

Developing your skill at driving on multi-lane carriageways

Much of the content of this chapter applies equally to all multi-lane carriageways, but motorways have some specific features which you will need to take into account:

- slip roads for entering and leaving the motorway (not always present on other multi-lane carriageways)
- limited opportunities for refreshment and refuelling
- the dangers of stopping on the hard shoulder in an emergency
- legal restrictions on which vehicles can use the motorway.

Safe driving on motorways and other fast-moving multi-lane carriageways depends on rigorously applying the driving skills and methods explained in *Roadcraft* and developing your awareness of the extra hazards that arise on these roads.

Despite the high speed and volume of motorway traffic, motorways have the lowest accident rate of all UK roads. However, other fast-moving multi-lane roads such as dual carriageways combine traffic moving at equally high speed with additional hazards such as junctions to right and left, roundabouts, slow-moving vehicles and the absence of a hard shoulder (see page 161).

It takes time to develop accuracy in assessing speeds and stopping distances under fast-moving driving conditions. Always drive well within your own competence and aim to steadily develop your experience so that you are comfortable and confident within your existing speed range before moving on to higher speeds. Plan how you are going to address the fast-moving traffic conditions before you start your journey.

Serious injury and damage. As the volume of traffic increases, the demands on your concentration and decision-making also increase. With more vehicles there are more hazards and less room to manoeuvre.

For all these reasons, you need to maintain a high level of concentration. This is more difficult in monotonous conditions such as driving for long periods in low density traffic, or in fog or at night. Prepare for your journey – assess your state of mind and plan how you will deal with feelings such as tiredness or low mood (for example, by driving more slowly or taking breaks). This is particularly important on motorways where there are limited opportunities to stop. Remember also to take account of the possible effects of any medication.

In difficult or demanding driving situations, be aware of the possible effects of stress. Police drivers are trained to respond to urgent calls without taking undue risks. But research shows that all drivers who feel their journey is urgent, either because of time pressure or because of the purpose of the journey, can experience increased stress which in turn can affect information processing, decision-making and judgement. A sense of urgency does not give the right to take risks. No emergency is so great that it justifies the possibility of injuring or killing someone through bad driving.

High speeds mean that hazardous situations develop quickly and that you travel further before you can react. At speed, minimum stopping distances are much longer and collisions often cause

Check your vehicle

Your vehicle needs to be in good condition and comply with legal and safety requirements so do a roadworthiness check before starting your journey. Stopping on the hard shoulder (if there is one) is dangerous for the occupants of the stationary vehicle and for other motorway users because there is a high risk of collision.

See Roadworthiness check, page 164.

Plan your route

Plan your route and identify your point of exit and possible rest points before you travel, especially if you are using a motorway. Never consult a map while you are driving.

Anticipate likely road conditions

Allow for the likely traffic volume and the possibility of roadworks or other delays so that you are not rushing your journey. If there are likely to be a lot of delays, consider another route or postpone your journey. Where weather conditions are deteriorating, consider carefully whether the journey is essential. Your safety depends on adapting your driving to the prevailing road and weather conditions and this is crucial on roads with fast-moving traffic.

Before you join a fast-moving road

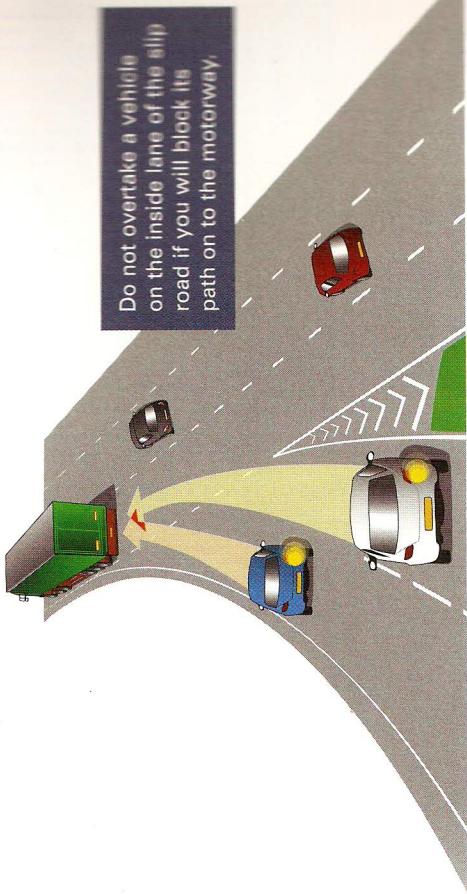
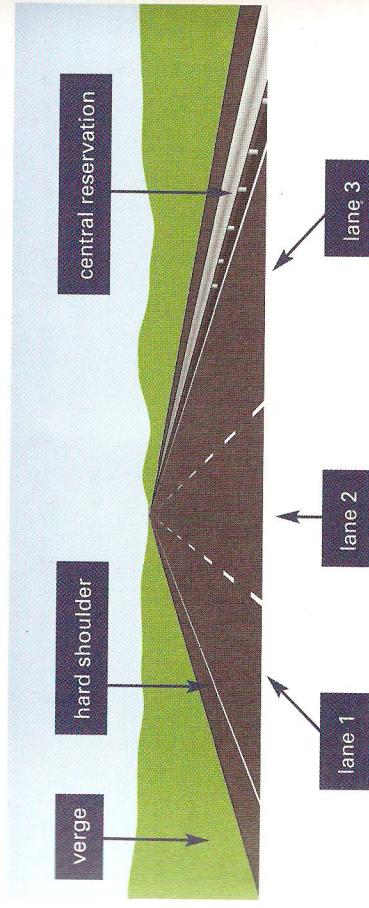
Prepare yourself

See Chapter 1, *Mental skills for better driving*, and Chapter 2, *Observation and anticipation*.

Joining the motorway

Which lane is which?

Here we use the numbering system used by the police and other emergency services to refer to the lanes on motorways and other multi-lane carriageways.



Acceleration

inside lane. If you overtake a vehicle on your nearside just before you join the motorway you could block its path. You risk colliding with it if you cannot move straight into lane 2 of the motorway.

Allow yourself time to adjust to the higher motorway speed and to gauge the speeds of other vehicles.

Observation

Because of the speeds involved, it is vital to extend your observation:

- look ahead and behind you right up to the road horizons
- scan ahead, to the sides and to the rear frequently and thoroughly
- use your mirrors regularly – you should always know what is happening behind you
- be aware of your own and other drivers' blind spots and be prepared to move your body and alter vehicle position to observe what is happening in those areas
- monitor what is happening to your vehicle – regularly check that the instruments are giving normal readings and listen to the sound of

Use the system

As you enter the motorway, take in information about the traffic on the slip road and motorway so that you are in the correct position, at the correct speed and in the correct gear to accelerate onto the motorway smoothly and safely.

Signalling

Well before you enter lane 1, decide whether you need to signal to let motorists on the motorway know that you intend to join the traffic flow. Before you join the motorway, check over your shoulder to make sure there is nothing in your blind spot.

The nearside lane is lane 1, the next is lane 2 and so on. On a three-lane motorway lane 1 is the lane next to the hard shoulder and lane 3 is the lane next to the central reservation. The hard shoulder is not counted as a carriageway lane.

Joining the motorway at a slip road or where motorways merge is hazardous and you should use the system of car control to approach and join. Slip roads are designed to give drivers the time and space to merge smoothly with traffic on the main carriageway without causing other drivers to alter position or

On your next motorway journey, practise extending your observation.

Make a point of scanning as far as the road horizon, front and back. Use your mirrors frequently. Regularly scan to the sides as well.

Aim to give yourself the longest possible time in which to react. Active scanning helps you to maintain a generally high level of attention, which increases your overall safety.

your engine and to the noise of the tyres on the road surface

check your speed regularly – it is very easy to increase speed without realising.

When you are travelling in the outside lane of a fast-moving multi-lane carriage-way, your last mirror check should be the nearside mirror as your area of greatest danger is from vehicles in lane 1 or lane 2.

Adapting to higher speeds

At 70 mph you travel 31 metres (about three coach lengths) per second. To give yourself as much time to react as possible:

- extend your observations in all directions and to the road horizons

- anticipate early and maintain a safe following distance – in good weather the two-second rule is a good guide but in bad weather you must allow a much greater distance

- avoid coarse steering at speed
- give other drivers enough time to see your signals before making a manoeuvre

Taking information

Scan regularly so that you are continually aware of what the surrounding traffic is doing. You should know which vehicles are closing up on other vehicles in front, and which vehicles are moving up behind. Constantly monitor opportunities to overtake and match your speed of approach to coincide with an opportunity.

Make allowances for the additional hazards presented by lane closures and motorway junctions.

Look for early warnings that other drivers intend to overtake:

- relative speeds
- head movements
- body movements
- vehicle movement from the centre of the lane towards the white lane markers.

Do not move to a lane on your left to overtake.

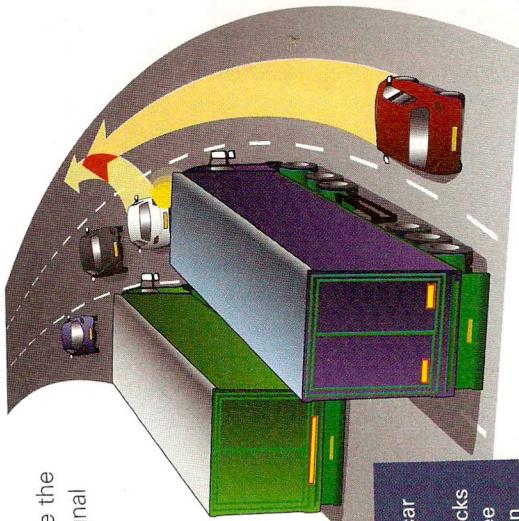
Overtaking

Before you overtake watch out for:

- slower vehicles moving out in front of you
 - faster vehicles coming up behind you.
- Apply the system of car control to overtake safely on motorways and other multi-lane carriageways, paying special attention to taking, using and giving information.

Over a motorway journey of reasonable length (say 20 miles), practise spotting these warning signs to predict when other drivers are about to change lanes. Use this anticipation to help your planning.

Think carefully before overtaking on left-hand bends where there are mainly heavy goods or large vehicles in lanes 1 and 2. A car may be hidden between the heavy goods vehicles and be about to pull out into lane 3. Make sure you can stop safely within the distance you can see to be clear. Do not attempt to overtake unless you are sure you can see all the vehicles in lane 2.



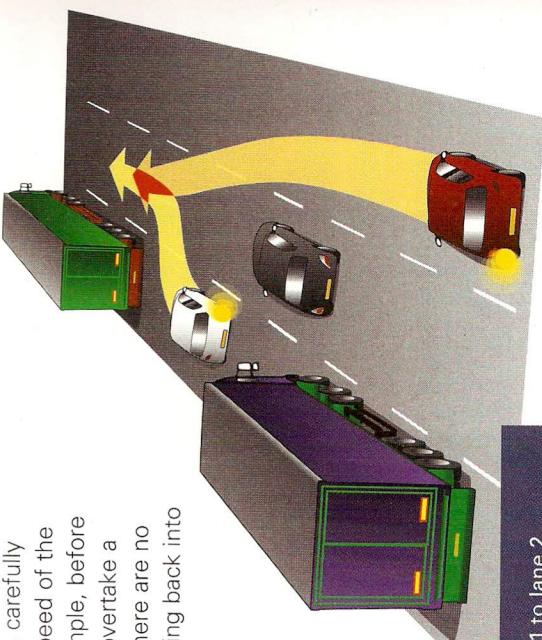
You are likely to see all these before the driver signals: many drivers only signal as they start to change lanes.

The driver of the white car is about to move out to overtake. The driver checks the mirror but cannot see the fast closing red car in lane 3. The driver of the car in lane 3 cannot see the white car about to pull out.

Just before you overtake, carefully check the position and speed of the vehicles behind. For example, before you move into lane 2 to overtake a vehicle in lane 1, check there are no fast closing vehicles moving back into lane 2 from lane 3.

Leaving yourself room to manoeuvre

In heavy traffic conditions be aware of the space around you and always try to avoid situations which leave you no room for manoeuvre if a hazard arises.



As you move from lane 1 to lane 2, beware of vehicles moving up behind you into lane 2 from lane 3.

Move your head to increase your view either side of your blind spot. Re-check the position and speed of vehicles to the front and then consider the information that you need to give to the surrounding traffic.

Giving information

Avoid sitting in the blind spot of a vehicle you are trying to overtake. If you find that you are unable to overtake, drop back slightly so that you are visible to the driver.

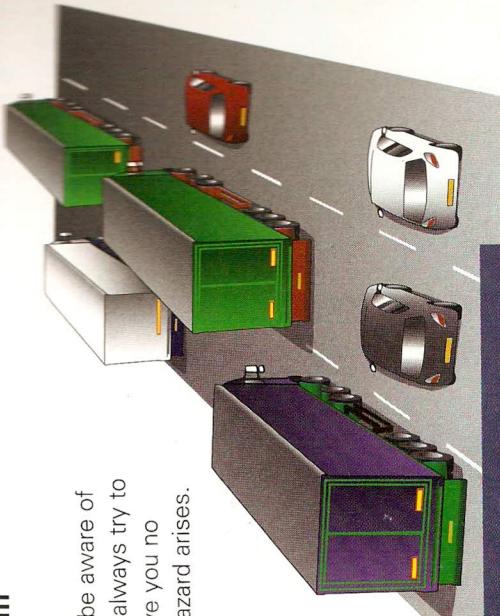
Consider alerting other drivers to your presence especially if you are travelling at speed. If you decide a headlight flash would be helpful, give it in plenty of time for the other driver to react. Give a single flash; decide on the length of

flash according to your speed and the response of other drivers. Take care not to appear aggressive to other drivers, and avoid dazzling oncoming drivers. Be aware that flashing headlights could be misinterpreted by other drivers as an invitation to move out in front of you.

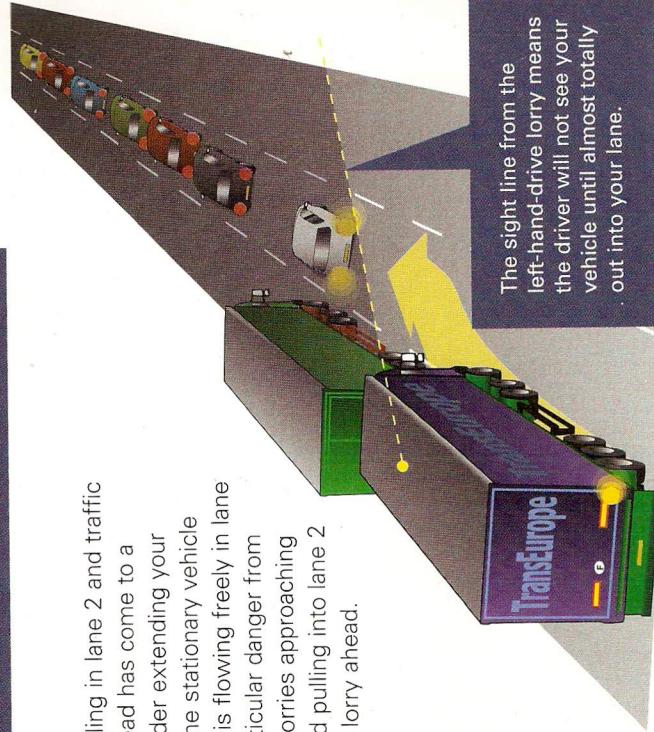
Indicator signals

Consider indicating before changing lanes. Let the indicator flash long enough for other drivers to see and react to it.

When you have passed the vehicle or vehicles in front, return to the appropriate lane when you see an opportunity. Avoid constantly weaving in and out.



The driver of the white car has no room for manoeuvre if a hazard arises. Lanes 1 and 2 are blocked by lorries and lane 3 is blocked by the red car ahead. The white car could hold back until the red car has moved ahead of the lorries, but the driver must watch his mirror for vehicles closing up fast behind.

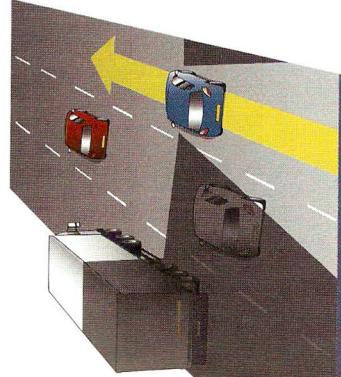


If you are travelling in lane 2 and traffic in your lane ahead has come to a standstill, consider extending your distance from the stationary vehicle ahead. If traffic is flowing freely in lane 1 there is a particular danger from left-hand drive lorries approaching from behind and pulling into lane 2 to overtake the lorry ahead.

The sight line from the left-hand-drive lorry means the driver will not see your vehicle until almost totally out into your lane.

Motorway junctions

Anticipate what the drivers behind you intend to do by their lane position and their speed of approach. This will help you to avoid potentially dangerous situations. As the other vehicle overtakes you, be aware that you are in the overtaking driver's blind spot.



Be aware of the blind spots of other vehicles as well as your own. There are some positions in which you cannot be seen.

Leaving the motorway

At junctions and service areas, you are likely to meet variations in traffic speed and more vehicles changing lanes. Watch for drivers who only change lanes for an exit at the last minute.

When you see a motorway exit, anticipate a slip road ahead and the possibility of traffic joining the motorway.

If you are on the main carriageway, check your mirrors early and allow traffic to join the motorway by making slight adjustments to your speed or changing lane. Vehicles on the motorway have right of way so don't do this if it would force other drivers to change their speed or position.

Watch for drivers changing lanes for an exit road at the last minute and watch for traffic joining the motorway at the slip road ahead.



There is usually a route direction sign at the point where the **exit road splits** from the main carriageway



A third directions sign at the **beginning of the exit road** adds principal destinations ahead



There are marker posts at **300, 200 and 100 yards before** the start of the exit road

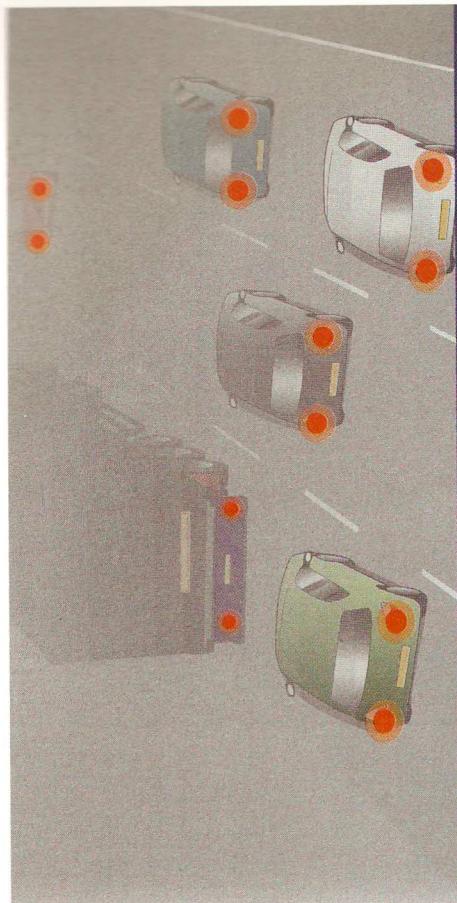


At **half a mile** from the exit a direction sign gives the junction number and the roads leading off the exit with the town or destination names

Plan your exit. Make sure you know your exit junction well in advance. Assess the road and traffic conditions as you approach the junction and use the information provided by road signs and markings.

The diagram on the right shows a typical sequence of information given at motorway exits. Note that some newer motorways have signs at $\frac{1}{3}$ mile and $\frac{2}{3}$ mile so always read distance marker signs carefully.

As you approach your exit junction look for the advance direction signs and use the system of car control to plan and carry out your exit. If the motorway is busy, consider joining lane 1 earlier rather than later. If a signal is necessary, always allow plenty of time for other drivers to react. Indicate at the 300 yard marker.



Bad weather conditions on fast-moving roads

Avoid braking on the main carriageway if possible and plan to lose any unwanted road speed in the exit road which provides a deceleration lane. On busy motorways watch out for vehicles leaving the motorway at the last minute from lanes 2 or 3 and cutting across your path.

Driving at high speed affects your perception of speed when you leave the motorway.

- check your speedometer regularly to help you adjust to the slower speeds of ordinary roads
- plan for the point at which you will meet two-way traffic
- be ready for acute bends at the end of motorway exit roads
- watch out for oil and tyre dust deposits which can make these areas exceptionally slippery.

Assess how well you use the system of car control to leave a motorway.

Practise starting a motorway exit from positions in lanes 1, 2 and 3. Pay particular attention to information processing.

- Did you exit the motorway smoothly and safely?
 - Did you consider all the relevant phases of the system?
- If not, consider how you could improve the manoeuvre next time.

In freezing fog, mist and spray can freeze on to the windscreen at higher

Chapter 2 explained how weather conditions affect your ability to observe and anticipate. This section looks at planning for bad weather conditions at higher speeds.

See Chapter 2, *Observation and anticipation*, page 35, Weather conditions.

Bad weather reduces visibility and tyre grip so is more dangerous at high speed because you need a much greater overall safe stopping distance. You should always be able to stop safely in the distance you can see to be clear.

When you cannot see clearly, reduce your speed and consider using headlights and foglights. You must use them if visibility drops below 100 metres. The gap between motorway marker posts is about 100 metres so use these to assess how far you can see. Bear in mind that foglights can mask your brake lights and dazzle the driver behind so switch them off as soon as visibility improves.

Fog

Fog reduces your perception of speed and risk because you can't see; at the same time it encourages you to drive close enough to keep in sight the vehicle lights ahead. Watch out for reckless behaviour of other drivers.

In freezing fog, mist and spray can freeze on to the windscreen at higher

- See Chapter 2, *Observation and anticipation*, page 35, Weather conditions.
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After a long, hot, dry spell a deposit of tyre and other dust builds up on the road surface. These deposits create a slippery surface especially during and after rain. Avoid heavy breaking, steering or accelerating or you could lose tyre grip.

Snow, sleet and ice

Snow and sleet reduce visibility and tyre grip. At speed, spray thrown up by the wheels of the vehicle in front reduces visibility further, and when ruts develop in the snow it may be difficult to steer. In heavy snow consider whether your journey is really necessary.

Reduce speed and increase following distances in icy conditions, especially if the road surface is not gritted.

Rain

High speeds increase the hazards from rain and water lying on the road surface. Heavy spray from tyres cutting through water can reduce visibility to a few feet, especially as you overtake large vehicles. Water lying on the road surface can build up to form a wedge of water between the tyres and the road, causing aquaplaning with instant and complete loss of control.

See Chapter 5, *Maintaining vehicle stability*, page 97, Aquaplaning, for further advice.

Other hazards

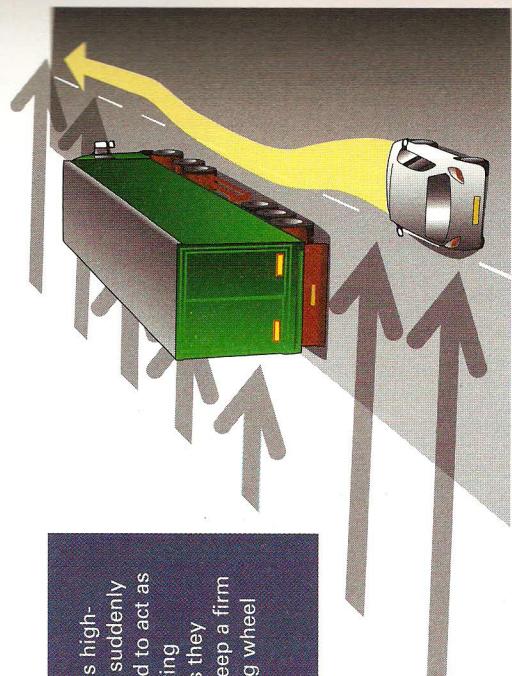
Additional hazards on fast-moving multi-lane carriageways

Debris

Regularly scan the road surface for debris which may have fallen from vehicles. This can damage tyres and cause other vehicles to suddenly alter position.

Bright sun

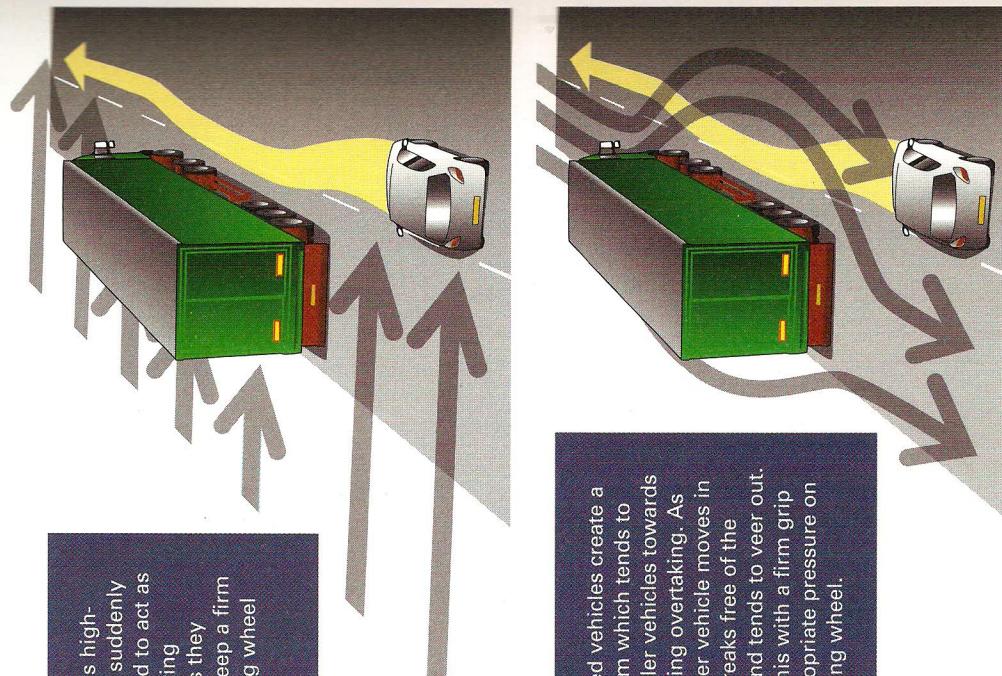
Bright sun low in the sky can cause serious dazzle, especially on east/west sections of road: use your visors to reduce dazzle. If the sun is shining in your mirrors, adjust them to give you the best visibility with minimum glare. If you are dazzled by bright sun, other drivers may be too so allow for this when overtaking.



In windy conditions high-sided vehicles can suddenly veer; they also tend to act as wind breaks buffeting smaller vehicles as they draw past them. Keep a firm grip on the steering wheel with both hands.

High winds

Sections of carriageway that are raised above the surrounding countryside are affected by high winds. Be prepared for particularly strong gusts of wind as you leave a cutting, enter or emerge from under a bridge, cross a dale or go into open country. Take particular care on viaducts and bridges.



High-sided vehicles create a slip stream which tends to pull smaller vehicles towards them during overtaking. As the smaller vehicle moves in front it breaks free of the suction and tends to veer out. Correct this with a firm grip and appropriate pressure on the steering wheel.

Review

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In this chapter we have looked at:

- the special features of motorways that make them hazardous
- safety points to consider before using motorways and fast-moving multi-lane carriageways
- how to join and leave the motorway
- the correct use of lanes on multi-lane carriageways
- the importance of extended observation, especially when driving at speed
- how to overtake on multi-lane carriageways
- the additional hazards presented by motorway junctions
- the effect of weather conditions and other special hazards

Check your understanding



What are the special features of motorways?

List four things you should do to prepare for the journey before you join a multi-lane carriageway.

Why can it be hazardous to overtake a vehicle on the slip road just as you join a motorway?

Apart from indicator lights, what are the possible early signs that another vehicle is going to change lanes?

How are motorway exit junctions signed?

List three examples of weather conditions that are more hazardous at high speed and explain how you would deal with them.

Describe at least five hazards present on multi-lane carriageways that are not found on motorways.

If you have difficulty in answering any of these questions, look back over the relevant part of this chapter to refresh your memory.

Appendices

Know your vehicle

- Roadworthiness check
- Pre-driving check
- Testing your brakes

European Goals for Driver Education (GDE)

Key safety points

Glossary

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