

- ▶ **Have you ever had a car pull out of a side road in front of you causing you to brake sharply or crash?**
- ▶ **Have you ever been 'cut up' on a roundabout by poor lane discipline?**
- ▶ **It may not have been your fault but was there something that you could have done to keep out of trouble?**

**Many serious and fatal crashes happen at junctions.**

This download examines some of the most regular of the things that go wrong at junctions and look at ways that the motorcyclist can reduce the risk and stay in control of the situation as much as possible.

This download is not a substitute for training and does not cover the basic CBT 'How to negotiate a junction' issues but it may help identify solutions to some of the well known problems related to junctions.



**Please note:** Whilst most of our downloads say that they are not aimed at learner motorcyclists, this one is just as relevant to learners as everyone else. The more you see and the earlier you plan to deal with it, the safer you will be. Read on but do please discuss the issues with your instructor for more advice.

**Disclaimer** – The information contained in this download is based on established information laid down in the police Roadcraft manual and is intended as general advice only. Norfolk County Council accept no responsibility for any damage or injury howsoever caused by following this advice.



# Junctions

## Junction problems

Most riders will, at some point, have experienced a vehicle pull out on them at a junction causing either heavy braking or in some cases a collision. Whilst you cannot prevent every crash, there are a number of things that a rider can do to minimise the danger and, as far as possible, stay in control.

This download is not intended to be the definitive guide on the subject nor is it a substitute for training but covers some of the major problems encountered at junctions and to give you an insight into the benefits of defensive riding and extra training. For a deeper analysis read Motorcycle Roadcraft – The Police Riders handbook, published by TSO and available at all good book shops.



## Why do car drivers sometimes fail to see motorcyclists?

- Research suggests that whilst most drivers may indeed look appropriately, some may not fully realise what they are looking at and may look away before fully processing the information. (Crundall et al 2010)
- People tend to look for things that are of interest to them. If the driver is also a motorcyclist they are more likely to be carefully looking for bikes. (Brooks & Guppy 1990, Magazzu et al 2006, Crundall et al 2008)
- Bikes are easy to miss with their narrow profile. If headlights are left off (for those older bikes not permanently wired on) and dark clothing is worn, the bike and rider can be more difficult to see. (Motorcycle Roadcraft)



- In an urban area the high density of traffic can cause drivers to look through bikes to the vehicles beyond. (Motorcycle Roadcraft)
- One academic paper concluded that in general, novice drivers were better at picking up vulnerable road users such as pedal cycles and motorcycles than more experienced drivers, they tended not to look as far and wide as more experienced drivers. (Labbett & Langham 2006)
- Defective eyesight, ask any experienced Roads Policing officer about experiences with this offence, you may be horrified at some of the stories.





## What are the most common reasons for junction related crashes?

- **Careless driving on the part of the car driver** – For whatever reason, the car driver has not concentrated hard enough to spot the small profile of a motorcycle and pulled out believing the way to be clear. Drivers make mistakes and we have to try and deal with it. It's not deliberate so don't take it personally, motorcyclists make mistakes too but in a collision we inevitably come off worse!
- **Disregard of the hazard by the motorcyclist** – If the motorcyclist does not anticipate that the car might pull out and take steps to deal with it, the time to react if it does will be much shorter than it could have been. Consider, for example, the advanced warning sign of a junction around the next bend, disregard it at your peril! Give way lines offer no protection – look after yourself.
- **Excess Speed** – If the motorcycle is travelling excessively quickly the car driver could misjudge speed and distance plus the rider will have less reaction time and a longer braking distance if something goes wrong. Excess speed might also apply within the legal speed limit, excess speed for the conditions/circumstances can cause major problems.

Remember the **Safe Riding Rule:**

**Always be able to stop on your own side of the road in the distance you can see to be clear.**

## What can we do to reduce the risk?

### Adopt a systematic approach

The police system of motorcycle control is covered in a separate download but we will look at how to apply it here to dealing with junctions.

### Information (Observe/plan)

- **Anticipate that the car may well pull out** – That sounds rather obvious but it's a good starting point in order to be ready to deal with the unexpected.
- **Eye contact with the driver** – Not foolproof as we have already mentioned but if you have not gained eye contact with the driver, particularly if they have not looked your way at all, there is a greater chance they might pull out having not seen you.
- **Look for signs of movement** – Watch the wheels carefully to see if they start to rotate, you may spot this easier than movement of the car.
- **Is there any oncoming traffic?** – It is highly unlikely that the car will pull out turning right into a line of vehicles so this will offer you some measure of protection, just don't rely on it.

# Junctions



- **Cover the horn, consider a horn warning** – Whilst you would not want to rely on its use being effective, the horn is there to be used so if you are uncertain about the situation you are faced with consider a horn warning. Don't use it aggressively or as a rebuke and if you do use it consider an acknowledgement to the driver that you merely used it to alert him/her to your presence. It generally diffuses the situation.



No oncoming traffic, a good opportunity for the car to pull out, look for eye contact and wheels starting to move.



The same junction where the car failed to spot the motorcycle and pulled out



The view from the driver's position towards where the motorcycle came from

# Junctions



## Position

- **Consider moving away from the danger** – Clearly if the danger is to the nearside you will be consider moving to the offside away from it to give you a bigger safety margin. Make sure that you make rear observation before doing so and don't put yourself too close to oncoming dangers just to get further away from the nearside one.

If the danger is from an offside junction you will have more time to react and move away from it.

By moving across your road space you may well be more visible to the car driver by breaking their line of sight.



If the space around your bike is reduced by nearside and offside hazards, equalise the danger and slow down.

## Speed

**Consider a reduction in speed** – Being careful not to cause a problem for vehicles behind you, consider whether a reduction in speed might be appropriate if you have any concerns about the vehicle at the junction. This may just be a case of rolling off the throttle a little until you are satisfied the car is not moving but you will be one step ahead of the game.



**Something to think about:** Your bike almost certainly loses speed more rapidly as you close the throttle than the cars following you. They may be expecting to see a brake light if you are reducing speed. Consider showing a brake light to alert them to the fact you are losing speed, whether or not you actually need to use the brakes.



**Cover the brake** – Having identified a potential problem and decided that you may need to brake, get ready for it by covering the brake. It will take a split second out of the time taken before you brake and in this sort of situation time is precious. The i2i Machine Control Course will teach you how to get the most out of your brakes using track derived techniques and a clear understanding of the physics that affect the use of the brakes – see the end of this download for details.



# Junctions



## Gear

**Select a lower gear** - There will come a point where you are so close to the junction that it is not possible to stop if the vehicle suddenly pulls out. If, against all evidence and expectation, the car pulls out when you are almost on top of it, it may be a better option to use your performance advantages and accelerate out of the way. Even with a powerful machine you will still need to be in a responsive gear to enable this instant snap of power to get out of the way. Be very careful that you do not accelerate into the hazard increasing your impact speed.



**Acceleration** - Once the danger has passed, accelerate smoothly away. As long as the gear is right to give you instant power, you may need to accelerate out of the way of the vehicle if it starts to move as you start to pass it.



# Junctions

## Oncoming vehicles turning right across you

This is a situation motorcyclists are occasionally faced with and it is potentially very dangerous indeed particularly on roads where the speeds are higher.

**Q: Why does the driver fail to spot the motorcyclist?**

**A:** The same list of reasons can apply that we have previously looked at but the driver will also probably be looking to where they are going to turn and potentially miss the motorcycle.



## Q: What we can do about it?

### A: Look for the clues

- Spot the danger early on, with good observation identify the junction.
- Identify that the vehicle is slowing down (it may be indicating).
- Spot the movement towards the centre line.
- In daylight try gaining eye contact with the driver.
- In daylight watch the driver carefully, are they looking at you or at the junction they are going to turn into.
- Consider moving the bike to break their line of sight (we will assume the bike's headlights are on)

- Consider losing speed having made a rear observation – If you are not happy with the situation you need to consider losing speed, be ready on the brakes.

Another serious problem at junctions is overtaking at or near them. This is very dangerous practice to engage in and is adequately covered in our two downloads on Overtaking and Filtering.



Fortunately the rider of this bike made a full recovery despite serious injuries.

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# Junctions

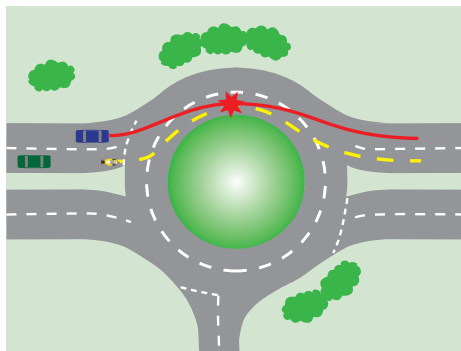


## Roundabouts

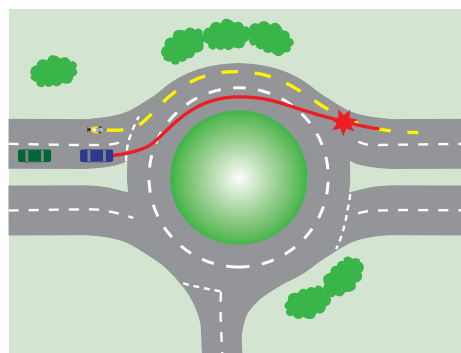
Apart from vehicles pulling out on you, roundabout junctions bring several potential problems caused by a lack of lane discipline or weight shifting with goods vehicles.

### What goes wrong?

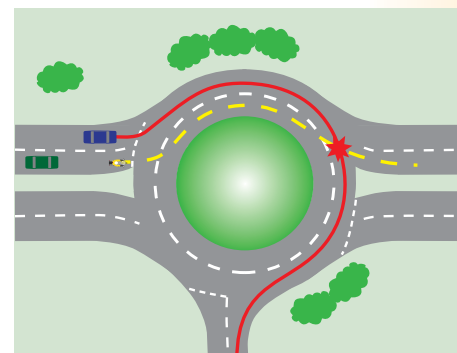
- Vehicles often straight-line the roundabouts taking the shortest, straightest line through it. This can squeeze the motorcyclist either against the roundabout as illustrated below...



...or against the apex as illustrated here.



The other main problem caused at roundabouts is vehicles turning right from the left hand lane



In the case of the vehicle turning right from the left hand lane, there will be clues that the driver is intending to turn such as head movement, drivers will generally look where they are turning to, they won't be looking straight ahead as they turn.



## Large vehicles

Additional problems are created by large goods vehicles or passenger carrying vehicles. They obviously need more space particularly on the smaller roundabouts so don't get tangled up with them, give them the space they need.

Another problem experienced with LGVs is that the loads can move causing instability and sometimes the vehicles overturn (often coupled with excess speed for the conditions). With a curtain-sided goods vehicle

you will have no idea what it is loaded with or whether it is securely loaded. If the load becomes insecure imagine what might happen.

Numerous examples exist of vehicles shedding their load. Locally in Norwich, on one occasion 40 sheets of chipboard came off a goods vehicle as it straightened up off a roundabout throwing the load into lane two of the urban dual carriageway. Had there been a bike alongside it at the time...



This looks like an inviting opportunity to overtake the LGV but what happens if part of the load comes out of the side of the curtain as it negotiates the left hand curve with the weight thrown to the right? Just a thought, your call!



Excess speed or load shift do occasionally cause goods vehicles to turn over; you wouldn't want to be anywhere near one when they do!





## The Solution?

If the rider is alongside another vehicle on the roundabout and the driver decides to turn right from the left hand lane or apex the roundabout, or the truck loses its load, you are at the mercy of whatever happens, you are not in control of events.

**A very simple solution to this problem exists allowing the rider to be in control of the situation. If the bike is not alongside the other vehicle at the time the rider stays in control of the situation.**

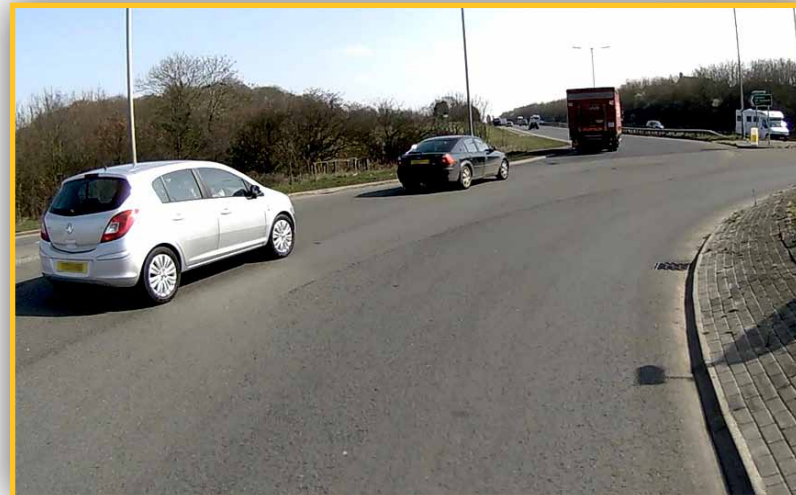
If the rider is sitting on the rear corner of the vehicle slightly to the rear, watching the scene develop, should the other vehicle do something unexpected the rider will see it happening and be able to brake, most likely avoiding any contact. If the bike is alongside it when the unexpected happens, the rider has nowhere to go and a crash is almost inevitable.

**Remember, the only space you totally control is that in front of your bike!**

In order to disengage from this obvious conflict area, the rider's mindset needs to be one of patience for just a few seconds.

It may be tempting to dive onto the roundabout overtaking other vehicles as you do in order to make progress but you are at trusting to luck if something unexpected happens. It's your call, if you are happy that there is no potential danger in what you are planning, fair enough, but do at least consider the possibility of lane indiscipline or vehicle/load shift causing you a serious problem.

You have substantial performance advantages to make the overtake after the roundabout, if you are patient for just a few seconds it will not impede your progress in any real sense but you will be in total control of the situation on the roundabout.



## Traffic Signal issues

We have all seen people fail to conform to a traffic light. There are dangerous 'amber gamblers' that try to beat the red light by accelerating at the changing lights but there is also another group whose minds are elsewhere completely.

The latter category is nicely illustrated in the following two photographs taken from a red light/speed camera. The display on the right hand side shows the time that the light had been red and the speed at which the vehicle went across the junction



There is little chance that either of these offences was a deliberate disregard of the lights as they are so long after red but that will be of little comfort to you if you are the victim.



These two extreme examples are fortunately quite rare! We have included these photographs to encourage riders not to assume that the way is clear just because they have a green light. Try checking to the sides if visibility allows and see if you can spot any potential problem vehicle, have a responsive gear engaged to get out of the way if it is the better option. Your more normal problem will be created by those that try to beat the red light so just have a quick glance on both directions as you move off. A defensive mindset is not the same as paranoia!

We will look at dual carriageway & motorway junctions in another download dealing specifically with multi carriageway issues.



# junctions



## Summary

Having looked at some issues related to junction problems, we would recommend you read 'Motorcycle Roadcraft' for a deeper look at rider skills and how to apply the police 'system of motorcycle control' to dealing with all hazards in addition to junctions.

We would suggest that you get some expert training to expand on the points covered.

Junctions will always be a high risk area for motorcyclists where they come into conflict with other vehicles. With the right mindset, observation and planning, you can significantly reduce the risks created at junctions.

To improve your rider skills and get more fun out of your riding, why not take part in a Norfolk Constabulary Safe Rider (Bikesafe) course, or take the 90 minute 1:1 Hugger's Challenge (Enhanced Rider Scheme based) assessment. We also have the amazing i2i courses available in Norfolk, run by the i2i Motorcycle Academy (York) dealing with motorcycle dynamics, stability issues, advanced braking techniques, cornering skills and much more besides.

Details are available on [www.think.norfolk.gov.uk](http://www.think.norfolk.gov.uk) You are welcome to email us on [roadsafety@norfolk.gov.uk](mailto:roadsafety@norfolk.gov.uk) or ring **01603 638115**.

