

## ELEMENT 3 – VEHICLE AND PLANT MOVEMENT – HAZARDS AND RISK CONTROL

### Learning outcomes

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Explain the hazards and control measures for the safe movement of vehicles/plant within a construction environment, including when using public highways as a workplace.
- Outline the factors associated with driving at work that increase the risk of an incident and the control measures to reduce work-related driving risks.

### Relevant Legislation

- CDM Regulations 2015
- Health and Safety (Safety Signs and Signals) Regulations 1996
- New Roads and Street Works Act 1991
- Provision and Use of Work Equipment Regulations (PUWER) 1998
- Work at Height Regulations 2005

### 3.1 VEHICLE HAZARDS

- Reversing
- Gradients
- Operating near excavations
- Tight bends
- Speed
- Structures
- Overhead cables
- Size of vehicles
- Crushing against fixed objects

### 3.2 OTHER HAZARDS WHICH MAY EXIST AT GROUND LEVEL ON SITE

- Obstructions leading to slips, trips or falls
- Open excavations leading to falls of people or plant
- Collisions with moving plant and equipment
- Flying objects
- Noise
- Chemicals - highly flammables, asbestos, dust, cement etc.
- Poor housekeeping
- Trailing electric cables
- Vibration from power tools
- Falling objects – from above ground level



Hazards which may affect members of the public

- Falling objects
- Moving plant and vehicles
- Noise
- Contaminated waste leaving site on vehicle wheels
- Hazards of working on the public highway

### 3.3 HAZARDS IN VEHICLE OPERATIONS

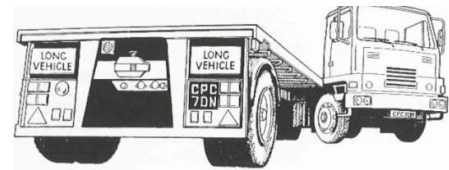
Every year around 70 people are killed in accidents involving vehicles at work. This includes accidents with fork lift trucks, cars, vans and heavy goods vehicles. In addition there are thousands of major injuries. The main types of accidents usually involve people being struck by, run over, falling from vehicles or being struck by objects which have fallen from a vehicle. Many accidents also occur when vehicles are reversing.

Poor site layout is often a main factor in this type of accident.

Legal responsibilities

Health and Safety at Work etc Act 1974

- Safe place of work
- Safe systems of work
- Safe working environment
- Training etc.



Reversing vehicles

Vehicle reversing is a dangerous operation due primarily to restricted vision. Such operations should be eliminated where possible. This can often be achieved by improving the layout and design of the workplace. Can a one way system be used? As this may eliminate the need for reversing and as such eliminates the risk.

### EXAMPLE VEHICLES

Remote operation



## Delivery vehicles



Bull dozer



8

## Self-propelled features



Soil moving conveyor



10

### 3.4 CDM REQUIREMENTS RELATING TO VEHICLES

*A construction site must be organised in such a way that, so far as is reasonably practicable, pedestrians and vehicles can move without risks to health or safety.*

*Traffic routes must be suitable for the persons or vehicles using them, sufficient in number, in suitable positions and of sufficient size.*

*A traffic route does not satisfy paragraph (2) unless suitable and sufficient steps are taken to ensure that—*

- (a) pedestrians or vehicles may use it without causing danger to the health or safety of persons near it;*
- (b) any door or gate for pedestrians which leads onto a traffic route is sufficiently separated from that traffic route to enable pedestrians to see any approaching vehicle or plant from a place of safety;*

*(c) there is sufficient separation between vehicles and pedestrians to ensure safety or, where this is not reasonably practicable— (i) other means for the protection of pedestrians are provided, and (ii) effective arrangements are used for warning any person liable to be crushed or trapped by any vehicle of its approach;*

*(d) any loading bay has at least one exit for the exclusive use of pedestrians; and (e) where it is unsafe for pedestrians to use a gate intended primarily for vehicles, at least one door for pedestrians is provided in the immediate vicinity of the gate, is clearly marked and is kept free from obstruction.*

*Each traffic route must be— indicated by suitable signs where necessary for reasons of health or safety; regularly checked; and properly maintained.*

*No vehicle is to be driven on a traffic route unless, so far as is reasonably practicable, that traffic route is free from obstruction and permits sufficient clearance.*

### **Regulation 28 Vehicles**

*(1) Suitable and sufficient steps must be taken to prevent or control the unintended movement of any vehicle.*

*(2) Where a person may be endangered by the movement of a vehicle, suitable and sufficient steps to give warning to any person who is liable to be at risk from the movement of the vehicle must be taken by either or both—*

*(a) the driver or operator of the vehicle, or*

*(b) where another person is directing the driver or operator because, due to the nature of the vehicle or task, the driver or operator does not have full visibility, the person providing directions.*

*(3) A vehicle being used for the purposes of construction work must, when being driven, operated or towed be—*

*(a) driven, operated or towed in such a manner as is safe in the circumstances; and*

*(b) loaded in such a way that it can be driven, operated or towed safely.*

*(4) A person must not ride, or be required or permitted to ride, on any vehicle being used for the purposes of construction work otherwise than in a safe place in that vehicle provided for that purpose.*

*(5) A person must not remain, or be required or permitted to remain, on any vehicle during the loading or unloading of any loose material unless a safe place of work is provided and maintained for that person.*

*(6) Suitable and sufficient measures must be taken to prevent a vehicle from falling into any excavation or pit, or into water, or overrunning the edge of any embankment or earthwork.*

## Regulation 35 Lighting

*(1) Each construction site and approach and traffic route to that site must be provided with suitable and sufficient lighting, which must be, so far as is reasonably practicable, by natural light.*

*(2) The colour of any artificial lighting provided must not adversely affect or change the perception of any sign or signal provided for the purposes of health or safety.*

*(3) Suitable and sufficient secondary lighting must be provided in any place where there would be a risk to the health or safety of a person in the event of the failure of primary artificial lighting.*

## 3.5 CONTROL MEASURES FOR SAFE VEHICLE OPERATIONS

### Transport precautions

- Design ground works to minimise the need to import or remove soil from the site
- Limit the number of vehicles on site (car parking for employees and visitors)
- Use gates or barriers to control traffic coming on site



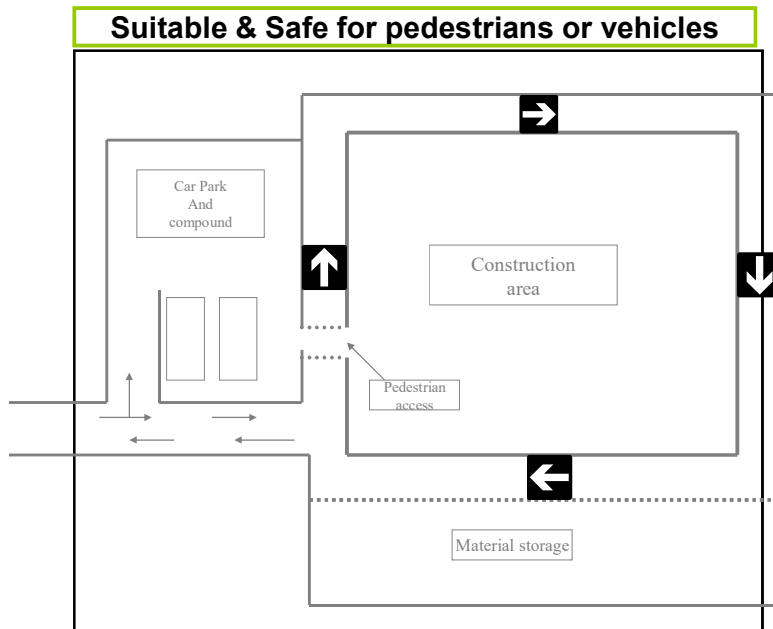
- Plan stores and receiving areas to reduce the distance that delivery vehicles have to travel on site
- Provide turning circles to turn around without reversing

### 3.5.1 SAFE USE OF VEHICLES CONSIDERATION

- Pedestrian & Vehicle Separation
- Loading & Storage Areas
- Public Protection
- Information
- Vehicle Selection
- Vehicle Inspection & Maintenance
- Reversing/Signallers (Banksmen)
- Load Safety
- Competent Drivers

### 3.5.2 PLAN TO KEEP PEOPLE AND VEHICLES APART

- Separate entry and exit gateways for vehicles
- Firm, level well drained pedestrian walkways
- Separate vehicle routes from pedestrians as far as possible
- Where walkways cross vehicle routes provide clearly signed, lit crossing points
- At site entrances ensure vehicles can see both ways where they enter or cross the public highway



### 3.5.3 SHARED ROUTES

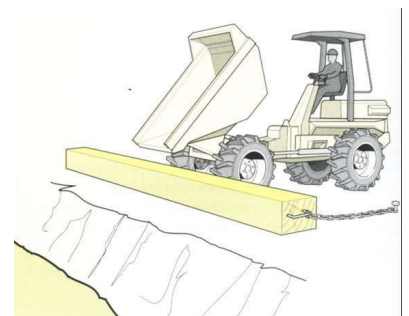
- Where separate walkways go along side the vehicle route ensure the walkways are wide enough so pedestrians can pass without stopping the traffic flow.
- Keep walkways free from obstructions
- If the walkway has to be blocked provide an alternative
- Guard walkways next to excavations
- Separate by waist high fencing if possible – especially at high risk areas such as storage areas, loading areas, turning areas and entrances.
- Pedestrians to wear high visibility clothing

### 3.5.4 SIGNS

- Post signs showing the traffic routes at the site entrance, site notice boards
- Print copies for visiting drivers
- Cover during induction for staff and visitors
- Provide standard road signs and ensure routes used by delivery drivers are clearly marked

### 3.5.5 WORK AREAS

- Protect temporary and fixed structures which might be damaged by vehicles



- Protect excavations to stop vehicles coming to near – stop blocks or barriers
- Ensure vehicles are not overloaded – as if they are they become unstable or the load may obstruct the drivers view or it may become difficult to steer.
- Segregate around vehicles such as excavators and mobile cranes which may slew around 360°. Do not rely on mirrors and cameras as the driver will be looking at so many different issues when they are moving a load they may miss obstructions nearby.
- Ensure there is distance between the moving plant so there is not risk of a person being crushed by moving plant being crushed against a fixed obstruction.
- Park vehicles on firm, level ground where possible – ensure the hand brake works
- Turn off engines when leaving vehicles
- Stop blocks to stop vehicles going into excavations.
- The supply of grit for use in snow and ice.
- Barriers or clearly defined routes
- Parking areas should be situated well away from traffic and pedestrian flows
- Floor surfaces must be suitable and in good condition
- Adequate levels of lighting should be provided
- Speed restrictions
- Direction and instruction signs should be clear and well-sited
- Ensuring good visibility for drivers and pedestrians.
- Set parking areas for staff vehicles and visitors

### 3.5.6 VEHICLES AND PLANT

- Audible & visual warning devices when reversing
- CCTV in the vehicle cab (See photo)
- Good clean reversing mirrors
- Ensure traffic and pedestrian routes are suitable for use
- Ensure the ground conditions are suitable for vehicle movement e.g. slopes, gradients, changes in level, kerbs and surface conditions – these may be fine but after poor weather may be variable.
- Clean and adjustable reversing mirrors on vehicles



- Alter site layout to prevent pedestrians and vehicles from mixing – one way routes
  - Physically separate traffic routes - barriers
  - Provide safe systems of work where segregation is not possible – these must be communicated
  - Train and instruct employees on safe working procedures
  - Provide information on the layout and procedures to visitors and visiting drivers
  - Ensure all drivers are medically fit to undertake driving duties
- Vehicles, whether FLT's or HGV's must be maintained in good working order

- Vehicles and pedestrians should be separated where possible.
- Crossing points at suitable locations
- Adequate distances between exit points and vehicle routes
- Driver protection fitted to vehicles: roll over protection, protection from falling materials, seat belts etc.
- Driven, operated or towed in such a manner as is safe in the circumstances; and be loaded in such a way that it can be driven, operated or towed safely.
- Prevent unexpected vehicles movement
- The provision of separate access points for pedestrians and vehicles
- The provision of warning signs in suitable locations

### 3.5.7 CONTROL OF PEDESTRIANS

- Segregation/one way systems/  
crossing points/barriers
- Separate entrances
- Slip resistant surfaces
- Control of spillages
- Good site drainage
- Designated walkways
- Fencing / Guard rails
- Signage
- PPE – safety foot wear, high visibility jackets
- Training and information for all those on site
- Maintenance of a safe place of work
- Housekeeping – tidy away items, keep storage areas tidy
- Keep clear access and egress routes





### 3.6 SAFETY AT ROAD AND STREET WORKS

Please refer also to the code of practice provided on working practices.

The New Roads and Street Works Act 1991 and its associated code of practice (COP) establish a range of requirements for those involved in work on the public highway or pedestrian pathways. The code of practice has been re-issued in October 2013. They establish a regime for the types of signals, signage, barriers and lighting, as well as standards for the training and qualifications for those involved with this type of work. They aim to keep the roads safe but also ensure the safety of workers, pedestrians and road users.

The COP covers a range of different traffic situations and gives a range of standards for signage and protective measures which need to be taken before the road works start, the types of measures within the road works themselves and signage to show the end of any temporary restrictions. The COP covers a range of different road situations but does still not cover every eventuality, companies competing work must use the principles in the COP to determine the best and safest work protective measures.

There is no requirement within the Act to complete risk assessments and wear PPE but the Act and its COP refer to the other H&S legislation which establish these requirements. Practical issues such as the fixing of signs, site layout, maintenance of signs, cones, lights are covered, with reference to the variety of British Standards on issues such as the design of road work protection and signage standards.

As well as practical issues the Act requires that those who intend to carry out work on the highway have to notify in advance that work is to be undertaken. Other requirements are that if the public pathway is to be obstructed by scaffolding licenses must be obtained unless it is very temporary or is likely to be constantly changing.

The New Roads and Street Works Act 1991 (NRSWA) requires undertakers to ensure that work to install, renew, maintain and inspect underground apparatus in the street is controlled by competent people. Companies have to make sure that an operative, with the appropriate qualification(s), is on site when works are in progress.

In addition, a suitably qualified supervisor must supervise street works in most cases. The supervisor does not need to be on site at all times, and can supervise more than one set of works. A supervisor qualification does not qualify the holder to work as a qualified operative or vice versa.

#### Example operative study units

- O1 Excavation in the road/highway (001, 002 & 003)
- O2 Excavation, backfilling & reinstatement – cold lay (001, 002, 003, 004, 005 & 006)
- O3 Reinstatement – hot & cold lay bituminous materials (001, 002, 006 & 007)
- O4 Reinstatement of concrete slabs
- O5 Reinstatement of modular surfaces and concrete footways (001, 002 & 009)

#### Example supervisor study units

S1 Monitor excavation in the road/highway (001, 010 & 011)

S2 Monitor excavation, backfilling & reinstatement – construction lays (001, 010, 011, 012, 013 & 014)

S3 Monitor reinstatement – hot & cold lay bituminous materials (001, 010, & 014)

S4 Monitor reinstatement of concrete slabs (001, 010 & 15)

S5 Monitor reinstatement of modular surfaces and concrete footways (001, 010 & 016)

In 2008 there were new standards for supervisor and operative qualifications and many had to refresh their skills and knowledge to ensure they were still up to date.

**When is notification needed?**

- Street Works – (Utility Company works) work on plant and apparatus in the street.
- Works for Road Purposes – (Highway Authority works) - maintenance and improvement works to the road itself, utility works for street lighting.

**What type of work is covered?**

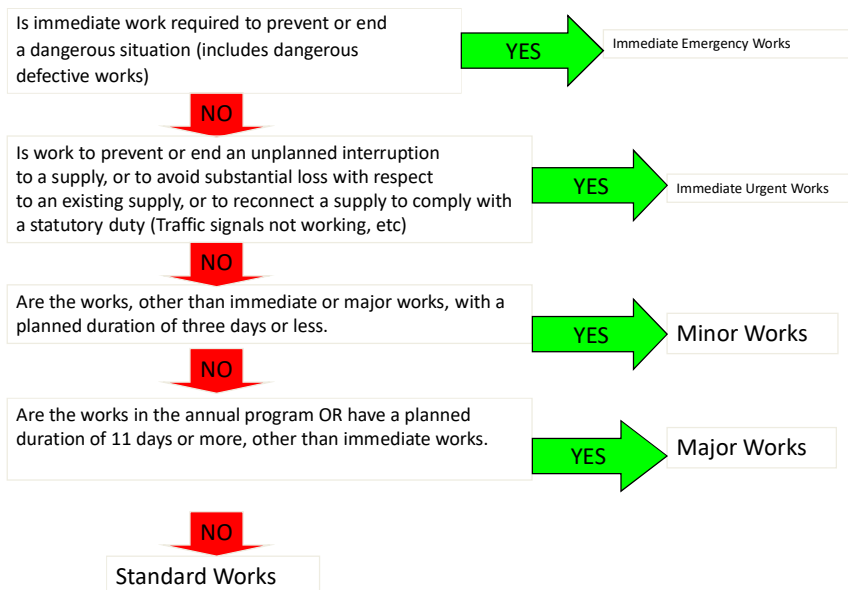
Covers street works, road works and major Highway works that requires:

- breaking up or resurfacing of a street;
- opening of the carriageway or cycleway of traffic sensitive streets at traffic sensitive times;
- any form of traffic control;
- reduction in lanes (3 or more lanes)
- temporary traffic order / notice or suspension of pedestrian facilities
- reduction in carriageway width of a Traffic sensitive street or traffic sensitive time

**Who do I notify?**

This is normally the local council or the highways agency who are known as “Street Authorities”.

**Categories of notification**



**Advance warning for notifications**

## Summary Reference Guide

Matrix of notice periods and response times							
	Notice Period		Validity Period		Response Time		
	S 54	Ss 55/57	S 54	Ss 55/57	S54	Ss55/57	S 74
<b>Major</b>	3 months	10 days	15days	5 days	1 month	5 days	5 days
<b>Standard</b>	n/a	10 days	n/a	5 days	n/a	5 days	5 days
<b>Minor</b>	n/a	3 days	n/a	2 days	n/a	2 days	2 days
<b>Immediate</b>	n/a	2 hours after	n/a	n/a	n/a	any time during works	2 days

### Penalties

Table 7. Proposed maximum fee levels per permit or Provisional Advance Authorisation		
	Road category 0 - 2 or traffic-sensitive	Road category 3 & 4 non traffic-sensitive
Provisional Advance Authorisation	£105	£75
Major activity	£240	£150
Standard activity	£130	£75
Minor activity	£65	£45
Immediate activity	£60	£40

#### Example breach: Adequate advance notice not given




When a FPN is given the *amount of penalty is £120 (if paid within 36 calendar days)*  
*Discounted amount £80 (if paid within 29 calendar days).*

The FPN must be issued within 91 calendar days following the offence & the authority must have evidence of the breach.

## Basic signs and resources



## Example Usage

- Min distances depending on road type 
- Visible
- Do not use minimum 
- Midway between roadworks ahead signs
- Make sure they point the right way
- For vehicles not people 

### Cones and Lamps

- To guide traffic past roadworks
- Danger lights in poor visibility
- Example distances given
- Danger lamps must be used for 40mph or above
- May be needed if no street lighting
- Flashing - with street lighting
- Steady lamp – if street lighting is not present



**Information Boards**

- Every site unless mobile
- Do not obstruct footpaths
- Completion date for work lasting over one month

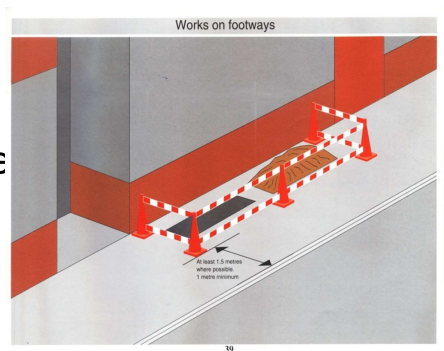


**Signage needed at the Endo of the Road works**

- End of road works
- End of restrictions
- Not required
  - If there are no temp speed limits
  - Speed limit 30mph or less
  - Very limited traffic flow

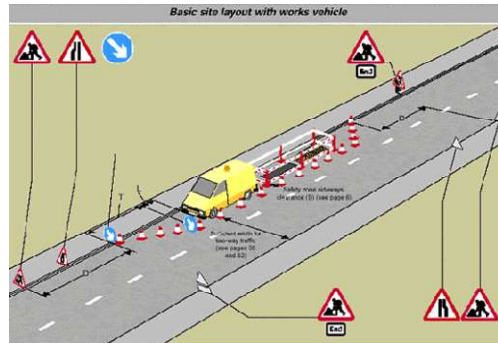
## Work on pathway

- Needs of pedestrians
- Barriers
- Safe route
- 1m or 1.5m if possible
- Barriers
- Ramps of raised boards
- May need to provide walkway in road



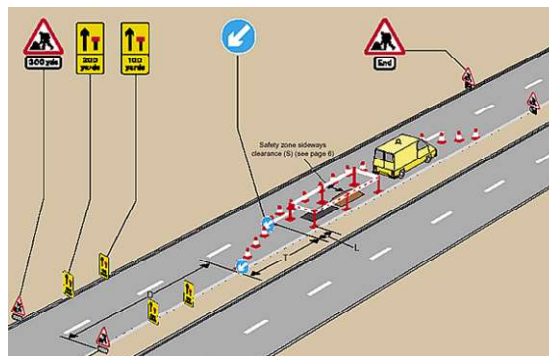
## Single carriage way

- Park vehicle before work 2m (30mph)/5m (40mph+)
- Sign layout
- Refer to distance table for spacing



## Dual Carriage way

- Closing one lane
- May need to liaise with highways agency
- Merging arrangements
- Signage sequences

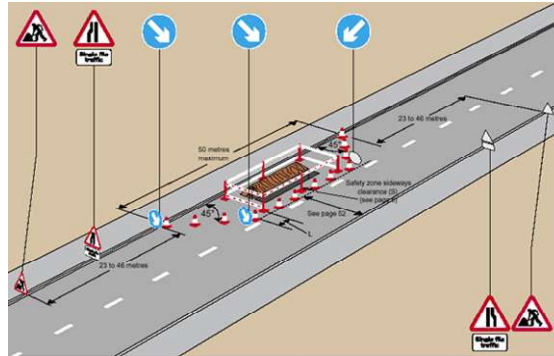


# Give and take

- Speed limit 30mph or less
- Roadworks 50m or less
- Two way traffic less than 20 cars in 3 mins
- Less than 20 hgv hour



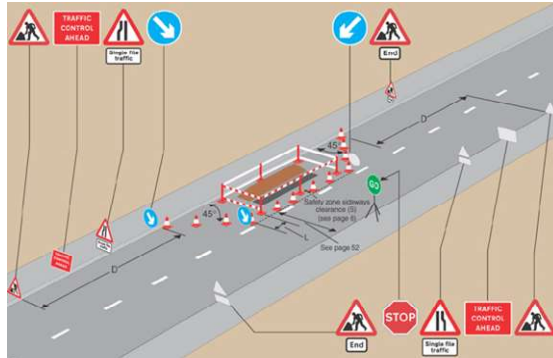
Give way to oncoming vehicles



# GO Stop and Go Boards

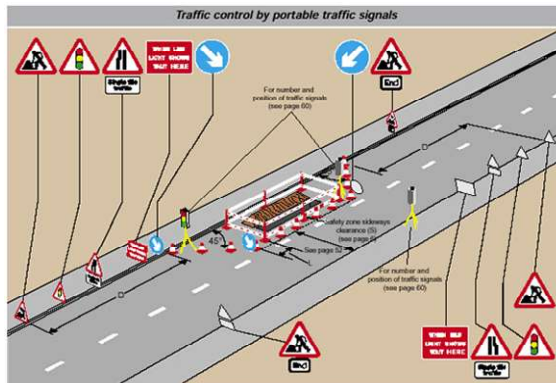
- Ok if...

Length of road works	No. Vehicles per mins
100m or less	70
200m or less	63
300m or less	53



## Temporary Traffic Signals

- Road works 300m or less
- Supervisor to notify highways agency
- Design to prevent tailbacks
- Not near traffic lights or railway crossing





## 3.7 DRIVING AT AND FOR WORK

Driving is the most dangerous work activity that most people do. Research indicates that about 20 people are killed and 250 seriously injured every week in crashes involving someone who was driving for work purposes. Employers may need to complete risk assessments on driving activities especially for those who drive long distances or who drive regularly for work purposes in either their own or a company vehicle.

Risk assessment factors

- Driver age
- Driving experience
- Accident history
- Health issues
- Type of driving licence
- Vehicle type/size
- Vehicle age
- Typical average mileage

### 3.7.1 DRIVER ISSUES

#### All Drivers should

- Comply fully with requirements set out in the Highway Code;
- Ensure vehicle journeys are planned to minimise road risk factors;
- Plan and organise work activities effectively so as not to compromise road risk factors;
- Ensure that their vehicle is checked regularly for roadworthiness and is regularly maintained in accordance with manufactures recommendations;
- Advise their employer immediately of any driving licence endorsements or convictions;
- Ensure their vehicle, if more than 3 years old, has a current MOT Certificate;

Drivers using a private car should:

- Ensure their vehicle is suitable for safe business travel
- Ensure their vehicle is suitably insured for business use

#### Attitudes to Speeding

#### 84% of people disapprove of speeding yet 69% do it

Only study showed that about 75% of drivers admitted to speeding. Another study highlighted what we really think of our partner's driving- and many of us are scared and angered when they speed. It also reveals that among passengers over 60% believe that driving too fast increases the chances that their partner will crash. Also;

- 24% have felt angered by their partners' speeding which they think is 'irresponsible and stupid'.
- 20% are scared, and concerned that they and the driver could be killed or injured
- 14% worried about the safety of other road users
- 25% admit to pressing on an imaginary foot brake
- Only 1% wanted their partner to drive faster.

### Speeding Statistics

- You are more likely to kill a pedestrian at 40mph than 30mph.
- Specifically, if you hit a pedestrian while driving at 20mph, the pedestrian has a 95% chance of survival.
- If you hit an adult pedestrian while driving at 30mph, the survival chance is 80%. But if you hit a pedestrian while driving at 40mph, the pedestrians chances of dying rises to 90%
- Two out of three crashes where people are killed or injured happen on roads where the speed limit is 40mph or less.

### Safe Journey Planning

Drivers need to be aware that how they plan their journeys has a significant effect on driver safety. Safe journey planning aims to ensure that drivers take account of all the aspects of the journey ahead of them.

There are several measures that you should consider when planning a long journey. These are:

- Consider whether the journey is necessary, or whether the telephone, email or video-conferencing could be used instead.
- Whether the journey can be taken by an alternative, safer means of transport such as the train.
- Not driving for more than 2 hours without taking at least a 15 minute break
- Considering an overnight stop if the journey at the beginning of the day is more than 2 hours, or if required at the end of the day to drive a long distance home when tired.
- Ensure the vehicle is checked prior to a long journey (see 'Vehicle Checks')

### Driver Tiredness

Thousands of crashes are caused by tired drivers, and they are most likely to occur;

- On long journeys on monotonous roads such as motorways
- Between 2am and 6am
- Between 2pm and 6pm, especially after eating or taking an alcoholic drink
- After having less sleep than normal
- After drinking alcohol (also see 'Alcohol')
- If taking medicines that cause drowsiness (also see 'Drugs')
- On journey home after night shifts

### Eyesight

Drivers will know that they are required to be able to read a standard number plate with symbols 70.4mm (3inch) high and 57mm wide at a distance of 20.5m (67 feet), or where a new style number plate is used with characters 50mm wide, at a distance of 20 metres, using correcting lenses if required.

The general recommendation is to have eyesight checked every two years. Having an eyesight test will usually identify the majority of common eyesight conditions, and may also give clues about other less common diseases.

Even at relatively young ages, a range of eyesight conditions may exist which, if identified early enough, can be treated to stop or reduce the effects of long term deterioration.

Glaucoma and Cataract are perhaps the most well known conditions, but diabetes and other age-related diseases, if left unidentified and untreated, are known to affect vision seriously enough to prevent safe road use.

Unfortunately some people who have been prescribed correcting lenses don't use them when they're driving (or riding). This not only puts them at greater risk, it also puts other more vulnerable road users at risk.

## Drugs

Driving under the influence of drugs-whether prescribed medication or illegal substances-is just as dangerous as driving when drunk. It's also against the law. Drugs can affect your mind and body in a variety of ways that mean you aren't able to drive safely. Not only that, the effects can last for hours or even days.

Drugs can effect driving in the following ways:

- Slower reaction times
- Poor concentration
- Sleepiness/fatigue
- Confused thinking
- Distorted perception
- Over confidence, so you take unnecessary risks
- Impaired co-ordination
- Erratic behaviour
- Nausea
- Blurred vision/enlarged pupils
- Aggression
- Panic attacks and paranoia
- Tremors
- Dizziness
- Muscle cramp

## Alcohol

There is no failsafe guide as to how to stay under the legal alcohol limit or how much you can drink and still drive safely. It can depend on many factors such as;

- Weight
- Sex
- Age
- Metabolism
- Stress levels
- Amount of food eaten
- Amount and type of alcohol consumed

Any amount of alcohol affects your ability to drive safely as your reaction times are impaired and you're unable to judge speed and distances accurately. **The only safe option is not to drink if you plan to drive.**

### 3.7.2 VEHICLE ISSUES

Modern cars are complex and the condition of various aspects of them contributes to driver safety.

Drivers should ensure that they regularly inspect their vehicle, checking the following things;

- Brake fluid level
- Engine oil level
- Engine coolant level
- Power steering fluid level
- All lights are working
- Tyre pressure, tread depth and general condition
- Windscreen and window visibility
- Windscreen washer fluid level
- Windscreen wipers are working
- Windscreen wiper blade condition

Vehicle checks should especially be undertaken prior to completing a long journey.

#### Vehicle Maintenance

Vehicles should be serviced and maintained in accordance with the manufacturer's recommended service interval which is detailed in the vehicle manual.

If your vehicle is over 3 years old it requires an annual MOT test.

#### Mobile Phones

Phones in cars can have many benefits. They provide security and help in an emergency. However, they are distracting if used when driving and this increases the risk of a crash. It is hard to do two things at once and to drive safely you must concentrate on the road.

It is illegal to use a hand-held mobile phone when driving, even when you are stopped at traffic lights or in a queue of traffic. This includes making or receiving calls, pictures, text messaging or accessing the internet.

Employees are breaking the law if they pick up or use any type of phone that is, or must be, held to operate it, this may result in a fixed penalty fine or even prosecution.

There can also be prosecutions for using a hands-free mobile phone if the employee or driver fails to have proper control over their vehicle. Driving carelessly or dangerously when using any phone and the penalties can include disqualification, a large fine, and up to two years imprisonment.

Even careful drivers can be distracted by a phone call or text message.

- Keep your mobile switched off when driving and use your voicemail, a message service or call diversion so that messages can be left for you when your phone is switched off.
- Only use your mobile after you have stopped in a safe place. Never stop on a hard shoulder of a motorway except in an emergency.
- You may think a hands-free phone will enable you to have control of your vehicle, but your mind will not be fully on your driving. It is not like talking to a passenger who will be aware of what is happening when you are driving.

- 
- Avoid taking calls on a hands-free phone. But if you must, say you are driving and end the conversation quickly. Otherwise you will put yourself and other road users at risk.
  - You may use a mobile when driving for help in an emergency. On a motorway it is best to use a roadside emergency telephone, as the emergency services will be able to locate you easily.

## **Tyre Safety**

Good tyres are required to drive safely. They affect the steering, braking and acceleration of your vehicle. Faulty tyres work less efficiently and don't last as long; they could also mean a heavy fine and penalty points.

It's against the law to have;

- Car tyres with thread worn to below 1.6mm;
- A mix of radial and cross ply tyres;
- Over or under-inflated tyres;
- Tyres with cuts, lumps, bulges or tears;
- The wrong sort of tyre fitted to a vehicle or trailer;

All new tyres must meet European standards for load/speed performance, shown by an 'E' or 'e' mark on the sidewall. All retread tyres supplied in the UK must comply with the British Standard AU144E, and be marked with this number. This proves they have been thoroughly tested and meet the same performance standards as new tyres.

## **Seatbelts**

Seat belt wearing in the front seat saves over 2,200 lives every year. Everyone knows they should wear a seat belt in the front seat, but many people still don't realise how dangerous it is not to wear a seat belt in the back. In a crash at 30mph, those unrestrained will hit the front seat, and anyone in it, with a force of between 30 and 60 times their own body weight. This could result in death or serious injury to both the passenger and anyone sitting in the front seat.

The law

- Seat belts must be worn if fitted. There are very few exceptions to this and the driver is liable to prosecution if a child under 14 years does not wear a seat belt
- Unrestrained children must not be carried in the front seat of any vehicle. Children under three years travelling in the front of any vehicle must be carried in an appropriate child restraint. The adult belt may not be used.
- If an appropriate child restraint or seat belt is available for use in the front, but not in the rear, children between 3 and 11 and under 1.5 height must use the front seat restraint or seat belt.

## **Pregnant women**

The lap strap should go across the hips, fitting comfortably under the bump, while the diagonal strap should be placed between the breasts and around the bump. Like all drivers or passengers, pregnant women must wear a seat belt, unless their doctor certifies that they are medically exempt-there is no automatic exemption. Wearing one may not be comfortable, but it improves safety for both mother and unborn baby.

### 3.7.3 ENVIRONMENTAL ISSUES INFLUENCING DRIVING

#### Winter Driving

The British winter is unpredictable. Bad weather can strike suddenly so the best advice when severe weather hits is to stay off the road. If you must drive, make sure you are prepared for the conditions.

#### During wintry weather conditions

- Ask yourself-is your journey absolutely essential?
- Check the local and national weather forecasts.
- Listen to local and national radio for travel information
- Tell someone at your destination what time you expect to arrive
- Make sure you are equipped with warm clothes, food, boots and a torch. In case of snowy conditions, take a spade.
- Clear your windows and mirrors before you set out and carry a screen scraper and de-icer.

#### If you get in trouble

- Do not use a mobile phone while driving. Stop somewhere safe or ask a passenger to make the call.
- On a motorway, it is best to use a roadside emergency telephone, because the breakdown/emergency services will be able to locate you easily.
- If you have to use a mobile phone, make sure you know your location from the numbers on the marker posts on the side of the hard shoulder.
- Abandoned vehicles can hold up rescue vehicles and snowploughs. To ensure that the road is cleared as quickly as possible, stay with your vehicle until help arrives.
- If you have to leave your vehicle to get help, make sure other drivers can see you.

#### Vehicle conditions

In winter it is even more important to check your vehicle is well maintained and serviced:

- Keep the lights, windows and mirrors clean and free from ice and snow.
- Keep your battery fully charged.
- Add anti-freeze to the radiator and winter additive to the windscreen washer bottles.
- Make sure wipers and lights are in good working orders.
- Check that tyres have plenty of tread depth and are maintained at the correct pressure.

#### Adjust your driving to the conditions

- Hail, heavy snow and rain reduce visibility.
- Use dipped headlights and reduce your speed.
- When the roads are icy or slushy
- It can take ten times longer to stop in icy conditions than on a dry road. Drive slowly, allowing extra room to slow down and stop.
- Use the highest gear possible to avoid wheel spin.
- Manoeuvre gently, avoiding harsh braking and acceleration.
- To brake on ice or snow without locking your wheels, get into a low gear earlier than normal, allow your speed to fall and use the brake pedal gently.
- If you start to skid, ease off the accelerator but do not brake suddenly.
- Watch out for fog-it drifts rapidly and is often patchy.
- In foggy conditions, drive very slowly using dipped headlights.

- 
- Use fog-lights if visibility is seriously reduced, but remember to switch them off when visibility improves.
  - Don't hang on the tail –lights of the vehicle in front. This gives you a false sense of security and means you may be driving too close.
  - Don't speed up suddenly, even if it seems to be clearing. You can suddenly find yourself back in thick fog.
  - Winter sun -dazzle can be dangerous. Keep a pair of sunglasses handy.

## Rain

In wet weather, stopping distances will be at least double those required for stopping on dry roads, this is because your tyres have less grip on the road. In wet weather:

- You should keep well back from the vehicle in front. This will increase your ability to see and plan ahead.
- If steering becomes unresponsive, it probably means the water is preventing the tyres from gripping the road. Ease off the accelerator and slow down gradually.
- The rain and spray from vehicles may make it difficult to see and be seen.

## Flooded roads

- Don't attempt to cross if the water seems too deep.
- Drive slowly in the first gear but keep the engine speed high by slipping the clutch- this will stop you from stalling.
- Avoid the deepest water, usually near the kerb.
- Remember – test your brakes when you are through the flood before you drive at normal speed.

## Gritting vehicles

Gritting vehicles travel at speeds of up to 40mph spreading salt across all lanes of the carriageway. Drivers are advised to maintain a safe distance behind them. Do not attempt to overtake.