



Wiltshire
RoSPA Advanced Drivers & Riders

Night Driving

Nick Carrington

Car Training Officer
and Advanced Tutor

RoSPA
The Royal Society for the
Prevention of Accidents



Night Driving

**By
Nick Carrington**

Car Training Officer and
Advanced Tutor

Wiltshire RoSPA Advanced Drivers & Riders

www.wiltshireroadar.co.uk

Copyright
© 2014 Nick Carrington
All Rights Reserved

Night Driving

As winter starts and the days shorten, more of our driving or riding will be in the dark. Many of us are less confident in the dark, and a few tips may help to build confidence, and make us safer.

Light

It may sound obvious, but light is the key to successful driving in the dark. You should turn on your headlamps as soon as ambient light becomes insufficient to see things properly. In winter this may be as early as 3 p.m. Remember day doesn't just become night in an instant, there's a twilight period in between. Lights may not seem to help much during this twilight period, but they're performing the important function of helping you to *be seen*, as well as to see more yourself. Take a look at oncoming cars, and see for yourself how much easier it is to see those with their headlights on. Don't rely on sidelights, either. It may be legal to drive on sidelights in areas with street lighting, but there's no practical reason for doing so, and sidelights are often next to useless when it comes to making your vehicle properly visible to others. If your vehicle has automatic headlamps, don't wait for them to come on by themselves, use your own judgement. Similarly, don't rely on modern running lamps, they only operate at the front. Switch your headlights on so that you are showing lights both front and back.

Once it becomes properly dark, and particularly on unlit rural roads, headlamps should be on *main beam* by default. Wherever possible, switch to main beam for better vision. There are some circumstances where it may be less appropriate, and experience will help you decide, but here are a few:

- Whenever anybody would be dazzled by your headlights, of course. This includes cyclists and pedestrians as well as oncoming motor vehicles, and vehicles in front, who may be dazzled by your lights in their mirror. When travelling in a queue of traffic on dipped beams, try and keep your lights shining below the rear screen of the car in front, or even better, only on the road behind. That way, you're not adding to the problems that driver is already facing, just like you.
- When confronted by signs with highly reflective surfaces. Sometimes the light reflected by main beams is so much that dipped beams for a moment may provide a relief and better vision.
- In mist, fog or heavy rain. Often the high beams will reflect dazzlingly off the little water droplets in the mist. Try dipped beam, it may provide better vision. Remember to drive at a speed appropriate to the distance you can see.

You can use foglights when it's foggy, and you may find foglights and sidelights produce a better combination than foglights and headlights. Don't use foglights at other times. The temptation may be great, to have that extra pool of light near the car, but it's not legal, and it can dazzle other

road users. Most foglights have no adjustment capabilities, and a knock can leave them shining like a laser straight into the eyes of an oncoming motorist. Rear foglights can be confused with brake lights, leading to shunts, and they are dangerously dazzling in rain. Switch them off whenever they're not absolutely necessary.

- Approaching junctions. Dipping your own lights will help you see motorists approaching from your left or right, as well as helping not to dazzle them when they cross your path.
- Approaching left-hand bends. The dipped beam pattern provides an enhanced area of light at the left verge, in UK cars. This may help identify hazards in the vicinity of the bend – potholes, debris, etc.
- Going over hump backed bridges or sharp crests. Crossing the bridge your lights will be momentarily aimed at the sky. Dip them first, for a better view nearer the road surface, as well as to avoid dazzling any oncoming road user.

Now, assume you're travelling along an unfamiliar country road in the dark. The road twists and turns, climbs small hills, descends into dips, and has multiple junctions and cross roads along the way. How best to navigate safely while still making suitable progress?

At every opportunity, you will switch your headlights to main beam. The beam of light stretches out into the darkness ahead, illuminating a number of features:

- The road surface. Keep an eye on the road surface, and try and assess its condition. Is it dull, shiny or sparkly? Is it smooth or broken? If it looks dull and smooth, it's probably dry and safe. If it's shiny, it's probably wet. If it sparkles, it's potentially frosty outside. If it's covered in mud or leaves, it's going to be slippery. If it's broken, there may be big potholes as well. Use the appropriate speed for the conditions.

- Road signage. Remember that road signage includes:
 - Traffic signs. Remember the basic shapes, because they will help you identify signs from a distance before you can see the graphics. Watch out for yellow borders or flashing lights, they mean extra danger. A traffic sign seen in the distance helps identify the road's course. Is it bright and reflective, or dull and grey? If grey, you're looking at the back of a sign on the opposite carriageway. Use this mental image to help you plot a course to that distant feature, but remember that hazards may lie in between ...

 - White lines. In the dark, white lines suddenly lose their dull, authoritarian daytime image and become shining paths of light. White lines along the verge guide your course, as well as telling of a hazard

behind. Keep within, not beyond them. White lines along the centre tell you much about the road direction. As they disappear into the distance, they tell you about the next change in direction and its hazard level. Do the lines change from centre lines to hazard or solid lines? Was there a bend sign? Does it say SLOW on the road? Adjust your speed accordingly.

- Cats-eyes. Even better than white lines, cats-eyes guide us in the dark. They show us the course of the road, as well as telling us the level of hazard it carries. The closer they are together, the higher the hazard level. Their frequency doubles with each increasing hazard level, from normal centrelines (one per two lines), to hazard lines (one per line) and hence to solid lines (double the frequency of hazard lines).
- Edge markers. Yes, those anonymous little black and white posts along the edge of the road. In the dark they're your friends, indicating not only a hazard beyond the edge of the tarmac, but also telling you the road direction. Remember, they have reflectors on the top, red for the left, white for the right hand verge. So if you see a line of red reflectors crossing your path in the distance, a right-hand bend lies ahead, and conversely, white ones indicate a left-hander.

- Trees, hedges, ditches, gates ... use all of these to guide you as to the course of the road between your position and the furthest thing you can see. Does the hedge describe an S shape in that shallow dip we're approaching? Does that big tree appear to be in the middle of the road? Obviously the road wasn't as straight as we thought.
- Buildings. Many buildings reflect light in a helpful way, showing us a potential hazard. In town, windows may reflect the light of oncoming cars. Out in the country, a building may jut out into the road, indicating either a narrowing or a kink as the road winds round it. Churches, in particular, often indicate a sharp bend, as the road is forced to make its way around the church yard.

As you progress along this road, you will be using main beam most of the time, dipping occasionally as you approach a left hand-bend or a crest, both to help you see the hazards close to the vehicle, as well as to help you identify any oncoming loom of light from another vehicle. Be flexible. Imagine you have a torch, with two settings. Most of the time you use the long narrow beam to see far into the distance, but sometimes it's more useful to see a broader patch of light closer to you.

As you identify distant features, a picture of the road ahead builds up in your mind. A distant downward pointing triangle, a Give Way sign, tells you that you will be stopping soon, either at a crossroads or T-junction. As the road descends a hill, twinkles of light from houses or farms, or the orange glow in the sky of

reflected street lights in the distance, tell you of approaching villages or towns. The white line snakes away in front, curving to left and right, cats-eyes marching away like little lighthouses, or suddenly lighting up like a string of fairy lights on a Christmas tree, warning of a sharp bend. Use all of these to guide you on your way. Look for the lights of other motorists, approaching, going away, or converging on you from the side. What do they indicate about the direction of the road? What angle were they pointing at as they came round that bend towards you? Where's the junction? Be alert, and all of these features will help to guide you on your way.

Unseen hazards

Always drive at a speed that allows you to stop in the distance you can see. At night, this is normally the distance your headlamp beam reaches. On dipped beams, that's only 50 metres or so, so should you be travelling at 60 mph for any length of time with just your dipped headlights to rely on? Obviously not. On main beam, the light throw may be 4 to 8 times that distance, and you can plan accordingly.

Don't forget that at night, everything is black, until it's illuminated by your lights. Be alert for pedestrians, cyclists without lights, and animals. Be especially careful rounding left hand bends, where there may be a pedestrian walking towards you. Unless they have a light, that you can see before you turn the corner, you may be right on top of them before you see them. Think about

the big potholes that lurk near the verge. Adjust your speed accordingly.

In areas with high hedges, or through woods, be alert for deer, in particular at dusk and dawn. Badgers and foxes are active all night. A badger will make a nasty mess of the front of your car, and a deer strike could write it off.

Don't be a groper, a peeper, or a follower. Gropers drive around on only dipped beams, for no apparent reason. Peepers use occasional flashes of main beam, then revert to dipped. Followers get sucked into following the car in front, using that car's lights as the only guide to the hazards ahead. Don't do this, use your own lights and your own judgement.

Dazzle and night vision

As our lights help us, the lights of oncoming motorists make life more difficult, once they get close to us. Inevitably, at times we will be dazzled by too much light. What to do?

First and foremost, *don't look at the lights directly!* This may seem so obvious, it hardly bears repeating, but it's crucial. It's easy to be drawn towards the oncoming headlights like a rabbit, and if you don't look at the lights, where should you look? Two suggestions:

- Consciously look towards the nearside verge. This will take your eyes away from the oncoming lights, as well as

helping you maintain a safe course as the dazzle prevents you from seeing past the oncoming vehicle.

- De-focus your eyes slightly (just “relax” your vision), and look down into the pool of light produced by your own dipped beams. This is hard to explain, but can provide an excellent defence against the dazzle.

On bends, direct your vision to the verge for right hand bends, to the white line for left handers. Your vehicle position will naturally follow where your eyes are looking.

Your eyes adapt to the darkness by opening your pupils wide, and as oncoming lights suddenly multiply the light level many times, the pupils quickly contract again, lowering the level of light hitting the retina. As you emerge from the bright patch, the pupils gradually reopen, but much more slowly than when they closed. Hence, for a short while, you see less well than before the bright patch, as you wait for your eyes to adapt again. A long blink may help here – just a second or so, keep looking at the road! If you wear glasses, you may benefit from an anti-reflective coating on them. Ask your optician. Many different tints and coatings are available.

Since your eyes react to the amount of light around you, and you want them to be soaking in as much of it as possible from the road ahead, you should minimise the amount of light within the car. Turn instruments, sat-navs, and anything else emitting light, down to its minimum level. Some cars have a “flight deck” mode that turns off all interior lighting except essential instruments. Familiarise yourself with the controls, and make them work to

your advantage. Turn that phone off, or put it face down, so its light and changing display don't distract you. If your passenger needs a light to map read, have them use it sparingly, and ask you each time before switching it on.

When to dip

We discussed earlier, occasions when you may need to dip your headlights. Obviously a high proportion of these will be for oncoming traffic. You will meet them under different conditions:

- Approaching from either side of a crest. The key here is to dip before you blind the other driver, but not soon enough that you lose vision before it's necessary. If you dip too early, the oncoming motorist may not even realize you are there, and blind you in turn. Often you will see the lights ahead dipping, but don't necessarily dip yourself as an "answer". Instead, assess when you need to dip to remain courteous, but safe.
- Rounding a bend. In this case, you need to dip before your lights hit the other driver's vision, as above. This can be subtly different depending on the direction of the bend, and its radius. For right-hand bends, you can usually delay dipping slightly longer than for left-handers.
- At junctions. Here, use judgement so that as your beams arrive at the junction, you dip to continue on low beam.

Mostly the other driver will be slightly back from the mouth of the junction, so should not be in danger of blinding at this point. Return to main beam as soon as possible.

Once the oncoming traffic is no longer vulnerable, you want to be back on main beam as soon as possible. The optimum for this is just as your lights pass out of the other driver's peripheral vision. Aim to switch back just as your cars cross. There will be a tiny delay in both your reaction after you make the decision, and for the lights to switch back on. By then, the speed of the vehicles will have carried you past the courtesy point.

Overtaking

Overtaking at night can be tricky. Unlike during the day, the view ahead is not infinite. You will only see as far as the lights of the vehicle in front illuminate. If they only use dipped beam, it can be near to impossible to overtake them, unless other light sources help you to see the road ahead. It may be best to be patient, and drop back for a while. If you get a view, it can help to position to the offside, and switch to main beam early, to give a longer view of the road ahead. Be aware that this will cause the driver of the target vehicle some inconvenience, and try to minimise its effect.

The triggers used in the daytime to prepare for opportunities work just as well in the dark. Cross views in the day time are easy, but they also exist at night if another motorist's lights are illuminating the next stretch of road. What comes after a bend? Normally a

straight. Be patient on short straights, but close up ready at the approach to bends, particularly right-handers. As you exit the bend, look at the white lines and cats eyes as they stretch out in front. Check for their frequency (remember the section above). Be ready ...

When you have a view, follow the same principles as during the day, but once committed, do all you can to minimise the time spent on the opposing carriageway. Position to the offside, and be sure the target vehicle is aware of your intention. Accelerate briskly, and as soon as your lights are level with the driver of the target, switch to main beam. Then complete the manoeuvre as quickly as possible, returning to the left as soon as their lights appear in your rear view mirror.

Weather

Bad weather at night can make driving a scary, tiring chore. Rain, snow, ice, and the salt used to keep them at bay, all conspire to rob you of vision. You can make the most of your situation with some of the following:

- Keep your windscreen clean. Use your wipers as often as you need. In fog, water droplets accumulate on the windscreen, subtly reducing its transparency without you noticing. Wipers on intermittent will keep this away. If the road is salted, a white film will gradually build up on the windscreen, again robbing you of crucial vision. Keep your

washers topped up with concentrated screenwash, and use them frequently to disperse the salt. Often even this won't be enough, and periodic stops will be necessary to clean the screen properly. Keep a chamois (synthetic is best) in a sealed freezer bag in the car. A spray bottle containing some screenwash can be a godsend in freezing or grimy conditions too, to help you clean the screen at pit stops.

Between journeys, clean the screen with a good window cleaner to remove the oil and rubber film that builds up in the winter. The wipers can only do so much.

Clean the inside of the screen regularly with a good window cleaner. A film on the windscreen has two bad effects – it reduces light transmission, and it scatters the incoming light, increasing dazzle. A perfectly clear screen blends into the night, allowing your eyes to concentrate on what's outside the car.

Check your wiper blades, and replace them if necessary. Any streaking or smearing on the windscreen means new blades. A few pounds spent on a new set can alleviate hours of misery on wet roads in the dark.

Bikers, keep your visors clean, and if it needs replacing, buy a new one for the winter. You owe it to yourself.

- Just as important, keep the lights clean! The grime that builds up on your windscreen is killing your headlights too. If your car doesn't have headlamp washers, remember to

clean the lights before your journey, and whenever you stop to clean the screen.

- Use dipped or main beam flexibly to help you see. Main beams may reflect badly in fog or heavy rain, so try dipped. Use your other lights as required. For example, in fog, you may want to keep your brake lights lit any time you are stopped alone. If a vehicle appears behind, wait until you are sure it has seen you before taking your foot off the pedal.

Of course, adjust your speed according to conditions. Remember that stopping distances increase dramatically as the road becomes wet, frosty or icy. If it's stormy, think about the fallen tree that may be just around the next corner.

Fatigue and stress

As our bodies detect the change from daylight to night, they automatically start preparing for sleep. Be aware that at night, you will be in constant danger from your body telling you it's time to be asleep. Be consciously alert. A few things will help to keep awake:

- Keep cool. Don't build up too much of a cosy cocoon in the car, just like being in bed ...
- If you need it, put the radio on (not soft soothing music). Other human voices will help to keep you alert.

- Take a passenger. Have them look after you, talk to you and make sure you're not drifting off.
- Drink coffee or another drink containing caffeine, as necessary. Don't overdo it, and give it 20 minutes or so to take effect.
- Most importantly, if you're feeling sleepy, stop! Get out of the car, take a walk, have a coffee. If you need to sleep, have a short nap. Don't drive tired.

For many, driving at night is stressful. Try and follow some of the tips above. If you're alert and purposeful, but relaxed, stress can't take hold. Once you're tired, or the weather deteriorates, stress levels can increase quickly. Take a rest from driving for a while, if it's a long journey.

Conclusion

Hopefully the above will provide you with a few new insights, tips and techniques to help you through the nights. In the right frame of mind, night driving can be an enjoyable experience, just as much as in the daytime. Always remember, though, that your headlamps are your only means of vision, and keep your speed to one where you can safely stop within their beams' throw. Have a safe night journey!

Nick Carrington is an Advanced Tutor and Car Training Officer for Wiltshire RoSPA Advanced Drivers and Riders, and an enthusiastic night driver.

For more information about Wiltshire RoSPA Advanced Drivers & Riders, and to discover how to get more out of your driving or riding, visit

www.wiltshireroadar.co.uk