The SMIDSY

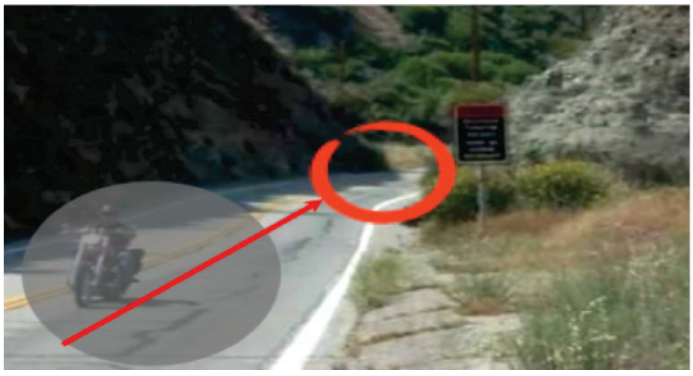
"Sorry mate, I didn't see you!"

Why does this happen?

1. Only the small central part of the eye's retina (the fovea) can see detail well. The rest of the eye gives you peripheral vision which is good for detecting movement and size change, but not for detail.

2. Your eyes do not scan smoothly, but take images in a series of jumps (saccades) with short pauses (fixations) to obtain detail. Your brain fills the gaps during saccades with peripheral vision and assumption, to avoid image blurring & information overload.

The red circles show fixations and the red arrows saccades during scanning this scene



But here the motorcycle falls within a saccade, so movement & size change is key to the bike & rider being noticed, by peripheral vision

3. Framed scenes (windscreen zoning) – you tend not to look at edges of a framed scene, so physical blindspots such as windscreen pillars, have a zone around them where you don't take fixations, leading to larger saccades, thus enlarging blindspots.

4. Relative movement - if another vehicle is approaching you from the side, a constant speed and lack of size change may blind your peripheral vision to its approach, unless you move your eyes or head.

5. Assumption (expectation) – if you don't expect to see something, you are less likely to notice it. If the junction is usually empty, your brain expects to see nothing.

So how can you avoid these problems?

Look methodically

The lookout scan – far, middle, near. At junctions try to take three fixations in both directions, to reduce saccades.

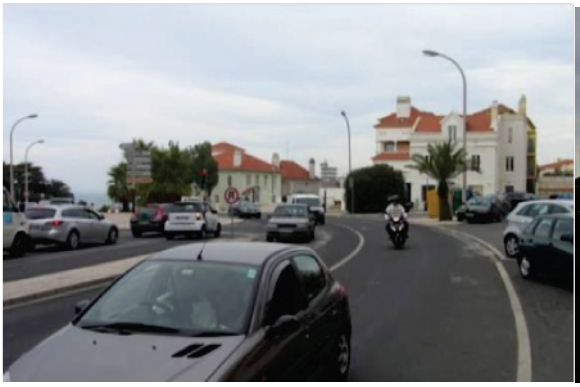
Always look right and left at least twice, so any vehicle in a saccade at the time of your first look is less likely to be missed on your second look.

If changing lanes or turning, always look into your blind spot, and then look at the space you intend to occupy. Rear end shunts often occur with drivers looking right whilst turning left, only to hit a now stationary vehicle ahead.

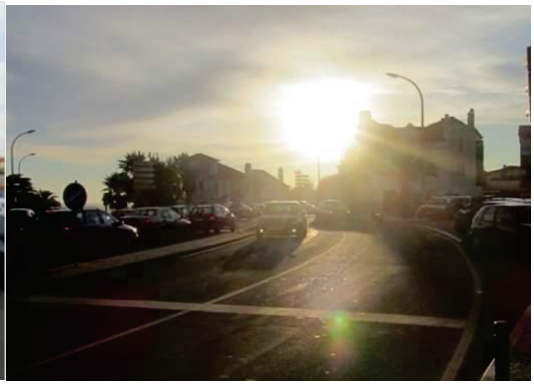
Keep your visor clean and replace it if it is scratched.

Don't camouflage yourself. Being easily seen is all about contrasting with your background.

On overcast (low contrast) days, motorcycles may be easy to see, but bright sunny and especially low sun winter (high contrast) days can hide motorcycles in the shadows of up-sun objects (buildings, trees, large vehicles)



Scene on low contrast day



Same scene on high contrast day caused by low sun
Can you see the scooter now?

Light coloured or hi viz clothing and headlights increase your contrast against dark backgrounds – remember you are a small narrow object.

If there is a car waiting at side road junction, alter your speed on approach and change road position (slight weaving) to increase perception of movement (this aids the driver's peripheral vision to register you). Always think "Has the driver looked at me **and** seen me?" If in doubt, use your horn.

This is part of the IAM RoadSmart's Advanced programme for Motorcyclists.

The full article by RAF Group Captain John Sullivan is available at
https://dl.dropbox.com/u/90471/1211%20Road%20Survival%20Guide%20Final.pdf

A demonstration of motion induced blindness can be seen at
http://www.msf-usa.org/motion.html