Driving for work:
Vehicle Technology

D riving is the most dangerous work activity that most people do. Research indicates that about 20 people are killed and 220 seriously injured every week in crashes involving someone who was driving, riding or otherwise using the road for work.

HSE Guidelines, '**Driving at Work**', state that *"health and safety law applies to on-the-road work activities as to all work activities and the risks should be effectively managed within a health and safety system"*.

Within the framework which they should already have in place for managing other aspects of health and safety at work, employers must conduct suitable risk assessments and put in place all 'reasonably practicable' measures to ensure that work related journeys are safe, staff are fit and are competent to drive safely and that the vehicles used are fit-for-purpose and in a safe condition. Such measures will more than pay for themselves by reducing accident costs, many of which will be uninsured.

In addition, the Provision and Use of Work Equipment Regulations require employers to ensure that work equipment (and this includes vehicles and the equipment in them) is suitable and safe, and employees are properly trained in its use.

An increasing number of vehicles, especially fleet vehicles, are being fitted with various devices designed to help the driver drive safely, or to help the driver do other things, such as schedule deliveries and pick-ups more efficiently. While these different technologies can, if used properly, reduce the risk of drivers crashing, they can also increase the risk (e.g., by distracting the driver) if not used properly. Therefore, it is essential that managers and drivers understand what such technology can and cannot do, how to use it safely and the potential risks of mis-using it.

Other technologies are available which can help monitor vehicle and driver performance. Managers and drivers also need to understand the contribution these can make to safer driving.

This leaflet gives simple advice on how employers and line managers can develop and introduce policies to ensure that whenever staff are given vehicles with new technology, the benefits and risks of providing the technology are first assessed, that staff are educated and trained in its safe use and that the effects of its introduction are monitored. It can be used to inform the part of the organisation's risk assessment that addresses these issues, and also ensure that suitable equipment is used.

A sample 'Policy' is included, which can be adopted as written or adapted to suit your organisation's needs. It can be used as a stand-alone policy or incorporated into a wider 'Safer Driving for Work' policy.

Types of In-Vehicle Technology

In-vehicle technology is developing at a rapid rate, with new technology constantly being introduced, either when vehicles are manufactured or retro-fitted later. Similar devices are given different names by different manufacturers. Current in-vehicle technology tends to fall within the following broad categories (although, it is likely that other types will appear in the future).

Driver Assistance and Safety Systems

Driver Assistance Systems monitor the road and traffic around the vehicle and warn or inform the driver
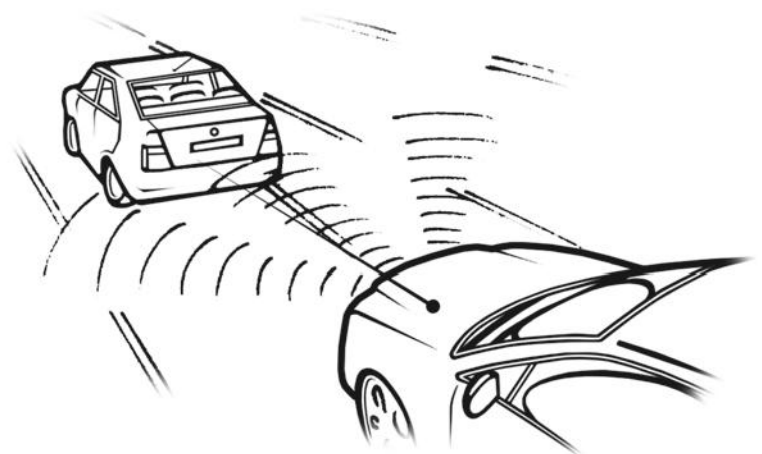
accordingly. Some are designed to improve driver comfort, and it should not be assumed that they will increase safety. Examples are:

- **Adaptive Cruise Control (ACC)** use sensors to monitor the distance to the vehicle in front. They can then reduce the vehicle's speed if the vehicle ahead slows. Future generations of the system will be able to bring the vehicle to a complete halt in an emergency. They are designed for use on high speed roads rather than town and city driving.

- **Lane Departure Warning Systems (LDWS)** monitor road markings by the side of the car. If the vehicle drifts out of the lane, it alerts the driver.

- **Blind Spot Information Systems (BLIS)** monitor the area behind the car that the mirrors do not cover. If it detects movement, it warns the driver.

- **Driver Fatigue Monitoring Systems** use cameras to monitor a driver's eye movement or other physical signs. If it detects signs of driver fatigue (e.g., a change in eye blinking rate) it alerts the driver.

- **Reversing and Parking Aids** alert the driver to the proximity of objects or people behind the car.

- **Adaptive Front Lighting Systems** direct the headlight beams to the direction of travel, according to the steering wheel angle.

- **Tyre Pressure Monitoring Systems** monitor the pressure in the tyres and alert the driver if they need adjusting.

Generally these systems warn drivers by visual and audible alerts, although ones that use vibrations in the seat are being developed. Many only work above or below specific speeds. Other systems, such as pedestrian detection and collision warning technology, are rapidly beginning to be introduced.

The purpose of all these systems is to provide better information to the driver about the road and traffic environment and to provide early warning of hazards. They can reduce the risk of accidents. However, it's essential that managers and drivers know how to use them safely and do not regard them as a substitute for alertness, good observation and anticipation, and freedom from sleepiness and fatigue.

In-Vehicle Information Systems

This includes a wide range of systems designed to give information to the driver. Examples are:

Satellite Navigation (SatNav) allows drivers to let a computer plan a route for them and to give directions during the journey. Some also provide warnings about traffic jams, and can choose alternative routes to avoid delays. SatNavs usually give visual directions on a screen and voice commands to instruct the driver what to do at approaching junctions.
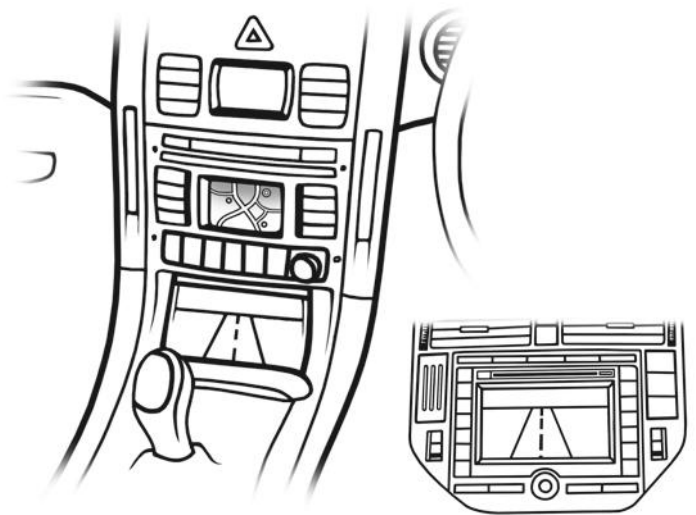
Many SatNavs require annual (or more frequent) updates, without which the information they contain becomes out-of-date which could result in a driver making a mistake based on false information. The on-going cost of keeping SatNavs updated and maintained needs to be taken into account when considering their purchase.

The purpose of SatNavs is to provide advance information about route or traffic conditions, enabling the driver to make earlier and better decisions. However, it is essential that drivers still pay attention to their route and the roads they are using in case the system recommends an unsuitable route or manoeuvre. For example, many systems may not have information such as weight and height limits on roads and bridges. (Car SatNavs are not designed for use in heavy vehicles). Drivers must obey road signs and markings, irrespective of what the SatNav tells them to do.

Further advice on planning safe journeys is available in "Driving for Work: Safer Journey Planner", which can be downloaded at www.rospa.com/roadsafety/info/worksafejourney.pdf.

In Vehicle Telematics Systems tend to have specialist functions, such as helping taxi drivers to organise pick ups, or delivery drivers to record what drops have been made. As they interface with the driver, they can have a direct influence on the nature of the driving. Therefore, it is important that the equipment and the way it will be used is properly assessed. For example, the driver should only use the devices when their vehicle is stationary

Speed Management Devices

Various types of Speed Management Devices are available, some of which are combined with other devices, such as SatNavs. Examples are:

- **Speed Warning Devices** may have one or more functions. They may warn the driver if s/he exceeds certain pre-set speeds, inform the driver of the speed limit of the road they are using, or warn about accident blackspots or other areas, such as school zones or safety camera sites. They could be useful in alerting drivers if they exceed speed limits or when they are approaching a stretch of road with a known crash problem. However, they may be used by drivers to 'get away' with speeding by warning them when they are approaching safety cameras. Managers need to ensure that they are used to improve safety, not to enable speeding. Devices that use radar to detect cameras are set to become illegal, but ones that use GPS systems will continue to be legal.
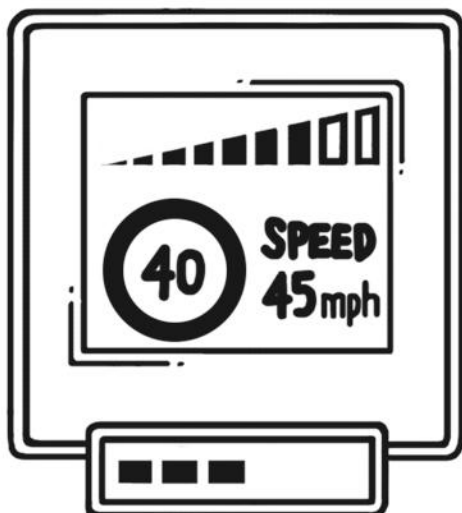
- **Speed Limiters** can prevent a driver from going above a fixed speed.

For further advice about developing a Safer Speed Policy, see "Driving for Work: Safer Speeds", which can be downloaded from www.rospa.com/roadsafety/info/workspeed.pdf.

Electronic Braking and Stability Systems

These are designed to improve the vehicle's braking performance and/or control, particularly in emergency situations. Examples are:

- **Anti Lock Braking Systems (ABS)** are standard on all new cars and help to prevent the wheels locking during braking so drivers can manoeuvre around obstacles.

- **Brake Assist (BA)** ensures that the maximum pressure is applied by the brakes to stop a vehicle in an emergency to bring the vehicle to a quicker halt.

- **Electronic Stability Control (ESC)** detects whether a vehicle is about to skid and prevents this by reducing engine power, and if necessary, braking individual wheels.

Monitoring Devices (Black Boxes)

These are increasingly used in fleet vehicles as a way of helping managers record how drivers are using their vehicles so that efficiency and safety improvements can be identified. Examples are:

Vehicle Monitoring Devices
These measure many aspects of a vehicle's operation, such as its peak and average speeds, RPM, seatbelt use, distance and time driven, and harsh braking and acceleration. The data can be collected and analysed to provide managers with feedback about how their staff are driving and to identify drivers who need further training or other help (such as a change in scheduling).

Event Data Recorders (EDR)
If a crash occurs, they record data (such as the vehicle's speed, steering wheel movement, braking) about what the vehicle was doing immediately before the crash. Employers do not have legal access to this information, but it is used to help police accident investigators determine the causes of accidents.

What employers should do

Consult Staff

Ensure that staff and/or their safety representatives are fully consulted about the organisation's policy on safe driving, including the use of in-vehicle technologies that are provided in company vehicles or in staff's own vehicles that are used for work. The policy should be reviewed periodically in joint health and safety committee meetings. Where monitoring technologies are used, commitments may need to be given to staff about the way the data gathered is used and confidentiality of information relating to identifiable individuals.

Expect Safe Driving

Ensure all staff, including managers, understand that the organisation expects everyone to drive within the law, safely and responsibly on work journeys, that in-vehicle technology must only be used as designed, and that the organisation will provide appropriate help and training in the safe use of such technology.

All managers should be trained to manage work related road safety as part of their health and safety responsibilities. They should lead by personal example and follow the organisation's policy.

Raise Awareness

As part of recruitment, training and staff appraisal, ensure that drivers, and their line managers, are reminded about the:

- laws and rules about safe driving (the Highway Code)

- types of devices that are and are not permitted in vehicles used for work

- purpose of such devices

- safe use of such devices

- potential risks and consequences of mis-use

- organisation's policy on in-vehicle technology

- help (such as training) available for staff.

Staff also need to be aware of the:

- legal, financial and bad PR consequences of crashing due to poor driving

- organisation's policy on work related road safety

- need to co-operate in carrying out the policy, to report any problems and to participate in investigations.
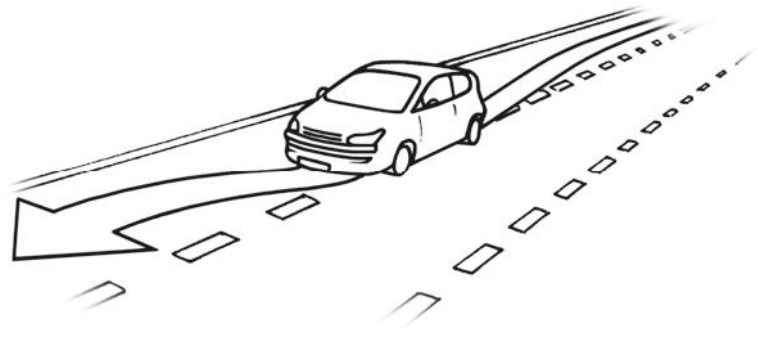
Assess the Costs, Benefits and Risks

Employers should assess the costs, benefits and risks of providing, or permitting, in-vehicle technology as original equipment or fitted afterwards. Equipment must be safe to use and be designed to help drivers to drive safely and reduce the risk of crashing. The risks of drivers mis-using the technology, or relying on it too much, (for example, by driving when tired in the mistaken belief that a fatigue warning device will prevent them falling asleep at the wheel). The risks of several different devices in a vehicle (such as distraction, too much, or conflicting, information being provided to the driver) should also be assessed.

The on-going cost of maintaining the equipment and annual (or more frequent) updates should be included in the assessment.

If staff use their own vehicles for work, any personal equipment should also be assessed, if used for work purposes. Employers have a legal duty for all equipment used by an employee at work, whether or not supplied by the employer.

Set Criteria

Set criteria so that the only devices permitted are those that give information:

- about the state of the vehicle or it's equipment

- about the location of the vehicle or road that it is on

- to assist the driver see the road and road users around the vehicle

- to assist the driver to reach his or her destination

- to assist the driver to drive safely (e.g. by staying within the speed limit).

Set clear rules that devices that do not conform to the organisation's criteria (e.g., dvd players) will not be used in vehicles used for work.

Discuss the criteria with potential fleet providers when considering fleet choice.

Keep Records

Keep records of the type of equipment provided, including any problems staff experience (such as a SatNav directing them onto an unsuitable road) and what remedial action has been taken. Staff should also be required to declare any personal equipment that they use in their own vehicles if they are used for work purposes.

Locate the Equipment Safely

The position of devices provided as original equipment will already be set. However, equipment that is retro-fitted (nomadic devices) may be positioned in way that makes its use more difficult, or even increases the risk of an accident or injury. Employers should ensure that nomadic equipment is safely located in the vehicle, using the attachments and instructions provided by the manufacturer. Ensure that:

- No part of the equipment restricts the driver's view of the road. It must not create blind spots.

- The equipment is not positioned in such a way that it interferes with the sight or use of any of the vehicle's controls.

- The equipment is easily reachable by the driver, and is close to the driver's field of vision.

- The equipment does not interfere with the operation of any safety system and is not within the deployment zone of any airbag as this could increase the risk of injury in a crash. Most modern vehicles have several side, and frontal airbags. If in doubt, check the vehicle's manual or contact the manufacturer for further advice.

Provide Training

Driver training should include the safe use of any technology provided with the vehicle.
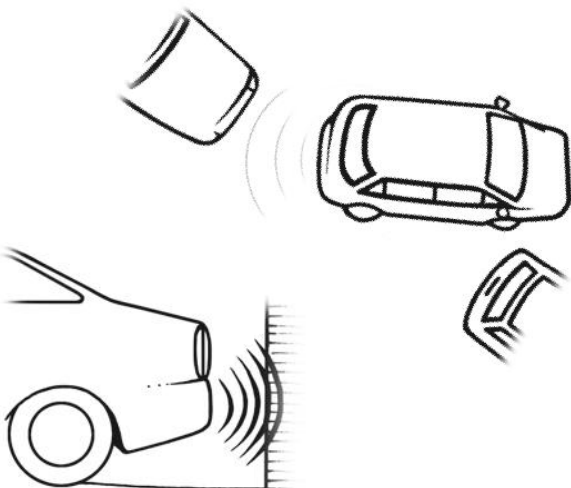
When a member of staff needs to drive a vehicle for the first time (e.g., a colleague's car, a pool car or a hire car, or when the company changes its fleet) vehicle familiarisation briefings should be provided and include the safe use of any technology in the vehicle, especially if the driver's previous vehicle did not include such devices.

When new equipment is retro-fitted in a vehicle, the driver should be trained in its use, and ideally demonstrate using it safely to a trainer.
In particular, drivers should understand that they should not adjust or operate devices while they are actually driving. For example, routes in the SatNav should be set before the journey starts.

If it is necessary to make adjustments or to input new information, the driver should only do so when stopped in a safe place. Devices mounted in a cradle should not be taken out whilst driving.

Training should also include the risk of relying too much on any in-vehicle technology, and ensure that drivers understand they are responsible for remaining alert and making safe decisions.

Ensure that drivers have read the instruction manual, and that they understand how the system works. Employers can incorporate advice from instruction manuals into their In-Vehicle technology policy.

Assess the Effects of New Equipment

Drivers may adapt their behaviour to in-vehicle technology in many ways, some of which may not be immediately obvious. Employers should assess how their drivers use such equipment when it is introduced and at regular intervals thereafter.

Maintain The Equipment

Employers should ensure that any equipment is maintained according to the manufacturer's instructions, and that it remains securely attached in position in the vehicle. Devices that require periodic software updates should be updated according to the manufacturer's recommendations.

Record and Investigate Accidents

Require staff who are involved in a work-related crash, including damage-only incidents and significant near-misses, to report it to their line manager. This enables, where practicable, those investigating the causes of the crash to consider whether the use or mis-use of any piece of in-vehicle technology contributed to it and what (if any) action is necessary to prevent repeat occurrences. Keep the organisation's insurers informed.

Require Drivers to Notify Driving Offences

Require drivers who have been cautioned, summoned or convicted for driving offences to inform their line manager so that a discussion can take place to determine whether, among other factors, the use or mis-use of any piece of in-vehicle technology, contributed to the offence, and what (if any) action is necessary to prevent repeat occurrences.

Monitor and Review

Managers should discuss at-work driving, including the use of in-vehicle equipment, with their drivers during periodic staff appraisals and team meetings. Any feedback from drivers about equipment should be noted, and used to help employers make future decisions about the use of such equipment.

Further Advice

- HSE Guide, "Driving at Work" - www.hse.gov.uk/pubns/indg382.pdf.

- "Managing Occupational Road Risk: The RoSPA Guide" (priced) -

- www.rospa.com/drivertraining

- www.rospa.com/roadsafety/advice/motorvehicles

- www.orsa.org.uk

- www.dft.gov.uk (Road safety section)

- www.hse.gov.uk/roadsafety/index.htm

- www.euroncap.com

- www.escope.info

- "Driving for Work: Safer Journey Planner" - www.rospa.com/roadsafety/info/worksafejourney.pdf

- "Driving for Work: Safer Speeds Policy" - www.rospa.com/roadsafety/info/workspeed.pdf

- "Driving for Work: Mobile Phones" - www.rospa.com/roadsafety/info/workmobiles.pdf

- "Driving for Work: Drink and Drugs" - www.rospa.com/roadsafety/info/workdrinkdrugs.pdf

- "Driving for Work: Own Vehicles" - www.rospa.com/roadsafety/info/ownvehicle.pdf

- "Driving for Work: Driver Assessment and Training" - www.rospa.com/roadsafety/info/drivertraining.pdf

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Company In-Vehicle Technology policy

As part of our overall health and safety policy, _____ is committed to reducing the risks which our staff face and create when driving or riding for work. We ask all our staff to play their part.

Staff using in-vehicle technology for work must ensure that they always use it safely. Persistent failure to comply with the policy will be regarded as a serious disciplinary matter.

Senior managers must:

- lead by example, both by ensuring that their own vehicle is always in a safe condition and by not tolerating poor driving practice among colleagues.

Line managers must ensure:

- they also lead by personal example

- that any technology provided is suitable for the needs of staff

- staff understand their responsibilities about in-vehicle technology

- staff receive appropriate training and advice periodically to ensure they can use in-vehicle technology safely

- regular visual inspections are conducted of nomadic technology to ensure that they are safely located and can be safely used by the driver

- work related road safety is included in team meetings and staff appraisals and periodic checks are conducted to ensure our vehicle policy is being followed

- they follow the monitoring, reporting and investigation procedures to help learn lessons which could help improve our future road safety performance

- they challenge unsafe attitudes and behaviours and encourage staff to take care of their vehicles

Staff who use in-vehicle technology must:

- ensure they do not use in-vehicle technology inappropriately, (e.g. entering data while the vehicle is moving)

- read the instruction manual to understand how the system works

- report any problems about using the equipment to their line manager

- report road safety problems, including crashes, incidents, fixed penalty notices, summons and convictions for any offence, including vehicle defects, to their line manager

- present their driving licence for inspection regularly and on request

- co-operate with monitoring, reporting and investigation procedures