RoSPA
The Royal Society for the Prevention of Accidents

Driving for work:
Vehicle Technology
February 2015

THINK!
Road Safety

Produced with the support of
The Department for Transport

Introduction

Driving is the most dangerous work activity that most people do. Over 100 people are killed or seriously injured every week in crashes involving someone who was driving or riding for work. This affects other road users, such as passengers, pedestrians and riders, as well as the at-work drivers or riders themselves.

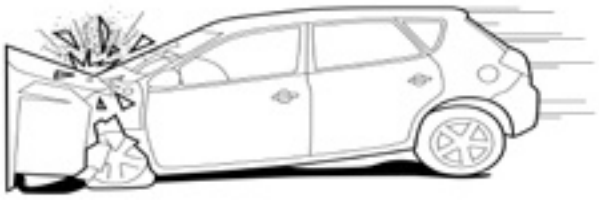
HSE 'Driving at Work' Guidelines state that "health and safety law applies to on-the-road work activities and the risks should be effectively managed within a health and safety system." Vehicles used on company business must be fit for purpose and in a safe condition and drivers must be capable and trained to use them safely.

The Provision and Use of Work Equipment Regulations also require employers to ensure that work equipment (including vehicles and their equipment) is suitable and safe, and employees are properly trained in its use.

The design and construction of vehicles has constantly improved over the years, with things like crumple zones, seat belts, ABS, airbags, head restraints, safer vehicle fronts and side impact protection.

Vehicles sold in the EU must meet European Whole Vehicle Type Approval and laws on safety, emissions, noise, etc, which set minimum safety requirements.

Euro NCAP conducts additional, independent tests on cars to assess adult and child occupant protection in front and side impacts and pedestrian protection. They also assess passive safety systems, such as head restraints, and active safety systems, such as Brake Assist.



These tests are more severe than the legal minimum, so cars given a five star rating by Euro NCAP far exceed the safety requirements set by legislation.

For more detail see www.euroncap.com.

Vehicle Technology

Vehicles are increasingly being fitted with technology designed to prevent collisions and/or reduce their severity. Many vehicles are fitted with multiple systems, for example ESC, brake assist and seat belt reminders.

Technology with similar purposes is given different names by different manufacturers, but broadly speaking it tends to fall within three categories: Crash Avoidance, Crash Mitigation and Driver Information.

Crash Avoidance Systems monitor the road and traffic around the vehicle and warns the driver, or takes independent action as required.

Crash Mitigation Systems are designed to reduce the consequences of a crash.

Driver Information Systems give visual and/or audible information and warnings to drivers.

These technologies, if used properly, reduce the risk of drivers crashing, and the severity of any injuries suffered if a crash does occur. However, they can also increase risk (e.g., by distracting the driver) if not used properly.

Therefore, it is essential that managers and drivers know what vehicle technology is in their vehicles, what it does, how to use it safely and the potential risks of misuse.

This guide describes the main technologies and gives advice on developing policies to ensure that when staff are given vehicles with new technology:

- the benefits and risks are first assessed
- they are trained in its safe use
- the effects of its introduction are monitored.

It can be used to inform the organisation's MORR risk assessment and ensure that suitable equipment is used. Investing in measures to manage occupational road risk will more than pay for itself by reducing crash costs, many of which will be uninsured.

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.

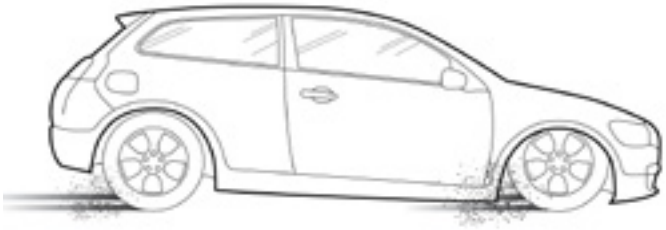
Types of Vehicle Technology

Braking

Driving too close to the vehicle in front, failing to look properly and misjudging another person's speed or path are common errors that increase the risk of a driver failing to spot a hazard early enough and being too slow to brake, or take avoiding action. Distraction, impairment and inattention, poor visibility, or another road user suddenly doing something unexpected also increase the risk of a driver reacting too slowly.

Autonomous Braking Systems (Brake Assist)

Autonomous Braking technology monitors the driving environment for potential hazards, and the likelihood of the driver colliding with another vehicle, object or person. Typically, it warns the driver of a potential collision, and if the driver does not brake (or does not brake hard enough) or take avoiding action, it either brakes harder, or executes an emergency stop, without the driver's input.



These systems have different names, but Brake Assist or Emergency Brake Assist are probably the most common generic terms for this type of technology. Brake Assist is fitted as standard on some new cars, and this is likely to increase over coming years.

In some cases, it prepares the vehicle and restraint systems for the impact. Some are Autonomous Emergency Braking Systems and only intervene in an emergency, when they apply the brakes as fast and hard as possible (ie an emergency stop) to avoid an imminent collision. Others intervene earlier by warning the driver or braking gently to reduce the risk of a potential collision.

Autonomous braking systems can be very effective at reducing crashes, especially low speed ones, and injuries to vehicle occupants and pedestrians.

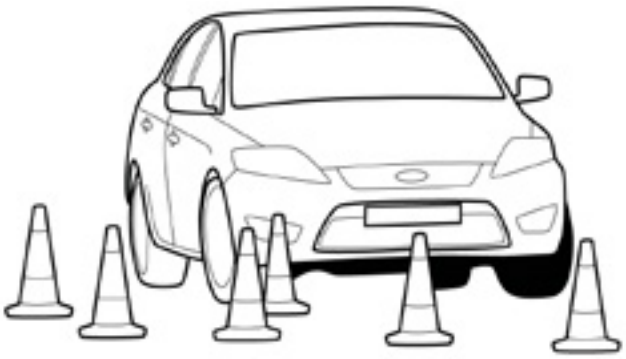
Anti-lock Braking Systems (ABS)

If a vehicle's wheels lock during heavy braking, its stopping distance and the chances of skidding are increased, and the driver cannot steer to avoid an obstacle. ABS uses sensors to monitor the rotation of the wheels to detect if they are going to lock, and if so, rapidly releases and reapplies the brakes to prevent it. The driver should keep their foot on the brake pedal without pumping it, even if they feel it vibrating or pulsing, as pumping the brakes will prevent the ABS working properly.

ABS is a long established technology that has been mandatory for new cars in the EU since 2004. It helps to prevent accidents caused by the driver losing steering control when braking.

Electronic Stability Control (ESC)

Electronic Stability Control (ESC) uses sensors to monitor the vehicle's direction and the speed of each individual wheel. If it detects that a wheel is losing grip and the vehicle's direction is changing from that intended by the driver, it may reduce the vehicle's engine power and brake individual wheels to prevent loss of control and keep the vehicle heading in the intended direction. Manufacturers have several different names for this technology, but ESC is the generic term.

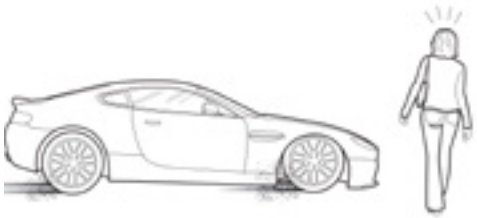


Research shows that ESC significantly reduces the risk of crashing, and especially crashes involving loss on control and skidding. It has been mandatory on all new types of cars in the EU since 2011 and on all new cars since 2014.

SPEED

Traction Control
When a vehicle accelerates on a slippery surface like ice or snow, the wheels may spin on the surface without gaining grip. Traction control monitors the rotation of the wheels, and if necessary applies and releases the brakes in rapid succession to reduce wheel spin and help the driver to move off.

Stop-Start Technology
Stop-Start technology is becoming more common in new cars. Typically, when the car is stationary (for example, at traffic lights) with the handbrake on and the gears in neutral, the engine automatically switches off. It restarts when the clutch is pressed to select a gear to move off. The technology is designed to reduce fuel consumption and emissions, rather than to improve safety.

Vulnerable Road User/Pedestrian Detection

Vulnerable Road User Protection calculates the movement of a pedestrian or cyclist within the 'capture' zone, and if it predicts a collision and the driver has not applied the brakes, the system will brake the vehicle to a stop.

Collision Avoidance
Collision avoidance systems have many names. Generally, they use sensors (and sometimes cameras) to detect an imminent crash, and then warn the driver or take avoiding action (braking and/or steering) autonomously without any driver input.

Key Message
With all braking technology, it is essential that drivers understand what it does, how it works and its limitations. Otherwise drivers may drive faster and take more risks in the belief that the technology will save them from crashing.

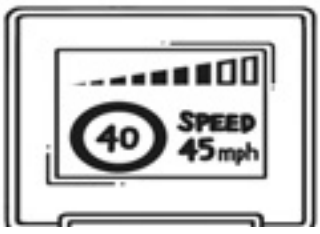
Managers must ensure that drivers understand the braking technology that is in their vehicle, and use it responsibly.

Exceeding the speed limit or driving too fast for the conditions means that drivers have less time to identify and react to what is happening around them, and it takes longer to stop. If there is a crash, it is more severe, causing greater injury to the occupants and any pedestrian or rider they hit.

Adaptive Cruise Control (ACC)
Cruise control maintains the vehicle speed at the level pre-set by the driver, unless the driver brakes. It is designed for high speed roads rather than town and city driving. However, if a vehicle ahead slows down, or another vehicle pulls into the space in front, the vehicle using cruise control will continue at its pre-set speed unless the driver brakes. This increases the risk of a rear-end collision.

Adaptive Cruise Control uses sensors to monitor the distance to the vehicle in front. It reduces the vehicle's speed if the vehicle ahead slows down or the distance to it reduces.

Speed Warning Technology
Speed warning technology gives the driver a visual and/or audible warning if s/he exceeds a pre-set speed. Some systems also show speed limits, and/or safety camera sites. They are often, but not always, incorporated into Sat Navs, but some vehicles have built-in technology.



It can help to keep drivers aware of their speed and encourage them not to exceed speed limits, but managers should take care that their drivers do not use the technology to 'get away' with speeding by relying on it to warn them when they are approaching safety cameras.

Drivers should choose their pre-set speed according to the type of road on which they will mostly be driving. If mainly driving on 30mph roads, the warning should be set at 30mph; if driving on motorways, setting it at 70mph makes more sense. The pre-set speed should be set before the start of a journey.

Intelligent Speed Adaption (ISA)
Intelligent Speed Adaption (ISA) monitors a vehicle's speed and the speed limit of the roads it is using. ISA normally uses a GPS system combined with a digital speed limit map that provides the speed limits for the road network to continuously update the vehicle's speed limit to match the road speed limit.

If the vehicle exceeds the speed limit of the road, ISA either warns the driver (Advisory ISA) or automatically reduces the vehicle's speed (Voluntary ISA or Mandatory ISA). In the Voluntary ISA system, the driver can override the system and continue to exceed the speed limit, whereas with Mandatory ISA, the driver is not able to override it.

Most existing systems are Advisory ISA and are often a feature of SatNavs. Drivers can choose whether or not to enable the warnings. Real-world trials have found that it reduces speeding on virtually all types of road, but some studies found the improvement varied in different speed limit zones.

Research has also shown that Mandatory ISA could deliver a 37% reduction in fatal road crashes in the UK. However, voluntary and mandatory ISA is still rare in the UK.

Key Message
With all speed management technology, it is essential that drivers understand what it does, how it works and its limitations. Drivers must not over rely on the technology, nor use it to get away with speeding.

Managers must ensure that drivers understand the technology that is in their vehicle, and use it responsibly.

For more advice see "Driving for Work: Safer Speeds", at www.rospa.com/roadsafety/info/workspeed.pdf.

OCCUPANT PROTECTION

Occupant protection has vastly improved, largely due to seat belts, improved vehicle design and construction, and airbags.

Seat Belts
Virtually all vehicles have seat belts fitted, of course. They are extremely effective at reducing the risk of death or injury in a collision. However, they only work if they are worn.

Seat Belt Reminders (SBR)
Many vehicles are now fitted with Seat Belt Reminder systems that sense whether the seat belt is fastened in an occupied seat, and if not, alert the occupant to wear their seatbelt. They are most common for the driver's seat, but many now also cover the passenger seats. They usually alert occupants with a warning light on the dashboard and/or an audible alarm, which is activated when the vehicle exceeds a certain speed or has travelled a certain distance.

Seat belt reminder systems can significantly increase seat belt wearing rates. Euro NCAP awards points for vehicles that are fitted with a seat belt reminder system.

Airbags
New cars usually come with multiple airbags, including front driver and passenger airbags, and side airbags in the rear (and sometimes the front). Airbags are designed to work with the vehicle's seat belts and seats to absorb the energy of an impact, and protect the occupants from striking parts of the vehicle's interior, such as the steering wheel or dashboard.

Airbags are not a substitute for seat belts and do not provide adequate protection if the occupant is not also wearing a seat belt. It is essential that drivers and passengers always wear their seat belt.

Airbags deploy very quickly to be inflated by the time an occupant reaches it, so it is important to make sure that nothing is close to, or obstructing, the airbag.

Drivers should sit with at least 25cm (10 inches) between the steering wheel and their chest, but always follow any specific advice from the car manufacturer. Drivers who sit closer to the steering wheel, should contact the vehicle manufacturer for advice.

There is also a risk of injury if occupants are out of position and resting against an airbag, for example, with their feet on the dashboard, or their head resting against a side window.

Airbags should not be obstructed with seat covers, for example, and objects, such as SatNavs, should not be mounted on the cover of an air-bag compartment, because they could be flung forwards if the air-bag deploys.

It is illegal, and dangerous, to use a rearward facing baby seat where there is an active frontal airbag. Safety advice about older children and airbags is available in the vehicle's handbook, and at www.childcarseats.org.uk.

Other airbags are becoming available; for example, knee airbags underneath the steering wheel to reduce the chances of leg injuries, and 'smart' air bags that detect occupant weight and proximity and tailor air bag deployment accordingly.

External airbags have also been designed that deploy from the outside the vehicle to reduce injuries to pedestrians, motorcyclists and pedal cyclists.

Drivers should consult their vehicle handbook for specific information on their vehicle's air bags.

Head Restraints

Head restraints are an important, but often undervalued, part of a vehicle's occupant protection system. When correctly positioned, head restraints reduce the likelihood of whiplash. However, their effectiveness is reduced if they are not correctly positioned.

The top of the head restraint should be as high as the top of the head

The head restraint should be as close to the rear of the head as possible.

Active head restraints

In some vehicles, the seat changes form and position to reduce the effect of a collision impact on the neck. In other systems, the head restraint moves forward to protect the neck when the head lags behind. Both systems have been shown to reduce the whiplash effect significantly.

(Pre-) Crash Systems

This technology adapts a vehicle's occupant protection system to occupants of different sizes and sitting positions. Typically, it removes slack from seatbelts, adjusts seating positions to optimise airbag performance and closes windows to prevent ejection. Some do this in the preceding micro-seconds of a collision it has predicted; others react during the impact.

Key Message

Drivers should understand how their vehicle's occupant protection systems work together to maximise protection.

They should also understand that no system can guarantee protection and that the best way to prevent injurees is to avoid being involved in a crash in the first place.

For more advice see www.rospa.com/roadsafety/adviceandinformation/vehiclesafety/.

DRIVER FITNESS

A person's fitness to drive can be affected by many things, including alcohol, drugs, illness, and tiredness. All these can affect a driver's physical condition, including eyesight, and their judgement, decision-making and reaction times, and substantially increase their risk of crashing.

Alcolocks

Alcohol significantly impairs a driver's ability to drive safely and increases their crash risk. Alcohol Interlocks (often called alcolocks) require the driver to provide a breath sample before the vehicle can be started. If the alcohol in their breath is above a set limit, which can be lower than the legal drink drive limit, the vehicle will not start.

If a driver has some alcohol in their body, but is under the limit set for the vehicle, it will start, but may warn the driver if he or she is close to the limit.

Some Alcolocks have an override function which allows the system to be bypassed a limited, or unlimited, number of times. Some systems allow managers to access this data to see if the system has been overridden.

Alcolocks are rare in the UK. However, they are used in other countries, mostly as part of part of rehabilitation programmes to reduce the chances of convicted drink drivers from offending again.

If considering their use, employers should consult widely with their staff to ensure that everyone understands the risk and harm created by drink driving and the reasons the company wishes to use alcohol interlocks.

Driver Fatigue Monitoring Systems

Tired drivers are much more likely to crash, especially when driving in the early hours of the morning and on long, monotonous roads such as motorways. Their crashes are more likely to cause death or serious injury because a driver who has fallen asleep cannot brake or swerve to avoid or reduce the impact.

Driver Fatigue Monitoring Systems use cameras or sensors 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 and prompts them to take a break.

In EURO NCAP tests, vehicles that have a drowsiness detection system, such as Attention Assist are given additional points.

Companies or drivers who use driver fatigue monitoring systems must continue to plan journeys and set work schedules, and drivers' hours, to reduce the risk of driving for too long and too far. They must not over-rely on this technology to prevent a tired driver from falling asleep at the wheel.

Key Message

Employers and drivers should understand the importance of driver fitness, and the limitations of technology that is designed to monitor a driver's condition. In particular, they should not over-rely on such technology.

For further advice see "Driving for Work; Drink and Drugs" and "Driving for Work; Fitness to Drive" at www.rospa.com/roadsafety/resources/employers/

LIGHTING

Automated Lights
Some vehicles now have automated lights that switch on headlights and rear lights in the dark or low light levels (eg, in a tunnel or multi story car park). The system only works if the light switch is set in the automatic position.

Daylight Running Lights (DRL)
European legislation required dedicated daytime running lights to be fitted to all new 'types' of passenger cars and small delivery vans from February 2011, and new trucks and buses from August 2012. Research indicates that Daytime Running Lights could prevent a substantial number of casualties across the EU.

Some countries (not the UK) now require drivers to use specific daytime running lights, or switch on their headlights during the day. However, there is no requirement to retro-fit DRLs to existing cars and no Europe-wide requirement for drivers to switch their normal headlights on during the day.

Adaptive Front Lighting Systems (AFLS)
Adaptive Front Lighting Systems direct the headlight beams to the direction of travel, based on the angle of the steering wheel.

Advanced Adaptive Front Light Systems (AAFLS) turn the headlights to boost visibility through bends; some also adjust the light pattern for different road speeds and visibility (eg, narrower beam on motorways).

Similar technologies are Cornering Light Assist that illuminates a wider angle when turning corners and Auto High beam that automatically switches high beam lights on and off to improve vision, but avoid dazzling oncoming drivers.

POSITIONING

Lane Departure Warning Systems (LDWS)
Lane Departure Warning Systems (LDWS) monitor road markings by the side of the car, and alerts the driver if the vehicle drifts out of the lane. If the driver uses their indicator, the system does not issue an alert.

Blind Spot Information Systems (BLIS)
These systems monitor the area behind, and adjacent to, the car that the mirrors do not cover (blind spots). If it detects movement, it warns the driver so they do not change lanes into the path of a vehicle they have not seen. However, on busy, multi-lane roads, they may issue too many warnings to the driver.

Large Vehicles and Cyclists
Large vehicles are increasingly fitted with cameras and sensors to help the driver see whether there is a cyclist on the nearside. Systems that combine sensors on a large vehicle with automatic braking are being developed. If the system predicts the vehicle is going to collide with a cyclist (when the large vehicle is turning left, for example), it will automatically apply the brakes, and bring the vehicle to a stop.

Reversing and Parking Aids
Reversing and Parking Aids alert the driver to the proximity of objects or people behind the car, and reversing cameras can help drivers to see behind when reversing.

Key Message
It is essential that drivers do not over-rely on camera, sensor and warning technology. They must still use good observation themselves through their windows and mirrors.

OTHER

eCall

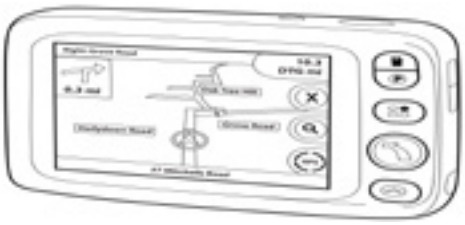
e-Call automatically makes a 112 emergency call to the nearest emergency centre when it detects a severe impact. It transmits the exact geographic location of the crash and other data. It alerts the emergency services even if the occupants are not able to call for help, or do not know where they are. It can also be triggered manually, if, for example, a person witnesses an accident. It does not allow vehicle tracking during normal driving; it only activates when there is a collision.

eCall can significantly reduce emergency services' response time, and it has been estimated that this will save hundreds of lives in the EU every year. It is due to become mandatory in new types of passenger cars and light commercial vehicles in early 2018.

Satellite Navigation (SatNav)

SatNavs plan routes and give directions during the journey, usually visual directions on a screen and audible directions. They enable the driver to make earlier and better decisions, and help to prevent drivers hesitating or making sudden late manoeuvres.

Many SatNavs warn of traffic jams ahead and recommend alternative routes. Some also show speed limits and warn of the presence of safety cameras.



Drivers must still pay attention to their route, road signs, markings and signals, no matter what the SatNav says, and, of course, be aware of what's happening around them. They should not automatically follow the SatNav's directions as it may sometimes send them on an inappropriate route.

Many SatNavs require annual (or more frequent) updates, without which the information they contain becomes out-of-date. They are generally designed for cars and may not have information such as weight and height limits on roads and bridges that are relevant to large vehicles.

SatNavs must not be fitted where they might reduce a driver's view, be hit by an airbag if one went off or cause injury in a collision. It should also be easy for the driver to see.

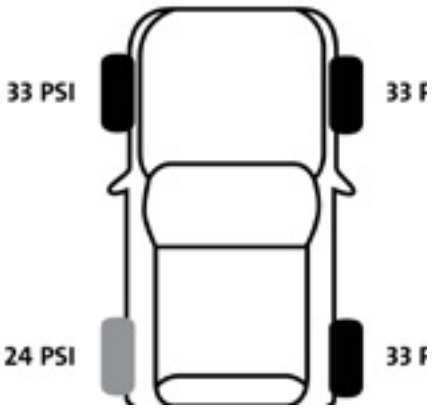
Drivers should only input destinations when the vehicle is safely parked. Managers should ensure that their drivers appreciate the potential for distraction when using a SatNav and that they are helped to use it sensibly.

For more advice see "Driving for Work: Safer Journey Planner" at www.rospa.com/roadsafety/info/worksafejourney.pdf.

Tyre Pressure Monitoring Systems

Tyres in poor condition increase a vehicle's stopping distance and the chances of a 'blow out', all of which increase the risk of crashing.

Tyre Pressure Monitoring Systems (TPMS) monitor the pressure of each tyre and warn the driver if one or more is incorrectly inflated. Different makes vary in their accuracy, and how they alert the driver.



Therefore, it is important to make sure that drivers know what levels of deflation the TPMS will warn them about, how it will warn them, and what they should do. Drivers should understand that they still need to manually check tyre pressures, tread depths and tyre condition regularly.

For more advice on tyre safety, see www.rospa.com/roadsafety/adviceandinformation/vehiclesafety/tyresafety/.

Telematics

Telematics are used by a growing number of employers to monitor and improve their staff's driving. It enables accurate information about a person's driving to be collected and analysed to identify strengths and weaknesses, crash risk and to create personalised feedback.

This technology can help employers to:

- Monitor and analyse the real driving behaviour of their staff who drive for work
- Provide tailored, personalised feedback to help drivers improve their driving
- Identify driver training and education needs
- Identify other ways of reducing a driver's risk (eg, changing journey schedules)
- Incentivise improved driving
- Improve accident investigations
- Reduce costs, with savings paying for the investment in the technology.

Telematics can significantly reduce crash rates, levels of risky driving, and fuel and accident costs. It can inform risk assessments of drivers and journeys, and investigations following crashes and incidents.

There are two main types of telematics, although they have many different names.

Journey Data Recorders (JDRS) monitor and record the way a vehicle is being driven throughout the whole of a journey.

Event Data Recorders (EDRs) monitor how a vehicle is driven throughout a journey but only record the data for several seconds before, during and after an 'event' (eg, a collision, or sharp braking) exceeds pre-set parameters.

Both JDRs and EDRs constantly monitor the driving, but with EDRs, only a small amount of the data is recorded, whereas with JDRs, the data for the whole journey is recorded. Some also provide real-time visual or audible alerts in the vehicle to the driver during the journey.

The data and feedback about the driving is provided to the driver, usually by a website, emails or an app. Managers can usually access the information as well.

Based on how the driver is driving, the technology calculates a risk rating and data for the driver, which employers can use to identify, and prioritise driver training needs, change schedules and routes, and if necessary, instigate disciplinary action.

For more advice see "Driving for Work: Telematics" and "Using Telematics to Improve Driving for Work Safety: A Good Practice Guide" at www.rospa.com/roadsafety/resources/employers/.

Key Message

Telematics is most effective when both drivers and managers regularly view the data and feedback it provides, and use it to inform the company's management of their occupational road risk.

Dashcams

Dashcams are normally fixed to the dashboard or the rearview mirror to record the road ahead. Some also have a rear-facing lens for interior or rear-view recording. Some have a motion detector which enables recoding if something happens when the vehicle is parked.

Dashcams can provide evidence of what actually happened in an incident or accident, and help drivers and companies to defend themselves against accusations or insurance claims. Of course, they also show how the driver of the dashcam vehicle was driving.

When buying a dashcam, image quality, especially at night or in poor weather, is very important. It needs to be good enough for accident investigations or insurance claims. Other features to consider are a good memory card with plenty of storage, GPS functionality and a g-force sensor.

What employers should do

Consult Staff

Ensure that staff and their representatives are fully consulted about the organisation's policy on safe driving, including the use of vehicle technologies that are provided in company vehicles or in staff's own vehicles that are used for work. Review the policy periodically.

Expect Safe Driving

Ensure all staff, including managers, understand that the organisation expects everyone to drive within the law, safely and responsibly, that 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.

Train Managers

Train managers 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)
- the types of vehicle technology in work vehicles, its purpose and how to use it safely
- the types of vehicle technology permitted in private vehicles used for work
- potential risks and consequences of mis-use of vehicle technology
- organisation's policy on 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 Benefits, Costs and Risks

Assess the benefits, costs 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 should also be assessed.

Consider the risks of several different devices in a vehicle, such as distraction, too much, or conflicting, information being provided to the driver.

Include the on-going cost of maintaining the equipment and annual (or more frequent) updates in the assessment.

If staff use their own vehicles for work, any personal equipment in the vehicles should also be assessed. 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 for vehicle technology so that the only technology permitted is intended to:

- prevent collisions
- reduce the severity of crashes that do occur
- help the driver drive safely
- improve fuel efficiency and reduce emissions

Set clear rules that technology that does not conform to the criteria (e.g., dvd players) will not be used in vehicles used for work.

Discuss the criteria with potential fleet providers, and the organisation's motor insurer, when considering fleet choice.

Keep Records

Keep records of the equipment provided, including any problems staff experience (such as a SatNav directing them onto an unsuitable road) and the remedial action 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 be set. However, retro-fitted equipment may be positioned in way that makes its use more difficult, or even increases the risk of an accident or injury.

Ensure that equipment is safely located, using the attachments and instructions the manufacturer provided. Ensure that devices:

- Do not restrict the driver's view
- Are not placed where they interfere with the sight or use of the vehicle's controls
- Is close to the driver's field of vision
- Do not interfere with the operation of any safety system and are not within the deployment zone of any airbag.

Provide Training

Driver training should include the safe use of any technology provided with the vehicle. When new equipment is retro-fitted in a vehicle, the driver should be trained in its use.

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

In particular, drivers should know 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 vehicle technology, and ensure that drivers understand they are responsible for remaining alert and making safe decisions.

Assess the Effects of New Technology

Drivers may adapt their behaviour to 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 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 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 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.

Monitoring driver behaviour in response to new technologies is also important and more studies which determine whether technology has a positive or negative impact on behaviour are required.

Further Advice

Driving at Work: A Guide for Employers
www.hse.gov.uk/pubns/indg382.pdf

Occupational Road Safety Alliance
www.orsa.org.uk

Scottish Occupational Road Safety Alliance
www.scorsa.org.uk

Department for Transport
www.dft.gov.uk

Vehicle Technology: A Manager's Guide
www.rospa.com/roadsafety/info/vehicle_technology.pdf

Driving for Work: Fitness to Drive
www.rospa.com/roadsafety/info/workfitness.pdf

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

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

Vehicle Technology
www.rospa.com/roadsafety/info/vehicletech.pdf

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

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

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

HSE Work related Road Safety
www.hse.gov.uk/roadsafety/index.htm

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

Driving for Work: Telematics
www.rospa.com/roadsafety/info/driving-for-work-telematics.pdf

Using Telematics to Improve Driving for Work Safety: A Good Practice Guide
www.rospa.com/roadsafety/info/telematics-good-practice-guide.pdf

Young Drivers at Work (Scotland) Black Box Pilot
www.rospa.com/roadsafety/info/young-drivers-at-work-black-box-pilot.pdf

MORR in Small &:Medium-sized Organisations
www.rospa.com/roadsafety/info/morr_sme.pdf

Young Drivers at Work
www.rospa.com/roadsafety/youngdriversatwork/

Volunteer Driver's Handbook
http://www.rospa.com/roadsafety/info/volunteer_drivers.pdf

MORR in Voluntary Organisations
www.rospa.com/roadsafety/info/voluntary_morr.pdf

Driving for Work: Film
www.rospa.com/roadsafety/resources/videos/driving-for-work.aspx

RoSPA Driver Training
www.rospa.com/drivertraining

www.euroncap.com

RoSPA
The Royal Society for the Prevention of Accidents

© The Royal Society for the Prevention of Accidents
28 Calthorpe Road, Edgbaston, Birmingham B15 1RP
Fax: 0121 248 2001
Registered Charity No.: 207823
VAT Registration No. 655 1316 49

Company Vehicle Technology Policy

As part of our overall health and safety policy, we are 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 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, by ensuring that they drive safely and responsibly
- Ensure that all staff receive training about the technology in their work vehicles and understand the benefits to them and the company.

Line managers must:

- Lead by personal example
- Ensure that any technology provided is suitable for the needs of staff
- Ensure staff understand their responsibilities about vehicle technology
- Provide appropriate training and advice to staff periodically to ensure they can use vehicle technology safely
- Conduct regular visual inspections of nomadic technology to ensure that it is safely located and can be safely used by the driver
- Ensure staff are confident that they can report and discuss any driving issues they might have with an appropriate person without fear of being treated unfairly
- Include work related road safety in team meetings and staff appraisals and periodic checks are conducted to ensure our Policy is being followed
- Follow monitoring, reporting and investigation procedures to help learn lessons which could help improve our future road safety performance
- Challenge unsafe attitudes and behaviours, encourage staff to drive safely, and lead by personal example in the way they themselves drive.

Staff must:

- Ensure they know what technology is provided in their vehicle
- ensure they do not use vehicle technology inappropriately
- read the instruction manual or vehicle handbook to understand how the technology 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
- co-oerate with the oargaisation’s driving licence monitoring process
- co-operate with monitoring, reporting and investigation procedures