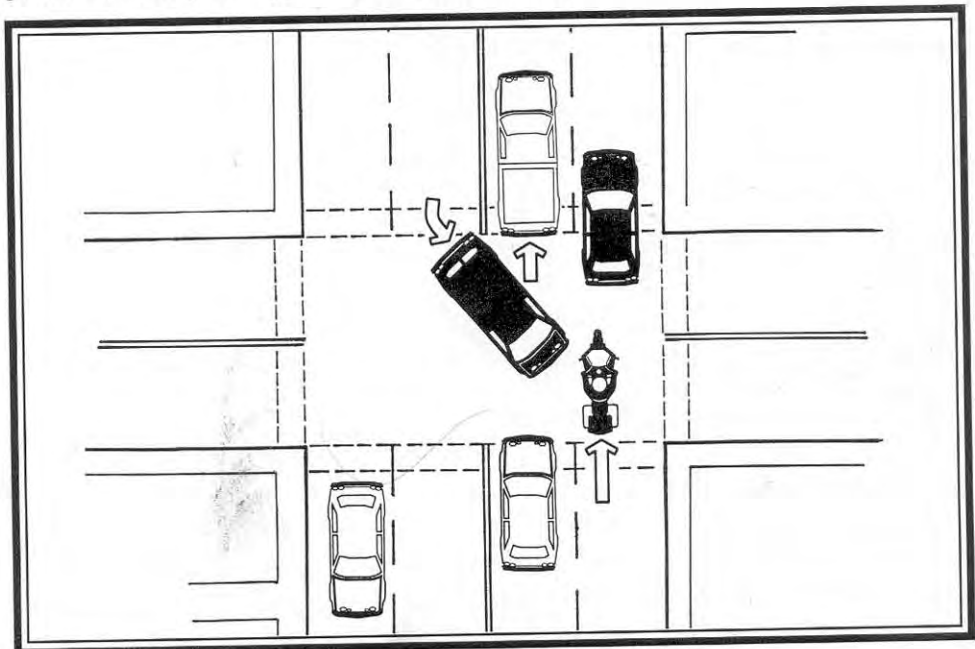
If we are to survive booby trap intersections, we need to develop some collision avoidance strategies. Let's define *intersection*, so we're all thinking about the same situations, and describe the types of crashes that occur at intersections. Then let's consider some practical tactics for spotting and avoiding collisions.

An intersection is anywhere two traffic lanes connect, including entrances to gas stations, alleys, driveways, traffic lanes in shopping malls, and anywhere else two vehicles are likely to cross paths. The diagram shows the breakdown of the type of intersection and the relative percentages of accidents and fatalities.

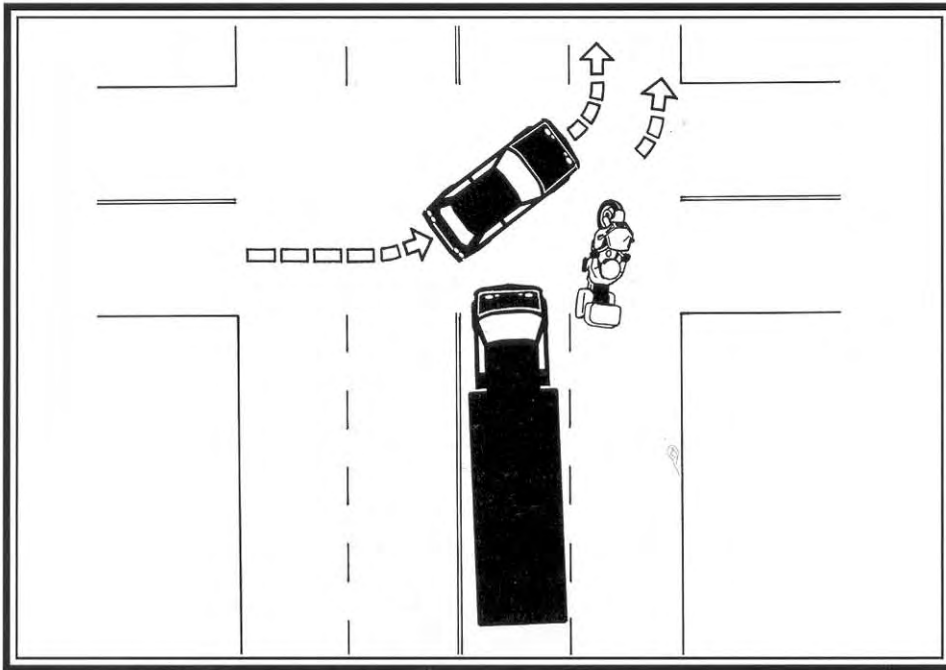
According to the Hurt Report, roughly half of all motorcycle accidents are caused by other motorists (usually car drivers) violating the motorcyclist's right of way. If you compare the percentages of all accidents to fatal accidents, it is interesting to note that only 13 percent of accidents happen at alleys, but alley collisions generate 17 percent of all motorcycle fatalities. Obviously, we need to pay more attention to vehicles coming out of alleys and driveways. Four-way intersections generate the majority of accidents, accounting for 22 percent of fatalities, so let's first consider how accidents occur at such locations.

A whopping 28 percent of collisions occur between cars and motorcycles with the motorist making a left turn. Typically, the driver turns left in front of the motorcyclist, and the bike slams into the side of the car.

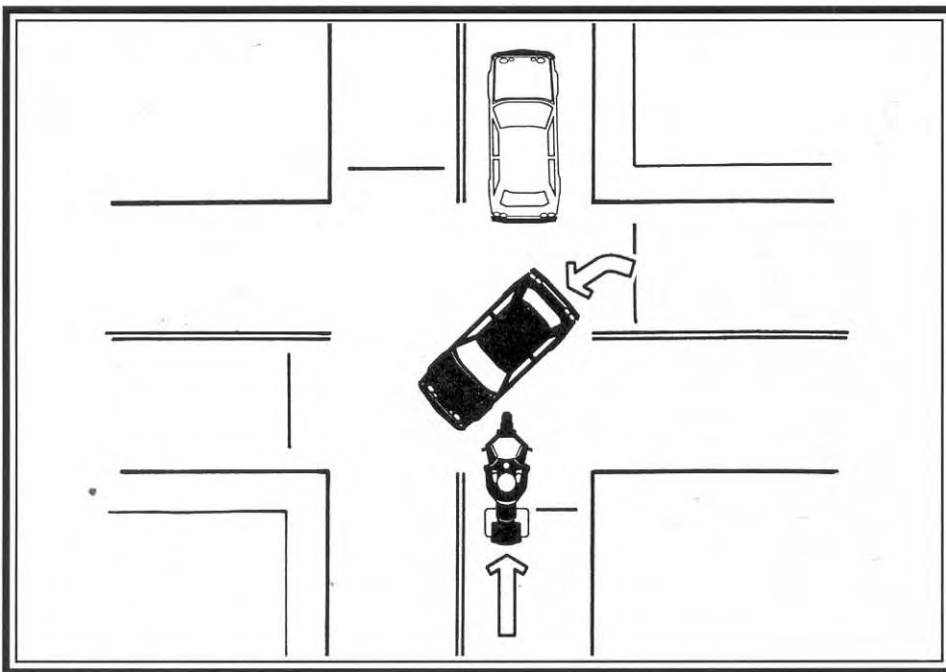
While the left-turner often approaches from the opposite direction, there are several variations we need to watch for. A driver can turn left from side streets from either our left or our right. When such vehicles are hidden behind busses, trucks, or parked cars, they can appear in our path suddenly.



The classic left-turner, top view



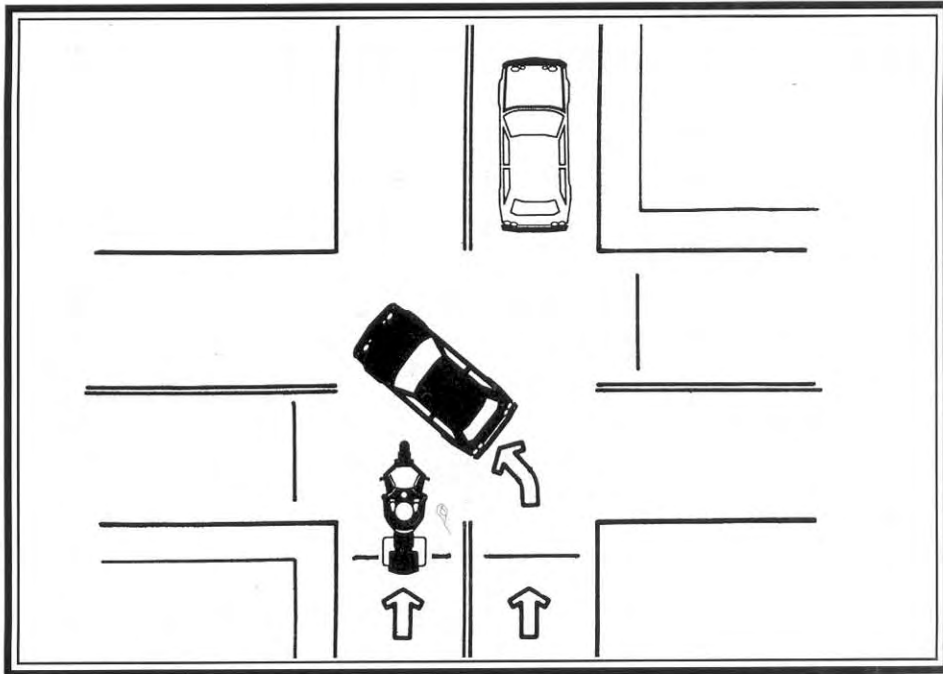
Left-turner from street on your left



Left-turner from street on your right

One booby trap that catches a few riders by surprise is the driver in the right lane of a one-way street who suddenly turns left across the path of the motorcyclist.

As we try to figure out some collision-avoidance strategies, let's note that accidents are only "sudden" when neither motorist has looked far enough ahead to spot the problem. Riders who report a mere 2 seconds between the time they saw the offending driver and the time they hit the door are simply admitting they weren't looking far enough ahead, didn't know what to look for, or didn't believe there was potential for a crash.

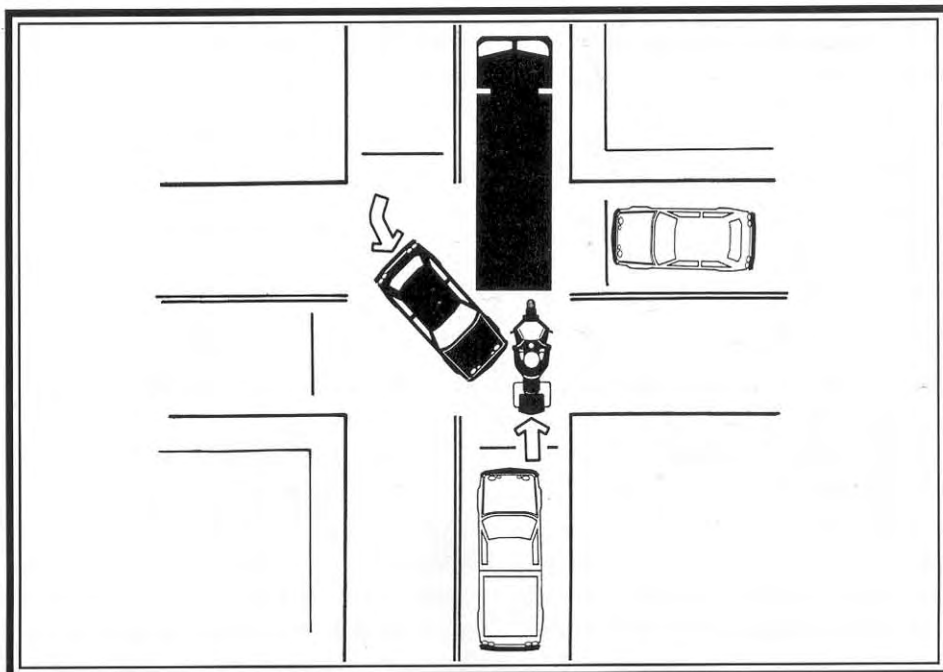


Left-turner from a one-way street

Eyes Up

Previously, I discussed looking ahead at the road over which you will be traveling in the next 12 seconds. At a street speed of 40 mph, 12 seconds covers more than 700 feet! If you can't see that far ahead because of other traffic or obstructions, slowing down gives you more time to react to whatever suddenly pops into view. Large vehicles can really limit your view ahead and also prevent other drivers from seeing you.

Be wary of passing trucks or busses waiting to make a turn. The problem isn't just that you can't see what's happening ahead, it's that other drivers can't see you



Why it's not smart to follow trucks or busses through an intersection.

hidden behind the truck or bus. The driver in the opposite lane who is waiting for a chance to turn left may think that space behind the bus will provide just enough room to zip across traffic. Wise riders don't follow immediately behind big obstructions such as busses.

To identify potential left-turners approaching from the opposite direction, watch for some important clues:

- ★ **The vehicle begins to slow as it enters the intersection.**
- ★ **The hood dips slightly as the driver begins to brake.**
- ★ **The car enters a left-turn lane or eases over close to the centerline.**
- ★ **The front wheel begins to turn in your direction.**

Of course, the driver could be signaling a turn, but that doesn't tell you when the car might actually pull into your path. Some safety experts suggest establishing eye contact with the driver, but eye contact is no guarantee he or she won't make the turn anyway. Once you identify a car that could turn in front of you, you need to know if it is actually starting to move into your path. We'll get into the nitty gritty of evasive action shortly.

Alleys produce a disproportionate share of fatalities partly because we get complacent about alleys and driveways. Alleys are narrow and often hidden between buildings, so you need to search aggressively for evidence of a vehicle about to pull out. Clues may be as subtle as a flicker of light reflected from a chrome bumper or the momentary pause of a pedestrian on the sidewalk. Streets, alleys, and driveways on your right are more of a danger because vehicles emerging from them are closer to your path of travel. Moving farther away from alleys definitely improves your odds of avoiding a collision with a car that suddenly pulls out onto the street.

When observing vehicles on side streets, watch the top of the front wheel. The top of the wheel moves twice as fast as the bumper, so the top of the tire starting to roll is your first clue that the vehicle is starting to move.

Sure, you may have the legal right of way at intersections, but having the legal right of way is little consolation when you're looking up at a trauma doctor. When you can't see what's going to happen in the next 12 seconds, what are the smart tactics? Right—slow down to give yourself time to react to the unknown, move to a lane position that maximizes your view, and be prepared to take evasive action to get out of the way.

Intersection Approach Tactics

When you are approaching an intersection where you predict the possibility of a collision, try to prepare yourself for avoidance maneuvers. Keep in mind that stopping distance depends upon your speed, your reaction time, and your skill, as well as your equipment. Position yourself for best view and maximum separation from other vehicles. For example, where buildings or large vehicles block your view of traffic on streets to your right, you can get a better view by moving to the left side of the lane, or moving to the left lane. That same tactic works for narrow alleys.

The higher your speed, the greater the distance required to stop, even with instantaneous reaction and perfect braking technique. Stopping distance just about doubles for every 10 mph increase. For example, it takes you 40 feet to stop from a speed of 30 mph, it will take you at least 80 feet to stop from a speed of 40 mph. The moral is, slowing down just 10 mph can cut 40 feet, or just about the width of two lanes, off your stopping distance at typical urban street speeds. You don't have to putter along urban arterials at 30, but if you're approaching a busy intersection with multiple left-turners, slowing down 10 mph can make the difference between

a quick stop and a collision. And remember, you have to squeeze the lever before the brakes can do anything. Your reaction time to get on the brakes might consume half a second or more if you don't already have your fingers squeezing the brake lever. Half a second doesn't sound like much, but it represents about 30 feet at 40 mph. And regardless of when you manage to get on the brakes, your actual stopping distance depends greatly upon your braking skill as well as your equipment.

Riders who haven't actually practiced quick stops from 40 to 0 typically can't pull off a good stop. In rider training courses for experienced motorcyclists, even veteran riders often can't stop quickly without sliding the rear tire, or they don't know how to do a quick stop in a curve without losing control. If the thought of practicing quick stops makes you nervous, that's probably something you should take care of before you're confronted with the big test out in traffic.

Once more, I'll remind you that in a panic situation our muscles follow our habits. Too many riders don't use enough front brake or don't use the front brake at all. That's why some machines have integrated brake systems that automatically meter rear pedal brake pressure to one of the front discs as well as the rear. But the quickest stop still requires proficient use of the front brake lever in addition to the pedal.

Riders who have spent the big bucks for an antilock brake system (ABS) are sometimes under the delusion that they don't need to be proficient at braking, since the ABS will save them from a spill. Yes, ABS can help avoid a spill if you overbrake on a slick surface, but ABS won't prevent the tires from sliding out if you overbrake while leaned over in a curve. And even with ABS, quickest stops can usually be made if the rider brakes to a maximum just short of where the ABS activates. ABS doesn't stand for "automatic brake system." So, whether your bike has interlocked brakes, ABS, or independent brakes, you need to be proficient at making quick stops, whether in a straight line or in a curve.

The Possibilities

Let's add up the tactics, and see what they mean in terms of stopping distance from a typical street speed of 35-45 mph:

TACTIC	EFFECT
Slow from 40 to 30 mph	-40 feet
Already on front brake lever	-30 feet
Marginal braking technique	+57 feet
Proficient braking technique	+37 feet
Potential difference in braking distance:	127 ft. vs. 37 feet

Looking Good

Remember, your motorcycle tends to go wherever you are looking. If you stare at the side of a left-turning car, that's where the bike will go. If you'd rather miss the car, focus on the open street where you want the motorcycle to go. If you're making a quick stop to avoid punching into the right front door of a left-turning car, wouldn't it make sense to focus on the pavement in front of the car where you intend to stop short of a collision, not on the side of the car?

Rider Training

To help develop good habits, smart riders practice swerves and quick stops in a training environment at least once each year. Braking and swerving practice is smart, but don't overlook some study time to hone your accident avoidance strate-

gies. Some riders take the ERC every year or every other year as a refresher. To locate your nearest training site, call the Motorcycle Safety Foundation hotline (800) 446-9227 and give them your zip code. They will put you in touch with the closest training facility.

Whether you've taken a training course or practiced by yourself, it's important to stay in the habit of using the front brake during every stop and to include braking as part of your cornering sequence prior to leaning the bike into a curve. When the chips are down, you'll do whatever you've been in the habit of doing. As I mentioned at the beginning, avoiding booby traps in the city involves both out-maneuvering and outwitting a wide variety of urban hazards.

Suburb Survival

Bigdawg Dan has been fidgety ever since he watched the European road racing on *Speedvision* last Tuesday. His right hand has been twitching, and his soul is itching for a twisty road fix. As the week unfolds, Dan checks his tires, tops off the oil, runs a rag over the chrome, oils up his leathers, and polishes his face shield one more time.



The weather report Thursday night promises a sunny day on Friday, but rain on Saturday. While he's been futzing with the bike, Dan has been formulating a believable medical excuse for the boss. The weather report clinches the decision: Friday morning, instead of heading for work, Dan points the bike through commuter traffic to get out of town and onto his favorite back road. Even as he carves through frustratingly slow traffic, he's slicing through those turns in his mind. To make better time, Dan cuts over to the side streets he knows so well.

But before Bigdawg can get out of Dodge City, a posse of sleepy commuters pulls a hold-up. With no warning, a van zips out of an alley, directly into Dan's path. Like the sleepy driver, it takes Dan a moment to switch from dreaming to reality, and that extra reaction time seals his fate. Too late getting on the brake, Dan slams into the driver's



When you escape from the freeways, busy arterials, and heavy traffic, and cruise down a quiet side street, it's easy to let your guard down.

door and catapults over the roof. Luckily, he isn't seriously injured, thanks to the riding gear he had decided to wear. But the bike's front end is wrapped back under the engine, and this machine isn't going to go anywhere soon. The ride is over. Now Dan can honestly fulfill his sick leave prophesy with a sprained shoulder.

I bump into a lot of veteran riders in my travels. And I get a pretty good idea of what's on their minds. One top-level priority seems to be riding the twisty back roads as quickly as possible. Yes, drifting through the twisties is exciting. We're basically trying to emulate the road racers without having to buy track time. In my opinion, there's nothing wrong with enjoying quick riding, but there's a lot more to motorcycling than emulating the racers. Remember, a lot of your riding time is in the suburbs. Even if you're headed out to the country, you've got to get through the suburbs first. And what many motorcyclists seem to overlook is that suburbs generate a lot of motorcycle accidents.

Freeways might appear to be a hazardous riding environment, what with the big volume of traffic and the higher speeds, but the statistics hint that freeways are safer than undivided highways. Most motorcyclists have figured out that urban (city) intersections are our biggest nightmare, complete with cross-traffic, multiple lanes, strange intersections, confusing signals, pedestrians, taxi cabs, delivery trucks, busses, and a lot of aggressive driving as frustrated motorists attempt to get somewhere faster than everyone else. Sometimes just getting through a busy parking lot can be a major skirmish. When you can escape from the freeways, busy arterials and heavy traffic, and cruise down a quiet side street, it's easy to let your guard down.

Familiarity Breeds Complacency

You probably already know that the majority of motorcycle accidents occur in business or shopping areas; on sunny days; on straight, level, dry roads; at speeds below 40 mph; and that about three-fourths of all motorcycle accidents are collisions with cars and pickup trucks. What you may not realize is that most accidents occur

within the first 12 minutes of the intended trip or on trips of less than 5 miles.

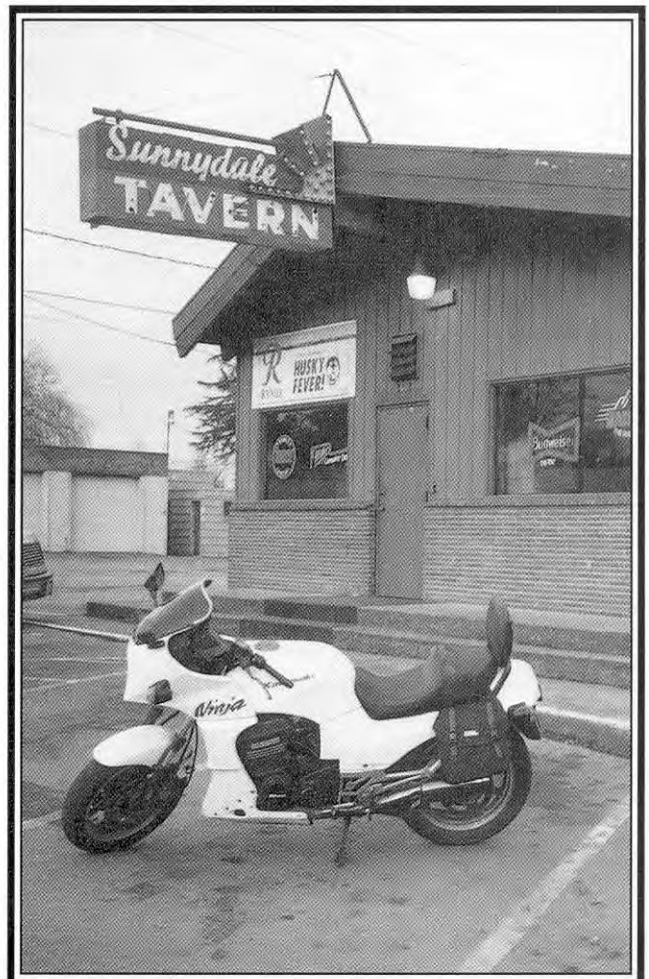
Think about that. When you're close to home, you are familiar with your surroundings. *I've traveled this street a thousand times and have never had a car pull out of that alley before. I've ridden past these same parked cars on this residential side street for five years, and have never had anyone back out of a driveway into my path until today. I never figured that other driver would swerve into my lane to get around the bicyclist.* Familiarity tends to breed complacency. Obviously, it's a lot quieter on the side streets. But if you happen along at the same instant and same place as someone else who suddenly gets in your way, you need to be just as prepared to avoid the crash as you would be on the busier arterials.

Get Your Head in the Ride

Consider Bigdawg Dan's mental state at the time of his accident. He was dreaming about the future, not thinking in the present. He was squandering his thoughts on the ride, which in his mind would commence when he got to his favorite road. He wasn't focusing on the ride already in progress or the situation immediately in front of his machine. For Dan, getting through city traffic was just an inconvenience prior to the real ride of the day. It is important to get your head in the ride before you ease out the clutch, whether you're shifting down for that first of a hundred fun curves on the coast highway, heading out on the next leg of a cross-country trip, or just zipping down to the local coffee shop for breakfast.

And while we're talking about thinking, let's note the importance of keeping your self fed and free of toxins. You can't expect your brain to function correctly if it isn't well nourished and free of dizzying drugs. Have a good breakfast before a morning ride, or at least stop early for some healthy food. Leave the bike in the garage if you're on any pills that make you drowsy or light-headed. Most importantly, avoid alcohol while you're riding a motorcycle.

Yeah, alcohol has a bad reputation for being involved in fatal accidents, and it deserves it. Alcohol degrades most of the physical and mental functions you need to operate a motor vehicle. Automobile drivers seem to be getting smarter about not driving under the influence, but motorcyclists don't seem to be paying attention, and riding a bike requires greater skill and judgment than driving a car. According to the National Center for Statistics and Analysis, approximately 20 percent of automobile drivers in fatal accidents had a BAC of 0.10 or greater. Of motorcyclists involved in fatal accidents, 40 percent had a BAC of 0.10 or greater. There are some folks who dispute the exact numbers, but it should be



Way too many riders are willing to risk a cocktail of booze and bikes.

obvious that there are still way too many riders who are willing to risk a cocktail of booze and bikes.

Timing, Timing, Timing

You might be amazed that there are significant differences in the accident and fatality numbers depending upon time of day. The hours when frustrated workers head home from the job and drunks head home from the bars on weekends are especially hazardous. Be aware that afternoons between 3 P.M. and 6 P.M. generate about one-fourth of all motorcycle accidents and fatalities. There is also a surge in accidents around midnight on Friday and Saturday. By comparison, early mornings between 3 A.M. and 6 A.M. have a low accident frequency, even on weekends. So, Bigdawg Dan actually faced a much lower collision risk heading out on a Friday morning than if he'd waited until Saturday afternoon. That ought to be useful information when you're scrambling for an excuse to slip away from the job for a day in the canyons. But whatever the time of day or week, the risk of an accident never drops to zero. Those suburban side streets have some peculiar hazards we need to understand.

Parked Cars

With all those parked cars lining the side streets, it's easy to start thinking of them as permanently fixed objects. Just remember, most of them are *automobiles*. They move occasionally. The clever rider looks for clues that a parked car is about to go mobile. For cars parked parallel along the curb, watch for a driver behind the wheel or eyes reflected in a side mirror. Look for exhaust emanating from the tailpipe, for an illuminated brake light, or flickering backup lights as the driver shifts into drive. Beware of a front wheel turned toward the street, and remember that the top of a wheel moves twice as fast as the bumper.

Don't ignore cars parked in narrow driveways just off the street. A driver



Do you see there's a driver in that station wagon?



It shouldn't be a surprise when that station wagon pulls out in front of you.

backing into the street isn't likely to have a good view of a motorcycle zipping along. This is especially important where cars are parked on steep inclines or partially hidden behind retaining walls, hedges, or fences. When you do spot any clues that a vehicle might move, get prepared for evasive action, preferably a quick stop.

Kids, Dogs, and Skateboards

You're more likely to encounter people and animals dodging into the street near residences. Kids playing along side streets may also become complacent about traffic and may chase a bouncing ball into your path without thinking about the consequences.

Bicyclists, in-line skaters, and skateboarders are also common on suburban streets these days. For whatever reason, many of these folks believe that the traffic laws don't apply to them. It's fairly common to encounter an adult bicyclist or skater zipping through an intersection against a red light or sailing off the sidewalk and into the street against the flow of traffic. And keep in mind that a vehicle in the opposing lane may swerve across the line to avoid a skater or bicyclist. Young children can be excused for not really understanding the risks, but adults who should know better are just as likely to be the victims. Sixty percent of bicyclist fatalities are in the over-fifteen age bracket.

Darting into the road is the single largest contributor to pedestrian accidents. Of the 5,412 pedestrians killed in the U.S. in 1996, 84 percent of the fatalities happened at locations other than intersections. It may also be helpful to know that 27 percent of pedestrian fatalities occurred between 4 P.M. and 8 P.M., during that evening rush hour when frustrated workers are trying to get home, and 37 percent occurred between 8 P.M. and 12 P.M. on weekends (from the Bureau of Transportation Statistics (BTS), U.S. Department of Transportation in cooperation with NHTSA).

In a collision between a motorcycle and a pedestrian or a motorcycle and a

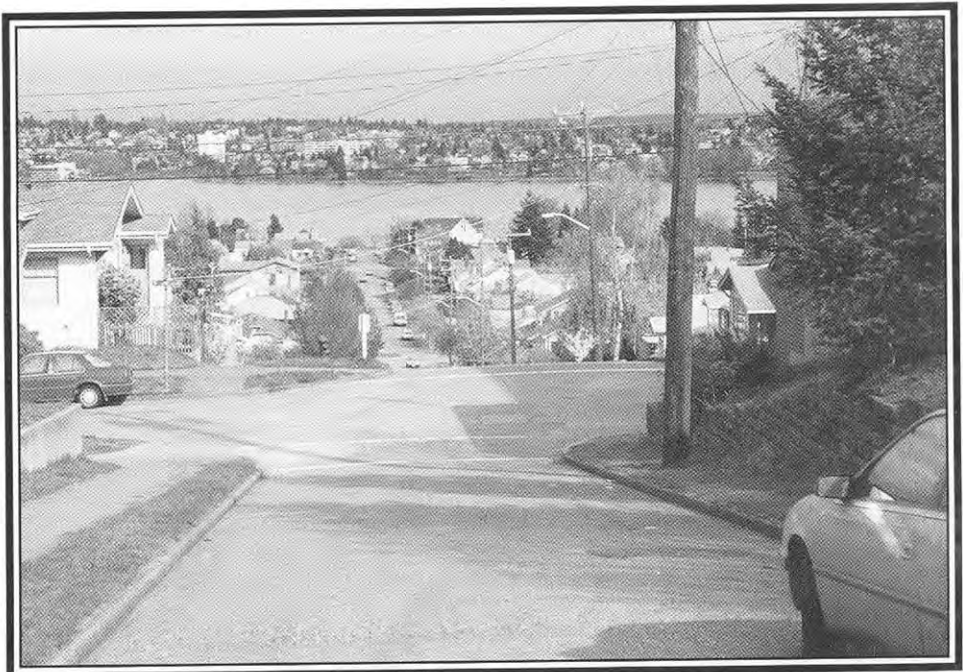
skateboarder, the motorcyclist is more likely to come out on top. But even if you aren't hurt and your bike is undamaged, don't assume you'll survive the accident unscathed. Even if you had the green light, the sympathy of the court is more likely to lean toward the pedestrian than toward the motorcyclist. And your insurance company won't like the deal either. So, even if you have the right-of-way, consider all pedestrians and human-powered vehicles moving targets to avoid.

Evasive Action

The first step in avoiding any of these suburban hazards is planning ahead. The basic evasive maneuver (for everything except loose dogs) is a quick stop. The key to quick stops is to use the front brake every time you brake, and to get familiar with maximum-effort braking without skidding the tires. If you haven't actually gone off to a vacant parking lot and practiced quick stops, you're probably not prepared for riding around in traffic.

Whether you are riding a freeway or a side street, you should always be able to stop within your sight distance. The big problem with narrow residential streets is that your sight distance may be only to the end of the car you are riding by, or to that overgrown hedge at the next corner. A child could be ready to dart out from between the cars, for example, or a skateboarder could come zipping out from behind the hedge. So, your speed through residential neighborhoods must be slow enough that you can make quick stops with little warning. That's why it is unwise to hurry along side streets, as Bigdawg Dan was doing.

When approaching a blind intersection, where you can't see traffic on the side street, plan on a stop to look, just as if there were a stop sign. Assuming you have the right-of-way is an invitation to an embarrassing get-together. And when you do encounter a stop sign, get in the habit of making a complete, left-foot-down stop. A lot of riders who only intended a slowdown when rolling by a stop sign or blind intersection have been surprised by cross-traffic, and have ended up stopping their machines horizontally.



When approaching a blind intersection, where you can't see traffic on the side street, plan on a stop to look, just as if there were a Stop sign.

Surface Hazards

Side streets often have more surface hazards than busier arterials. Street crews tend to ignore problems such as pavement ripples or sunken drains on little-used side streets. So, while you're scrutinizing the situation for the usual vehicle, child, and animal hazards, don't ignore the road surface.



This wooden bridge deck is treacherous in the rain.

Older cities still have streets with brick paving and bridges with wooden decking. Brick and wood may seem to have good traction when dry but can be amazingly slippery when wet. What happens is that the brick dust or wood fibers



Don't ignore that bump over the tree roots while you're bringing your bike to a stop.

mix with water to form a slimy lubricant that is the same color as the surrounding surface. You can't see the slippery stuff, so just remember that wood and brick surfaces can be treacherous when wet, even from a little dew.

You're also more likely to encounter pavement ripples and grooves on side streets. Where mature trees line a street, expect ripples from tree roots growing under the paving. On many side streets, the paving may suddenly change to gravel or the road may narrow or the sidewalks may disappear.

In newer neighborhoods, you can expect edge traps, dips, and bumps created by the installation of underground pipes and wires as new houses are constructed. Expect manhole covers or drain grates that didn't work out to be the right elevation for the paving but never got fixed. Remember, manholes and grates are usually located at intersections, right where your attention is focused on moving targets.

Slip in Spring and Fall

In climates where winter temperatures dip below freezing, expect loose sand at the edges of the wheel tracks each spring. Wintertime street-sanding operations often leave sandy berms that are most obvious for a month or two after the thaw. Watch carefully at intersections where the sand berms collect near the curb and close to the centerline. Try to keep your tires out of the loose sand.

In autumn, treat fallen leaves with respect. You may get this creative idea to go blasting through a big pile of leaves in the gutter, but think twice about that. Even if the leaves are dry on top, there is often a soggy, slippery layer of rotten vegetation on the bottom, down where your tires are looking for a grip. Or perhaps there are some hidden "ball bearings" in the form of acorns or chestnuts. Maybe there is a loose brick or a sunken drain grate hiding under the leaves, waiting to bend your wheel rim. You can chance the leaf blast if you want, but let's not hear any sniveling if it doesn't work out as creatively as in your imagination.



You may want to think twice about blasting through a big pile of leaves in the gutter.

Wear Your Gear

One final admonition: Wear your riding gear especially when you don't think the situation demands the precaution. Like Bigdawg Dan, you know there are hazards of taking a soil sample when you're blitzing a twisty road at warp speeds, so it's a no-brainer to suit up in the good stuff. But hey, for a 1-mile trip to the convenience store, it's a lot of bother to zip on the armored pants and jacket, right? Just remember that those quiet, innocent-looking side streets can spring sudden hazards on you just as quickly as your favorite twisty road, and that a collision with a left-turner can be just as violent as sliding off a curve.

Superslab Tactics

I happen to live in the country, where I can ease out of my driveway onto a quiet farm road miles from city traffic. I realize I'm in the privileged minority. Most motorcyclists are finding themselves riding busy urban arterials and multilane superhighways more often than not. Even if you're just headed out into the country to get to your favorite twisty road, it's usually a lot easier and quicker to get on the nearest freeway and make an end run around urban traffic. And if you're making a cross-country transit on a limited time schedule, you'll be spending most of your time on the interstates. Let's consider some tactics for surviving those high-speed multilane highways we call freeways, parkways, tollways, motorways, autostradas. For our purposes, we'll call them all superslabs.



Statistically, superslabs are much safer than city streets or two-lane back roads. The old standby Hurt report from 1981 indicated that only 10 percent of motorcycle accidents occurred on freeways. Later data on fatal crashes based on type of roadway hints that superslabs are getting even safer.

NUMBER OF LANES	NOT DIVIDED	DIVIDED
One	42	163
Two	21,276	6,218
Three	315	1,745
Four	2,261	1,753
More than four	253	655

U.S. Fatal Accidents, All Vehicles, 1994, data from DOT Bureau of Transportation Statistics

Take a look at the difference between a two-lane undivided road (a typical secondary highway with a painted centerline) and a divided three-lane or four-lane highway (a typical superslab with a grassy median or a concrete “Jersey” barrier separating opposing traffic). Run the numbers through your calculator, and you can see that there are about twelve fatal accidents on a secondary highway for every one fatal accident on a freeway.

Now, while the superslab does look like a pretty safe environment compared to those dangerous two-laners, people do get killed and seriously injured in superslab accidents. To help you avoid becoming a statistic on the BTS hard drive (not to mention an odd stain on I-80), let’s ramble through a bit of philosophy about superslab riding, and then get down to some nitty-gritty tactics.

The Times They Are A-Changing

Back in the good old days, when American traffic and drivers’ thinking were much more sedate, it was fairly obvious that traffic in Europe was faster and European drivers more skillful. An English friend of mine who flew across the “pond” to Seattle in 1982 to tour the West Coast by motorcycle described American traffic as moving in slow motion. Things have changed a lot over the last couple of decades. Today, traffic in America is zipping along just as fast as in parts of Europe, and in some big cities, drivers are just as aggressive as their European counterparts. And we also have more of a problem with road rage.

Twenty years ago, motorcycles had the performance advantage. Even on the bikes of yesteryear, we could out-accelerate, out-corner, and out-brake the average passenger sedan. Thanks to competition from the Japanese and German auto industries, just about every mid-sized passenger car today has performance that whittles away most of the advantages of motorcycles. Sure, there are a lot of superbikes that can still out-accelerate cars, but today’s higher traffic speeds are getting faster than many riders can process information. On top of that, we’ve still got our thinking, vision, and hearing being buffeted by the wind stream.

Thinking Skills

Where we might have held our own with performance back in the good old days, staying out of trouble in today’s traffic environment requires that we get smarter rather than just quicker. Obviously, we need to be really proficient at skills such as cornering on slick or grooved surfaces, emergency swerves, and hard braking. But we also need to be mentally sharp enough to plan our moves well ahead and predict what’s going to happen *before* it happens. Sudden, unplanned moves encourage accidents. Indications that your planning skills need a tune-up are if you find yourself making lane changes on a whim, or frequently accelerating and decelerating, or diving across four lanes at the last second to peel off onto your exit.

Let's also remember that little of my advice will help if you're preoccupied with social problems, woozy from prescriptions, or "bulletproofed" by alcohol. It is essential to focus on today's ride, even if you've done the same trip every day for the last twenty-four months. When you snap up the sidestand, snick your brain in gear before you ease out the clutch.

If you're traveling cross-country, you need a better plan than if you're close to home. You can't afford to glance down at a map while you're also attempting to negotiate a decreasing-radius cloverleaf that slam dunks you directly into a warp 7 through-lane. One veteran long-distance tactic is to pull out the map before hitting the road, and write down the names of the next big towns and the highway numbers on a slip of paper clipped to the windshield or in the map pocket of a tankbag. Just before getting to a confusing interchange, glance down at the names and numbers to refresh your memory.

When traveling, you should expect a lot of very strange intersections that don't look anything like the road map, and fraudulent signs pointing to lane five when the local commuters all know you should be in lane one just around that curve ahead. What's important is not to panic and jam on the brakes or make quick lane changes when you realize you've taken the wrong road or can't get to the exit lane in time. Take the next exit, get out the map, plot a course back in the right direction, and make another short list.

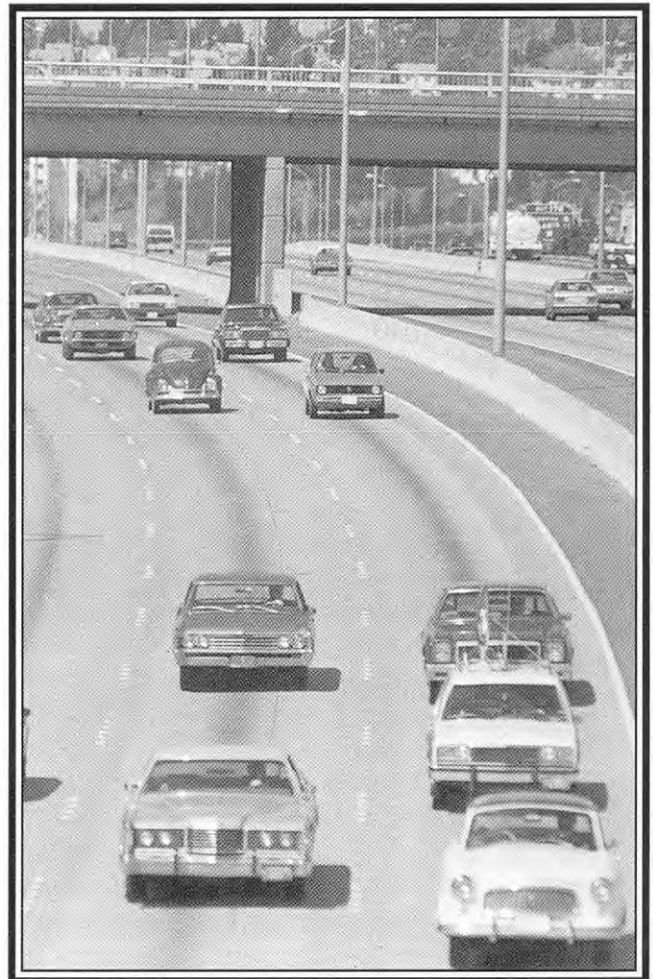
There are also some electronic devices to help you navigate, including GPS receivers, which can show you exactly where you are. If you're serious enough about navigation to install a GPS receiver, you're probably way ahead of us here.

Lane Positioning

You'll hear all sorts of advice about superslab riding that begins with "always" or "never." *Never ride in the center lane. Always ride in the left wheel track. Always ride in the left lane.* The trouble with this type of advice is that the superslab environment is constantly changing, which means you should continuously reevaluate what you're doing. Which lane you ride in, or which wheel track, depends on conditions at the moment, including surface hazards. One "never" rule that does make sense is never ride in the blind spots of other vehicles. If you can't see a face in their mirrors, they probably can't see you either.

Traffic Gaggles

You might be amazed at how much open space there is on a busy highway. One of these days, park your scooter and walk out onto an overpass (One with a



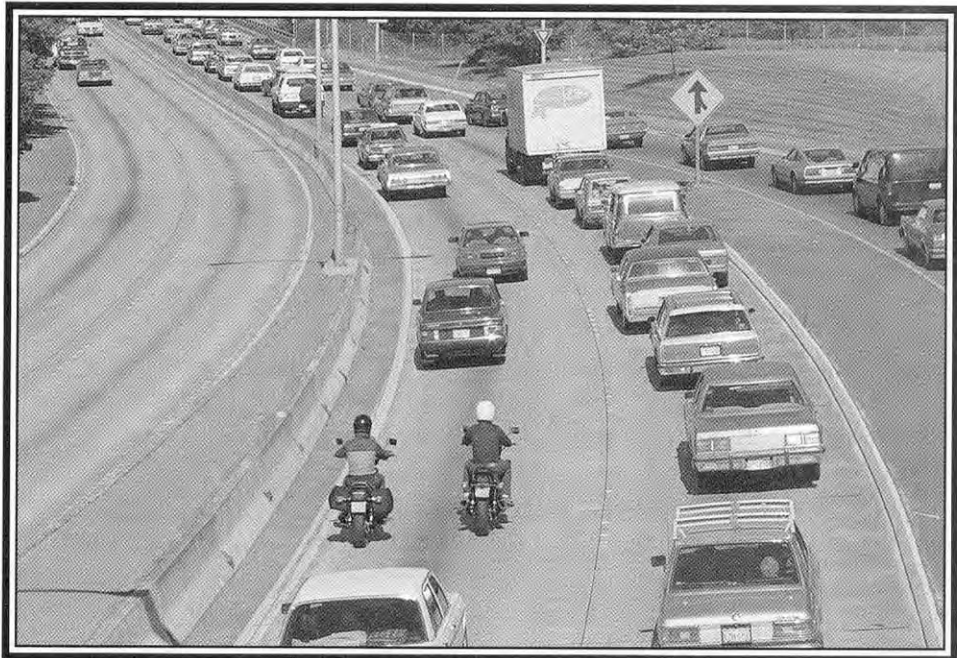
Drivers tend to flock together into gaggles, leaving open spaces in-between.

sidewalk, eh?) where you can study traffic for a few minutes. One phenomenon you can observe is that drivers tend to flock together into gaggles. Often you'll see a gaggle of ten or fifteen cars all elbowing for position, then a clear space with no vehicles, then another gaggle.

The smart motorcyclist stays away from the flock, either intentionally dropping back into a clear space, or aggressively moving on by a congested gaggle of creeper cars and motoring into the next clear space.

Lane Splitting

So, here you are on the superslab at 4 P.M., just trying to get across town. Traffic is jugged up, and now slows to a crawl as four lanes shrink to two in a construction zone. Why not take advantage of that "motorcycle" lane between the creeping cars? Yes, narrow motorcycles fit between the cars most of the time. But is it smart to ride the white lines in traffic?



When traffic is jugged up, is it smart to ride between the cars?

There are several key questions involved. First, is white lining (lane splitting) legal or tolerated in the area in which you are riding? In congested areas of California, white lining is common, expected by most drivers, and more-or-less tolerated. The attitude is, *Well, here comes another stupid biker splitting lanes. If he dings the mirror on my new BMW, he better watch out!* By comparison, in Seattle white lining is not only illegal but not tolerated. The attitude is, *Who does that scofflaw jerko biker think he is? I'm going to swerve over and teach him a lesson.* In almost all states except California, lane splitting—sharing the same lane with another vehicle—is either not legal or not tolerated by other drivers. In many foreign countries, lane splitting by motorcyclists is common.

If you find yourself in California, or in countries such as England or Italy, where lane splitting is standard practice, you may decide to join in. Lane splitting may appear to be dangerous, but the risks don't appear to be any greater than the risks of being rear-ended while creeping along in a line of cars. A little later, I'll offer some suggestions for successful lane splitting.

Sudden Problems

One essential mental requirement for superslab riding is looking far enough ahead to predict what's going to happen in time to do something about it. You've probably seen this situation many times: You spot a few brake lights coming on ten or twenty cars ahead, ease off the throttle, and squeeze on some brake. But the driver in front of you doesn't seem to be aware of anything except the back of the next car. You feel like shouting, *Hey, Particleboard-Brain! Wake up and get off the gas! Don't you see the brake lights ahead?* As you see the brake lights coming on in a wave traveling backwards, you head for the shoulder, clamp on the binders, and consider climbing over the guardrail for a little extra protection. Sure enough, old P-Brain is so dense that he doesn't do anything until the brake lights of the car ahead suddenly light up in a blaze of red. You don't have to multiply this scenario by more than a few vehicles to have a whammo-bammo chain reaction with several dozen vehicles involved.

So, what was the obvious difference between you and old P-Brain? First off, you were looking 12 seconds ahead. You were looking over the tops of cars and around trucks to scrutinize the situation w-a-a-y down the road. Second, when you saw the flicker of brake lights ahead, your mental hazard buzzer went off. You predicted that it wouldn't be long before whatever was happening up ahead would affect you up close and personal. By looking ahead and predicting what was likely to occur, you could take evasive action to get out of the way before you got caught up in the mayhem.

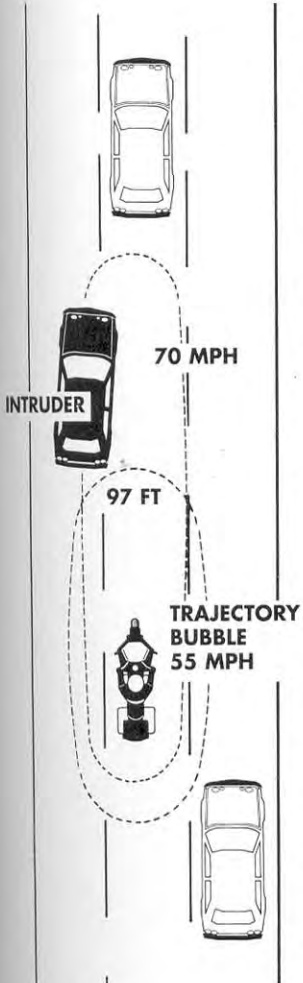
Scrutinizing the Road Ahead

If it isn't obvious, one key to avoiding crashes on the 'slab is looking far enough ahead. We've discussed looking 12 seconds ahead, which amounts to the distance you'll be covering in the next 12 seconds. As the speedometer climbs up the dial on the 'slab, that 12 seconds stretches way out toward the horizon, and that's a lot more territory than most of us have the mental capacity to monitor. The trick is to summarize what's happening. We don't need to study every vehicle in detail; we look for certain patterns or ripples in the flow of traffic ahead, similar to predicting treacherous rocks under the surface of a river by observing the swirl of the water over them. We're looking for the big picture, not small details, so you can use your peripheral vision more. It's sort of a Zen thing.

You can practice this right now. Focus on the middle of the wall on the other side of the room. Now, without changing your focus, become aware of the line where the wall meets the ceiling. Now become aware of the lower left-hand corner of the room, the number of windows, what's on the TV, who is in the room, and so on. You can keep track of what's happening, without having to focus on specific objects.

Here are some common traffic "swirls" that often lead to accidents:

- ★ **A vehicle traveling either much faster or much slower than others;**
- ★ **A vehicle making sudden, erratic speed or lane changes;**
- ★ **A car in a Turn Only lane suddenly slowing;**
- ★ **Traffic in one lane suddenly starting to slow for no apparent reason;**
- ★ **The second car on an on-ramp charging faster than the first;**
- ★ **A driver ahead using a cell phone, reading the newspaper, putting on makeup, or lighting a smoke;**
- ★ **A poorly maintained car, or a truck with a loose load.**



The trajectory bubble concept

When you observe such traffic “swirls,” take some action to move away from the problem. Change lanes, accelerate, decelerate, or head for an off-ramp. Don’t just hang in there hoping the problem will go away by itself.

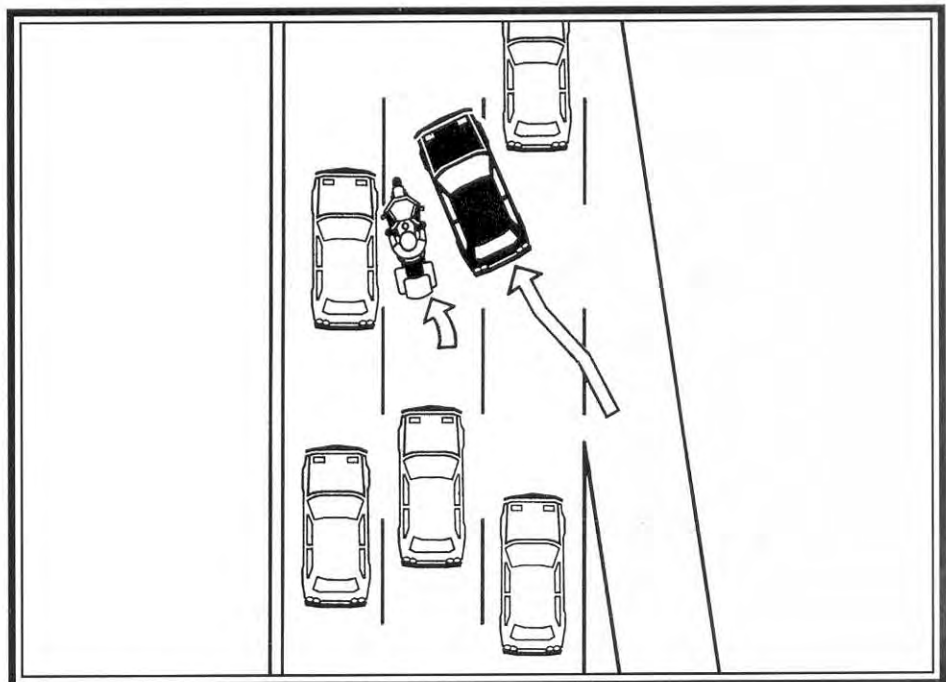
The 2-Second Bubble

To help maintain awareness of all those other cars, trucks, busses, and bikes around me in traffic, I find it helpful to visualize a two-second “trajectory bubble” circling me. Sure, I’m looking for ripples in the traffic stream within 12 seconds ahead, but I’m especially interested in intruders who are closing on my 2-second bubble. Anyone who intrudes on the bubble (anyone closer than 2 seconds away) gets my immediate attention. At slower speeds, the bubble is shorter but wider. As speed increases, it stretches farther and farther out in front.

Same Dumb Stunts

While cars may be better these days, people still pull many of the same dumb stunts as their ancestors, even at higher speeds. And some locations generate a lion’s share of the accidents. Curves, on-ramps, off-ramps, and merging lanes are locations where we can expect people to make last-second decisions and sudden changes of speed or direction. Next time you’re out riding, take a close look at dividers and walls on curving off-ramps, and you’ll often see tire tracks partway up the sides.

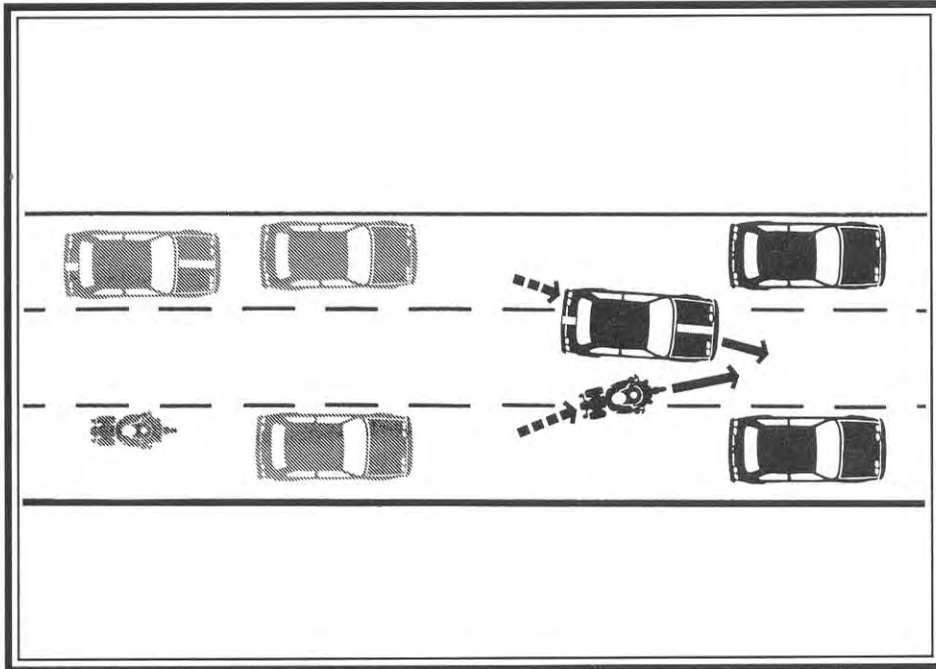
And while we’re on the subject of ramps, make a point of positioning yourself in traffic so you aren’t between another vehicle and a merging lane. That driver coming up fast on your left may just be in a hurry to pass. Or he could be an off-ramp dodger, desperate to make this exit even if it’s over your dead body. If you’re in the right lane and aren’t planning to exit, you really should make a fist and smack yourself in the forehead while shouting *Dumb! Dumb!* And if you see an on-ramp dodger coming up fast on an on-ramp, you’d be wise to get out of the way.



Watch out for the On-Ramp Dodger!

Lane Crunching

When you are changing lanes, consider not only the space in the next lane but also the other drivers who might be deciding to jump into the same space you are ogling. If you have decided to change lanes, why not turn on your blinkers first, then check for other vehicles parallel to your position. If you spot nervous head turns in your peripheral vision, that's a clue a lane cruncher is about to make a move. If there is any question about who might get to the space first, either move ahead or move back so it's harder to have a get-together.



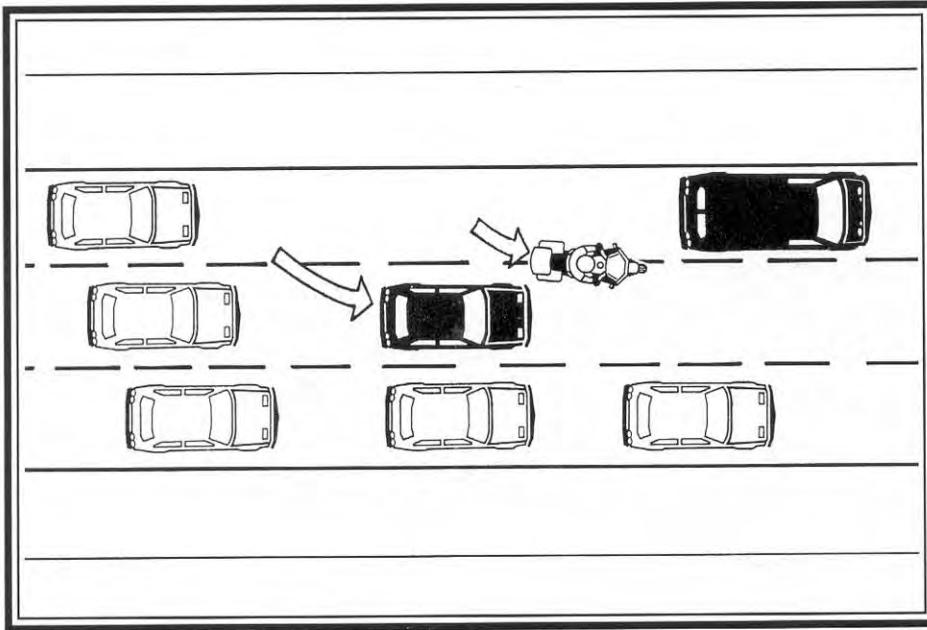
When changing lanes, watch out for that guy who has the same idea two lanes over.

Road Sharks

If you haven't encountered road sharks, let's introduce them. You know, those folks in fast cars with dark windows, racing through traffic about 30 knots faster than everyone else, zipping from lane one to lane four and back in one big swoop like you see in some computer games. You'll know 'em when you see 'em. Road sharks are one good reason to maintain your awareness of what's coming up in adjacent lanes behind you.

I know a few riders with big dog attitudes, who feel they can hold their own with the road sharks. *Think they could push me around, did they? They didn't know who the @#\$% they were dealing with. I passed these jerks at a hunnert and ten going through the S-curves. I guess I showed 'em a thing or two.* Look, the reality is that in skirmishes between aggressive drivers and aggressive bikers, the biker almost always lands at the bottom of the heap.

Road sharks can really slicker you into stupid behavior. I've been suckered into more dumb stunts than I'd care to remember over the years. We all need to file this important message away in the back of our brains for future use: If someone makes you mad, it is important to take a break and cool off. Don't get mad. Don't get even. Don't get stupid. Most importantly, don't keep riding. Take a break until you get over the anger and can think clearly again.



Before you make a quick lane change, watch for that road shark behind you.

Statistics, Statistics

If you're interested in some statistics, about 55 percent of all U.S. motorcycle fatalities involved a collision between a motorcycle and another vehicle. The fatalities stack up like this:

Collision Between:	Other Vehicle	Motorcyclist
car/motorcycle	17	596
light truck/motorcycle	0	386
large truck/motorcycle	0	114
motorcycle/motorcycle	na	28
bus/motorcycle	0	7
other/unknown/motorcycle	0	29

from Bureau of Transportation Statistics, U.S. Fatalities, Two-vehicle Collisions, 1994

If you're a gambler, the odds are just about 115 to 1 that the biker wins the ride in the coroner's wagon. If you want to avoid getting scrunched in a superslab accident, it doesn't seem smart to challenge other drivers for road space.

Rear-Enders

You may also be getting a bit paranoid about being rear-ended. The BTS numbers hint that rear-enders aren't a big problem. The majority of all motorcyclist fatalities involved the motorcycle crashing head-on into something. The score: 1,540 front-of-bike fatalities vs. 76 rear of bike. But do pay attention to other vehicles in adjacent lanes. In 1994, 168 riders were killed by colliding with something on the right side, compared to 113 on the left side. Additionally, there were 214 noncollision fatalities, and 193 others/unknown. That adds up to 2,304 motorcyclist fatalities in 1994.

Serious Maintenance

One final note: Today's traffic on the superslab puts serious demands on your

motorcycle. You can't afford to have a failure while you're zipping along in heavy traffic. At today's higher speeds and increased traffic aggressiveness, there isn't much extra slack for coddling underinflated tires, sacked shocks, spongy brakes, or loose steering head bearings. If you're going to go play with the big boys on the superslab, it's important that your motorcycle be up to the task.

Aggressive Drivers

We've suggested that motorcyclists face a variety of booby traps. The pavement may have a groove that snags your front tire and upsets the bike, or the road may tighten up or change camber partway through a blind corner, or someone may have dribbled a puddle of diesel oil onto an off-ramp, or a railroad crossing may have an X-trap waiting to snag your front tire. Sure, the road itself can have hidden hazards, but other motorists also can create some booby traps. Let's consider overly aggressive drivers, who often slicker others into road rage.

As traffic gets more congested, drivers get more impatient and resort to self-centered tactics. Remember, drivers are people, and most people take out their frustrations and aggression in their driving. Around big cities, we must expect more drivers to be zooming along at super-legal speeds, darting from lane to lane without signaling, and sneaking through a signal light just after it has changed. But a growing number of frustrated drivers go over the edge, carving through traffic with total disregard for laws, intentionally running red lights, and even threatening other drivers with collisions if they don't get out of the way.



A common estimate among professionals is that one out of every ten people has some sort of mental health problem, from depression all the way to schizophrenia. That's something to think about as you motor down the road minding your own business. Of course, there are also a lot of people out there who are more-or-less "normal" but are in a big hurry today, or angry at their significant other, or happen to hate motorcycles. There are druggies and drunks weaving along, and others with 400 CI engines and the social skills IQ of 40. It's no wonder that collisions between cars and motorcycles account for the majority of motorcyclist accidents and fatalities.

"Though this be madness, yet there is method in't." (Shakespeare, Hamlet)

Here's Rider Ralph, who has been following a "creeper car" for too long on a narrow highway. The driver is apparently unwilling to exceed the speed limit, and slows down below the limit for intersections and tighter corners. With a steady stream of oncoming traffic, Ralph can't get around, so he closes up behind the slower driver and switches to high beam to encourage the driver to speed up or move over. Finally, Ralph has had it. He rolls on the gas and zips by the slow driver so close the bike is only halfway over the double-yellow lines. Ralph's right handlebar barely ticks the driver's mirror on the way by, before Ralph swerves the bike back into the right lane inches ahead of the creeper. But the other driver suddenly goes bonkers, zooming up behind Ralph, beeping the horn, shaking a fist, shouting, and weaving from side to side. Ralph accelerates, but the crazy driver jams the accelerator to the floor and roars around Ralph, forcing an oncoming school bus onto the shoulder, then cuts right in front of the motorcycle and slams on the brakes.

Now Ralph is enraged. First this creeper held him up, and now he can't tolerate being passed. Ralph's first urge is to zoom alongside the car and kick a dent in the driver's door. Fortunately, Ralph has just enough survival instinct left to realize that he could get seriously hurt in a confrontation with a car. His fight or flight response flickers over to flight, and he backs off to separate himself from the angry driver.

Now, did Ralph just happen to stumble upon one of those 10 percent who have mental problems, or did he do something to trigger the road rage? Without realizing it, motorcyclists can stimulate aggressive situations or create a brewing anger that affects others later. For example, Ralph had no way of knowing that the "crazy" driver's next-door neighbor had stayed up late last night tuning the carbs on his unmuffled chopper and that a few miles back two thoughtless riders had been motoring along side-by-side carrying on a rolling conversation and holding up traffic. Then Ralph came along and tailgated the driver, blinding him with the high beam, and passing in a no-passing zone.

It didn't help that Ralph is one of those "loud pipes save lives" guys. He actually believes that more noise will reduce his risks. The noise had been annoying the driver for miles, and when Ralph roared on by inches away with his off-road-only drag pipes barking, the driver finally snapped. In this scenario, the driver wasn't someone with a serious psychological problem—he was just a guy who had been angered by one too many motorcyclists, and Ralph was the final straw.

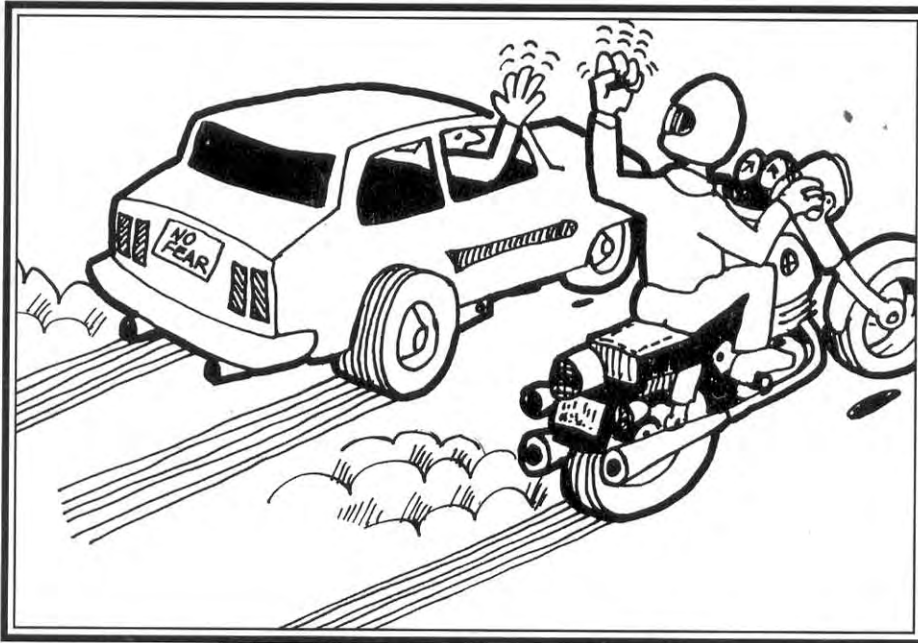
"Whom the gods wish to destroy, they first make mad." (Euripides)

Remember, we can encounter aggression for a wide variety of reasons, and those drivers around us can come in all grades of mental health. Someone who is already angry or frustrated could be triggered into rage by a single thoughtless act. Worse yet, someone with a serious mental problem such as schizophrenia might initiate aggression for no apparent reason. Maybe that extraterrestrial voice in her brain said *Get that motorcyclist*.

To help you avoid getting snared by an aggressive driver, let's think through the scenario. First of all, did Ralph do the right thing by backing off when the other driver showed aggression, or should he have attempted to fight back? I know of a rider who got a pushy driver to back off by pulling a handgun out of his fairing pocket. I've talked with macho riders who think it is appropriate to toss heavy steel ball bearings or lug nuts over their shoulder to help educate aggressive tailgaters. I once knew a rider who was very proud that he had punched an overly aggressive driver in the face, right through the glass side window.

When someone cuts me off, I get mad too. I used to think it was my job to educate drivers about their transgressions against motorcyclists. Once I put my bike on the side-stand in the middle of the street and marched back to explain sarcastically to an errant driver: *Apparently, you haven't discovered this little shiny thing on the outside of your door. It's called a mirror. Why, some drivers even glance in it before they change lanes.*

But trying to educate other drivers on the road is a little nutso. In the first place, an unstable driver could easily be triggered into doing something really dangerous by a simple act such as a rude gesture. You can create a bigger problem than you expected or get an innocent bystander injured.



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Once I almost caused an accident. A car had been tailgating me on the freeway. Traffic was light, but the other driver, a silver-haired woman, didn't want to pass me. I was thinking about pulling over onto the shoulder, when she suddenly swerved halfway over into the passing lane, and tromped on the gas. I swerved over to avoid getting sideswiped, and then had to slow down as she pulled back into the right lane inches away. Her apparent arrogance really ticked me off.

I thought it would be clever to give her a demonstration, so I accelerated up behind her, passed close to the dotted line, and swerved back into the right lane a few feet ahead of her, just as she had done to me. My pass startled her, and she instinctively swerved and braked, almost losing control. I realized she was just a preoccupied old lady with poor vision and low driving skill, who probably had no idea she had triggered road rage. I suddenly felt very embarrassed.

One big reason for not trying to retaliate for transgressions, or attempt any driver education on the road, is the proliferation of handguns. Before you ease up alongside a car door shaking your fist, or walk back for a cheesy chat, imagine the driver reaching under the seat for a loaded gun. Getting your pride injured is nothing compared to bullet holes.

Get Over It

The most important reason for swallowing your pride and just getting out of the way is that cars and trucks are bigger than bikes. Given the difference in weight between a bike and a car, or a bike and a truck, we pretty well understand who's going to come out second best in a bump-a-thon. There isn't much you can do on a motorcycle to protect yourself against a driver who goes into a rage, other than to get out of the way.

Sure, sure, you're thinking. Stay calm when some idiot is trying to kill me. Well, it isn't easy to just get over it, but that's what's needed. One calming tactic psychologists suggest is to imagine the other person as something really silly, say a purple Easter bunny, or a human-sized Daffy Duck, or a cigar-smoking alligator. It's harder to take a comic figure seriously. If you can just see a flicker of humor in the situation, you're on the right track. If you can't get over it, that's a message you may have some psychological problems to work out.

If you can stay calm, you can use your wits plus the performance and maneuverability of your motorcycle to get out of the way. In the serious situation where a raging driver seems intent on running you over, take immediate action to get lost. You might be able to position yourself on the opposite side of a truck or a highway patrol car, for example. I have even made a quick exit from the freeway and paused at the on-ramp for a few seconds to separate myself from an aggressive driver. On one occasion I evaded an aggressive tailgater by accelerating to warp speed until he was out of view, then braking hard and dodging off onto a side road. The point is, don't just ride along hoping an aggressive driver will go away.

You're Only Paranoid If They Aren't Out to Get You

When I'm riding along in traffic, I have no way of knowing the attitude or intent of other drivers, but I can watch for actions I feel are suspicious. For instance, I am suspicious of another vehicle pacing me, especially if it's a carload of macho-looking young men with no signs of friendliness or a vehicle with tinted windows. It could be that these folks are just curious about my bike, or just a coincidence that a vehicle speeds up or slows down when I do, but I'd rather err on the side of being paranoid. I don't even acknowledge their existence. I simply change speed or lanes to put space or other vehicles between us, and get on with the ride.

Other drivers are more likely to give you respect when you give them respect. You don't have to be a wimp to be polite. When you enter a busy highway, dial on some speed quickly to avoid holding up traffic behind you. Signal your lane changes and turns at least 3 seconds in advance. In city traffic, avoid the obnoxious habits of sudden or frequent lane changes, tailgating, or blipping the throttle. Keep your headlight on low beam in the daytime, and adjust it properly for nighttime use. When other drivers are trying to change lanes in busy traffic, back off and give them some room.

When following or passing another vehicle, maintain at least 2 second's sepa-

ration. When passing, don't crowd the other vehicle. Move entirely over into the other lane. Once you have passed, keep rolling fast enough to avoid holding up the vehicles you have just passed, even if they respond by speeding up.

Would a Sharper Image Help?

Think about this for a moment: the motorcycle you ride and the gear you wear have an effect on others. Moviemakers and advertising agencies continue to portray motorcyclists as criminals or dangerous scum, such as those bad guys in *Road Warriors*. And some riders seem to enjoy fulfilling that image. If your image evokes distaste or loathing in other drivers, you are sending the message that you are not worthy of their respect—and therefore not worthy of your road space. To put this another way, if you look like one of the bad-guy bikers in a movie, you shouldn't be surprised that other drivers treat you as the enemy rather than as a fellow motorist.

You can help defuse aggressive situations just by maintaining the appearance of a skilled motorcyclist who is in charge of the situation but polite to others. Part of that is what you do and part of that is what you wear. Consider the implications of quality riding gear in a color other than black, and a clean, quiet machine with nonsense luggage.

Some riders believe that a noisy bike decreases their risk of a collision. Others apparently think loud pipes are related to their rights, or that noise isn't anybody's business but the rider's, or that it's justifiable to make noise if that's the only way to make more horsepower. Contrary to those pseudo-serious Loud Pipes Save Lives stickers, noise basically annoys people. Road closures targeted at motorcycles are almost always a response to excessive motorcycle noise.

But does noise affect your risks of riding? I suggest that it does. It is obviously true that the drivers and bystanders within earshot at the moment may be more aware of your presence, but what's more important is the attitude they form about motorcyclists. We should expect that a noisy bike will generate aggressiveness toward the rider. But does the driver who is annoyed by one rider's loud pipes take out his frustration on the next motorcyclists to happen along? My suspicion is that loud pipes cause more accidents than they help avoid.

If you know your machine is loud, pay attention to what other people are doing and where the pipes are pointed before you fire it up. For example, don't fire your drag pipes directly at the restaurant window. Don't be accelerating through a quiet residential neighborhood at 5 A.M. And see if you can stop blipping the throttle while you're waiting for a red light in front of the church on Sunday.

Being polite, neat, proficient, and quiet won't guarantee that you will avoid all the aggressive crazies out there, but it will go a long way toward reducing the tensions that can trigger aggressive confrontations with other motorists.

And when you are confronted by an aggressive driver, remember that your job is to get out of the way and get over it.

Evasive Action

On more than one occasion, I have suggested that if you understand what's likely to occur in traffic, continuously scan ahead 12 seconds, and know what to look for, you can usually make a few small corrections early enough to avoid riding into a problem. If you wait to react until the problem gets closer, you have less time to take any evasive actions. Frankly, if you wait until the last couple of seconds prior to impact to do something, it's probably too late to make any difference.



Sooner or later you'll encounter a problem you couldn't have predicted.

But once in a while we just don't get much advance warning of a problem. When teaching rider training courses, I used to pull ridiculous situations out of the hat as examples of emergencies that might occur with little warning. For example, you're riding down the freeway when a portable toilet tips out of the truck ahead of you. Should you brake or should you swerve? You're cruising across town when suddenly an escaped zoo elephant charges out into the street. What evasive action would you take? What surprised me is that I would often have a student come up to me after class saying something like, *You're not going to believe this, but I did have an escaped zoo elephant come charging out at me once in Minneapolis.* I discovered that whatever strange hazard I could think of had occurred to some rider somewhere. Sooner or later, most of us will encounter a problem we couldn't have predicted, and we'll either take evasive action or "bite the elephant," so to speak.

Battle Stations!

When you are faced with an impending collision, there are only three evasive actions you can take while riding a motorcycle: speed up, swerve, or slow down. The trouble is, evasive maneuvers all depend on traction, and traction is a limited commodity. If you attempt to swerve while also braking hard, the bike tends to swap ends, fall down, or flip into a high-side barrel roll. To pull off a successful evasive maneuver requires us to make a split-second decision and then pull off the maneuver we've selected. To help prepare for that split-second decision, let's think through the advantages and disadvantages of those three evasive maneuvers.

Accelerating

Let's say you observe a car approaching an intersection from the other direction and suddenly the driver swerves left across your path without slowing or signaling. There's a remote chance you could gas it and squirt around the front of the car. Then again, maybe the driver will beat you to it, and you'll just end up planting your chin into the car hood at a faster speed.



Maybe you could gas it and squirt around in front of this car. Then again, maybe you'll just end up planting your chin into the car hood at a faster speed.

The big advantage of accelerating is that motorcycles typically have a lot of power. It's easy to accelerate—all you have to do is roll the throttle open, and hang on. The big disadvantage of accelerating is that speed increases forward energy. Kinetic energy increases much faster than speed. That means if you're moving at a faster speed and you do end up in a collision, the impact forces will be much greater. For instance, the impact force at 40 mph is just about twice what it would be at 30 mph.

Speeding up also makes it harder to change direction. You might be able to swerve around a car at 30 mph but not at 60 mph. And even if you do manage to accelerate around the left-turner, and then realize you've got to brake hard to avoid slamming into the back of that garbage truck, your chances go into the garbage, so to speak. Once you've accelerated, you've pretty well canceled out the other options.

Swerving

Of course, there are times when swerving is the best maneuver. Maybe you could swerve around behind the offending driver. Swerving doesn't increase forward energy, so it is possible to swerve and then straighten up and brake hard, without increasing braking distance. Of course, swerving successfully depends on both being able to predict which way the obstructing vehicle is going to move and being able to swerve the bike without dropping it. If you choose to swerve, it would be helpful to know whether the driver is going to continue or panic and screech to a halt halfway across your lane, but the behavior of other drivers is difficult to predict.

Swerving isn't too clever when encountering animals in the road, either. A loose dog may be homing in on your front wheel, no matter which way you swerve. And a wild animal such as a deer or raccoon is likely to try to evade you with sudden, unpredictable changes of direction. If you manage to swerve around an animal scampering on the pavement, it's probably more luck than skill.

Be aware that swerving can eat up all available traction, even at modest street

speeds. If you're trying to do a maximum effort swerve, you really can't afford to squander any traction on accelerating or braking. You could brake first to scrub off some energy, then get off the brakes and swerve. Or, you could swerve first to clear the car, and then brake. You could swerve and then accelerate. But swerving while either accelerating or braking is likely to result in a slideout.

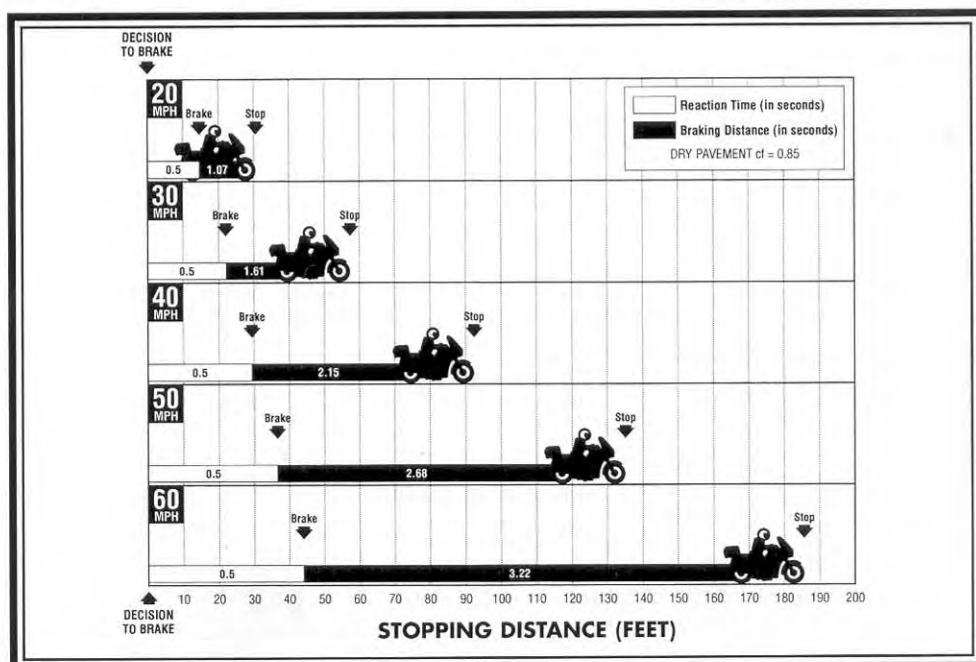
The big problem with swerving is that our natural survival reaction to an emergency is to snap off the throttle, and that eats rear wheel traction as the engine tries to brake the rear wheel. A successful swerve requires that you maintain a steady throttle until the bike is straightened out again. Frankly, when faced with an obstruction in our path, most of us will panic and roll off the throttle before we can resist the urge. That's why few riders manage to pull off a maximum effort swerve without dropping the bike.

Several different swerving exercises are included in the Experienced RiderCourse, but you might question whether there's such a thing as an emergency swerve. If you aren't prepared, do you think you'll be able to pull an emergency swerve out of the hat in the final 2 seconds prior to impact?

There's a lot of evidence that in emergencies we revert to our habits. If that's true, the best practice for swerving is probably just riding a really twisty road that requires a lot of aggressive leaning, so that pushing forcefully on the grips becomes habit. If you are paranoid about leaning the bike over into sharp turns, it is unlikely you'll do more than a gentle swerve. If you're used to leaning the bike over to steep lean angles in tight curves, you'll probably swerve when it's called for, without having to think about it.

Braking

Hard braking is a reliable evasive maneuver, and probably the best tactic for avoiding intersection collisions and wild animals. On today's motorcycles, the front brakes are typically more powerful than the engine, and today's tire compounds have excellent traction. With the correct technique, you can probably bring the bike to a stop in less distance than it took the engine to accelerate up to that speed.



Including a half-second reaction time, a proficient rider can stop the typical bike going 40 mph in less than 100 feet.

One reason quick stops (sometimes called panic stops) are so useful is because of the amount of power the brakes can muster. Antilock brake systems (ABS) provide the advantage of avoiding a spill if you brake too hard. ABS works by releasing the brakes in pulses when the wheel sensor detects that wheel rotation has suddenly slowed. The ABS momentarily releases brake pressure to allow the wheel to spin up and regain traction, then reapplies the brake. ABS can save you from a spill if you overbrake on a slick surface, but the shortest stop requires that you brake to a maximum just short of a skid. In other words, you should consider ABS a safety net, not an automatic brake system, and even ABS riders should learn to apply the brakes to the limits just short of a skid. That's doubly important for braking in curves, since ABS doesn't sense slideouts, only wheel rotation.

With integrated brakes, such as the systems on Honda Gold Wings, there is a proportioning valve on the rear brake that automatically applies one of the front brake calipers. The proportioning valve supplies about 30 percent of the pedal pressure to the rear wheel and 70 percent to one of the front calipers. The front brake lever on the handlebar provides 100 percent of its lever pressure to the other front caliper. The concept is that unskilled riders are more likely to use only the rear brake pedal, and the system will make up for the rider's lack of skill by applying one of the two front brake calipers. But it requires all three brakes to make the shortest possible stop, so it is essential that riders of machines with integrated brakes stay in the habit of using the brake lever as well as the brake pedal.

Neither ABS nor integrated brake systems will save you from the mistake of attempting to swerve while braking hard or attempting to brake hard while leaned over in a curve. And lightweight sportbikes with double-disk systems, multiple-piston calipers, and sticky tire compounds add up to awesome braking power that can literally flip a motorcycle on its nose with a modest squeeze on the brake lever. So regardless of your machinery, hard braking requires some practice.

What if You Can't Stop in Time?

In spite of your best efforts, you might not be able to stop short of a collision. Some riders have suggested crash jumping, a technique of standing up on the pegs at the last second and vaulting upward off the bike to clear the other vehicle. Police academies still teach laying it down to motor officers, even though many motor pools these days are full of ABS-equipped BMW patrol bikes. Other riders think it might be better to just leap off the bike to avoid getting caught between the bike and the offending vehicle.

It might sound a little macabre to think about crashing into things, but if you realize that you are going to crash, wouldn't it be best to reduce the impact forces? None of the above tactics do much to reduce forward energy, and all of them assume you've got the time and the focus to do something other than hang on with wide eyes.

Yes, crash jumping might allow you to fly over the left-turner as your bike slams into the side of the car, but you're still going to make a touchdown on the other side. Sure, you could lay it down, but a bike doesn't stop just because it's grinding along on the footpegs and axle nuts.

From my perspective, if you've got time to do anything, you've got time to brake, and braking reduces the impact force. Rubber has a lot more traction than plastic or steel. If you can't avoid a smasho, wouldn't it be a lot better to smash at 5 mph than 25 mph? I'll keep it on the rubber, thank you, and brake hard right up to impact.