

# **Motorcycle Crashes the top ten**

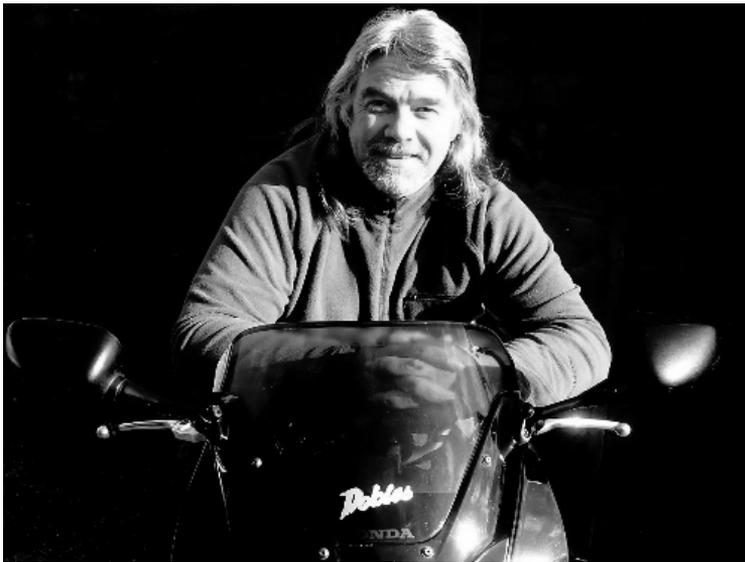


*Kevin Williams*  
*Survival Skills Rider Training*

## About the author

Kevin Williams is a BTEC qualified advanced instructor and former DSA-approved basic trainer who has been providing solid, practical and above all proven advice to riders both in practical training courses and on the internet since the mid-1990s.

"My background is two-fold. A Masters degree in science, and an NVQ in 'e-learning techniques' is combined with over thirty five years of full-time professional motorcycling.



"After university and a false start as a secondary school teacher, I worked for sixteen years in the motorcycle courier industry, riding extensively in London and the south of England. In 1995 I switched from riding motorcycles to teaching others to ride them after training as an instructor. I was one of the first Direct Access certificated instructors in the UK. I set up my own post-test training school called Survival Skills in 1997. I gained an Edexcel-moderated BTEC in post-test training a few years later.

"In total, I've clocked up around 850,000 miles of personal riding experience, and at the last count I've trained just over 3000 riders at either basic or post-test level.

Since 1994 I've been active on the internet. I set up my first 'better riding' website twenty years ago, have contributed to and moderated forums for just as long, and since 2002 I have published a range of books on riding technique which you can find on my author page at my publishers:

<http://www.lulu.com/spotlight/SurvivalSkills>

In 2014 I became a founder member of a group of like-minded road safety practitioners promoting a new rider safety campaign called '**No Surprise: No Accident**'. We aim to reduce the number of motorcycle crashes by adopting a 'New View' of safety based on lessons already learned in other safety-conscious industries, in particular by helping riders recognise our limitations of human beings in the way we all think, act and react on the roads.

<http://nosurprise.org.uk/>

And you can find out more about Kevin and Survival Skills here:

[www.survivalskills.co.uk](http://www.survivalskills.co.uk)



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## **IMPORTANT**

The content in this book is intended for riders based in the UK.

Ride to your own limits at all times, and whatever riding techniques you use, never sacrifice safety. Always remember advanced techniques can only increase safety if you apply self-control. Positive attitudes, concentration and critical self-awareness are equally important. The information in this publication should be taken as a guide only. The author cannot accept any responsibility or liability for accuracy, clarity or your interpretation of this information.



## Preface

### ***"Riding a motorcycle is a continuous exercise in disaster management"***

Don Kime, instructor with  
the US Motorcycle Safety Foundation

In the summer of 1975, shortly before I was due to head off to London to university, I used some of the proceeds of my year out working to buy a brand-new Honda CB125S. 498 miles after collecting it, I fell off it for the first time. Fortunately, I'd had the foresight to order crashbars and although the chrome was scratched, they saved the bike from anything other than cosmetic damage. I just had a few bruises.

Crashing turned out to be a feature of my riding over the next few years. After each one, I tried not to do the same thing again and (mostly) learned from my experiences. Fortunately, the rate at which I crashed dropped fairly dramatically with time.

Obviously, I'm still here to tell you all this but the worrying thing is that some of those crashes could have had far more serious consequences - the worst injury in those early days was a fracture to one of the bones in my arm. It's worth reflecting on the words of Don Kime, an old US instructor buddy of mine, "*riding a motorcycle is a continuous exercise in disaster management*". My experience says firstly he's right, and secondly back in those early days I didn't make a very good job of it!

The ability to see where things are likely to go wrong involve risk assessment and risk management. These techniques are at the very heart of what's often called 'defensive riding', yet we always look almost exclusively at the 'right' techniques, and not the crashes.

Few crashes come out of the blue. Unfortunately we are still having the same crashes our grandparents had in the 1950s. There are plenty of studies into bike crashes which prove that. So we already know how, where and why things go wrong. And if crashes are predictable, then we should also be able to spot the places things are likely to go wrong. And if we know that, we can

make the link between *"emergency A developing ahead"* and *"apply technique X to stay out of trouble"*.

This is what I pass on in my Survival Skills courses - it's why I came up with the name. Survival Skills doesn't focus exclusively on 'better' skills or defensive riding, but by combining the 'right stuff' with an insight into how things go wrong, I believe it helps my trainees better understand how, where and why we crash to get better at coping with our real life *"continuous exercise in disaster management"*, as Don put it. Forewarned, I believe my trainees have a better chance of being able to avoid learning these lessons the way I did - in the School of Hard Knocks.



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## Introduction

Most weeks on Facebook, I make two posts in what have become regular series. The TIPS ON TUESDAY series usually offers some insight into specific issues. The SKILLS ON SATURDAY series looks at... well, improving skills.

Two years ago, I looked at an 'Accident Top Ten' where I identified some of the most common motorcycle accidents. I attempted to explain how, where, and why they happen and how to identify the reader was making the same mistake. I followed that up with some solid advice on how to get out of trouble if the reader did end up in the situation just described, advice that would be equally valuable to novice and experienced riders.

One of the biggest problems of learning any practical skill is that humans learn largely by trial-and-error. If you think back, I'm sure you can remember various daft things you did as a kid that a responsible adult had told was a bad idea. Not playing with plugs was one lesson I learned the hard way as a child. I guess I was lucky not to electrocute myself. The shock of the shock (so to speak) has made me very cautious around electricity ever since.

Bike instructors are in the same hard place. We can tell all our trainees the right way to approach a particular hazard on the road, but quite often the warnings aren't heeded until something goes wrong. "I didn't know... I didn't realise... I didn't understand..." are all expressions I have heard many, many times to explain just why a rider did something that retrospectively was obviously dangerous or even plain daft.

How good a rider do you need to be to stay out of trouble? Really, just the basic 'pass your bike test' skills will do, though if you have just CBT, you're at least on the way. The main problem with CBT is that with just two hours on the road, there's no time really to teach you to deal with traffic situations in the same way there is on a longer course. If you're tempted to "pick up experience on L plates" then you'll be doing exactly what I did for the first 18 months of my riding career. And I still have the scars to prove it. You have an opportunity I didn't have, to do a proper, structured course with a qualified instructor. It may seem

expensive but it's a lot cheaper than patching up the bike and replacing damaged clothing.

If you've already passed your bike test, and particularly if you have taken it since 1997 when Direct Access was introduced and you took the test on a DAS bike, as well as some decent bike control skills, you'll have a solid grounding in how to deal with most situations you're likely to come across in urban areas and high speed roads, with just a couple of exceptions I'll come back to. And if you've taken the more recent Module One part of the test you'll also have covered swerving as an emergency technique in addition to emergency stops.

But whichever test you took, and whatever training you experienced, go practice your stops and swerves - and if you don't know how to do the latter, get some help. Many riders who get into trouble fail dismally to recreate even a half-decent hard stop in the middle of the emergency. It's partly lack of practice and it's partly not being ready to use it. Likewise swerving. You can often avoid an obstacle by steering that you couldn't miss by stopping. But the only way you can keep the skills fresh is if you practice. Be honest, when did you last spend ten minutes in a car park doing emergency stops? Have you ever tried out a swerve?

What's missing from basic training is formal training in countersteering. Depending on the instructor you'll either be left to figure out steering for yourself, or you may get some practical "push left, go left and push right, go right" help. What's unlikely however, is that you got any formal training in riding bends. Guess what? Bends are one of the places riders are most likely to come to grief and kill themselves. So if you're going to ride on bendy roads - and who of us isn't? - you need to be confident you can understand and apply countersteering, positive braking technique and use good throttle control for bends. So if you're not sure you have those, it's worth considering a practical training course to help you develop them.

What if you've done advanced riding? Well, advanced riders still crash and guess what? They still crash in the same places. The jury is most definitely out on whether traditional even more skills-based training lowers accident risk in the way that's claimed, because although advanced riders might not get into difficulties quite as often as less well-trained riders, they don't do any better

at getting out of trouble once in it. If you're interested drop me a line and I'll point you at some persuasive research on the topic.

Trust your instincts. If something is nagging at you that things don't feel quite right, your subconscious brain has almost certainly spotted something your conscious mind's not yet aware of. Let 'Spidy Sense' slow you down whilst you have another look. And remember the 'Farmer Brown Test'. If you're thinking of doing something, and one part of you is nagging that it's stupid, it probably is. A lot of overtaking accidents and filtering crashes in particular could be avoided if only riders paid a little heed to Spidy Sense and Farmer Brown.

Final point, when I say we learn best by trial and error, don't take it literally. I don't want you to go out there on the bike and say "let's find out what happens when I do all the things wrong running into a bend". There's a fair chance you'll come to a halt in the hedge.

So how do we learn not to do something, or to find our way out of trouble in the middle of a risky situation? I've mentioned visualisation as a technique on a number of occasions on my website, blog and Facebook page, but briefly, it's a way of training yourself to deal with a situation that's difficult or impossible to practice, such as the mistakes this series will look at. And best of all, you don't even have to get cold and wet on the bike to use it.

Here's how it works. Just sit back in your favourite armchair, close your eyes, imagine you're out on your bike. Let the situation you want to visualise unfold in your mind, then run through all the steps that help you avoid it. Do that a few times and what happens is when that situation starts to happen for real, you're far more likely to recognise it quickly, and you've also got a much better chance of pulling off the right evasive manoeuvre too without panicking.

## **Top Ten No 10 - Running wide on a left hand bend**

Running wide on bends is a common error. How many of us can honestly hold a hand up and say they have never gone into a bend whilst riding sensibly, only to find that it's not gone where expected and the result has been either a total pigs-ear or even a crash? I can't.

If we run wide on a right hand bend, the obvious danger is that we're very quickly off the road and onto the verge, running up a pavement, or into the hedge. If we're lucky, we don't run down any pedestrians and we avoid running into hard objects like bus shelters, telegraph poles, walls and trees.

Left handers often feel a bit 'friendlier' because there's the illusion of space to the outside of our lane. Many riders have got away with a cornering error on a left hander by using this space as 'run-off', but the fact is that at any moment that empty space can vanish as an oncoming vehicle fills it. Now we're going to get anything from a mild fright to a fatal collision.

The usual issues are either observation failures or machine control errors.

## How to avoid misreading corners

It's important we spot awkward corners before they catch us out and judging the sharpness of bends isn't easy. We learn to judge corners from experience, by building up a kind of mental 'scrapbook' of corners we got round safely on a previous occasion, and when we see another we do an unconscious and very rapid comparison to see if it seems just like corners we've already ridden round without problem. It's also why experienced riders can be caught out in an unfamiliar landscape, whether that's unusually fast roads or something like mountain hairpins. Even looking at bends from the 'wrong' side of the road is enough to trigger judgement errors. We're reading from the wrong scrapbook.

Signs are the first line of defence against the unexpected. There's nearly always a bend warning sign on this kind of bend, because signs are usually put up in response to previous accidents! That's a good clue. See a bend warning sign? Assume someone else got it wrong! Slow down until you can see why. Then look at the bend with a sceptical eye - if there's a sign, it's almost certainly not as straightforward as it looks. Slowing down at the sign gives us time to assess the corner. Beyond the road sign, look for other



clues like telegraph poles and the speed of cars ahead. Skid marks

or an anti-skid road surface will tell us where others lost control. The black-and-white chevrons flag up the awkward part of the bend.

Here are three easy traps to avoid.

### **Sharp bend on fast road**

On fast roads with sweeping bends we tend to drop into a rhythm, where the straights and the bends all flow together nicely... right up to the moment we discover one that's unexpectedly sharp. Is there a bend warning sign ahead when none of the other bends had one? Then the next one requires another look even if it looks easy. Look for a chevron to confirm the bend is tight.

### **Decreasing radius bend**

Any bend we can't see round can get worse out of sight, so don't rely on what you can see but ask: "what can't I see". If the bend ahead looks innocuous but there's a bend warning sign expect it to tighten out of sight. Try to look past the blind area of a bend and see if you can spot the general line of the road ahead. It's on decreasing radius bends that the 'limit point' technique falls down - it warns us of a tightening bend only when we are already in it. A chevron that appears when part-way through a corner nearly always warns of the tightest part of a decreasing radius turn.

### **One bend hidden behind another, easier bend**

Sometimes we can look at an obvious bend, maybe a right hander, and notice that the warning sign is for a left-hand bend. That's our clue. It's not the easy right hander we need to be concerned about, it's the much tighter bend going the other way that's immediately after it. That's why it's not a double bend sign.

Any blind bend could tighten up just out of sight, so needs to be treated with caution. Build in a margin for error by approaching slightly slower. Be prepared to countersteer positively to tighten the line. In the worst case, we may have to brake mid-corner.

On an unpredictable twisty road or where we are in any doubt about a bend on a fast road, use the brakes to slow rather than engine braking. Get the brakes on positively and early; we can always speed up if we overdid it but slowing mid-corner is much trickier.

Avoid the classic 'turn in too early, run wide later' error, often triggered by arriving at the bend too fast. Turning in early gives the illusion of keeping away from danger but we'll run out of space in the second half of the bend. Check out the photo - the rider has realised he's arriving at the corner too fast, has braked late and is drifting to the left far too early. He just about managed to stay the correct side of the white line but if he'd stayed wider and turned the bike harder, later, he would have made the turn easily.

If we're arriving at the corner just a little too fast, then we have two options:

- slow down using engine braking / rear brake - as the bike slows, it will naturally turn tighter at the same lean angle, so we can often use this on decreasing radius turns that don't tighten too sharply.
- add some lean angle - if there's a sharper kink in the corner, then the best solution is to steer round it, so look where we want to go, get off the brakes, add just a little throttle to balance the bike, and then countersteer positively to get the bike changing direction quickly. Keep looking for the exit (where the road straightens) and steer for it.

For more serious speed errors, we'll have to brake. Trail braking involves carrying the front and rear brakes from the straight into the corner. The trick is to progressively ease off the front brake as the speed comes down and the bike leans further.

### **Throttle errors**

The other common reason for running wide in a corner is being too enthusiastic with the throttle, too soon. It's simply not necessary to 'chase the limit point with the throttle' on modern bikes - they have so much power they're more likely to pick up speed so quickly we start pushing ourselves too wide. And on an unpredictable twisty road, it's a really bad idea. Hold a steady throttle, get the bike turned and pointed where we want to go next, and we can add all the throttle we want because we know where the road is going and the bike is pointed to go there. I call this 'point and squirt'. Running wide after opening the throttle too soon is tricky to correct but trivially easy to avoid.

Final point. This is a common error on group rides, where riders are too close together, following the bloke in front and often riding a bit beyond their limits. If one gets it a bit wrong, the errors stack up behind - sit back and ride your own ride!

## **Top Ten No 9 - A Car Hits You From Behind**

So there we are planning to stop at a red light, or a Give Way junction or a pedestrian crossing, maybe even to let a family of baby ducks cross the road, when we hear the tell-tale screech of tyres that says the driver behind isn't about to stop any time soon.

If we're lucky, it's a mild tap and we're off to buy a replacement number plate. A bit harder and our 'fender bender' will be solid enough for us to push us forward. That happened to me in Luxembourg, when I was hit by a French driver and in turn was pushed into Luxembourger, lost my balance and dropped the bike. A complicated insurance claim, that was.

At worst we may not be around to worry about the paperwork. Rear end shunts can do kill.

So let's think it through. Why are we slowing down? Because there is danger ahead. So by slowing we remove risk from the hazard ahead but transfer it behind us.

It's time to watch the mirrors. Not just 'take rear observation' but to really watch them. Before we slow we need to identify the vehicles that are a potential threat. Then when we do brake, we need to watch the mirrors and monitor their position and if they are closing up. Only if we watch the mirrors do we get enough information to know if they are reacting or not. Occasional mirror snapshots are not good enough.

We should think about how we're going to slow. We should avoid riding erratically; smooth changes of speed are easier for others to react to. We shouldn't leave everything to the last moment, or the driver behind will probably brake even later. We should slow in plenty of time and for preference using the brakes so the brake lights come on; rolling off the throttle is OK if there is no-one behind but it's not wise when decelerating from speed or in traffic. Especially if there's a car on our tail. Engine braking is likely to catch the driver out as it'll take him a moment to detect the bike's suddenly getting closer. If the visibility is poor - rain, fog or low but dazzling sun, don't be afraid to use a 'slowing down' arm signal. We can still brake with the rear brake.

And if the vehicle behind shows no sign of stopping? What's our exit plan? Where is the escape route? If I'd been a little more on

the ball, I could have swerved up the outside of the vehicle that was stopping ahead of me and avoided being the UK filling in a French and Luxembourg sandwich. That would have taken me safely away from any potential impact. In the past, having stopped at a red light, I've pulled forward and hidden behind the central island as a car's gone skidding past.



It's particularly important to think where we're stopping in unexpected places. Can we be seen? Then stay in gear, with a foot on the rear brake. The light might help the driver behind notice we're not moving. Do we have an escape route we can use to get out of trouble?

Say the car ahead indicates to turn right into a driveway which turns out to be just around a blind bend and the driver has to stop to give way to oncoming traffic. Is a driver behind us likely to come around a corner expecting a stopped bike just out of sight? We're incredibly vulnerable in positions like this so look for options:

- can I squeeze past on the left - risky if the vehicle starts to turn as I'm alongside

- can I stop somewhere I can be seen - I may be able to pull up short of the car but still visible from behind
- can I jump off as a last resort

On one of my training routes some 'temporary' roadworks appeared just over the blind crest of a railway bridge, managed by a set of lights that were only visible from the top of the bridge. For weeks, the road surface was littered with bits of car body and broken glass because drivers didn't think "can I be seen if I stop at the light?" I simply stopped on the top of the bridge with the hazards on. Even if the red traffic light wasn't visible, at least I made it obvious there was a problem ahead. And I had some distance ahead of me to use as an escape route if necessary.

When stopped, keep a foot on the brake to keep the brake light illuminated and stay in gear and ready to move until there are at least a couple of vehicles stationary behind to act as a shield. If we're in gear and a vehicle appears not to be stopping, we then have a chance of a getaway. But if we're in neutral, we're unlikely to be able to get the bike back into gear.

Final point. I was listening to a fellow instructor telling CBT trainees that "keeping a foot on the rear brake will stop the bike being pushed forward if you're hit from behind". I can tell you from my experience in Luxembourg) that the rear brake will NOT even slow down a couple of tonnes of car!

## **Top Ten No 8 - Running into the back of another vehicle**

"Surely riders don't run into the backs of other vehicles very often?", we hear you ask. Unfortunately, the statistics tell otherwise. In a study carried out in the Peak District in the late 1990s, no less than 8% of accidents involved running into the back of slowing vehicles. That's about 1 in 12, and that's in a rural area where junctions are relatively infrequent. In urban areas, it's an even more common accident.

So why do riders hit the back of other vehicles?

Sometimes it's as simple as not anticipating a stationary vehicle might be there. Some years ago, a riding buddy - an advanced rider too - was on his way out to meet some buddies for a breakfast run early on a Saturday morning, rounded a corner in a 50 limit on the edge of town and hit the back of a stationary milk float stopped outside some houses. The impact was hard enough to snap off the forks and total the bike. He spent a couple of months in hospital but was generally very lucky not to have killed himself.

What went wrong? There was a breakdown in two areas:

- failure to anticipate a stationary vehicle on a medium-fast road outside houses
- failure to take evasive action

There was no evidence he was riding at an excessive speed, but surprises like this derail our normal reactions and we freeze or panic.

Sometimes the crash comes when a rider is taken by surprise when a vehicle slows and stops to turn at a junction. Back in 1979, I made exactly that error. Following three cars, the first slowed and indicated to turn right at a crossroads. The second slowed, then braked harder and turned left. The third did an emergency stop to avoid hitting the left-turner. I did a (bad) emergency stop to avoid hitting the stationary car, locked up the front wheel in the wet and fell off. The bike shot between the cars and missed everything but I slid into the back of the stopped car, breaking my right arm and putting an end to my cricket season there and then.

So what went wrong?

- failure to anticipate vehicles might stop in front of me
- inadequate following distance

I reacted, I just didn't have enough room in the conditions.



Road surfaces change too. I moderated a rider skills forum for ten years and one of the first threads I dealt with involved a rider on an unfamiliar housing estate, following a car and approaching a roundabout. There was nothing coming that he could see, so the last thing he was expecting was that the car ahead would brake 25 metres short of the 'GIVE WAY' line. He braked hard, and just as the forks compressed fully he discovered why the car ahead had slowed; there was a speed cushion in the middle of the lane. He hit it hard, lost control, and was in the process of falling off when he hit the back of the car.

Once again, there was a:

- failure to anticipate that the other vehicle might not do what he expected
- inadequate following distance to cope with an unexpected road surface problem

So three different examples, but in each and every case the main reason is that the rider was expecting the road ahead of him to be clear of problems. My riding buddy was expecting the road to be free of parked vehicles, I was expecting the cars to either carry on or turn out of my way, the third rider was expecting the car ahead to continue at a steady speed as far as the roundabout.

And that's why it's important to consider not what we think should happen, but what could happen. Not what we want to happen, but the worst case scenario. If we only expect what usually happens, we'll get caught out by what doesn't usually happen.

And the more we focus on what usually happens, the more obvious the things we miss. If I said to you "It's early Saturday morning, what would you expect to be parked outside a house?" The chances are pretty high you'd say "parked cars". Maybe not a milk float, but close enough. If I asked you to list traffic hazards in a housing estate, you'd probably come up with traffic calming measures.

But what about my crossroads crash? How likely is traffic on a main road to come to a complete standstill? What are the chances of that? Well, it's probably not something we'd rate too highly, although it wasn't the first time it had happened to me. 498 miles into my riding career a car stopped on a main road and I fell off behind it! A couple of years later, I'd forgotten it could happen.

Where and how else do they happen?

Failing to anticipate vehicles ahead slowing down and following too close are the reasons for motorway pile-ups. How often does traffic come to a halt on the M25? How often does someone run into the back of the queue? There's a concertina effect as each successive vehicle responds just that little bit later to the brake lights ahead. Given the difficulty of maintaining a good following distance in heavy traffic, it's one reason I avoid sitting behind

high vehicles - I can use the bike's advantage of height to see over most vehicles and get an early warning of problems.

On other roads we can often use lateral position in lane to see around vehicles we're following. We may catch a glimpse of the turning, a flash of indicator and brake light ahead. It's enough to anticipate that the drivers ahead of me will slow suddenly as they are caught by surprise.

If there's a junction warning sign, then we should pay particular care especially if there's an anti-skid surface too - that should tell us something.

Riders run into the backs of cars turning left too. "Won't the car turn out of our path? Why do I need to slow down?" Well, when I had to take emergency action to avoid a car that didn't manage to complete the turn out of my way, I figured that one out too.

There could be pedestrians crossing the road (a turning driver should give way), parked cars in the side road and another vehicle coming the other way, a queue of cars in a petrol station waiting to fill up with cheap petrol, a lorry reversing backwards out of a dead end road, another vehicle parked on a driveway that the driver didn't expect to be there, or the driver could even realise he's turned into the wrong turning or driveway. They all happen and I've had to take evasive action for each and every one because I didn't predict them.

The answer - as I discovered - is to slow down and hang back, whilst the situation ahead fully unwinds.

## Top Ten No 7 - When overtaking goes wrong

What shocked me when I was researching bike crashes was just how many fatal overtaking accidents there were. I'd grown up on a diet of magazine articles, anecdotal evidence and my own experience of riding in London and dodging cars at junctions, to believe that it was blind Volvo drivers pulling out of junctions that killed riders.

But the statistics, when I dug them out back in the mid-90s said otherwise; most fatalities were out of town, and a significant number of those rural accidents were overtakes that went wrong.

So what goes wrong with open road overtakes? The biggest issues are:

- we're operating in an environment with other human beings who are essentially unpredictable and may do something we don't expect
- we and everyone around us are operating beyond the capacity of our brain to accurately judge speeds, distances and the all-important 'time to collision' calculation

There are four common ways that overtaking goes pear-shaped:

- overtaking a vehicle that's about to turn across our path
- overtaking where another vehicle can turn into our path
- overtaking in the face of oncoming traffic
- overtaking towards a bend / blind crest and running out of room

Overtaking towards a junction on the right has to be one of the daftest and most dangerous mistakes any rider can make. The vehicle we're following can turn right. Yes, the Highway Code because it says that a driver should check the mirrors before turning right; Motorcycle News even ran a petrol pump sticker campaign some years back that said "think bike before turning right.

But frankly, if a vehicle CAN turn right, what are we doing overtaking at that point? Side turnings are rarely difficult to see IF we look and arguing that the other driver should stop what they are doing to let us do what we want to do is, frankly, bonkers. This one is on the biker.

Rather more tricky is spotting something like a driveway or farm entrance but this is why we look for reasons NOT to overtake rather than reasons TO overtake. If we're not sure if there's a driveway or not we DON'T overtake. Simple.

The other accident that can happen anywhere a vehicle can emerge is that another driver pulls into our path. Yes, they should look etc, etc.. But how many riders planning on pulling out from a side turning check for an overtaking vehicle first? How many people reading this will turn left, only checking to the right? A significant number, judging by my training experience. Why expect drivers to do what we don't?



But it's not just vehicles emerging from a junction ahead on the right that catches riders out. What's the risk run by the rider overtaking a vehicle slowing down and turning left? Seems easy enough if the road's clear ahead and to the right, doesn't it? Just

move out and pass as it turns. But what if someone sitting on the left in the junction uses the left-turner as a shield to pull out behind? With the bike on the offside of the slowing vehicle, it's hard to see from the side turning. I've seen numerous near-misses from that mistake over the years.

Hang back, be patient, let the vehicle turn, then carry on.

I've also seen a collision where the left-turning vehicle slowed and flashed a driver coming from the opposite direction wanting to turn right, to turn ahead of them. The rider went to overtake the left turner and met the right turner head on.

Our first line of defence is good observation. We need to actively search for places vehicles can turn or emerge; road junction warning signs are an obvious clue but a tractor can turn right through a break in the hedge. And look for the less-obvious; concealed driveways to houses (is there a mirror?), vehicles emerging from lay-bys on the right.

What about overtaking in the face of oncoming traffic? There is a basic Highway Code rule we should apply - after all, if we can use it in our defence, we should also use it for guidance! Our actions shouldn't cause other road users to swerve or change speed to avoid us. That's the bottom line. Yet how many riders overtake in the face of oncoming cars forcing the driver to brake, or squeeze through narrow gaps, forcing drivers to part like the Red Sea to let them through?

Bad manners, yes, but potentially highly risky too, if we meet the driver who doesn't spot us coming - it's not nearly so easy as riders think to spot a bike hurtling up the wrong side of the road at a closing speed that could easily be in excess of 150mph.

But even if we try to be as careful as we can, as speeds go up our brains become progressively less capable of accurate computations. Judging speed, distance and the all-important 'time to collision' at the kind of closing speeds that are common on open road overtakes mean it's all too easy for us to misjudge it.

Overtaking can go wrong in other ways. We often overtake on a straight towards 'dead ground'; a hidden dip, a blind crest or a blind bend. It's easy to misjudge just how much space we've got left. It's not just about getting back to our side of the road before

any solid line starts, it's about anticipating what might be coming the other way. If you met your twin coming the other way, would you be safely back on your side before your twin passed? We should never put ourselves in a position where we are disputing a piece of road with another vehicle. A good rule of thumb is to be back on our side of the road before we reach the toeing-in arrows, not just as the solid line starts. Finely judged overtakes have a way of becoming misjudged ones!

Be particularly careful overtaking groups of vehicles. One problem is that we often use more speed than we would for a single vehicle pass. This is a potential trap, as increasing our passing speed massively increases our slowing (or even stopping) distance; remember, double your speed, quadruple your stopping distance. We can easily run out of space approaching dead ground.

We also need to be cautious when aiming for a gap in a line of vehicles. Remember the old pilot's adage: "know where you're going to land before you take off". But even if we plan on using a 'landing ground' that was there when we took off, it's no guarantee it will be there when we arrive. Just as fog closes down airfields, so vehicles change their following positions and suddenly we can't get back in. Rather than try to bite off the biggest chunk of the queue by aiming for the last possible 'landing zone', build in some redundancy. Aiming for an earlier one, preferably leaving at least a couple of options still in front of us, is very sensible.

Remember too that drivers can try to help us out if they think "he's not going to make it". I've seen oncoming drivers brake and nearly collect the car behind them, I've had drivers I'm passing brake and close the gap behind them that I was planning on using. And on rare occasions, an aggressive driver who doesn't like being overtaking has pulled forward to shut the door.

Overtaking collisions are particularly common on group rides. One rider goes for an overtake, another follows, the first rider changes his mind or otherwise does something rider number two doesn't anticipate, or rider one slips neatly into the last possible gap leaving rider two hung out to dry on the outside of the queue facing a blind bend or oncoming traffic. The answer is to ride

your own ride and plan your own overtakes, and not blindly follow the bloke in front.

And finally there's our mindset to consider.

And if we're in a rush, we're massively more at risk if we start making tighter and tighter overtakes. Nor should we automatically plan to overtake something because it's going slower than we want to. We should ask "why is this vehicle travelling slowly? Is there something the driver can see that we can't?" A couple of weeks ago, I came across an accident on a sharp bend on a steep hill. The driver ahead slowed and alerted me with the hazard lights. As I slowed, I was looking for a problem but the rider immediately behind didn't want to wait, so didn't take a moment to ask "what's happening?". He pulled out, overtook me and nearly collided head-on with the ambulance which was just turning round in a driveway. Not clever.

Finally, don't trust "snap decisions". A 'snap decision' is one that's likely to lead to an error, as in the example above - if we don't know, we really mustn't go. It's far better to allow a big margin for error - or not attempt the overtake at all - than to make half-baked decisions and squeeze into small gaps just to demonstrate just how skillful we are. If in doubt, don't go. Be patient.

Overtaking is probably the most complex manoeuvre we make on the bike and if there's one thing we should know by now, it's that complex things can go wrong. Done 'right', an overtake is never "perfectly safe"; it's only rather less risky.

And overtakes that go wrong... kill.

## **Top Ten No 6 - Collisions around stationary vehicles**

Collisions when passing stationary vehicles are surprisingly common in urban areas, particularly with inexperienced riders who haven't thought of all the possible consequences, even though it's one of the areas covered on CBT.

As we gain experience and discover it's possible to take a motorcycle through quite narrow gap, we tend to trade off the risks for the benefits of keeping moving, and even experienced riders get caught out when something we really should have predicted (or simply discounted) actually happens.

The most obvious threat should be from an opening door. Guess who broke a finger despatching in London in precisely this circumstance? I was filtering to the right of the stationary queue in a one-way street, when a cabbie opened his driver's door right in front of me. Fortunately, the crash bar on my 400-F took most of the impact but the door also hit the clutch lever which bent back into my left ring finger.

As I discovered, a suddenly opening door is a serious hazard if we're too close to parked vehicles!

Filtering is a bit of special case however, so in the first resort, the best place to be is where an opening door can't affect us. Where we have the option, then we should position where we good clearance to, the hazard - I usually say at least an arm's reach to the door and a bit more if possible - the doors on a car with no rear doors swing out a long way. If we choose to ride closer, as I was when I was filtering, then slow down and be ready to stop.

It's easy to say the driver should have checked in his door mirror but try looking out from the back seat of a modern car. Tell me if you can see anything! And rear door may well be opened by a child!

Pedestrians are another hazard. Pedestrians can cross the road anywhere, and it's worth remembering that in law pedestrians always have right of way over vehicles although few individuals feel obliged to risk it. We may be able to see heads of adults over the roofs of cars or feet underneath them, but small children are particularly difficult to spot. Be particularly cautious if there are

children getting in or out of cars, and remember we're unlikely to see them if they're between vehicles.

Be particularly cautious when filtering, as they forget that bikes can be moving when other traffic's come to a halt. A friend of mine sitting stopped alongside a stationary queue was actually knocked over by a woman running out through a gap. They can also step around the front or back of a bus that's just stopped. I watched a trucker nearly get flattened by a bike the other day. He walked round the front of his cab just as the bike swerved left to pass inside a car stopping to turn right.

When people do something daft in front of us it's usually a mistake or they are distracted. They may be confused by the road layout. I've personally stepped out onto a wide one way street looking in the wrong direction and this is a common issue with tourists in central London - look for cameras round necks or people perusing maps! More and more people are using headphones to listen to music or use the phone. That means they're not thinking about crossing the road, nor will they hear even loud pipes. And of course, some have had a couple of beers too many. Be careful in bad weather too. Not only is the surface slippery under our wheels, if someone is running across the road in slippery conditions they could fall over, particularly if they are young or elderly.

The bottom line is that we should never assume someone won't walk out in front of us, sometimes from places where we can't easily see them. And don't forget the inhuman, too. Foxes are increasingly an urban pest, they have a habit of running across the road from one driveway to another in residential areas, but can also be found in busy cities. Dogs can also be loose in residential and rural areas and don't forget cats - they may dart suddenly out from under parked cars.

Unless we do all our riding in city centres, more usually we'll be passing stationary cars at the side of the road. Watching a lot of riders, even experienced ones, many make it far more complicated and risky than they need to.

Here's the first tip. Don't ride up to the back of the parked car then pop out like a Jack-in-the-box. There are a whole bunch of problems that should be obvious given a moment's thought.

If we're directly behind the vehicle we're about to overtake, we can't see the other side of it - that should be an obvious enough issue to worry about. That means we're about to overtake into the unknown. Second, we're aimed directly at the rear of the car - what if we need to brake hard? Have we got room? Third, if we get too close to the rear of the car, we end up having to swerve to the right. What if we change our mind and need to brake hard? It's not unknown for riders to get caught between the two options and either crash because they've grabbed the brakes or run into the back of the car. If we do go, the late swerve sweeps us further right than we need to be, and then we end up swooping around the car, and it's difficult to tuck back promptly if we need to.

How makes this mistake? Well, it's a classic learner error but experienced riders do it too, relying on timing to use gaps to the left to dodge oncoming traffic. But when the timing goes wrong? Nope, all things considered, the last-second swoop is a bad manoeuvre for anyone on two wheels.

The first thing to consider is that passing a parked car is an overtake, just like any other, and we need to be able to make a 'stay / go' decision early. The easiest way to do this is to move out early whenever possible and to assess the situation where we can see clearly past the parked car. Then we can decide if it's safe to carry on, or if we're going to have to move back and slow down or even stop. If the road ahead is clear, we simply carry on, passing the vehicle upright in a straight line (which gives us options to brake or steer if we need to) and tuck back to the left as soon as we're passed the parked car.

If we need to pass a second parked car, then simply carry on in a straight line if the road ahead is clear. Avoid 'hedge-hopping' and making unnecessary moves back to the left into short gaps. All that happens is we have to move out again almost immediately. Dodging back means we can't see the road ahead clearly, but we also vanish out of the line of sight of oncoming vehicles and pedestrians who might be about to cross the road. Watch out for cyclists doing this disappearing act too.

Don't be afraid to cross the centre line. A lot of riders try to squeeze between parked vehicles and the white line, particularly when it's solid on their side. We shouldn't be squeezing alongside

cars to avoid crossing the centre white line in any case, and passing a stationary obstruction is one of the times we can legally cross a solid white line.

Once on the wrong side of the centre line, take particular care to watch for junctions and entrances on our right. Anyone in that side turning (and I've had a few near-misses with bikers making this mistake) has probably looked right, seen nothing coming and will start to pull out, only looking left as they emerge. Sound the horn if necessary. Keep an eye open for vehicles emerging from side turnings on the left too - they'll usually come out more slowly and carefully because they know they are crossing a traffic stream but they still miss bikes.



Avoid following tall vehicles past parked vehicles unless we can see what's coming. The danger is that there's an oncoming car that we can't see, and that the driver we're following is planning to nip back to the left and stop to let it past. I've made this mistake too, and been hung out to dry in a very exposed position.

Watch out for vehicles that might move off unexpectedly - taxis, delivery vans and buses are obvious examples, but so is anything illegally parked for obvious reasons. If someone has just got into the driver's seat, they're almost certain to want to pull away. Brake lights coming on means a driver is probably putting an auto into

drive or taking the handbrake off, seeing the front wheel start to turn out means they are just about to go. It helps to be where the driver can see us in a mirror, but we should be prepared to deal with the possibility they fail to spot us. What if the car's parked facing the wrong way? Where is the driver sitting? How much of the car will emerge into the road before he sees us? What about a car with a foreign plate facing the right way?

It's not usually necessary to signal to pass a parked vehicle - the driver behind can see past a motorcycle, although I nearly always signal that I'm about to pass a bus or other occupied vehicle, and it's worth considering if passing an unlit vehicle at night or in fog.

Don't expect oncoming vehicles to move over to make it easy to pass a parked car, let alone give way. One of the Highway Code's prime directives that says we must not by our actions force other road users to slow or swerve to avoid us. Barging our way through a gap in the face of oncoming traffic is potentially dangerous and could even generate an aggressive retaliatory move. In any case, in busy streets drivers are looking at the road directly in front of them, not the other side of it. If we're concealed behind parked cars, they'll only see us at the last moment, particularly if we do the Jack-in-the-box trick.

And what if there are parked vehicles on the other side of the road with a vehicle coming the other way? Hold position and try to persuade the other driver to wait, but that doesn't mean we should go 'head to head' and battle for road space. Should we rely on our right of way? Of course not. Most drivers will expect the bike to get out the way because they know we can go through narrow gaps. I remember a trainee making this very mistake on one of my first training courses and nearly being flattened by a cement mixer. He was a police driver too. Move left and slow down if possible, move left and stop if it's not. Anticipate the problem and we're far less likely to be taken by surprise, grab the brakes and go down in a heap!

And final point. Moving cars, delivery vans, buses and taxis become parked vehicles. Think about where they'll stop. If we see a slow-moving car in a street with parked vehicles, ask why. If the driver spots a parking space, what's going to happen next? He'll probably drive past the space, stop and select reverse - we'll see the reversing lights come on, and if we're lucky he'll wait before

actually reversing. Hanging back to allow us to stop safely is nearly always a good idea, as is letting the driver park before we try to pass.

So to sum up, it's easy to switch off passing a parked car because it seems to easy. But there's a lot that can go wrong. If we're on the look-out for these problems and asking; "can we avoid them?" we're far less likely to panic when it does happen.

## **Top Ten No 5 - The 'As Good As Home' Effect**

Home isn't a place that we tend to talk about when looking at bike safety, because when we talk about places people have accidents because we tend to focus on specific issues like cornering crashes, overtaking that goes wrong or junction collisions.

In fact, a significant risk is posed simply by riding near your home or any other regular destination, as many accidents happen on roads the rider is familiar with. Do a quick search on the topic and you'll find a lot of blog posts and newspaper articles including a survey commissioned by insurance company elephant.co.uk. Of 3,800 people that found that three out of 10 crashes happened less than a mile from home.

However, we have to be careful not to draw simple conclusions from statistics like this. By definition if you are 'close to home' you are also travelling on the most frequently travelled parts of the network. This is part of the science of network topology theory, which says that if there was a statistically uniform chance of an accident happening anywhere over the entire network, then these parts of the network that we travel most frequently (ie those close to home or a regular destination) would STILL have more accidents.

But having said that, we don't doubt there is a 'close to home' issue for drivers and riders, or indeed anyone else who has to travel from one location to another. Maybe we're struggling to keep mental focus whilst wondering what's on telly or what we'll cook for dinner. Another factor is simple tiredness which slows down our perception of hazards as well as delaying reactions. We're often approaching home at the end of a long journey.

It's often suggested that if we don't remember a particular part of a ride, our brain was on auto-pilot, and thus we're relying more on muscle memory than on our active driving skills, so we ride by what we know rather than what we see and it's possible that's something that happens on familiar roads.

There's also a good possibility that on 'home turf', we're less cautious - after all, we know that "nothing ever backed out of that driveway before". So we get caught out by situations we'd normally avoid. My riding instructor buddy Malc reported a couple of years back how he was riding in to a car park at work on an icy morning, mentally relaxing, and thinking:

"I'm here now, that's good, I'm 'safe'. I'll just park in my usual place in the shade, the other side of that 'puddle'."

You can guess what he rode over and what happened next.



Some years ago we found a paper with the snappy title: "Human engineering in transport accidents", written all the way back in 1958 by a chap call R D Davis, and published in a journal called 'Ergonomics' (vol 2, 24 - 33). He concluded that: "false hypotheses or vigilance decrements are possibly most likely to occur when the driver believes that he is 'as good as home'".

Or, to put it another way, we take our eye off the ball. I did a bit more digging and found a further paper that re-examined one of the incidents looked at in the 1958 study. It concerned a train crash, where one of the crews involved had been driving for three hours in thick fog.

In those days of non-automated systems, the crew of the locomotive would have had to look out for signals, speed limits, stations, level crossings etc., at every stage of the journey. Finally, the train steamed out into clear sun near London...

And promptly went through a signal at danger and collided with another train.

The authors point out that: "The poor visibility must have placed enormous demands on the engine crews' concentration so that emerging into clear air the driver might have felt he was 'as good as home'."

(Verification and Validation of Complex Systems: Human Factors Issues - John A. Wise, V. David Hopkin, Paul Stager ... - 1993)

In the case of the train crash they concluded that arriving at London was relatively less important than the sudden switch in environmental conditions which significantly altered the level of the workload imposed on the crew by the task being conducted - getting the train safely from one location to another. Out of the fog, they took their eyes off the ball.

What this research shows is that it's not so much being near the destination that results in the 'as good as home' factor on the journey, but the mental relaxation that follows the removal of stress during the journey itself. The authors of that second report called it 'workload transition'.

So what's the connection between a 1950s train and a 21<sup>st</sup> century car? Well, the non-automated system that driver and fireman were operating on back then is very much the same as the roads we

deal with today! We could find ourselves affected by exactly the same environmental change as affected that train crew - riding in, then emerging out of thick fog.

Or we could be exiting a motorway with fast moving traffic onto a nice A road with less congestion - leaving motorways is well-known to be connected with rural road crashes. It could be switching sides of the road at the Channel ports when you come back to Blyth from holiday. We're sure you can think of more examples.

'Workload transition' could even happen when we leave work after a tough day and breath a sigh of relief as we climb onto the bike. So it's important to understand that the 'as good as home' effect isn't simply limited to being near our destination, because although the switch from stressful riding to being back in our home comfort zone which can trigger it, it can happen when anything in our environment which as caused us stress is suddenly relieved.

So here's a tip for spotting workload transition; if it all suddenly seems too easy, it probably is.

## **Top Ten No 4 - Group riding thrills, not spills**

With a muffled thud, something hit me hard across the back, just as my bike wobbled violently from an impact. Simultaneously, Chris flew past struggling to regain control of his FJ1200.

Moments earlier we'd been heading along the west bank of the Rhein in Luxembourg. I'd been keeping the speed down, having spotted a ferry on the map that would take us over into Germany, and was now searching for the road leading down to the river.

I spotted it, indicated, slowed down and prepared to take the turn. Chris didn't.

**BANG.**

Fortunately we both stopped upright and after getting my heart rate back under control, I untangled my throwover panniers from my neck, and after removing the snapped bungies, slung them back over the seat where they should have been feeling rather grateful that the bike wasn't equipped with a pair of Givis!

Chris apologised, saying that the low speed I'd been riding at meant he'd lost focus and had been watching the scenery.

All's well etc. Nevertheless, it was a very good reminder of the problems of managing group runs, where even highly skilled riders get it wrong. This was a group with some very experienced riders, nearly all of whom I'd ridden with many times before.

In theory, on a well-organised ride with proper rules this shouldn't happen, so when I organised another group ride with a bunch I barely knew, I thought I'd done all the right things. I carried out a pre-ride briefing, talking about speed, overtaking and the 'elastic band' effect that means riders at the back have to ride faster than those at the front. I ensured everyone understood the marking system at junctions and that we also had a sweeper so riders at the back wouldn't need to catch up to the rider ahead or worry about getting lost.

On the ride itself, I kept the speed down at the front, factored in regular rest and refuelling stops, and also stopped to bunch the group up after negotiating junctions that split it apart.

Result? Half way round the planned route, a silly collision at walking pace between one rider and a tractor had the rest of us anxiously awaiting the local air ambulance.

Was I just unlucky? A friend of mine joined an advanced group, went on three rides and each was brought to an unplanned halt by a crash. These spills happened despite plenty of precautions by the organisers. In Lincolnshire in 2007, three of the six fatal motorcycle accidents in the study involved ride outs.

It should be obvious group riding isn't just a case of following the bloke in front, it's actually a risky biking activity with some special problems.



Here are some of the pitfalls of group riding I personally have encountered.

First of all, the leader sets the tone, so if we're leading the group remember that many of the participants will be influenced by how we ride, regardless of how often we tell them to "ride your own ride".

If we treat group rides as 'every man for himself', the usual result is fast or even aggressive riding. As the quicker riders pass the

slower ones, the constant overtaking within the group becomes competitive rather than cooperative. They ride in single file in town which stretches the group and breaks it up at junctions because they either don't understand or aren't confident to stagger. Out in the twisties, many spend far too much time worrying about their individual 'lines' rather than the mechanics of group riding.

Choose speed carefully. Up front, the leader always has the choice of where to open it up, where to accelerate. Everyone else is playing catch-up, even if they shouldn't. And that means what was a nice easy overtake for you becomes a brain-out high speed near-miss for someone else as they try to regain contact with the bikes ahead.

I try to avoid that by encouraging people to enjoy the ride as a team. 'Team riding' means each participant being sympathetic to other riders and understanding how to get the best out of riding in a group; it's not just applying a "don't get lost" marker system.

By leading the group in a disciplined way, then with time that discipline tends to infect the whole group. After that, peer pressure does the job; new riders either conform to the group riding ethos or they don't come back for another run.

What kind of organisational tips can we give the rest of the group?

For anything over three or four riders (you can nearly always see the tail-end charlie in a short group), appoint a 'sweeper' who knows the route and has a means of contacting the leader - either radios or mobile phones. Make sure everyone knows who the sweeper is and what they are riding; getting John to stand up and wave whilst sat in a cafe drinking a pre-ride cuppa is no ruddy use whatsoever!

Plan the route carefully. Whilst you can get away with taking small groups through towns and across busy junctions, it gets increasingly difficult with bigger runs. I tend to avoid right turns too; if I can I'll plot a route that allows me to turn left then cross a busy road straight ahead. Don't forget to factor in refreshment breaks, loo stops and fuel.

Consider how to apply the marker system, where the rider behind the leader stops to 'mark' the route for those behind. I won't go into exactly how to do this - there are plenty of tips if you Google. What I will say is that I'm not a fan of the 'drop-off' system where the entire group leapfrogs past the waiting rider. Overtaking within the group can become a game for the faster riders, with them hacking through the group time after time to get to the front, pulling dodgy overtakes and causing scary moments for the other participants. One way round this is to use the police 'caterpillar' system, where each rider waits only for the rider immediately behind. This means each rider can ride at their own pace. It also has the advantage of each rider learning who's behind them in the group quickly, which makes it less likely that a stray rider inserting themselves into the group will lead the riders behind astray when he turns off. Half an advanced motorcycle group run followed me down the wrong road when I got tangled up in the middle of it.

Check out any new riders. They may not have any group riding experience, or may even be new to biking. Do you put slower riders at the front or the back? There are advantages to both. If they're behind the leader, the leader can adjust the pace accordingly. On the other hand, the slow rider is now aware of a string of quicker riders champing at the bit and stuck behind. At the back, they can ride their own pace and the sweeper can keep an eye on them.

Brief riders to use a staggered formation on wider roads or in urban areas. It maximises each rider's forward view whilst keeping the group compact at the same time, which reduces the risk of the group getting split up at junctions, not to mention frustration from drivers as they sit and watch a long string of bikes pass. On twistier, narrower roads, then the group should drop back into a wider-spaced single file.

Ensure that participants understand the need to keep a good gap on faster roads. Many riders follow far too close (and in retrospect, my slowing down on the ride I mentioned probably made things worse).

And if some riders don't like the 'rules', then I'd suggest politely that group riding with my group is not for them.

Finally, don't overdo the length of a group ride. Riders have to get to the meet point then ride home again. Add that to the ride route and it can pull the participants beyond their limits in terms of fatigue. The ride itself may not seem long to us, but it all adds up when riders aren't used to anything other than short rides. Target the ride accordingly.

What if you're joining a group? Three rules.

### **Ride Your Own Ride**

Don't ride in the wheel tracks of the bike in front! Speaking with my instructor hat on, and after nearly twenty years of experience in following other riders fairly close, it takes a lot of practice to be able to maintain station on the rider in front, whilst concentrating on the road for yourself, picking your own speeds, braking points, lines and most importantly dealing with hazards for yourself. It also is REALLY distracting for the rider ahead if they're not used to it, and they'll start making errors. Drop back to a safe following distance.

Don't simply follow the guy in front either. It's easy to tell if we're doing this, because as the rider ahead speeds up, we speed up too. And if he slows down, so do we. And when he cocks up, we follow him into the hedge. Drop back - even to the point where you can't see the rider ahead if necessary. Now we HAVE to ride our own ride.

And if the rider behind catches us up, it's fine to move aside but make sure to do that only where it is safe. Hold the line through bends, past junctions or around other vehicles - it is up to the guy following us to overtake safely, not for us to make things easier.

### **Ride at Your Own Pace**

Easier said than done, when we're in a group, but remember that there are markers to keep us on track so we don't need to keep up with the rider in front, and we're not guiding the rider behind.

Our job on a group ride is to arrive at the end in one piece and avoid bringing the entire group to a premature halt.

Trying to follow a faster rider is stressful. We start to suffer tunnel vision where we stop scanning ahead and around us. We lose the long view of the road ahead. The moment things start to surprise and scare us, it's a clue we're riding too fast. Slow down!

And don't fall into the trap of having another rider show you his lines; "just follow me and you'll be fine". No you won't. He'll almost certainly be riding faster than you want and you'll end up watching his brake light and nothing else. It might be well-meaning but do your own thing.

### **Don't hassle other riders**

OK, so I'm faster than the guy in front. I'd like to pass him and enjoy the ride at a higher pace. Firstly don't hassle by sitting right behind. Inexperienced riders end up watching the bike behind more than looking for dangers ahead and make mistakes that can suck a following rider in. They will often try to let us past in the silliest places. And if the rider in front is trying to pass another bike or vehicle, let them do it. Be patient.

As regards what group riding should be about, there is an excellent pair of articles from 1991, written by US racer and journalist Nick Ienatsch, still highly relevant to group riding today: 'The Pace' and 'The Pace Pt 2'. You can find them easily enough with a Google.

Two of his principles really sum it all up:

- When leading, ride for the group. Good verbal communication is augmented with hand signals and turn signals; change direction and speed smoothly.
- When following, ride with the group. If you can't follow a leader, don't expect anyone to follow you when you're setting The Pace.

Performed well a group ride can be a fun day out. Organised badly (and I hold my hand up here) and ridden poorly, it can be a nightmare of roadside first aid, frantic phone calls and anxious minutes waiting for the emergency services.

### **Top Ten No 3 - An oncoming car turns right across our path**

Next up, it's the urban killer junction accident. The scary bit is that hardly anyone knows which one it is. Ask any rider from CBT up about where they are at risk and they'll tell you all about the time-honoured "Sorry Mate, I Didn't See You" SMIDSY, the collision with an emerging vehicle pulling out from the rider's left.

But in urban areas this isn't likely to be the one that will kill you, me or any other rider.

And I'll freely admit, even after all my despatching time in London or my instructor training, I hadn't figured it out either. It wasn't until I attended a BikeSafe course with the Metropolitan police back in 2002 that I actually got to see the figures.

The really dangerous collision occurs when an oncoming vehicle turns right towards a minor road, and crosses the path of the oncoming motorcycle. Here's the figures for London, from that course. Just 1 in 12 fatalities are the classic "car pulls out from the left" SMIDSY. The collision with an oncoming car turning right across the bike's path are far more dangerous and account for nearly 50% of the total of deaths.

Of course, SMIDSYs are far more common - they make up around 70% of ALL urban accidents. But they happen at relatively low speed because the car is a virtual brick wall - it's not moving towards us - and we generally see it coming and manage to get some speed off, even if we don't stop completely. And of course, we know all about them so are generally on our guard.

But the right turner comes out of the blue. We don't know about it, and when it does happen the situation often develops very suddenly indeed. There's very little time to react and slow down, and as the car is moving towards the bike - and probably accelerating too - the result is a hard frontal collision. The likely consequences are serious or fatal injuries.

Why do they happen? Like any junction collision, it's what I call a 'two to tangle' crash. If one road user (the driver) sets up the circumstances in which a collision can happen, the other road user (the biker) still has to ride into it.

So what does the driver get wrong? Here are three issues to consider:

- the driver simply couldn't see the bike - think where we're usually told to sit if there's a car waiting to emerge from a side turning. It's towards the centre line. But what if the oncoming car is behind a truck or a bus? Can the driver see us? Probably not.
- the driver didn't see the bike - what's there to be seen isn't necessarily what we see. There's too much to go into here but it's down to the way human eyes work and how the brain interprets the flow of visual information that reaches it. Not everything in sight actually makes it into our consciousness. It's not simply "didn't look properly", it's a fundamental problem with our visual system.
- the driver misjudged the speed and distance to the bike and miscalculated 'time to collision' - because the car will slow down to make the turn, when the driver starts to slow the bike is a lot further away from the junction than the car. That makes it more difficult for the driver to work out just how much space he'll have ahead of the bike and if a turn is possible. The faster the traffic, the more difficult it is to make this calculation accurately - we ALL tend to underestimate speed for faster vehicles. And if the bike's travelling faster than other vehicles around it, it's even easier to misjudge 'time to collision' and begin the turn too late to beat the bike across the junction.
- the driver aimed for a gap that turned out to be a bit too small - what do we ALL do, us bikers included, as the roads get busier and traffic gets denser? We all aim for the biggest gap - it's just not always quite big enough.

It's easy to say that the driver should have looked harder, judged better, not taken the risk but as with so many motorcycle collisions, for an actual collision to have occurred the rider also has to contribute by failing to do their bit to stay out of trouble.

- positioning where we can't see - it should be obvious but if there are areas of the road hidden to us, then hazards can lurk unseen. It's not rocket science to work out that oncoming vehicles can turn right into side roads on our left, so we should position to open up the view
- positioning to be seen - an absolute basic bit of learning from CBT is that we need to "see and be seen". That is, not only do we need to see what's happening but we also need to be where other people can see us. If we're behind a car when a driver wants to turn across our path, just the top of our helmet will be visible from ahead. Worse, if we position too far to the right when the turning driver is following other vehicles, we'll completely vanish from his view. And if he can't see us, then he can hardly react in the way we'd like. A motorcycle has a freedom of movement to 'see and be seen' in the lane that a car rarely has.
- the driver 'looked but did not see' - blaming the driver as 'careless' won't solve this problem. The physiological and psychological issues that mean we don't always see what's in clear sight have no simple solution, other than to accept that we might not be spotted. I'm not going to go over all the reasons this happens as I've covered conspicuity issues often enough but we must be aware of the problem
- failing to anticipate that the driver we've seen might turn across us - we're all human, we all get it wrong. Assuming that priority rules mean that everyone gets it right 100% of the time is guaranteed to bring disappointment.
- failing to take evasive action when needed - although it's more difficult to avoid a collision with an oncoming vehicle turning right, riders rarely do the best job in an emergency due to being surprised and then panicking and / or using poor emergency techniques.

By now, I hope you're getting the idea that it's actually more of a surprise that we manage to negotiate the vast majority of junctions without a problem, rather than it being a big shock that drivers occasionally get it wrong.



So time for some defensive riding tips.

First and foremost, we have to spot the circumstances in which a vehicle might turn across our path. Just like the SMIDSY, the first clue is that there is an opening to our left. It doesn't have to be a junction, these accidents happen at driveways, even field gates.

The second necessary component is an oncoming vehicle so we need to search ahead to spot one that might want to turn. Look at the general environment too. As I have already hinted, this kind of manoeuvre can occur in heavy and sometimes fast-moving traffic, when the driver thinks he has seen a gap and makes a dive for it or suddenly decides on an alternative route in congestion.

Moving to a position where we can see or be seen, attempting to move laterally against the background to defeat 'motion camouflage', slowing down, covering the brakes and horn are all valuable responses but we also need to look for the clues the vehicle might be about to turn. If the driver is indicating to turn right, at least we are forewarned as to his intentions. All too often though, the driver will turn without an indicator warning. Watch for:

- a dip of the front of the car - a sign that the driver has just braked
- a sudden change of grip on the wheel - a precursor to turning it
- a sudden movement of the head to look to the right - a warning of where the driver's planning to go next

Any or all are warnings that might just need to take evasive action. We might be able to slow down and let the driver turn safely or 'pin' him with a horn warning.

But we might also need to make an emergency manoeuvre. And it's at this point that poor riding technique can let us down, and unfortunately that's more common than it should be. Even practicing braking and swerving will only go so far, even for experienced riders - the reason for that is the surprise factor produces a panic reaction that overrides learned responses and even expert riders revert to instinct and grab everything as hard as possible in a real emergency when surprised.

To have a chance of avoiding a right-turner, we have to first appreciate just how serious the risk is even if it's rare, then recognise the circumstances where it could happen and finally be ready for evasive action.

I've mentioned visualisation as a technique on a number of occasions, but briefly, it's a way of training yourself to deal with a situation such as this, where it's difficult or impossible to practice. And best of all, you don't even have to get cold and wet on the bike to use it. Just sit back in your favourite armchair, imagine you're out on your bike and let the situation above unfold in your mind. Run through all the steps that help you detect and avoid it.

It may sound unlikely but it's proven to work.



## Top Ten No 2 - Filtering Follies

As I moved left into the space behind the Transit van intending to pass up its nearside, the impatient courier who'd been hassling me the length of London's Shaftsbury Avenue accelerated past... straight into the side of the van as it turned right.

Most articles about filtering tell you how to do it but rather less about why we shouldn't. The basic rule of filtering is that if there's sufficient space NOT to impact another road user, then we can CONSIDER going for it.

So what happened to the other courier? It had been fairly obvious he felt I was holding him up for the last couple of hundred metres as he was about 5cm off my tail light revving his engine and weaving left and right trying to get past as I filtered cautiously through the afternoon traffic.

As it's a busy road with a lot of right turn options, as well as plenty of pedestrians crossing the road I was picking and choosing the opportunities to filter past the slower vehicles on my left. As I'd come up behind the van, I'd caught a glimpse of the driver checking his offside door mirror, but even without that clue it was fairly obvious from the way the van had moved right and slowed down that he was planning to turn right up one of the northbound routes leading into Soho, even though the indicator hadn't come on.

Obvious to me, that is, not to the rider behind.

With me out of the way, what he saw was a gap between the two lanes of traffic and he went for it, with the less-than-perfect results I've just mentioned.

OK, now I was closer and had spotted some clues he hadn't seen. But what he'd done was seen the slowing van as an easy overtake, without considering any of the many reasons the van might have been slowing.

The most important thing to understand when overtaking or filtering is that other drivers are not what are sometimes called 'fixed hazards'. A corner is a fixed hazard because it doesn't change its mind about where it's going when we're halfway round it. But when dealing with other vehicles they can change speed

and direction. The means we're relying heavily on the drivers doing exactly what we expect, and that there are a lot of variable elements.

However, just because they are variable doesn't mean they are totally unpredictable! It just takes some awareness of the problems and some planning.



First up, don't treat any gap in traffic as a motorcycle overtaking lane. If you're filtering too quickly, you almost certainly won't spot all the danger points. If you've got it, use local knowledge, something that courier failed to do. If you don't know the road, it's even more important to look and plan ahead.

Like any overtake, we should only 'take off' and start filtering when we know where we're going to 'land' again, but treat a big gap between vehicles with caution - it's almost guaranteed that the driver's stopped to avoid blocking an entrance. So it's entirely possible that someone is turning there either in or out. If the queue ahead of this gap starts moving and the vehicle you're watching stays still, then it's almost guaranteed that the driver is letting someone out.

Look for other places where vehicles might change position or turn across your path. Obstructions like traffic islands and bollards aren't just a bit of road furniture blocking your progress but represent places where pedestrians may cross the road or side turnings from vehicles might emerge or turn right into. People will often walk out into slow moving traffic, and drivers may also nudge out, hoping the next car will stop. Watch for potholes, painted lines or slippery surfaces that could make braking or steering difficult.

Watch for 'pinch points' that restrict width. They'll squeeze the lanes together, narrowing the gap we're passing through. The same will happen when cars catch bicycles or mopeds - they'll move out to get around them but may not realise we're filtering through the gap.

Be particularly careful passing lorries and buses - not only do they need space to turn around junctions or sharp corners and may swing right before turning left, but don't forget that there's are huge blindspots around them, particularly on the nearside. And once the cab is turned, the rear-view mirrors aren't pointing back down the road - the driver almost certainly can't see you. And of course, if a bus pulls up, the vehicles ahead of us will move out to pass it, won't they?

In particular, treat queues that aren't normally there with real caution, not simply a line of cars that aren't moving that you can blast past. Someone is almost bound to decide that they don't want to sit in the jam, and might pull out to drive the wrong side of the centre line to turn right further up the road, or pull a U-turn. Drivers regularly get castigated for impatience when they make either of these manoeuvres, but think about it - they're doing it for the exact some reason the rider is filtering past - they don't want to sit in the queue either!

Go with local practice - trying the same filtering techniques that you use on the Euston Road in London in a small Scottish village is asking for trouble, because no-one will be on the lookout for you.

On multi-lane roads, expect drivers to change lanes. Look for junctions - drivers will change lanes as they approach the exit slip.

Some will move left to leave the dual carriageway, other right to avoid vehicles joining at the entry slip.

Look ahead for slower vehicles - if a faster car or van is catching a truck or coach, what's bound to happen? If there are three or four trucks close together, it's almost guaranteed that one will be slightly faster than the others.

Be careful filtering on the left and we include the use of bus lanes here. Drivers rarely check a left door mirror and rarely signal before turning left, and drivers cutting through the queue on your right won't expect a bike coming up the inside.

How fast should we filter? In slow-moving traffic my own rule of thumb is never to go faster than a speed that allows me to stop if the car in front suddenly opens its door or pulls a U turn. If traffic is stationary, that means no more than around 10-15mph but I might go slower if views are poor.

Filtering at 40mph past traffic travelling at 20mph doesn't 'feel' any different to passing stationary traffic at 20mph but there are two big differences:

- a stationary car can't change position; we just have to look for people walking between them and doors opening, but once it's moving it can change position and take away our lane
- because stopping distances quadruple as speed doubles, we're committed to our manoeuvre (just like an overtake) from much further back than most riders realise. And remember too that most of the stopping distance gets rid of little of the speed.

It only gets worse as the speed goes up and up. Anyone filtering at 70+ on a motorway is walking dead. At those kind of speeds we're committed not just to passing the car we're coming up behind but the vehicle fifty metres ahead of it. It's already too late to take evasive action if the car we're passing starts drifting out of lane.

Filtering on fast roads may make us feel like we're getting somewhere, but often we're not. Some years ago, I was on the M25 and was passed by a rider on a BMW with all the touring kit. I watched his progress as he squeezed through dozens of gaps

only marginally wider than his panniers. Over the 5 miles I followed him before he turned off, I made three lane changes and didn't filter once. When he dived up the slip road he was less than half a mile and around 30 seconds ahead.

I spent 16 years filtering virtually every single day. It took me about 6 months to realise the best couriers actually do rather less of it than most people realise. Saving time as a courier is much more about planning the route to avoid the busiest roads and then using 'lane management' to be in the faster-flowing traffic than manic filtering. The all-action riders who look quick are usually a menace to themselves and others; the best couriers move through traffic almost imperceptibly - but they are usually there at the head of the queue.

So if we can eliminate unnecessary filtering, by definition we're going to make our journey less risky. So what's 'necessary' filtering? Well, it all depends on how you measure 'progress'. A dozen cars further up the road is neither here nor there, really, is it?

And of course, the benefit of filtering drops off proportionately as speeds go up. If I filter at 10mph in stationary city centre traffic, where the average speed rarely exceeds 7mph and as a result manage to average 14mph for my journey then I've halved my journey time. But how much have I saved if I filter at 10mph over 40? Or 50? Or 60? I rarely filter once the traffic flow is moving faster than 30-35 mph. I just get back in the flow.

It's not just the high speed filterers who are at risk because when filtering goes wrong, we're liable to end up lying on the road surface in the middle of moving traffic. Being run over isn't healthy. A friend of mine was knocked off her bike when filtering even though she was stationary at the time, as a pedestrian ran full-tilt into her through a gap between two stopped cars! She toppled sideways and was very lucky not to end up under an oncoming car.

Hopefully, you've now got a better idea of how to make a trade off between the time-saving benefits and the very real risks. The fact is that many riders don't appreciate how dangerous filtering really is risky. BikeSafe figures for London suggest that almost half of all fatalities in the city happen when the rider is filtering.

If you are not confident you can do it, don't! You might be capable of dealing with your home town's traffic problems but London in particular is another kettle of fish! It might take you a little longer to reach your destination, but it's better to arrive on the bike than in the air ambulance.

As riders it really is our job to keep out of gaps another driver is about to use, not to barge into them expecting them to see us and forcing a change of plan on them. At the end of the day, filtering is high risk and takes a lot of concentration and restraint is rewarded by fewer scares.

Final point. Back in Shaftesbury Avenue, was it the van driver's fault? Well, I can tell you that when I drove a van towards the end of my time as a courier, it was a real lesson in just how difficult it can be to see a filtering bike.

The best filtering riders take no chances, but make good progress by combining excellent observation with careful planning. As one of my trainees put it a couple of years back: "work smarter, not harder. I filter a bit less, taking the easier overtakes and going through the wider gaps, and vary my routes to avoid the tightest, most congested sections, even if the distance is slighter greater. The result is better progress."

## **Top Ten No 1 - Colliding with emerging cars**

We've reached the last in this series on accidents, and if all I had was that we're going to be looking at the number one crash, then that should be enough to tell you we're looking at the collision which results when a driver pulls out from the rider's nearside, into the bike's path.

Most of these accidents happen at relatively low speed, in urban areas and are usually survivable, albeit sometimes after a stay in hospital. But the injuries are rarely life-threatening and it's the fact we come back to tell all our mates which accounts in part for the notoriety of the accident.

The frequency of junction collisions has been the subject of a lot of research over the last 40 years or so, and initially much of it focused on the fact that the driver claimed not to see the bike, which gave rise to their colloquial name of SMIDSY - "sorry mate, I didn't see you".

That did bring about one positive change in that motorcyclists were no longer taught to ride in the gutter where they were easily hidden from view, but it also encouraged an unhealthy reliance on hi-vis clothing and day riding lights.

Fellow instructor and bike safety researcher Malcolm Palmer noted some years ago that: "most SMIDSYs happen in urban situations, when the bike is travelling at 30 or under. The 'at risk' zone is just THREE seconds long. If someone doesn't see a bike and rider three seconds away, it's not because of a lack of hi-viz..."

Not that long ago I watched as a rider took evasive action as a car pulled out. He nearly made it, and just lost his balance at the last moment and toppled over sideways. As I stopped, the rider was just picking himself off the floor, looking at the driver who was sat behind the wheel, staring at him. He turned round and said accusingly: "he must have seen me, I had my lights on". Clearly the driver hadn't.

It's worth pointing out that the SMIDSY accident happens anywhere cars and bikes coexist, and it doesn't seem to matter how good training is or how rule-bound drivers are, or how safe the vehicles themselves are.

The same accidents happen in Europe, Canada, Australia and New Zealand where training standards are high. The same accidents happen in the US where training standards are low but traffic laws are strictly enforced. And the same SMIDSYS happen in countries like Thailand where there's no training, the roads are a free-for-all and vehicle safety standards are virtually non-existent.

This argues that it's largely a human factors problem and that's where new research has increasingly focused. We've covered the issues that have been uncovered extensively in the past so we're not going to go into them in detail now, but briefly here's a summary of some of the issues which have been discovered:

- the visual system filters the information the eye is passing to the brain which means what we're aware of isn't necessarily what's in plain sight. Some objects just go missing.
- the brain misinterprets information because it can be fooled by relative size into miscalculating speed differentials. Thus the 'time to collision' calculation is wrong.
- the brain can focus on a particular vehicle and 'miss' the visual information that should warn it of another vehicle - a driver looking for cars perceives merely an absence of cars, not the presence of a motorcycle. In fact, in one experiment drivers told to look for motorcycles failed to spot buses.
- human behaviour is to save effort by taking short-cuts that worked before. So road users learn very quickly that looking for gaps (not vehicles) is an effective strategy for emerging from side roads. That works right up to the moment we fail to spot another vehicle on a collision course.

So how to avoid becoming part of a SMIDSY ourselves? We can blame inattention, distraction, blind spots and psychology all we like, but if we want to avoid other drivers' accidents, then the answer is simple; we take responsibility for avoiding the collision ourselves because "it takes two to tangle".

We need to:

- see it coming
- do something about it

Firstly, it's important not to wait until we see an emerging vehicle; we need to identify ANYWHERE a vehicle COULD emerge.

Driveways, access roads, petrol stations, side turnings. Look for dropped kerbs, gaps in rows of buildings, lines of parked cars or in a hedge, road signs and paint markings... and there are many, many more clues.

Many out-of-town SMIDSYS happen at high speed and are fatal, but could have been avoided had a rider thought about the possibility of a driveway or side turning being around a blind corner, and then looked for the clues - if we see a house, there's bound to be a driveway. If we see a junction warning sign... obvious, isn't it? And tractors can emerge just about anywhere.

Then secondly we need to take some proactive, defensive action.



Slowing down and covering the brakes reduces our stopping distance and makes it easier to swerve too. Dropping back from a vehicle ahead and moving towards the centre of the road (if safe)

as we approach the junction gives us a better angle of view into the side road and a better chance of spotting an emerging vehicle.

And if it turns out there is a vehicle there, a wider approach and a better following distance gives the driver of the other vehicle more time and a better chance of seeing us. If we are hidden because we are following another vehicle too close, it may seem that there's a gap in traffic to the other driver - it's not uncommon for the driver to start to pull out then stop as he spots the bike. See and BE SEEN!

A wider approach also puts us further away from the potential collision site and thus reduces the potential 'killing zone' where we can't avoid a collision if the car does pull out. We may be able to brake or swerve to avoid it, or even accelerate clear but the closer we are to the curb, the more restricted our options.

Once we've identified the threat, we can work through levels of severity and just how paranoid we should be.

Is the driver clearly able to see us, without obstruction from their window pillars, trees, pedestrians or road signs? Is the driver even looking in our direction - would they hear our horn? Is the traffic flow they're trying to get out into busy? If it is, they are more likely to make a mistake than on a deserted road where we are the only vehicle. Is there another vehicle queued behind the first - what if the second vehicle pulls out too? Or the third?

What's the road surface like? Is it going to be able to handle the full force of our brakes? And we have practiced our emergency stops and swerves, haven't we?

And what's behind us? If we need to take evasive action are we likely to be hit by a tailgating truck?

It's often suggested we look at the car wheels to gain a first clue of movement, but personally I prefer to watch the driver; a sudden left-right look is nearly always the precursor to making the final decision to emerge as is a sudden change of position of hands on the wheel - spotting those can give you an extra second of warning the car's about to move.

But we also need to have mentally prepared for evasive action. If we simply haven't noticed the side turning, or (worse!) have seen

it but expect our hi-vis kit and lights to stop a driver in their tracks, we aren't actually prepared to take evasive action.

And that means we won't be mentally 'on the ball'. In this 'relaxed' condition, it can take up to THREE seconds from the moment the visual information is transmitted from our eyes for the 'information processing' mid-brain to send a 'WAKE UP' alert to the Neo-cortex, which is the 'thinking brain' which needs to process that visual information, work out what is happening, decide on a course of action and actually activate the muscles to accelerate, brake or swerve.

THREE seconds? Isn't that more or less where we came in?

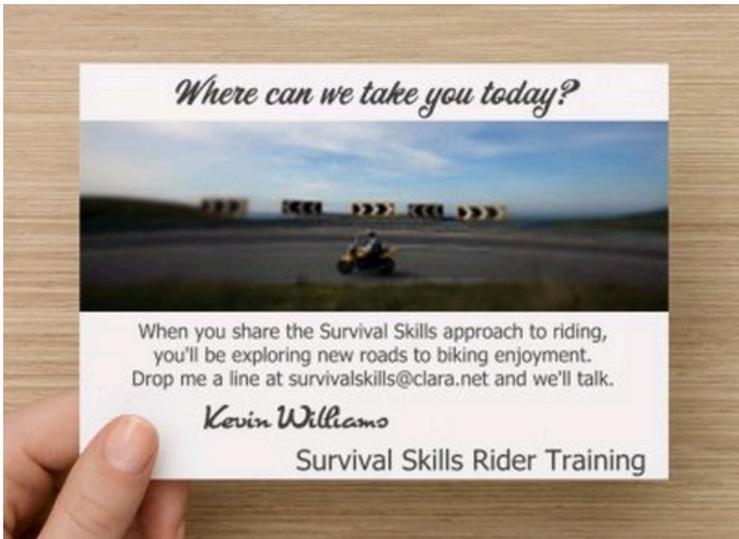
It may seem over-dramatic to treat something as commonplace as a car waiting in a side road as a major and immediate threat to our life, but these proactive responses to the risk of a SMIDSY by the rider narrow the 'killing zone' to virtually nothing, and are a far more reliable means of keeping out of trouble than hoping someone might see us and not pull out.

### And that's it for now...

That's the end of our series where we've looked at our Accident Top Ten and explained how the ten most common happen, shown you how to identify if you're making the same mistake and given you some solid advice on how to get out of trouble if they do happen to you. We hope the problems and solutions we mention will be equally valuable to novice and experienced riders.

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