

11. Hazard perception and defensive driving

Introduction

By now you should have mastered the main control and procedural skills associated with driving. With these skills in place it's time to move onto part 3 of the Learner Driving programme – traffic skills. To become proficient at handling traffic you will need to further develop your hazard perception and defensive driving skills. Therefore the aim of this lesson is to improve your ability to recognise potential hazards early and to take appropriate defensive action. .

Lesson objectives

By the end of this lesson you should be able to:

- explain the importance of driving proactively rather than reactively;
- explain the difference between an actual hazard and a potential hazard;
- give examples of the kind of clues you are looking for to help you anticipate the types of hazard that may lie ahead;
- look well ahead for signs, other road users, junctions, obstructions and pedestrians;
- assess whether any static road features or the possible actions of other road users represent an actual or potential hazard;
- appropriately apply the hazard drill and plan a suitable course of action to deal with any actual or potential hazard;
- minimise potentially hazardous situations by acting defensively and courteously towards other road users;
- continually adjust speed and position to maintain a safety buffer of space around your vehicle at all times;
- apply the two second rule (or more in adverse weather conditions) and give yourself sufficient room to manoeuvre in traffic queues;
- effectively use signals and the position of your vehicle to communicate your intentions or presence to other road users.

Subject brief

During this lesson you will begin to learn how to deal with much busier traffic situations. To do this effectively you will need to further develop your hazard perception skills (i.e. your ability to recognise potential hazards) and your defensive driving skills (i.e. your ability to deal with them).

What is a hazard?

You will recall from lesson 6 that a hazard may be defined as anything that may require you to change speed, position or direction of your vehicle. Basically hazards can be caused by static road features (e.g. junctions, bends, humps, dips, passing places, traffic lights, bridges, crossings, road works, parked vehicles, wet leaves, spilt oil, ice, snow, surface water etc) or by the actions of other road users or a combination of the two.

Although static road features can present a hazard the routine for dealing with them and the type of hazard they present is covered elsewhere in the Learner Driving programme . In this part of the programme we will be concentrating on those hazards that develop through the actions of other road users and those circumstances that can contribute to their hazardous behaviour.

Hazard Perception; a bit of detection work!

Perception in driving terms can be defined as: 'The art of being able to pick out the important details to enable you to anticipate what's likely to happen next from all the information provided by your senses.' A perceptive driver must look for clues and build up a mental picture of what they think may happen next.



While hazard perception skills can only truly be acquired through experience (preferable under the guidance of an appropriately qualified driving instructor) you can speed up the learning process by having a better understanding of the factors that an expert driver considers when building up this mental picture of what's likely to happen next. These are the main factors that an expert driver would consider:



Road Signs

Road signs can provide you with a clear warning of what lies ahead. It is essential that you train yourself to take note of all road signs and act accordingly.

Your Location

Are you in a busy town centre or on a country road? It would be unlikely that you would meet a flock of sheep in the High Street, but there may be one just around the next corner on a country road. Whatever your location you must always consider the type of hazard that you may expect to meet there, and be driving at such a speed that you can stop safely, if necessary.

The Time of Day

The time of day can give you a lot of information about what to expect on the road. If you see a warning sign for cattle, or mud on the road you should be especially vigilant at dawn or dusk because cows are often taken for milking at these times and may well be on the road ahead ... perhaps around the next bend.



Although children can be present in the road at any time, they are out in force just before and after school. Therefore, you should be keeping a special look out for children during the morning rush hour and mid-afternoon periods.

Other Road Users

It may seem fairly obvious that you should look out for other road users, but remember, you are not just looking for them, you are looking for clues about what they will do next?

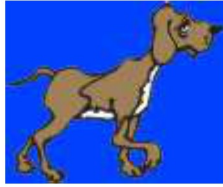
Pedestrians: The Highway Code explains that those pedestrians most at risk on the road are over 60 and less than 15. Old people do not judge speed and distance very well and their reactions can be slow. Have they seen you? Can they hear you? Look for clues. Are they carrying a white stick? Are they looking your way? And so on.



Children have little time to consider road safety; they are more interested in the game that they are playing or the ice cream van that they are running after. Look for clues. Are they alone? If one child runs or cycles into the road there will often be at least one more following; footballs are followed by

children; cycles, seemingly abandoned at the side of the road, will mean that children are not far away.

All pedestrians, not just the young and old, are at risk on the road. If there are pedestrians about, make sure that you know what they are going to do before they do it.



Animals: Noise and vehicles frighten animals. Therefore, drive slowly, don't sound your horn or rev up the engine and keep your distance. Watch their behaviour carefully, particularly if it is a horse being ridden by a child.



Cyclists: A High Court judge once ruled that a cyclist is entitled to wobble. Drivers should have more control over their vehicles than cyclists who are dependent upon physical strength and effort to pilot their machines. Always leave plenty of room when passing cyclists, look out for clues about their next move. For example, a cyclist who looks around over his or her right shoulder may be about to turn right; a puddle in the road will cause a cyclist to move out. Cyclists are not easy to see and they can easily get lost in the blind spots around your vehicle. Particularly out watch for them in slow moving traffic in built up areas – they may overtake you on either side when you least expect.



Motorcyclists: Like cyclists motorcyclists are not easy to see particularly at dusk and at night. Like cyclists they may also take up unusual road positions to avoid holes and bumps in the road surface. It is very easy to miss an approaching motorcyclist when emerging at junctions – so remember think once, think twice, think bike!



Drivers: If you are unsure about what a driver is going to do next, leave plenty of space between you and them. A sporty looking "custom-car", may be driven by someone more interested in "posing" than driving.

Look out for the actions of drivers: a driver who has just stopped may open his door without checking to see if it is safe; a driver who seems to be dithering about may be a stranger to the area and could, therefore, make a last minute turn without a signal when he sees the road that he is looking for.

Large vehicles: Buses and large vehicles need more room and may take up unusual road positions to turn round corners at junctions etc. Hold back and give them plenty of room.



Inconsistent behaviour

Inconsistent behaviour is often a very good clue to what might happen next. Just because a bus is signalling left prior to the side road that you intend to emerge from doesn't mean that you should go on the assumption that the bus is turning left? Look to see if all the actions of the driver are consistent with the

signal. Is the vehicle slowing down as you would expect to complete the proposed turn? Is the position of the vehicle consistent with the proposed manoeuvre? Is the driver looking in the direction they intend to turn? Could the driver be signalling left for any other reason? In this example the bus driver may be signalling left to pull up at a bus stop just after the side road. Make sure you look at all the evidence before you finally decide.

Lets consider another example. If you were driving behind a vehicle that was indicating to turn left but the road on the left had a no entry sign at its entrance it is quite probable that the driver will do an emergency stop or swerve away at the last minute once he or she realises the mistake. Therefore anything that would potentially prevent the driver from completing the proposed manoeuvre safely would make the proposed action inconsistent.

Train your mind to recognise inconsistency – that's not quite right – why's that?

What other drivers cannot see

Consider what you can see that other drivers cannot see. This may play an important part in determining what may happen next. As well as determining whether the drivers behaviour is consistent with the manoeuvre they propose to complete also consider whether you can see something or someone that they cannot see that may cause them to alter their course or abort the manoeuvre at the last minute. Also consider whether other drivers need to see you and if so determine what you can do to make your presence known to them.

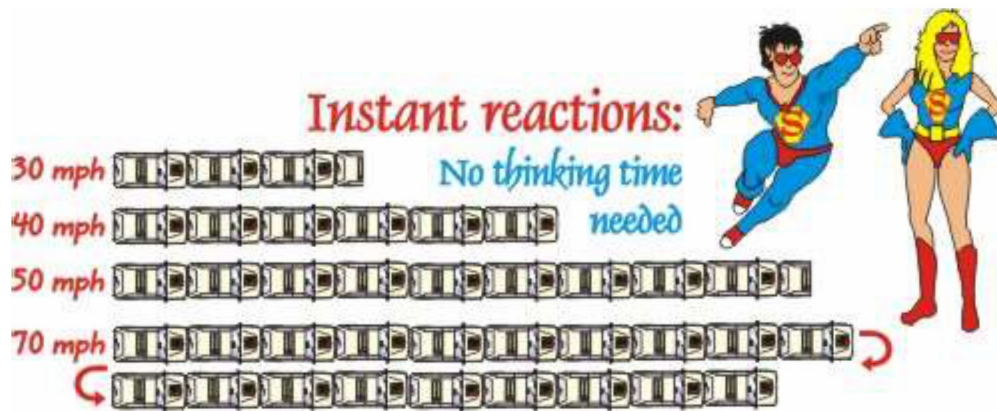
The weather and visibility

Bright sunlight, fog, rain and snow can severely affect visibility therefore remember to slow down and give yourself more space. At dusk and at night the driver loses the ability to see any detail and dark objects easily merge into the background. Consider not only how this may effect your judgement but also how these conditions may affect other drivers. Is the other driver being blinded by bright sunlight or if at night by headlights on full beam? Are the windows of other vehicles misty - can the driver see you? Will the high-sided vehicle, in high wind, remain stable when it crosses a gap in the hedge or buildings that might line the side of the road? Also remember the effects of water, ice and snow on the road surface – are the other drivers driving too fast for the weather conditions – are you driving too fast for these conditions?

Defensive Driving

Driving defensively is all about giving you time to react and keeping your options open. Even someone with lightning fast reactions needs time to react. The laws of physics simply prevent a car from stopping dead. Even if you are Superman or Superwoman, with supernatural reactions, you couldn't stop a car within fewer car lengths than those shown below:





Consequently, anything or anybody who is within the above distances of the front of your car will be hit! You could call this area to the front of your car the **impact zone** or if you are travelling at 40 MPH or more the **killing zone** as anyone hit at these speeds is unlikely to survive. This clearly demonstrates the importance of anticipating what might happen and acting upon that rather than waiting until it happens. To do this effectively you need to:

- Look well ahead and perceive potential problems early.
- Apply your hazard drill in good time.
- Give yourself plenty of space.

Looking well ahead and perceive potential problems early

See and be seen. Take up safe road positions that allow you to see and be seen. Be attentive; focus on the driving task - don't let your mind wander.

Keep your eyes moving and scan the road well ahead. Avoid staring at any single point ahead or to the side. Concentrate on the available space (i.e. the gaps), not the obstructions.

With experience and guidance from your instructor you will begin to recognise what feedback from your senses is important and what is not. Ignore the superficial information you can see. For example don't concentrate on identifying individual drivers or pedestrians or the make, model or the colours of vehicles. Instead concentrate on the position, speed and potential course of other vehicles and/or pedestrians both to the front, rear and sides of your vehicle.

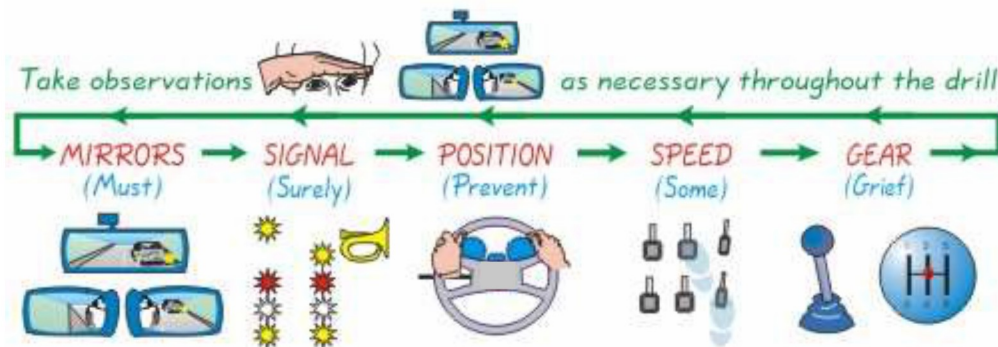
Look as far down the road as you can see for any potential hazards whether they are static road features or situations being caused by other road users. A gap in the tree line ahead may mean that there is a side road at that point or an upside down triangle sign in the distance may warn you that you are approaching a T Junction and so on.

Initially you may perceive risks that aren't really there or indeed ignore risks that are. With experience you will begin to develop your own judgement in this regard.

Apply the hazard drill in good time

The hazard drill that we recommend and use is based on a simplified version of the police system of vehicle control. The manoeuvre part of the Mirror-Signal-Manoeuvre routine (MSM) is split into Position-Speed-Gear.

Hazard drill (MSPSG-Look)



Each time you are presented with a potential or actual hazard on the road (i.e. anything that may require you to have to change speed, position or direction) you will go through the following hazard drill one or more times. While each step of the drill needs to be considered in the order shown it need not necessarily be acted upon. Observations to the front, rear and sides are carried as necessary throughout the application of the drill.

Mirrors:

Use your interior mirror and side mirror(s) early. Glance into your right and left blind spots as appropriate. Because this forms part of your observations this part of the drill may be repeated at any point throughout the drill as required.

Signal:

Give signals in good time. Use signals to help or warn other road users. Be careful not to give misleading signals.

Position:

Determine the best position/course to negotiate the hazard. Think before you change position; be careful not to mislead others.

Speed:

Adjust your speed so that you can negotiate the hazard ahead and stop within the distance you can see to be clear.

Gear:

Select the gear to match your speed and the power you need. Make sure that the gear is selected before the hazard is negotiated.

Look:

Instructors often add an extra step called **Look** and amalgamate the gear step into **Speed**. In this event the hazard drill becomes the approach routine **MSPSL**. If you follow this routine please note that you take observations to the

rear, sides and ahead as necessary throughout the routine and not just at the end. Make sure you take a good look before exiting/entering the junction. Always remember if for any reason you are not sure about what you have seen, "If in doubt, wait it out".

As soon as you perceive a potential danger begin to employ this hazard drill and determine where you can go or how you can stop if the danger materialises. Remember you need to consider what's behind as well as what is in front when considering your options.

Give yourself plenty of space – driving in space

You need to give yourself the time to recognise a potential problem and apply the hazard drill. We refer to this as "driving in space".



Driving in space is all about maintaining a buffer of 'safety space' or if you like a bubble all around you at all times. The higher your speed (or greater your stopping distance) the bigger the bubble needs to be.

- **Space to the front**

Always allow yourself enough room to stop. On narrow country roads with a limited view, this may be as much as twice your overall stopping distance (to leave room for the idiot coming the other way!).

- **Space to the sides**

Make sure that you leave enough room for pedestrians, cyclists, motorcyclists and other vehicles. If you are unsure whether or not you will fit through a gap, you won't! Give parked cars and pedestrians at the side of the road plenty of clearance. Remember pedestrians are far more vulnerable than vehicles. Allow for car doors opening or children appearing from between parked cars or pedestrians wandering onto the road particularly in crowded streets. Position your car accordingly and reduce speed as the space to your sides is reduced.

- **Space to the rear**

If other vehicles follow too close slow down and let them pass. Remember that it's your neck that will suffer if someone hits your car from the back! The less space you have at the back the more you need at the front.



Highway Code practical references

Rules: 80, 82-84, 103-105, 124-126, 129-133, 144, 146, 163, 168, 169, 180-210, 212, 277 and 278.