ETSC
European Transport Safety Council

PRAISE
Work-Related Road Safety

"PRAISE": Preventing Road Accidents and Injuries for the Safety of Employees

May 2010
Report 3

Fitness to drive

ETSC PRAISE Project

PRAISE is a project co-funded by the European Commission and implemented by ETSC on Preventing Road Accidents and Injuries for the Safety of Employees (PRAISE). The project aims to advance work-related Road Safety Management and provide the know-how to employers who have to take on that challenge. It also aims to present the work-related road safety standards of EU Member States and carry out advocacy work at the EU level: work-related road safety is an area of road safety policy that clearly needs renewed political commitment.

Contents:

Introduction

Driving is a demanding task and the risk of crash is high when individuals are not physically or mentally fit to drive. This is especially true when looking at work related driving, since conditions such as work related stress or sleepiness resulting from driving long hours come to play a role. This report looks into Fitness to Drive in the work-related context. The first part looks at Workplace Health Promotion (WHP). Improving the health and well-being of employees is of paramount importance for employers and can play a significant role in reducing road risks. It is thanks to general well being and healthy lifestyles that significant threats to safety risks such as sleepiness, addictions to alcohol or illegal drugs or medicines and stress can be avoided. The report then zooms into three specific areas that pose specific challenges: sleepiness, alcohol, and illegal drugs and medicines. This report covers existing legislation, examples of initiatives and case studies, and recommendations to the EU, to EU Member States, and to employers.

Part 1: Workplace Health Promotion

Workplace health promotion (WHP) is of paramount importance, but it is also a real challenge for employers. Indeed workplace health promotion taps into matters such as lifestyle, work/life balance, and general wellbeing. The challenge therefore stems from the fact that lifestyle is a private issue, and employees can therefore only be encouraged to change certain behaviours, but can never be forced to do so (EU OSHA, 2010). The starting point for employers to address road risk of their employees is always to conduct a risk assessment in order to identify and list the factors that can lead to collisions and understand their magnitude (this is also a legal requirement following the European Directive 89/391[1]).

Employers are very likely to find that a large number of driver related risk factors are related to health: stress, sleepiness, distraction, ageing staff, unhealthy diet, consumption of alcohol illegal drugs or prescription medicine, pre-existing diseases, smoking, lack of exercise, etc. When it comes to professional drivers, a number of sector-related health conditions are also frequent: lower back pain, overweight, cardiovascular and respiratory disease, and work-related stress (EU OSHA, 2009). This is also amplified by the fact that the population of professional drivers is an ageing group. Drivers have to work under time pressure in a highly competitive environment providing a broad spread of tasks required by clients (EuroFound, 2004). Alarming for example is a European survey on stress indicating that the steepest growth in the number of employees under acute work-related stress between 1995 and 2000 was recorded in the transport and communication sector: from 27.2% to 36.9% (Eurofound, 1997, 2001). Such conditions are of course undesirable in themselves, but can also lead to collisions resulting in material damage or casualties.

Specifically, truck driving is a stressful job. This is due to the long and irregular working hours, pressure to deliver on time as well as the physical demands of driving and managing the traffic related context. Such pressures can have short, middle and long term implications for the physical and psychological impact on behaviour. A new project in Germany surveyed over 500 HGV drivers on the influence of work stress and individual management of stress[2]. Results showed that the driver works on average more than 63.2 hours a week, of which 46.6 are purely for driving. More than a third of drivers (36%) have problems respecting the driving and rest times set by legislation. According to the survey the main cause of stress is the driving environment, followed by a lack of parking and resting areas, risky and aggressive behaviour of other drivers, bad roads, traffic density and traffic jams. With the increasing working hours, the driver is away from home for longer hours and expected to fulfil other non driving tasks which build up the levels of stress. Recommendations of the BAST Study, such as respecting EU legislation on driving times, are supported in this ETSC report.

WHP encompasses everything done by employers, their employees, and society to improve the health and well-being of people at work. Here are examples of a few WHP measures that employers can implement: enabling flexible working times; offering teleworking

1 for more information see PRAISE Thematic report 2 on Risk Assessment and Driver Training: http://www.etsc.eu/documents/PRAISE%20Report%202.pdf

2 Implications of the Stresses and Straings on Traffic Behaviour of HGV Drivers (BAST) 2010.

when appropriate; offering healthy canteen food; offering sport / relaxation classes; offering courses on social competence like dealing with stress. WHP requires commitment from both sides, employers and employees (EU OSHA, 2010), and as with every safety endeavour WHP works best when it is part of a safety culture endorsed at all levels of an organisation, starting with senior management.

Drivers should be aware that it is their responsibility to refrain from driving if they recognise that they are impaired. Employees should also be expected to inform their employer if they are under medication that could temporarily impair their driving. This information should be transferred by the medical doctors. This must at the same time respect doctor-patient confidentiality and privacy protection. If the medical condition requiring the need to take medicine persists then work should be adapted to take different ability, including possibly refraining from driving into account. There is considerable variation in response among individuals to many classes of medication. The user has the major role in self-monitoring. A higher level of precautions is required for drivers of large vehicles, in the emergency services and for some workplace drivers. Employers, such as bus and truck companies, police and fire services, may place additional obligations on drivers to report medication use to the organisation´s occupational health adviser or to their supervisor before commencing duty (Tim Carter 2006).

Absence of illness does not mean fitness

Significant health conditions that impair the driving task can prevent a driver from obtaining or renewing a driving licence. Yet the absence of illness does not necessarily mean matching all the conditions required for fulfilling those to be fit to drive. Medical checks performed when obtaining a driving licence or offered by the employer can help in detecting specific medical conditions or illnesses. Fitness or well being are conditions that need to be promoted through WHP measures and checked with appropriate means and measures.

Business case

Beyond duty of care and legal obligations, a successful organisation will benefit in a number of ways from WHP, and it therefore makes sound business sense to ensure that employees are fit to drive. This can be illustrated by: reduced absenteeism; fewer collisions resulting in material damage or even casualties; enhanced motivation; improved productivity; easier recruitment; increased turnover; a positive and caring image. Research shows investment in WHP yields a return on investment of one to 2.5 – 4.8 in reduced absenteeism costs (Bödeker and Kreis, 2004).

Existing EU legislation with relevance for drivers' health

Two EU Directives have important implications also for work related driving and drivers' health. A new EU Driving Licence Directive was adopted in 2006 (2006/126/EC). This legislation plays a role in influencing road safety at work in two ways: by setting questions related to fitness to drive during theory tests to obtain a licence; and by harmonising medical checks and minimum standards of physical and mental fitness needed to obtain and renew licences. Questions on the following subject must be included in theory tests (Annex II of the Directive):

- Point "2.1.2." of the Directive (to obtain all licences):
- Importance of alertness and of attitude to other road users;
- Perception, judgment and decision-taking, especially reaction time, as well as changes in driving behaviour due to the influence of alcohol, drugs and medicinal products, state of mind and fatigue.
- Point "4.1.1." of the Directive (only to obtain licences in categories C, CE, C1, C1E, D, DE, D1, D1E: Group 2 drivers): Rules on driving hours and rest periods as defined by Council Regulation (EEC) No 3820/85 of 20 December 1985 on the harmonisation of certain social legislation relating to road transport; use of the recording equipment as defined by Council Regulation (EEC) No 3821/85 of 20 December 1985 on recording equipment in road transport.

This legislation also notably harmonises the minimum frequency of medical examinations for the renewal of driving licences in categories C, CE, C1, C1E, D, DE, D1, D1E (Group 2 drivers). Indeed, as from 19 January 2013, licences issued by Member States for such categories shall have a maximum administrative

validity of 5 years (Members States can opt for less than 5 years if they wish so). Obtaining the licences and renewing these licences after this maximum 5 years administrative validity is subject to the continuing compliance with minimum standards of physical and mental fitness for driving set out in Annex III of the Directive (this includes indications regarding a range of abilities, health conditions, or health deterrents including: sight; hearing; locomotor disability; cardiovascular diseases; diabetes mellitus; neurological disorders; mental disorders; alcohol addiction; systematic use of drugs and medicine products; renal disorders; and other miscellaneous requirements).

A Directive on Driver Training of professional bus and truck drivers (2003/59/EC) also recently came into force. This aims to provide better training for professional drivers who must now pass an initial qualification and undergo hours of periodic training. An Annex to this directive includes a number of subjects that must be incorporated into the initial qualification and periodic training of drivers, including:

- Point "3.3" of the Annex 1 to the Directive, with the objective to prevent physical risks: ergonomic principles; movements and postures which pose a risk, physical fitness, handling exercises, personal protection.
- Point "3.4" of the Annex 1 to the Directive with the objective of raising awareness of the importance of physical and mental ability: principles of healthy, balanced eating, effects of alcohol, drug or any other substance likely to affect behavior, symptoms, causes, effects of fatigue and stress, fundamental role of the basic work/rest cycle.

The European Commission Road Safety Unit has set up working groups of experts meeting regularly to discuss on a number of topics relevant to "Fitness to Drive". One of those is the working group on alcohol, drugs, medicines and driving. The group will provide the Commission with science-based recommendations for possible measures to be implemented in order to reduce drink/drug-driving, including the appropriate use of alcohol interlocks systems, rehabilitation schemes, and classification of medicines according their impact on driving capacities.

The Commission has a regulatory Committee dealing with Driving licence issues, in which all Member States participate. The Driving Licence Directive contains a special medical Annex (III) on minimum standards of physical and mental fitness. One of the tasks of the Committee is to regularly update this Annex according to technical and scientific developments, as it was the case with the driving licensing possible to patients affected by diabetes, epilepsy and eyesight problems. At present the Commission had asked for a similar revision concerning drivers affected by cardiovascular diseases.

EU level Initiatives

The European Agency for Health and Safety at Work (EU OSHA)[3] has included health and safety of transport workers as a main element of its work programme for 2008-2010. The objectives are to support the exchange of good practice information in the sector and the sharing of experience by providing examples of preventing occupational risks in road transport and how to promote OSH good practice and raise awareness of OSH issues within the sector.

Activities include web feature and database of links to good practice; case studies[4] on preventing occupational risks in road haulage and bus driving; review (scoping exercise) of good practice information available for taxi drivers, motorbike and bicycle couriers; and a review of some specific accidents in the sector and lessons learnt from them.

This work includes a broad range of occupational risks to transport drivers, not just road safety issues and driving hazards, but also: loading, unloading vehicles; falls climbing in and out of cabs; rest and toilet facilities;

3 http://osha.europa.eu/en
http://www.virtualriskmanager.net/main/aboutus/niosh/written-paper_eu-osha.pdf

4 EU OSHA has published a number of Case Study Reports (2008) on the Protection of Drivers from different sectors which are included in this report.

vehicle design and maintenance; musculoskeletal and vibration related disorders; hot and cold cabs; stress; violence from members of the public.

The EU OSHA project also recognises that drivers are not a homogenous group and will consider older drivers, young drivers, women drivers.

National level Initiatives

A lot can be done at the national level to encourage employers to undertake WHP. Governmental schemes, via financial incentives or simply via the provision of information and services, are vital to get employers on board, including small and medium size companies that might otherwise not be willing or even able to identify WHP as one of their concerns.

Finland: investigation of truck drivers' health

Despite the current requirement for medical examinations of professional drivers (Group 2) based on the EU Driving Licence Directive (above), the Finnish Institute for Occupational Health (FIOH) found that the physical condition of truck drivers is poorer than that of employees in most other occupations.

FIOH therefore ran a project[5] to find an optimal set of screening tests – either questionnaires or physical tests – that can be used to detect truck drivers' health problems. They examined the health status and well-being of 65 male long-distance truck drivers in a Finnish truck company in 2005-2006 and obtained the following results: 50% of the drivers complained of sleep deficit or other problems in alertness; 20% had a clinically significantly impaired lung function, which was related to tobacco smoking; 50% of the drivers were at increased risk of cardiovascular disease (2/3 had high blood pressure); and 40% of the drivers fulfilled the criteria for metabolic syndrome. These results led to the following recommendations:

- Attention should be paid to the very first, however slight, signs of risk factors of cardio vascular disease and alertness and sleep disorders, which demand early intervention.
- Improving the lifestyle of professional drivers requires attention in areas such as exercise, smoking, healthy meals and snacks, alcohol use, and sleep deficit. Standardised and tailor-made questionnaires and physical examinations and laboratory tests are needed to assess the individual health risk of drivers.

Pic 1: Transport Enterpriser Pentti Koskinen[6]

These findings lead to the conclusion that the EU Driving Licence Directive medical requirement should be interpreted as an absolute minimum requirement. The drivers need knowledge about the physical effects of inactivity and long working hours on their health and their alertness and work performance. Health condition or risks should be detected early, the reasons of risks should be examined, and interventions should be directed to the reasons of risk to support work capacity.

Germany: DocStop

The medical support for drivers of heavy goods is a problem. Heavy goods vehicle drivers are often on the road for a long time and have limited possibilities to consult a doctor, which can lead to the driver driving with health impairments or taking medicine which is not specially prescribed.

The aim of DocStop is to improve medical care of

5 EU OSHA Programmes, Initiatives and Opportunities to reach drivers and SMEs in the Transport Sector (2008).

6 Photographer Olli Blomberg The picture is not related to the research described above

haulage drivers in transit on European transportation routes by building up a medical information and supply network for drivers. Drivers who need medical attendance should have the possibility to consult a doctor while being on the road. DocStop was established as a pilot project in 2007, based on a survey carried out in Germany in which suggestions to improve the situation were made. A network of contact points at truck stops has been established. These are located within 4 kilometres of medical facilities. Good support for the project has enabled the provision of a medical care system for haulage drivers throughout Germany. Information and communication methods to promote the project such as TV, radio, flyers, trade organisations and personal dialogue with drivers are used. The project was initially run in Germany and is offering information for transit HGV drivers on the availability and location of physicians in several languages. The project was initially run in Germany and is now being implemented at the European level.

DocStop is supported by many organisations and enterprises in Germany and Switzerland e.g. Germany's Statutory Accident Insurance for the vehicle operating trade, BGF, BGL, ADAC, MAN, Mercedes Benz, Swissdrivers etc. About 200 contact points have already been created, situated at rest areas along the highways. Docstop appears to be well accepted by drivers and has support from the sector (EU OSHA 2008).[7]

'Get the Risk Out' Campaign, Germany

Also in Germany a new campaign called 'Get the Risk Out' ("Risiko ´raus!") to reduce the collision risk whilst driving and transporting goods has been launched in January 2010 by the German Social Accident Insurance, and will be run in co-operation with the German Federal States and the German Road Safety Council (DVR), and will run for two years. The central theme of the campaign is for drivers to focus on the driving task. Many of the causes of the accidents relate to carelessness and overestimation of one's own abilities. The campaign aims to stress the need to improve working conditions so that time pressure and stress don't come into play in the first place and generally to increase risk awareness and more thoughtful working. It targets employees, trainees, school pupils, as well as employers, leaders of companies and those responsible in business for health and safety and teaching at school and at vocational training colleges.

Furthermore, the German Road Safety Council has developed a chapter of a website for young drivers entitled "Move on"[8] in the context of its work-related road safety activities. It aims to inform young drivers on issues relating to fitness to drive and to work including drugs and alcohol and sleepiness. A recent article includes for example precautions to take if driving when diagnosed with diabetes.[9]

United Kingdom: Department for Transport's cycling to work scheme

The advantages of more walking and cycling for public health and environment (reduced mortality and healthy lifestyles through regular exercise) outweigh their disadvantages (the risk of death or injury)[10]. In the UK to promote healthier journeys to work and to reduce environmental pollution, the 1999 Finance Act introduced an annual tax exemption, which allows employers to loan cycles and cyclists' safety equipment to employees as a tax-free benefit. The exemption was one of a series of measures introduced under the Government's Green Transport Plan. Guidelines[11] clarified how organisations can take advantage of the exemption to implement a Cycle to Work scheme that encourages employees to cycle to work and allows employers to reap the benefits of a healthier workforce. This means that an employee can purchase a bike and associated safety equipment (helmets, high visibility clothing, lights etc.), from their gross income, payable as instalments over a 12 month period.

7 For more information: http://www.docstoponline.eu

8 http://schueler.nextline.de/webcom/show_softlink.php/_c-18/_cmt-23cc0473613e5fa21e1f9f22a66c3101/i.html

9 http://schueler.nextline.de/webcom/show_article.php/_c-5/_nr-274/i.html

10 Sælensminde, K., 2004. Cost-benefit analyses of walking or cycling track networks taking into account insecurity, health effects and external costs of motorized traffic. Transportation Research Part A 38, 593–606.

11 http://www.dft.gov.uk/pgr/sustainable/cycling/cycletoworkguidance/

Recommendations to EU/Member States

- Remind employers that employees' ill-health should be considered as part of their risk assessment under Directive 89/391, and promote WHP as the most efficient tool to combat ill-health.
- Promote the Business Case for WHP to employers.
- National Health and Safety strategies should include measures to combat the health risks associated with road transport, for professionals in the road transport sector in particular.

Employer Level

Employers have an important role to play in promoting health in the workplace. Clearly this can be boosted with the understanding of the business case for health promotion. Ill-health invariably means reduced productivity and increased absenteeism, and should therefore be a core concern for employers. Healthy lifestyles can be promoted in a number of ways, but it is important not to invade employees' private life and consult them when taking decisions and offering new services. It is important for employers to understand that complying with health and safety regulations are only minimum requirements, and is not necessarily enough to reap the benefits of having a healthy workforce.

Good practice

"Rahtarit ry" in Finland

Rahtarit ry, the Finnish organisation of truck drivers, which is a member of the international organization, UICR (Union Internationale des Chauffeurs Routiers) together with the Finnish Health Association and the Dairy Nutrition Council in Finland ran a campaign entitled: "A Healthy Driver Can Cope"[12]. The goal of this campaign has been to promote the health and well being of employees in the transport sector. Two different approaches were used, one aimed at drivers and the other aimed at service providers. There is coherence between the health of the drivers and traffic accidents and so the objects of attention were healthy nutrition, physical education, and other topics including also the moderate use of alcohol. Parts of the campaign included informing drivers via the membership magazine of the Truck Driver organisation. Also over 500 truck points/ resting places all around Finland participated in the project by providing healthy meal alternatives for truck drivers and by distributing health-education materials. Multiple fit-to-drive events were organised in the truck points/resting places and in connection with various trade fairs all around Finland. These events comprised measuring the public's cholesterol, blood pressure, and carbon monoxide, as well as personal health education. Part of the projects have been incorporated in to the everyday practice of many truck points/resting places. This project also serves as an excellent example of how collaboration between different organisations in health promotion can benefit truck drivers. The long-term impact is difficult to measure, because of the general raising of health awareness.

Bertschi AG, Germany

A chemical transport company Bertschi AG[13], has a strategy to reduce the number of road traffic accidents and workplace accidents involving heavy goods drivers. They set a 50% reduction target to be reached in 5 years, as well as to ensure a high effectiveness of the system with constantly checking the observance of safety rules. Regular individual training sessions are held. During these training sessions drivers are made aware of a number of policies Bertschi AG have developed to improve safety. Alongside a policy of no phone calls during driving, constant use of seat belts, a zero alcohol principle is included. The training is followed up as the driver has to pass an individual check at regular intervals - either on the road or at the loading or unloading places. The respective head of department follows the heavy goods vehicle with his own car and observes the mode of driving and loading/unloading of the driver in question. In line with the practical side of checking the driving, drivers are tested for alcohol at regular intervals.

12 EU OSHA Protection of Passenger Road Transport Drivers (2008).

13 EU OSHA Protection of Road Haulage Drivers (2008).

Recommendations to Employers

- Offer/require medical examinations when employing new staff, and periodical examinations for existing staff. Regarding commercial drivers of group 2 vehicles, the respect of the medical requirements of the Driving Licence Directive should be interpreted as a strict minimum and not necessarily a definite indicator of fitness to drive.
- Implement WHP measures in the workplace which may include: enabling flexible working times; offering teleworking when appropriate; offering healthy canteen food; offering sport / relaxation classes; offering courses on social competence like dealing with stress / training on proper sitting position when driving.
- As a minimum provide information to employees about the occupational health risks associated with their job and preventative measures.

Part 2: Sleepiness

Scope of the problem

The human body's natural sleep wake cycle means that most people feel sleepy twice a day (at night and in the afternoon), drivers are therefore more likely to fall asleep when operating vehicles at that time (TIRF, 2009). Crashes caused by tired drivers are most likely to occur on long journeys on monotonous roads, between 2am and 6am, between 2pm and 4pm, especially after eating or drinking even one alcoholic drink (ROSPA, 2009). A small part of the general population (3-5%) also has to cope with obstructive sleep apnoea, a sleeping disorder which contributes to above average day-to-day sleepiness[14]. However, in Finland results from a survey involving 1097 heavy vehicle drivers indicated that one fifth of drivers suffered from sleep apnoea (Partinen et al., 2005). Sleepiness manifests itself in slower reaction time, diminished steering performance, lesser ability to keep distance to the car in front, and increased tendency to mentally withdraw from the driving task. The withdrawal of attention and cognitive processing capacity from the driving task is not a conscious, well-planned decision, but a semi-autonomic mental process of which drivers may be only dimly aware. The causes of sleepiness are sleep loss, time awake, circadian phase, and time on task, and not sleeping enough. Sleepiness can also be linked to alcohol, stress, obesity, medicines, and sleep apnoea as mentioned above. It has also been observed that problems of sleepiness are greater among young drivers.

While it is difficult to detect sleepiness and therefore estimate the number of accidents caused by it, sleepiness is an important contributory factor in a large proportion of road crashes (range 10-20%). Sleepiness is associated with increased risk. A person who drives after being awake for 17 hours has a risk of crashing equivalent to being at the 0.5 g/l blood alcohol level (i.e. twice the normal risk)[15]. The increased risk often results from a combination of biological, lifestyle, and work-related factors. In Great Britain research shows that up to 20% of accidents on monotonous roads, such as motorways, are fatigue related (ROSPA, Fatigue Facts). In the United States it is believed that up to 20% of serious crashes may be due to fatigued or drowsy driving (Horne & Reyner, 1996; Horne, 2000).

Importantly, drivers do not seem to be using the best options to reduce sleepiness. For example, a public opinion survey in Canada concluded that drivers rely upon: opening windows/turning on the air conditioning (43.7%), talking to passengers (34.2%), stopping to eat/exercise without sleeping (31%), and changing radio station or CD (30.4%) (TIRF, 2009). Employers need to deter their employees driving for work from relying on such techniques. The only viable solution it to adopt a proper sleep pattern and, when experiencing sleepiness to stop and have a nap. This should be embedded within an employer's Driving at Work Policy, with clear limits of both time and distance and an encouragement to use hotels or alternative transport.

Sleepiness in the professional transport sector

A major risk factor affecting driving for work is sleepiness. Working in this sector is not characterised by the typical "9 to 5" working hours. Research

14 http://ec.europa.eu/transport/road_safety/specialist/knowledge/fatique/index.htm

15 http://ec.europa.eu/transport/road_safety/specialist/knowledge/fatique/index.htm

shows that driver sleepiness is a significant factor in approximately 20% of commercial road transport crashes. Surveys show that over 50% of long haul drivers have fallen asleep at the wheel. Increased crash risk occurs at night (peak levels at night can be 10 times daytime levels), the longer the working day and with irregular hours. Those sleepiness factors that have been shown to influence road safety need to be better controlled in regulation policy and risk management. The most important factor that will ensure safety is to effectively implement and enforce regulation (ETSC, 2001).

There are several scientific studies reporting the negative health effects of non-standard working hours and possible psychosocial problems, both short-term effects and long-term associated health effects. Night work also has an impact on traffic accidents: if an accident occurs at night, the risk for a serious accident is much higher. According to the European Survey on Working Conditions (Eurofound, 2005), workers in the sector transport over land seem to work shifts more than the average European worker [about 26.8% of the transport workers reported they work shifts against 16.1% of the average working population.] They also seem to work more often on Saturdays and Sundays than workers of the average working population. They also work more often more than 10 hours a day than the average worker: 43.1% declared never working more than 10 hours a day (against 59.7% for the normal working population), 14% declared working more than 10 hours a day 11-20 times a month (against only 5.9%), and 6.8% more than 20 times a month (against 4.2%).

While working times have been discussed extensively for road transport, a lot still remains to be done regarding the other transport subsectors, and public transport. While there is specific European Legislation in place for professional drivers of heavy goods vehicles, groups including self-employed drivers, non vocational drivers who nevertheless work on the move (for example plumbers) and drivers of vans or company cars do not have to comply with this legislation. Such drivers are however often exposed to very long distances or long hours of driving and are therefore particularly at risk.

Sleepiness and other vehicle drivers

Sleepiness is a major source of concern for the transport sector but it affects other driving groups too. Shift workers are a particular group that should not be overlooked. Accidents are particularly frequent on journeys home after night shifts (ROSPA, 2009). Shift workers work irregular hours and their sleep patterns are therefore disrupted, they also not always work same shifts which can be particularly confusing for their body clock. Night time workers are particularly prone to be tired on journeys home returning from work even if they sleep enough hours during the day. Employers of shift workers should therefore particularly be aware of the risks of sleepiness.

Many drivers who drive for work are not covered by regulations, such as driving hours (e.g. company car drivers or van drivers) but are nevertheless on the road for many hours. Vans for example are not regulated like heavy goods vehicles and this might be a drive that encourages transport companies to shift their loads to vans. Non-vocational drivers aren't required to have vehicle equipped with tacographs either. However, through the deployment of telematic systems, it is possible to record and maintain a record of an individual's driving hours. This can enable companies to adopt and enforce internal policies on working hours for all their drivers, irrespective of which type of vehicles they drive.

European legislation and initiatives

The Working Time Directive (Directive 2002/15/EC) which applies to all mobile workers (excluding the self employed) performing road transport activities limits weekly working time to 48 hours, although weekly hours may increase exceptionally to a maximum of 60. The Directive also entails restrictions on night working and enforces rest breaks. The Driving Time and Rest Period Regulation (EC 561/2006) aims to introduce clearer and simpler rules about driving times, breaks and rest periods for professional drivers operating both in national and international transport. The basic principle is that by requiring a regular weekly rest period at least once per two consecutive weeks and a daily

rest period, social conditions for drivers and road safety should be improved.

Legislation covers recording equipment (tachographs) with Regulation EEC 3821/85 amended in 1998 to introduce digital tachographs. Directive 2006/22/EC identified minimum levels of enforcement required to secure compliance with the rules set out in the Driving Times and Rest Periods and the Tachograph Regulations. It provides common methods to undertake roadside checks and checks at the premises of undertakings as well as promoting cooperation between Member State authorities in charge of road transport enforcement. The European Traffic Police Network (TISPOL) for instance runs targeted campaigns throughout Europe to enforce traffic rules concerning trucks, including driver's hours & tachograph offences (for information about the 2008 'Operation Truck' campaign visit: http://www.tispol.org/node/3602).

EU legislation covering vehicle safety has also an impact on work related road safety as under the new Vehicle Safety Regulation 661/2009 trucks and other heavy vehicles must be fitted with Lane Departure Warning (LDW) Systems as of 2013. Lane Departure Warning devices can be effective in managing drivers experiencing sleepiness. Lane changing represents 4 to 10% of all crashes. Here too the emphasis is on heavy vehicles.

As part of the European ITS package, a Directive proposal includes developing specifications for ITS applications and services. Appropriate measures on secure parking places for trucks and commercial vehicles and on telematics-controlled parking and reservation systems is one of only four chosen priorities. Once in place this will better allow commercial drivers to plan their journeys and resting.

National Level initiatives

A lot can be done at the national level, both in terms of targeting the professional transport sector but also the general population of drivers. Raising awareness about this matter is particularly important as most drivers are unaware of the risks associated with sleepiness. One further aspect of this problem is that drivers do not feel they are infringing any traffic rule (as opposed to more conventional traffic offences like drink driving, speeding, or not wearing one's seat belt). Below are some examples of national initiatives.

Italy

"Geososta" is a website created by the Fondazione ANIA (a road safety foundation created by insurance companies) that provides information regarding the location of rest areas and secure parking sites on the Italian road network. It is meant for professional drivers of heavy good vehicles but anyone can use this website. It also contains information about the parking capacity and facilities available on the sites to allow drivers to plan their journey. Digital maps containing the location of rest areas can be downloaded from this website onto GPS, and satellite pictures of the rest areas are also provided on the website (using "google earth") so one can see what the areas look like when you planning the trip ahead. Further, by registering on the site one is able to modify or add information regarding the amenities of the sites already visited. Geososta aims to provide information to drivers on where to rest, but also importantly on where they are likely to be safe and avoid theft while resting, as this is a recurrent source of concern among professional drivers in Italy as elsewhere. http://sosta.smaniadisicurezza.it/

United Kingdom

In the United Kingdom driver sleepiness is estimated to account for around one fifth of accidents on major roads, and is responsible for around 300 deaths per year. The March 2008 THINK! Driver tiredness campaign was therefore launched as part of a wider Driving for Work campaign. Research has shown that people who drive for work behave in a risky way on the road, including driving while tired. The campaign has been developed with the work driver as a key target audience. Video clips, audio clips, posters and adverts, and publications about this campaign can be accessed online: http://think.dft.gov.uk/think/mediacentre/237144/drivingforwork1

Pic 2: Source www.businessdriver.eu

Germany: Austria, Spain and Poland Computer Based Training Programmes for Sleepiness

The EU co-funded project [16] ERIC has adapted a Computer Based Training Programme (CBT) on sleepiness and driving (and driver physics) for drivers in Austria, Spain and Poland. The programmes were already developed by the German Road Safety Council and were translated (including audible and written components), and adapted to the drivers and the different driving conditions in the other countries. They were then tested at several seminars involving different types of drivers in each partner country. The CBTs were further adapted based on the input during the pilots. The programme covers different aspects of sleepiness explaining for example the origins, how one can recognise sleepiness and what can be done to counter it including hints for everyday life. This is followed by a test. The project also assessed the availability of teaching and learning materials concerning sleepiness and the physics of driving and will publish a state of the art review. The final CBTs are being disseminated throughout the partner countries; a special effort is also being made to reach SMEs.

Recommendations to the EU and the EU Member States

- Target professional drivers with measures to combat sleepiness. This can be achieved through information, education and training about the dangers of driving when tired. Efforts should be made to target transport subgroups such as self-employed workers, drivers of vans and other non-heavy vehicles.
- Ensure there are consistent levels of enforcement of working time across the EU with penalties designed to strongly influence behaviour towards compliance.
- Promote Lane Departure Warning that can pick up sleepiness also to non-heavy vehicles (more details can be found under PRAISE Thematic Report 1 on in-vehicle safety technologies: http://www.etsc.eu/documents/PRAISE%20Report%201.pdf
- Invest into research and development of technical devices to detect when drivers are feeling sleepy and provide warnings to them or even take control of the vehicle whilst restricting the levels of distraction that such devices could bring about.
- In the future, legislation concerning working and rest hours may be further improved and vehicles can be equipped with devices that detect sleepiness-related decrements in driver performance.
- Roads may be equipped with edgelines or centrelines that provide audio-tactile feedback when crossed over.
- To prevent head-on collisions the installation of median barriers on two-lane main roads with a speed limit of 80 km/h or higher should be considered.[17]
- Provide information regarding the location of rest areas and secure parking sites to allow transport workers to plan their journeys.

Company level initiatives

Companies, especially transport companies, are encouraged to ensure that prevention measures are incorporated in their operations to combat driver sleepiness. This can be done in many ways such as applying strict internal policies (such as maximum driving hours or distances allowed while on duty), or providing informations to their employees/drivers about the risks associated with driving sleepiness and the ways to combat it.

16 Experiencing CBT Programmes in Road Safety in the European Community. http://www.uv.es/proeric/index.wiki

17. Lintu Reports 3/2006: www.lintu.info

Tyvi Freight, Finland

An operations online management system has been developed and used by the Tyvi freight transport company for the management of regular working hours and working shifts along many other operations management applications. It is an intranet and internet-based system and enables to combine all information needed in the company in real time and therefore allow real-time management through bi-directional communication between the employer and the driver. Although the online system mainly helps Tyvi to improve its service to customers, it also enables improved drivers' working hours, and is thus a tool for enhancing workers' well being at work. In particular this allows the company to plan more "normal" working hours for drivers, i.e; shorter working days and more predictable, regular shifts. The system includes work and customer instructions, service instructions, laws and regulations concerning the transport business, and instructions for drivers on giving daily reports to the company (EU OSHA 2008).

Swisscom Schweiz AG

Swisscom has launched a fatigue and distraction campaign in 2010 targeting all employees (4,000 fleet cars). It has adopted a Vision: 0 serious and fatal accidents. The goals are to improve road safety of employees; prevent damage to their image and operational disturbance and reduce vehicle damage. The measures adopted include disseminating information to all employees, sending a newsletter fleet car drivers, education and instruction of multipliers. This includes branch managers and safety agents. Exhibition with panels in buildings are also arranged as are quizzes and prizes, involving all employees and apprentices, some of whom attend the exhibition.

United Kingdom

A major UK mobile telecommunications provider has a specific policy working around tired driving. Below is an extract from their current Driving at Work policy:

- Tiredness kills – Take breaks at least every 2 hours or 100 miles, get out of car and walk about for at least 10 minutes.
- When travelling on a long haul flight you should not drive on arrival at your destination until you are absolutely sure that you are over "jet lag" or the general tiredness brought on by travel. It is recommended that you take a taxi or are met by a friend, colleague or family member.
- Driving excessive distances in one day (e.g. 3hr drive with 6-8 hours in the office then a further 3 hour drive), journeys of this type should be avoided; make an overnight stay to break the working day.

Recommendations to Employers

(partly adapted from Will Murray, Interactive Driving Systems, Fleet Safety Gap Analysis; ROSPA Fatigue Facts; ROSPA 2002)

- Where long journeys cannot be undertaken without a significant risk of sleepiness, consideration should always be given to alternatives such as videoconferencing or alternative transport modes.
- Written guidelines on eliminating driver sleepiness are included in the health and safety management policy and driver handbook.
- Limits are to be set on acceptable driving durations and distances through consultation with employees.
- Drivers are made aware of the dangers of sleepiness and are advised on strategies to manage it. This should include line managers to ensure drivers are made aware of the need to get an adequate amount of good quality sleep before starting to drive, and asking drivers to take a 15 minute break every 2 hours (journeys should therefore be planned accordingly to allow for that). Employees should be reminded of the dangers of common practices such as 'moonlighting' (having a second job in the evenings), spending too long engaged in evening hobbies, etc. Most important, employers must stress that when feeling sleepy drivers must stop in a safe place as soon as practicable.
- The current shift patterns, journey planning, employment contracts and work schedules do not contribute to driver sleepiness and stress. As a minimum journey schedules, appointments and routes must enable drivers to stay within the Law.
- Employees should be asked to report to their managers when their sleep may be interrupted, for example by having to care for young children or sick or elderly relatives at home during the night, etc. They should be reassured that this will not lead to discrimination.

- Consideration should always be given to allow employees to 'overnights' away from home when on a work trip.
- Reactive monitoring: drivers should be encouraged and thanked for reporting instances when they felt tired at the wheel, and crashes while driving for work should be investigated to determine whether sleepiness may have been a contributory factor.
- Particular consideration should be given to night shift workers especially regarding journeys home after work, for example providing taxis home or sleeping facilities on site.
- Based on priorities identified in the risk assessment include in-vehicle technologies to combat sleepiness.

Part 3: Alcohol and Work Related Road Safety

Scope of the problem: drink driving

Driving whilst under the influence of alcohol contributes annually to around 10,000 deaths on EU roads. In the EU as a whole, at least 1% of journeys are associated with an illegal Blood Alcohol Content (BAC) (ESCAPE 2003, ETSC 2003). National data show that typically 15-25% of deaths are associated with alcohol impairment of an active accident participant. Even more dangerous, a combination of alcohol and drugs can represent an even more powerfully impairing combination further raising accident injury risk.

The business case for addressing alcohol impaired driving in the workplace is strong. The vast majority of citizens with alcohol problems are employed full time. Employers can reap productivity gains and savings from a reduction in alcohol-related vehicle crashes[18].

Drivers of HGVs

In terms of demographic characteristics, a consistent picture of characteristics over-represented among drink-drivers emerges across a number of studies. These drivers are more often than average male, aged 18-24 years old, coming from a low socio-economic grouping, single or divorced, in a blue collar occupation, of low education and limited literacy and of low self-esteem (GRSP 2007, Bernhoft et al. 2008). But neither of these characteristics should be taken for granted. Given these characteristics of drink-drivers, it can be argued that drivers of commercial vehicles tend to have a profile corresponding to a typical drink-driver. Many of them are relatively young, male, single, or divorced, with a low self-esteem and coming from low socio-economic grouping. They drive as part of their professional job and risk much more than private car drivers if stopped while drink-driving. Apart from the immediate results of the crash they may also face a driving ban which could mean a loss of job if driving is especially the main part of their work.

As far as commercial drivers of HGVs are concerned, studies from different countries and road side surveys indicate that the prevalence of alcohol among this group of drivers is low and lower than among drivers of light vehicles.

Table 1. Prevalence of drink driving among HGV drivers according to TISPOL

Campaign	March 2008	October 2008	March 2009	October 2009
Truck drivers checked	115,364	157,961	183,024	169,839
Drivers with illegal BAC	510	615	282	329
% with illegal BAC	0.44%	0.39%	0.15%	0.19%

18 Network of Employers for Traffic Safety NETS http://trafficsafety.org/

Driving under the influence is thus less prevalent in commercial transport compared to individual transport. Yet, alcohol related road crashes in commercial transport result in more serious outcomes due to the vehicle crash incompatibility caused by increased size and mass of commercial vehicles. Besides, the number of people injured in such a crash may be high in case of vehicles operated by public transport companies. It can be concluded that it is of great interest to society and to individual companies to minimise the occurrence of alcohol-related crashes in commercial transport.

EU Level Legislation – Initiatives and Guidance

On drink driving the EU published in 2001 a Recommendation on the maximum authorised level of alcohol in the blood of motor vehicle drivers. While the maximum authorised BAC level for passenger car drivers was set up as 0.5 g/l, the second reduced level of 0.2 g/l was recommended for drivers of heavy commercial vehicles (above 3.5 tons) and for novice drivers. However, Member States were left free to set their own levels and as a result, many Member States have not followed this recommendation (see Table 2). The Commission's EU Alcohol Strategy, led by DG SANCO, invites Member States to even consider a zero BAC limit for young and novice drivers and drivers of public transports and dangerous goods. Besides, the 2001 Drink Driving Recommendation and 2003 EC Recommendation on traffic law enforcement state that all of the Member States should adopt a system of random detection by analysing expelled air in order to dissuade drivers from drinking. Alcohol is also mentioned within the Directive 2003/59 on the initial and continuous training of commercial drivers transporting goods and passengers and the Driving Licence Directive as covered in Part 1 of this Report[19].

Moreover, the Community Strategy for Health and Safety at work 2007-2012, developed by DG Employment, aims to achieve a reduction of occupational accidents and diseases in the EU. Health and safety strategies of EU Member States developed within the scope of the EU Strategy should include information on drink-drive laws and penalties, effect of alcohol on driver ability, breath testing for employees who drive regularly.

Another tool included also in the ITS Action Plan that the EU should promote within the drink driving context are alcohol interlocks[20]. These are devices that require the driver to take a breath test before starting the car. Use of alcolocks in a work context might include the voluntary introduction either by public sector authorities or private commercial vehicle operators (Alcohol in Commercial Transport ETSC 2009).

EU Level Recommendations

- Adopt a Directive for 0.2 BAC maximum limit for commercial and novice drivers.
- Launch an initiative for commercial transport companies to enhance safety of services by integrating prevention of drink driving as a competition factor into their business model.
- Gradually introduce alcolocks starting with target groups such as fleet drivers of, for example, dangerous goods.
- Integrate measures to address the impact of drink driving on work health and safety in the new Community Strategy for Health and Safety at Work 2013-2018.

National Level – Good Practice examples of government initiatives

Drink Driving Limit

Although all European countries have introduced a legal BAC limit only 15 have a limit of 0.2 or less for professional drivers and three of those only apply this lower limit to drivers of public transport. While in some countries (Czech Republic, Slovakia, Hungary and Romania), the limit was set at zero from the very beginning, in some others, notably Ireland, Malta and the UK the BAC limit is still 0.8 g/l.

19 See also Thematic Report 2 on Risk Assessment to Training.

20 For more info see our Thematic Report 1 on In-Vehicle Technologies and a section on Alcohol Interlocks.

Tab.3. Legal BAC limits for car and professional drivers in EU-27 countries and Switzerland by 1.1.2009 (source: DG MOVE)

Legal BAC limit (g/l)	Standard	Professional
Belgium	0.50	0.50
Bulgaria	0.50	0.50
Czech Republic	0.00	0.00
Denmark	0.50	0.50
Germany	0.50	0.00
Estonia	0.20	0.20
Greece	0.50	0.20
Spain	0.50	0.30
France	0.50	0.50 (0.20)
Ireland	0.80	0.80
Italy	0.50	0.50 (0.20)
Cyprus	0.50	0.50
Latvia	0.50	0.50
Lithuania	0.20	0.20
Luxembourg	0.50	0.20 (0.50)
Hungary	0.00	0.00
Malta	0.80	0.80
Netherlands	0.50	0.50
Austria	0.50	0.10
Poland	0.20	0.20
Portugal	0.50	0.50
Romania	0.00	0.00
Slovenia	0.20	0.00
Slovakia	0.00	0.00
Finland	0.50	0.50
Sweden	0.20	0.20
Switzerland	0.50	0.50
United Kingdom	0.80	0.80

Note: Numbers in parentheses valid for public transport drivers.

The standard BAC for all motor vehicle drivers which should be adopted by all of the Member States is one not exceeding 0.5 g/l. At the moment most of the Member States have already adopted that BAC limit. In Ireland and UK, the limit is expected to be lowered soon.

Enforcement and Follow Up

Drink-driving offences are in general punished very severely by courts of all Member States. The sanctions may involve temporary withdrawal of driving licences, conditional driving bans, obligations to participate in dedicated awareness raising programmes, and others. Commercial drivers are usually treated even more severely as professionals: they are expected to obey the law.

Education and Campaigns

Research suggests that factors such as public education about BAC limits and the dangers of driving while impaired can play a key role in enhancing the effectiveness of legislation which targets drink-driving (Bartl et al. 2000). This would also impact professional drivers.

Driving schools play a primary role in providing necessary information on the risk of drink-driving, but the education activities do not stop here, as the driving licence is not a life-time permit to operate commercial vehicles. Two core education activities exist:

- Education programmes on alcohol in schools and in driver training (including for professional drivers)
- Programmes and initiatives run by employers and insurance companies.

Preventative Policies in the Member States

Belgium

In Belgium all companies are obliged according to a new law to develop and integrate in their working place a preventative policy for drugs and alcohol.

Ireland

Public authorities have a role to play when it comes to steering employers to provide adequate information and supporting material to employees. In Ireland, for example, two state agencies the Road Safety Authority supported by the Health & Safety Authority have cooperated together to inform employers of their responsibilities for driving for work and that specific information is provided on alcohol and drugs. The Road Safety Authority and the Health and Safety Authority hold joint seminars on a regional basis for employers which address road safety issues based on the driver, the vehicle and the journey. Both authorities have published a "Driving for Work" CD for employers which is available on their websites[21]. Both authorities held a Driving for Work conference in 2009 for employers on the theme of "Driving for Work".

UK

The UK's 2007 annual drink drive campaign focussed on the risk of loss of licence, mobility and ultimately also possibly employment as a result of drink driving. The message of the campaign, which was run by the Government's THINK! campaign, was 'Don't let a drink-drive conviction come between you and Christmas'. The campaign was launched by a real life case of a 20 year old, Luke Noon, who lost his licence, job and girlfriend after his drink-drive conviction in 2006[22].

Germany

The local region of Guetersloh and the Accident Insurance Association of Westfalen-Lippe (GUVV) support a road safety action: „Young Driver"[23]. This community project is run together with the local Police and Traffic Watch Volunteers and aims to reduce collision risk of 18-24 year olds. The programme is run at vocational schools through the departments of Road Traffic together with the other partners through targeted practical driving exercises and discussions on the potential danger of road traffic. Included in the one day programme is a theoretical part led by a Police safety advisor and includes topics such as speed, alcohol and drugs. The young drivers are also able to test within an alcohol driving simulator what it's like to drive with 1.0 BAC. A total of 2,600 young adults have participated in the project since 2005.

Switzerland

An anti drink driving campaign was run in 2008 and 2009 by the Swiss Council for Accident Prevention. It was run together with the Police in Switzerland and Liechtenstein and enforcement was stepped up. More than 3000 safety delegates in companies were also involved in the implementation of the campaign. The aim was to reduce the number of alcohol related casualties increasing the subjective likelihood of controls due to increased police surveillance and intensified public relation campaigns. The second aspect was to improve risk awareness through education. The campaign targeted all drivers aged 18 to 44 years, especially men and new drivers. Road side posters were reinforced by also being displayed in the workplace. Cinema spots were shown and public events with alcohol simulators were organised. A new campaign is planned for 2010.

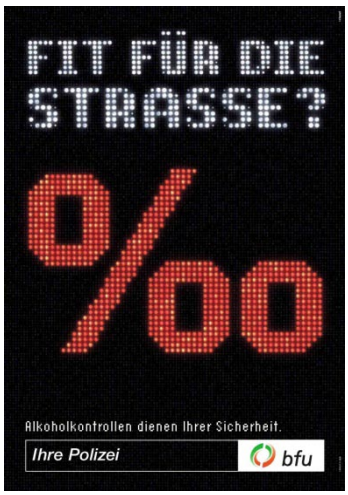

Figure 3. Poster asks: Fit for the Road?

Recommendations to Member States

- Adopt a 0.2 BAC limit for commercial drivers.
- Increase enforcement of drink-driving and

21 http.www.rsa.ie, www.hsa.ie

22 http://www.dft.gov.uk/think_media/241033/241066/howmuchposter.pdf

23 http://www5.jungefahrer.de/040/sr_seiten/112170100000001784.php

promote 'targeted' testing of those driving for work and systematically allow for a breath test in all police checks relating to driver behaviour and for all collisions dealt with by the Police.

- Run drink driving public campaigns linked to workplace health promotion (targeting also professional drivers) based on scientific research and linked to enforcement.

Employer Level - Good Practice

Employers of commercial drivers have an important role to play in increasing the awareness of drivers about the risks of drink driving. Employers and fleet operators should be strongly encouraged to set up their own initiatives. This should form part of a holistic approach in setting up a road safety plan. One helpful set of guidance is set out in the ILO's Code of Practice on Management of Alcohol and Drug-Related Issues in the Workplace.[24] This recommends that every employer should, in cooperation with employees and their representatives, develop in writing the enterprise's policy on alcohol and drugs in the work place. In some countries, for example in Belgium, all companies are obliged by law to develop and integrate in their working place rules a preventative policy for drugs and alcohol[25].

The elaboration of such a policy could follow a five step approach. Firstly, an inventory of issues related to alcohol (and drugs) should be listed including an anonymous survey for employees including questions such as where and when is alcohol consumed at work, what support would be necessary and what is expected to prevent alcohol at work. Secondly, a declaration of intent could be drawn up with different actors in the organisation to demonstrate the importance of the preventative policy. Thirdly, rules and procedures should be drawn up dealing with alcohol (and drugs). These written rules should clearly show what is permitted at work and explain procedures in case of breaking the rules and presenting solutions in case of problems. Fourthly, the organisation could offer information and training around the topic of alcohol (drugs) and health. Finally the policy should be evaluated and followed and adjusted according to suggestions and also experience.

This policy should include specific measures on alcohol which should be developed in discussion with the employees. The aim would be to spread a Zero tolerance approach to drinking in the workplace and whilst driving for work from the management level throughout the organisation. To implement, these employers may adopt a number of measures starting with education and information about the risks of drink driving to their own enforcement and follow up measures. Employers can also motivate drivers to comply with road traffic legislation by rewarding drivers respecting regulations and applying measures against those breaking the rules. The existence of safety culture and motivation programmes can also bring about a difference. Employers should also be committed to communicate to staff that crashes of commercial vehicles have additional negative side effects, the public image of a company involved in a serious crash can be damaged.

To increase the levels of deterrents employers could also run their own random alcohol tests. Another element is also to set up procedures. Alcolocks as part of an integrated alcohol policy can also form part of this solution. Alongside information about the risks, alcohol interlocks can also be a good preventative tool for deterring drink driving for drivers still affected by alcohol the morning after drinking has taken place (see Thematic Report 1).

Good Practice Example

Azienda transporti Veneto Orientale, Italy

The Azienda transporti Veneto Orientale public bus company[26] from Italy ran a campaign entitled: "Zero alcohol at work. Safety above all". The aim was to promote abstention from consuming alcoholic drinks in the workplace, both before and during work, in order to prevent accidents, improve the working environment, reduce absenteeism due to health problems. It also aimed to improve shift organization and increase productivity and improve the image of the company. The campaign was realised with information channelled by displaying information posters at the offices of ATVO and on

24 http://www.ilo.org/public/libdoc/ilo/1996/96B09_297_engl.pdf

25 http://www.mensura.be/news_detail.aspx?id=4677&terms=alcool+et+drogues . Royal Decree of June 28 2009 that all employers must introduce a preventative policy for alcohol and drugs in their companies. Published July 2009.

26 EU OSHA Protection of Passenger Road Transport Drivers (2008)

its buses. Information sessions for bus drivers were given by experts from the Alcohol Related Operating Unit from San Donà di Piave, which deals with the prevention and treatment of alcohol dependency in the workplace. Leaflets were also distributed on alcoholic drinks and their effects, in particular in relation to driving buses.

Recommendations to Employers

- Inform and educate employees about the risk of drink driving and adopt a Zero tolerance approach to alcohol in the workplace and whilst driving for work.
- Apply procedures and run programmes motivating drivers to comply with regulations.
- Develop clear written internal policies and procedures on drink driving and screening (e.g. before employment, after a collision and randomly) these should be an integrated part of general company workplace health promotion polices.
- Supervisors, line managers and drivers should be trained on the effects of alcohol on driving, and how to identify the symptoms of alcohol misuse.
- As part of a holistic road safety policy consider installing alcohol ignition interlocks in commercial vehicles.

Part 4. Driving under the influence of illegal drugs and prescription medicine and Work-related road safety

Scope of the Problem of driving under the influence of illegal drugs

The use of illegal is a cause for concern. The prevalence of illicit drugs in drivers killed in traffic accidents can be estimated in the order of 8.8% in Spain[27] and 8.1% in Sweden[28]. An increasing trend has been identified in the UK (24% in 2001 compared to 8.5% in 1989)[29], The Netherlands (15.7% in 2004 compared to 7.2% in 1985) and Norway (22.8% in 2002 compared to 12.4% in 1989) . The range of psychoactive substances available for illicit use is widening, and the latest studies which look for evidence of their use in drivers are indeed finding it. Drivers are being discovered with a range of drugs in various subsets of the motoring population, whether while being tested randomly, upon suspicion, in hospital or after a fatal accident (ECMDDA Insights 8).

Drivers driving for work may, as for alcohol, still be under the influence of illegal drugs from an evening before. They may also have been or be taking legal or illegal drugs to counter sleepiness. As for alcohol time pressure, stress and peer pressure may lead to drug and alcohol use (Millies, 1998).

Scope of Problem Medicines

The use of psychotropic medications (e.g. benzodiazepines, opiates) and some over the counter medicines (e.g. antihistamines, cough and cold remedies) whilst driving is also a cause for concern.

Medicines are generally used:
- Through a medical prescription, with the advice of a medical practitioner
- "Over the counter" in pharmacies or drugstores with the advice of a pharmacist/ collaborator by self medication, with only the recommendations printed on the package insert, plus an external warning printed on the box like in France (3 levels of warning), or Spain (1 level).

An increasing number of medicines are used without medical prescription and this evolution justifies the proposition of implementing a harmonised external warning on boxes of medicines inducing side effects on driving. In France this type of warning showed positive effects due to a better dialogue between patients and health professionals.
Much medicine influences the driving fitness by lowering concentration, alertness and reaction rate and can even be the cause for accidents (Deutscher Verkehrssicherheitsrat DVR, 2008). Field studies reveal that benzodiazepines are the most frequently detected medicines in all driver populations and

27 Del Rio et al. (2002) (Source: EMCDDA Report)

28 Holmgren et al. (2005).

29 Source: Sweedler and Stewart, 2009. (From SWOV Powerpoint)

some have concluded that using them approximately doubled the risk of motor accidents. In addition this risk was higher for drivers older than 65 (EMCDDA 1999). Also in some cases the fact that professional drivers don't have the possibility to consult a doctor while on the road may cause drivers to take over-the-counter medicines that may influence their driving activity.

EU Level Legislation – Initiatives and Guidance

As part of the 3rd Road Safety Action Programme and in recognition of the growing problem of driving under the influence of psychoactive substances, the European Commission proposed a range of measures designed to improve and share information on driving under the influence of drugs. The DRUID project, reporting in 2011, aims to fill gaps in the knowledge base, thereby enabling the development of harmonised, EU-wide regulations for driving under the influence of drugs and medicine. Some work carried out so far on road-side oral fluid screening has led to recommendations on the need to develop devices and procedures to be used in road-side testing by the police.

EU Level Legislation – Initiatives and Guidance. Illegal Drugs

The EU has legislated on the use or abuse of psychotropic substances which may affect physical and mental fitness to drive. Annex III of the Driving Licence Directive states that "driving licences shall not be issued to or renewed for applicants or drivers who are dependent on psychotropic substances or who are not dependent on substances but regularly abuse them".

Also in 2003, the European Council called on the Commission to ensure that the current programme on road safety is followed up by a set of actions to combat the impact of psychoactive substance abuse on road accidents. Driving under the influence of drink, drugs and medicines is also targeted in the EU drugs strategy 2005-2012 and the EU drugs action plan 2009-2012[30].

EU Level Recommendation for Illegal Drugs in the Workplace

- mplement effective campaigns on the working place to inform about the danger of driving under the influence of illegal drugs.

Prescription Medicines

For prescription medicines the Driving Licence Directive states that: "Driving licences shall not be issued to, or renewed for, applicants or drivers who regularly use psychotropic substances, in whatever form, which can hamper the ability to drive safety where the quantities absorbed are such as to have an adverse effect on driving. This shall apply to all other medicinal products or combinations of medicinal products which affect the ability to drive."

Most of the current information for patients to decide whether or not to drive is presented in medicine package inserts. However this information is not clearly stated with advice as to when not to drive or how to decide whether driving is possible under treatment. There is a need to improve this information to the patient: a new categorisation system proposed by the DRUID researchers and recently accepted by the European Medicines Agency is available[31].

In order to have this information accessible for patients in the correct way, health care providers should play a significant role in ensuring that the patient can make the best use of the medicines without endangering their participation in traffic. Therefore there is a need

30 http://ec.europa.eu/justice_home/fsj/drugs/strategy/fsj_drugs_strategy_en.htm

31 *"4.7 Effects on ability to drive and use machines . On the basis of the pharmacodynamic and pharmacokinetic profile, reported adverse reactions and/or specific studies in a relevant target population addressing the performance related to driving and road safety or using machines, specify whether the medicinal product has a) no or negligible influence, b) minor, c) moderate influence or d) major influence on these abilities. Effects of the disease itself on these abilities should only be discussed in exceptional circumstances. Other important factors that affect the liability to drive and use machines should be considered if relevant, e.g. duration of the impairing effect and the development of the tolerance of adverse reactions with continued use. For situations b, c, and d, special warnings/precautions for use should be mentioned."* European Medicines Evaluation Agency in article 4.7 of the Summary of Product Characteristics (SmPC) http://www.ema.europa.eu/

to implement prescribing and dispensing guidelines to improve the medical and pharmaceutical practices based on the application of the categorisation system.

One way to establish a safe use of driving impairing medicines is the application of a clear labelling system, e.g. the use of pictograms in the medicine box and in the leaflet, as proposed by the DRUID research team.

EU Level Recommendations on Prescription Medicine

- Develop a drugs and driving code of practice to enable health professionals to provide advice to the public about the likely effects of medication on driving.
- Work towards an appropriate classification and labelling of medicines that affect driving ability.
- Implement prescribing and dispensing guidelines to improve the medical and pharmaceutical practices based on the application of the categorization system.
- Implement specific guidelines following which drivers under medical treatment asked to operate their vehicles should be considered by the workplace occupational physician in order to adapt either treatment or working conditions.
- Implement effective campaigns on the working place to inform about the danger of driving under the influence of prescription medicines.

National Level – Good Practice examples of government initiatives

Countries have tightened their laws as regards drug driving in the past decade, increased penalties or altered national road safety or drug strategies to address the problem (EMCDDA, 2007). However, individual countries' legal responses to drug-impaired driving vary greatly, from zero-tolerance laws (sanctioning detection of the substance per se) to impairment laws (sanctioning if the person is deemed unfit to drive). Possible penalties are also markedly different between countries[32]. There are many factors to be taken into account including the availability of practical and reliable drug testing, the impact of drugs and driving on public safety and countries' attitudes towards consuming illegal drugs.

Prevention programmes that address drugs and driving are in place in the form of training in driving schools as well as various public safety campaigns, though these may not always be effectively targeted.

Workplace drug testing

Much of the legal framework, where it exists at all, comes from interpretations of a combination of various national laws, including those on Labour Codes, privacy, data protection, and health and safety at work according to an overview compiled by the ELDD[33]. Only Finland (2003), Ireland (2005) and Norway (2005) report legislation that clearly and specifically addresses the issue of drug testing in the workplace. There is often a clearly qualified level of risk / response, though qualified in various different ways: many countries state that testing can take place when there is a health, safety or security risk or when there is suspicion of drug-taking.

Recommendations from ETSC to Member States on Illegal Drug Driving

- Disseminate effective information on the effects of illegal drug driving.
- Ensure that drivers are aware that driving after use of illegal drugs will lead to detection and severe sanctions.

Recommendations from ETSC to Member States on Prescription Medicine Use

- Disseminate effective information on the effects of driving under the influence of prescription medicines.
- Stress the role of doctors in advising drivers on the impact of prescription medicines on driving.
- Support a better communication between patient,

32 ELDD Topic overview http://emcdda.europa.eu/publications/legal reports).

33 http://eldd.emcdda.europa.eu/html.cfm/index16901EN.html

company and health professional, for instance developing a card for professional drivers or employees in dangerous workplaces, informing the patient and the health professional about special precautions required by their working or driving situation.

- Take measures to control the use of stimulants in professional drivers through harmonisation and regulation of their prescription and delivery procedures across Europe.

Employer Level

As for alcohol, employers of commercial drivers have an important role to play about the risks of drug driving. Employers and fleet operators should be strongly encouraged to set up their own initiatives and written internal policies to tackle the risk of drug-driving. As mentioned previously, in Belgium. All companies are obliged to develop and integrate in their working place rules a preventative policy for drugs and alcohol. This could follow a five step approach elaborated as for alcohol and follow the guidance of the ILO's Code of Practice on Management of Alcohol and Drug-Related Issues in the Workplace[34]. Equally this policy for drugs should also be developed in discussion with the employees. The aim would be to spread a Zero tolerance approach to illegal drug taking whilst driving for work. Employers should take measures, e.g. information, education, training and the improvement of working conditions, to prevent alcohol- and drug-related problems from occurring in the workplace.[35] It should also be made clear that where the use of medication may result in significant impairment, the individual should consult a doctor and give notice to the supervisor according to normal procedures for absence for health reasons. Specific conditions under which drivers are asked to operate their vehicles should be considered by the occupational physician in order to adapt either treatment or working conditions. Employers also have a responsibility to create and maintain a safe working environment and employees have a responsibility to adequately inform their employers about their health and the consequent use of prescription medicine.

Recommendations to Employers on Illegal Drugs

- Adopt a Zero tolerance approach to illicit drug use in the workplace and whilst driving.
- Develop clear written internal policies and procedures on illegal drug driving and screening (e.g. before employment, after a collision and randomly) these should be an integrated part of general company workplace health promotion polices.
- Supervisors, line managers and drivers should be trained on the effects of illegal drugs on driving, and how to identify the symptoms of illegal drug misuse.

Recommendations to Employers on Prescription Medicines

- Inform employees on the effects of prescription medicines whilst driving.
- Develop clear written internal policies and procedures on prescription medicine.
- Supervisors, line managers and drivers should be trained on the effects of prescription drug use on driving, and how to identify the symptoms of prescription drug use.
- Set up a procedure to adapt working conditions to workers who have been prescribed medicine that causes impairment, with the involvement of the occupational doctors.

ETSC would like to thank the following experts who contributed to this Thematic Report: Torbjorn Akerstedt , Sebastian Goldin, Marcus Hubacher, Frederik Jansen, Sepplo Olkkonnen, Jacqueline Lacroix, Paola Lurati, Maria Cristina Marolda

34 http://www.ilo.org/public/libdoc/ilo/1996/96B09_297_engl.pdf.

35 http://www.ilo.org/public/libdoc/ilo/1996/96B09_297_engl.pdf

References

BAST (06/2010) Implications of the Stresses and Strains on Traffic Behaviour of HGV Drivers

Bartl, G. & Esberger, R. (2000). Effects of lowering the legal BAC-limit in Austria. Paper presented at the 15th International Conference on Alcohol, Drugs and Traffic Safety, Stockholm, Sweden

Carter, Tim (2006) Fitness to drive. A guide for health professionals. The Royal Society of Medicine Press Limited London, 103-107.

Directive 2003/59/EC of the European Parliament and of the Council on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:226:0004:0017:EN:PDF

Directive 2006/126/EC of the European Parliament and of the Council of 20 December 2006 on driving licences(Recast)[Official Journal L403 of 30.12.2006]. http://europa.eu/legislation_summaries/internal_market/single_market_for_goods/motor_vehicles/interactions_industry_policies/l24141_en.htm

Deutscher Verkehrssicherheitsrat, Auch freiverkäufliche Arzneien können die Fahrtüchtigkeit erheblich beeinträchtigen, Presseinformationen, November 2008. http://www.dvr.de/site.aspx?url=html/presse/informationen/903.htm

Eksler, V. & Janizek, T. (2009) Drink Driving in Commercial Transport ETSC, Brussels

ERIC Experiencing CBT Programmes in Road Safety in the European Community
http://www.uv.es/proeric/index.wiki

ESCAPE (2003) Enhanced Safety coming from appropriate police enforcement (Final Report)

European legal Database on Drugs (2003) Drugs and Driving, Lisbon
European Monitoring Centre for Drugs and Drug Addiction (2007) Drugs and Driving Lisbon

European Monitoring Centre for Drugs and Drug Addiction (2008) Drug Use Impaired Driving and Traffic Accidents Insights 8, Lisbon
EU OSHA (2008) Protection of Road Haulage Drivers, TC WE 2008 Task 1.3.4 Case Studies Report

EU OSHA European Agency for Safety Health at Work, (2009), FACTS 47 Health Promotion in the Transport Sector http://osha.europa.eu/en/publications/e-facts/47.pdf

EU OSHA European Agency for Safety and Health at Work (2010), FACTS 94 Workplace Health Promotion for Employees http://osha.europa.eu/en/publications/factsheets/en_94.pdf

EU OSHA (2010) OSH in figures - Occupational Safety and Health in the Transport Sector - An Overview In Print

ETSC, (2001), The Role of Driver Fatigue in Commercial Road Transport Crashes http://www.etsc.eu/documents/drivfatigue.pdf

Eurofound European Foundation for the Improvement of Living and Working Conditions (1997), Paoli, P. Second European Working Conditions Survey, Office for Official Publications of the European Communities, Luxembourg, 1997. http://www.eurofound.europa.eu/publications/htmlfiles/ef9726.htm

Eurofound European Foundation for the Improvement of Living and Working Conditions (2001), Paoli, P. & Merllié, D., Third European Working Conditions Survey 2000, , Office for Official Publications of the European Communities, Luxembourg, 2001. http://eurofound.europa.eu/publications/htmlfiles/ef0121.htm

Eurofound European Foundation for the Improvement of Living (2004) EU road freight transport sector: work and employment conditions http://www.eurofound.eu.int/publications/htmlfiles/ef03102.htm

Eurofound European Foundation for the Improvement of Living and Working Conditions, (2005), Data extracted by Prevent for OSH Data Collection 2007, http://www.eurofound.eu.int/working/surveys/index.htm
European Commision road safety knowledge Fatigue http://ec.europa.eu/transport/road_safety/specialist/knowledge/fatique/index.htm

Finnish Institute of Occupational Health (FIOH). (Kärmeniemi, P Stengård J, Olkkonen S, Valkendorff R-L and Ylä-Outinen A.) Successful OSH and safety promotions of road haulage drivers in transport companies. Poster, presented at the International Conference on Road Safety at Work. February 16-18, 2009,Washington DC. The intervention cases include also in the TCWE WP 2008 "Good Safety and Health in Road Transport Sector Program", to be published http://fi.osha.europa.eu/good_practice

Holmgren, P., Holmgren, A. and Ahlner, J. (2005), 'Alcohol and drugs in drivers
fatally injured in traffic accidents in Sweden during the years 2000–2002', Forensic
Science International 151, pp. 11–17.

Horne, J.A., (2000), Time of Day, road characteristics and awareness. In T. Akerstedt, P-O. Haraldsson (Eds.) The Sleepy driver and pilot, Book of Abstracts. Institute for Psychosocial Medicine, Karolinska Institutet, Stockholm, pp. 10-11

Horne, J.A., Reyner, L.A., (1995), Sleep-related vehicle accidents. British Medical Journal, 310: 565-567

ILO (1996) ILO Code of Practice Management of Drug and Alcohol related Issues in the Workplace, Geneva
Kreis, J. and Bödeker, W. (2004) IGA Report 3e Health-related and economic benefits of workplace health promotion and prevention http://www.iga-info.de/fileadmin/texte/iga_report3e.pdf

Millies, B.A., Truck and Bus Driving, ILO, Encyclopedia of Occupational Health and Safety, 4th Edition, Vol.3, pt XVII, Ch. 102 , 1998. http://www.worksafesask.ca/files/ilo/tra09ae.html

Partinen, M., Hirvonen, K., Unikuorma, (2005), Final report from the Finnish Work Environment Fund (100344), 24.3.2005.
ROSPA Royal Society for the Prevention of Accidents, Fatigue Facts http://www.rospa.com/roadsafety/advice/driving/fatigue_facts.htm

ROSPA Royal Society for the Prevention of Accidents, (2009), Safer Journey Planner http://www.rospa.com/RoadSafety/info/safer_journey.pdf

ROSPA Royal Society for the Prevention of Accidents, (2002), Preventing Inappropriate Use of Speed; Preventing Falling Asleep at the Wheel; and Ensuring Driver Competence. http://www.rospa.com/morr/info/supplementary_guide.pdf

TIRF Traffic Injury Research Foundation, (2009), The Facts About Fatigued Driving in Ontario A Guidebook for Police http://www.tirf.ca/publications/PDF_publications/2009_Facts_Fatigue_Driving_Ontario_Police_Guidebook.pdf

Will Murray, Interactive Driving Systems, Fleet Safety Gap Analysis www.virtualriskmanager.net

Members

Accident Research Unit - Medical University Hannover (D)
Association Prévention Routière (APR) (F)
Austrian Road Safety Board (KfV) (A)
Automobile and Travel Club Germany (ARCD) (D)
Automotive safety centre, University of Birgmingham (UK)
Belgian Road Safety Institute (IBSR/BIVV) (B)
CTL – "Centro di ricerca per il Trasporto e la Logistica", Università degli studi di Roma "La Sapienza" (I)
Centro Studi Città Amica (CeSCAm), University of Brescia (I)
Chalmers University of Technology (S)
Comité Européen des Assurances (CEA) (Int)
Commission Internationale des Examens de Conduite Automobile (CIECA) (Int)
Confederation of Organisations in Road Transport Enforcement (CORTE) (Int)
Czech Transport Research Centre (CDV) (CZ)
Danish Road Safety Council (Dk)
Dutch Safety Board (OVV) (NL)
European Federation of Road Traffic Victims (Int)
Fédération Internationale de Motocyclisme (FIM) (Int)
Finnish Motor Insurers' Centre, Traffic Safety Committee of Insurance Companies (VALT) (FIN)
Finnish Traffic Safety Agency (Trafi) (FIN)
Folksam Research (S)
Fondazione ANIA (I)
Foundation for the Development of Civil Engineering (PL)
German Road Safety Council (DVR) (D)
Hellenic Institute of Transport (HIT) (GR)
Institute for Transport Studies (ITS),University of Leeds (UK)
INTRAS - Institute of Traffic and Road Safety, University of Valencia (E)
Liikenneturva (FIN)
Motor Transport Institute (ITS) (PL)
Netherlands Research School for Transport, Infrastructure and Logistics (TRAIL) (NL)
Parliamentary Advisory Council for Transport Safety (PACTS) (UK)
Provincia di Crotone, Direzione Generale - Servizio Sicurezza Stradale (I)
Road and Safety (PL)
Road Safety Authority (IE)
Road Safety Institute Panos Mylonas (GR)
Safer Roads Foundation (UK)
Swedish National Society for Road Safety (NTF) (S)
Swiss Council for Accident Prevention (bfu)(CH)
Transport Infrastructure, Systems and Policy Group (TISPG) (PT)
Trygg Trafikk - The Norwegian Council for Road Safety (NO)
University of Lund (S)
Vehicle Safety Research Centre, University of Loughborough (UK)

Board of directors

Professor Herman De Croo
Professor Richard Allsop
Dr Walter Eichendorf
Professor Pieter van Vollenhoven
Professor G. Murray Mackay
Brian Simpson, MEP
Ines Ayala Sender, MEP
Dieter-Lebrecht Koch, MEP
Dirk Sterckx, MEP
Corien Wortmann-Kool, MEP

Executive director

Antonio Avenoso

Secretariat

Ellen Townsend, Policy Director
Vojtech Eksler, Policy Analyst
Paolo Ferraresi, Financial Officer
Graziella Jost, PIN Programme manager
Evgueni Pogorelov, Communications Officer
Marco Popolizio, Project Officer
Gabriel Simcic, Project Officer
Daniel Ugarte, Project Officer
Francesca Podda, Project Officer

PRAISE Reports

Editor:
Ellen Townsend, Gabriel Simcic
ellen.townsend@etsc.eu
gabriel.simcic@etsc.eu

For more information about ETSC's activities and membership, please contact:
ETSC
Avenue des Celtes 20
B-1040 Brussels
Tel. + 32 2 230 4106
Fax. +32 2 230 4215
E-mail: information@etsc.eu
Internet: www.etsc.eu

PRAISE receives financial support from the European Commission, the German Road Safety Council (DVR), Fundación MAPFRE, and the Swiss Council for Accident Prevention (bfu).