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

## Tackling Fatigue: EU Social Rules and Heavy Goods Vehicle Drivers

ETSC's PRAISE project, "Preventing Road Accidents and Injuries for the Safety of Employees" aims at mobilising knowledge needed to create work-related road safety leadership. This report aims to offer employers insight into tackling fatigue amongst HGV drivers. Fatigue is one of main risks for this group of professional drivers. Part one looks at the involvement in HGVs in collisions and collision causation factors including fatigue[1]. The second part of the Thematic Report gives an overview of EU legislation on driving and resting times. Although this legislation aims at improving the working conditions of drivers and ensuring fair competition in the EU, this report will focus in on its road safety aim primarily addressing fatigue. The third part focuses on issues related to implementing the legislation at national level and offers recommendations to Member States, the EU and employers. The final part looks specifically at what employers can do to tackle fatigue. An employer's 'safety culture' which integrates fatigue policy across its supply chain can support compliance with existing EU legislation.



1 Literature on this topic uses many definitions for fatigue. The concepts of 'fatigue', 'sleepiness', 'tiredness' and 'drowsiness' are often used interchangeably but have different meanings. The terms 'fatigue' is most commonly used in road safety policy while academics often favour the term 'sleepiness'. Although the causes of fatigue and sleepiness may be different, the effects are very much the same, namely a decrease in mental and physical capacity detrimental to the driving task performance. For ease, this Report will refer to 'fatigue'.

# Part 1 State of Play

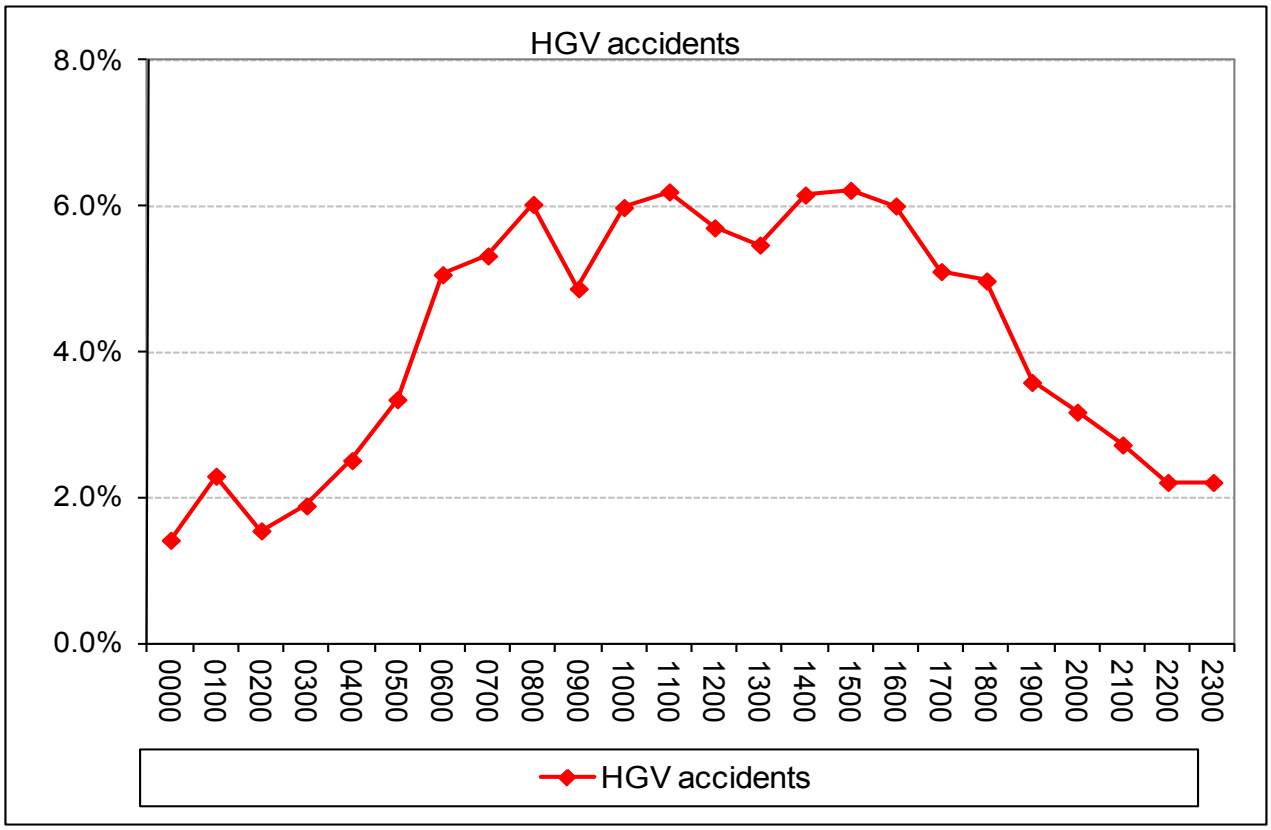
## 1.1 Recent Trends in Truck Collisions

Over the last decade the number of commercial vehicles travelling on European roads has substantially increased. A safe road transport system network must work to avoid collisions of vehicles, also those with large differences in mass[2] and reduce the main risk factors, including fatigue. Road traffic collisions involving Heavy Goods Vehicles (HGVs) tend to be more severe than other collisions because of the vehicles' size and mass[3]. According to the European Road Safety Observatory over 4,800 people were killed in collisions involving HGVs in 23 EU countries in 2008 (last available data in November 2010[4]). This compares with the overall figure from ERSO of 38,935 road deaths for the year 2008 in the EU 27. The average HGV deaths per million population are 10.9 in 23 EU countries and ranges from 3.5 in Slovenia to 36.3 in Slovakia. Averaged over 23 EU countries 14.2% of deaths occurred in 2008 were in collisions involving HGVs. The total number killed in collisions in 19 EU countries,[5] where data is available, fell from 7,559 in 1999 to 4,832 in 2008, a reduction of 36.1%[6]. This is in line with the general reduction trend in the total number of deaths over this period. The CARE data also show that 26% of collisions involving HGVs occurred on motorways, 56% on rural roads and only 13% on urban roads.[7]

The rate of death of HGV drivers in road crashes is lower than for other groups of road users, but they impose substantial risks on them[8]. The number of injured people in collisions involving HGVs is about half the number of deaths, reflecting their relatively high fatality[9]. Of the deaths in collisions involving HGVs in 23 EU countries in 2008, 49% were car occupants, 13% HGV occupants themselves, 16% pedestrians, 6% cyclists and 6% PTW riders[10].

## 1.2 Time of Day

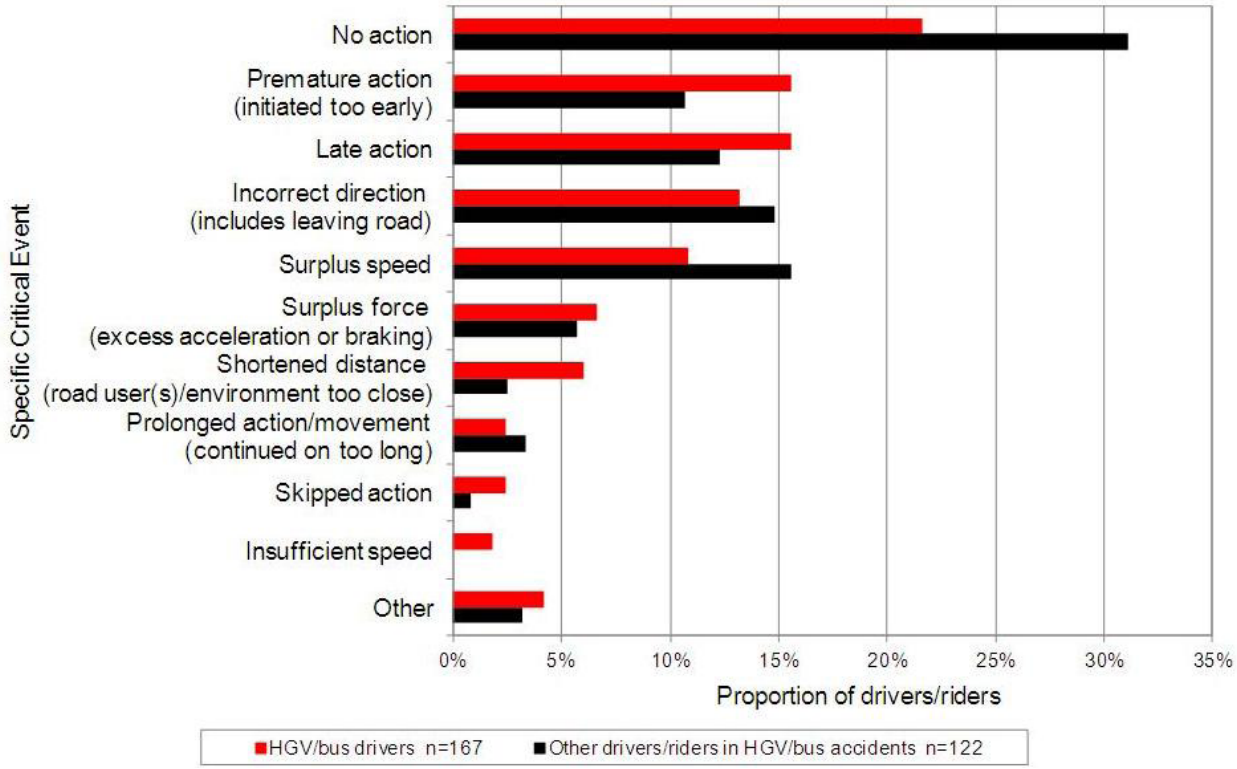
ERSO[11] presents the distribution of fatalities in accidents involving HGV's by time of day. This shows that hourly rates are relatively high between 08:00 and 18:00 in all countries, which can be mainly attributed to a higher volume of HGVs. The Figure below illustrates this data.




2 SWOV (2006b). The principles of sustainable safety, Fact Sheet, SWOV, Leidschendam.
3ERSO Fact Sheet 2010.
4 Ibid EU23 countries are the EU Member States with the exceptions of Bulgaria, Cyprus, Lithuania and Malta.
5 EU 19 include the aforementioned EU 23 without: Estonia, Latvia, Hungary and Slovakia
6 Ibid
7 Ibid
8 Elvik , R. (2007) Occupational risk in road transport in Norway, Working paper of January 30, 2007, Institute of Transport Economics, 2007.
9 http://www.cedelft.eu/publicatie/are_trucks_taking_their_toll/874?PHPSESSID=5883134d975671ec8e15017dd4c5d91a
10 ibid
11 ERSO Fact Sheet 2010.

## 1.3 Collision Causation Factors

There is little data available in terms of collision causation in commercial transport. During the EC SafetyNet project, in-depth data were collected using a common methodology for samples of collisions that occurred in Germany, Italy, The Netherlands, Finland, Sweden and the UK. This SafetyNet Collision Causation Database was formed between 2005 and 2008 and contains details of 1,006 collisions covering all injury severities. A detailed process for recording causation (SafetyNet Collision Causation System – SNACS) attributes one specific critical event to each driver, rider or pedestrian. Links then form chains between the critical event and the causes that led to it. For example, the critical event of late action could be linked to the cause 'observation missed', which was a consequence of fatigue, itself a consequence of an extensive driving spell. In the database, 16% (158) of the collisions involve HGV or bus drivers. HGV drivers account for 79% of this group. The figure below compares the distributions of specific critical events for HGV or bus drivers and other drivers or riders in HGV/bus collisions[12].




Further analysis by SafetyNet gives the most frequent links between causes for HGV or bus drivers/riders. Faulty diagnosis and missed observation are the two dominant causes[13].

Another study, the "ETAC" European Truck Collision Causation, was conducted by the International Road Transport Union (IRU) and the European Commission in 2007[14]. The collision expert teams investigated 624 collisions altogether. The main results of the study showed that 85.2% of the collisions were linked to human error on the part of one of the road participants (truck driver, car driver, pedestrians) as opposed to technical or infrastructure related problems. However, the study found that out of the collisions linked to human error, only 25% are caused by the truck driver. The main causes for collisions between a truck and other road user were: non-adapted speed, failure to observe intersection rules and improper manoeuvre when changing lanes. Fatigue/falling asleep is also a causation factor in wrong maneuvers involving overtaking and changing lanes. These three main causes only show a tendency and the main cause of a collision varies according to the collision configuration. The report goes on to give an overview of the main causes of collisions according to different configurations.

12 http://ec.europa.eu/transport/road_safety/pdf/statistics/dacota/bfs2010_dacota_intras_hgvs.pdf
13 SafetyNet Accident Causation Database 2005 to 2008 / EC Date of Query 2010.
14 http://ec.europa.eu/transport/roadsafety_library/publications/etac_exec_summary.pdf

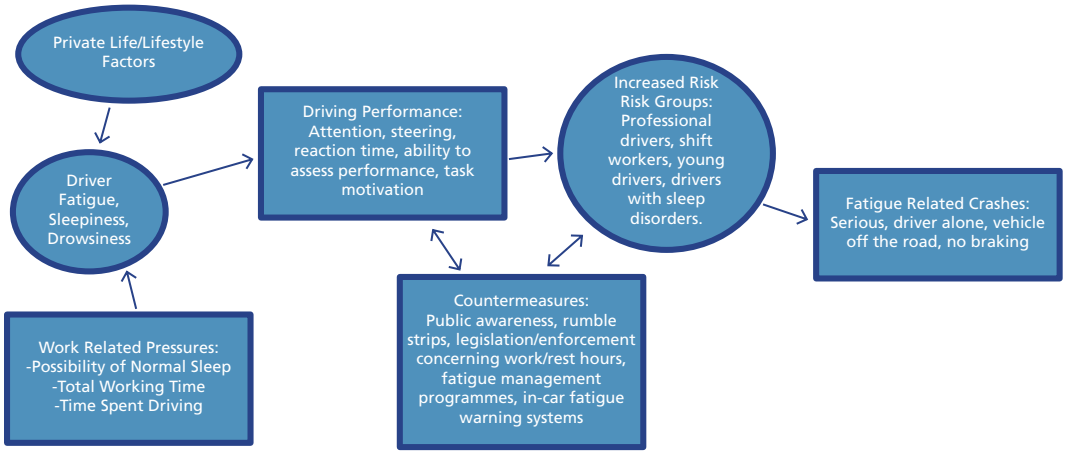
Empirical studies about behaviour related collision causes involving HGVs were run in Germany, Finland and Great Britain[15]. The main aspects which were analysed were "fatigue", "falling asleep" and "distraction", where the alertness is impaired. All of the studies showed that the proportion of the collisions caused by "fatigue" was higher in these specific studies than those registered in the official statistics.

## 1.4 Fatigue

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[16]. Crashes caused by tired drivers are most likely to occur on long journeys on monotonous roads, between 2am and 6am, between 2pm and 4pm. ETSC reports[17] that peak collision levels at night are often 10 or even more times higher than daytime levels. Changing the timing of activities to the night hours means being subject to the reduced functional capability due to a lowered metabolic rate, and, during the subsequent (daytime) sleep, being exposed to the high metabolic rates that disturb sleep. Furthermore, how long a person is awake is equally important: late at night and early in the morning will be a double burden on people who drive at night[18]. In academic literature, fatigue and sleepiness are separate concepts. Grandjean (1979) defines fatigue as a gradual and cumulative process associated with a 'loss of efficiency, and a disinclination for any kind of effort'[19] whereas "sleepiness" signals the likelihood of falling asleep and can be defined as a difficulty in remaining awake and depends on how much sleep a person has had and how long they have been awake[20]. ETSC's Thematic Report on Workplace Health Promotion[21] includes a section on fatigue which is reproduced here with additional information relating to professional HGV drivers.

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 fatigue[22]. Organisations such as the Irish Sleep Society provide useful information to help with identifying and dealing with sleep related problems.[23] Results from a Finnish survey involving 1,097 heavy vehicle drivers indicated that one fifth suffered from sleep apnoea[24]. Fatigue manifests itself in slower reaction time, diminished steering performance, reduced 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 fatigue are sleep loss, time awake, circadian phase and time on task. Fatigue 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)[25]. 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 collisions on monotonous roads, such as motorways, are fatigue related[26]. In Germany, an investigation of all fatal collisions that took place on Bavarian motorways in 1991 shows that around 24% of collisions are caused by falling asleep at the wheel[27].

The following table[28] shows different sources of fatigue and impacts on driving and link to possible countermeasures.




15 Evers, C.: Auswirkungen von Belastungen und Stress auf das Verkehrsverhalten von LKW-Fahrern. Berichte der BAST, Heft M 204, page 48-49, 2009.
16 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
17 ETSC(2001)The Role of Driver Fatigue in Commercial Road Transport Crashes
18 ibid
19 Grandjean (1979) in Fourie C. et al (2011) Fatigue Risk Management Systems DfT.
20 Dement and Carskadon, 1982, Akerstadt and Folkard, 1995; Dijk and Czeisler, 1994 in Fourie C. et al (2011) Fatigue Risk Management Systems DfT.
21 http://etsc.eu/documents/PRAISE%20Report%203.pdf
22 http://ec.europa.eu/transport/road_safety/specialist/knowledge/fatique/index.htm
23 http://www.irishsleepsociety.org/downloads/adobe_pdf_files/guidelines/ISS_Apnoea_Guidelines_Web2.pdf
24 Partinen, M., Hirvonen, K., Unikuorma, (2005), Final report from the Finnish Work Environment Fund (100344), 24.3.2005.
25 http://ec.europa.eu/transport/road_safety/specialist/knowledge/fatique/index.htm
26 ROSPA Royal Society for the Prevention of Accidents, Fatigue Facts http://www.rospa.com/roadsafety/advice/driving/fatigue_facts.htm
27 Langwieder, K., Sporner, A. & Hell, W. (1994). Struktur der Unfälle mit Getöteten auf Autobahnen im Freistaat Bayern im Jahr 1991. HUK-Verband, Büro für Kfz-Technik, München.
28 Reproduced from SafetyNet, Fatigue (2009).

## 1.5 Fatigue in the professional transport sector

A major risk factor affecting HGV drivers is fatigue. Often, working in this sector is not characterised by the typical "9 to 5" working hours. Research shows that driver fatigue is a significant factor in approximately 20% of commercial road transport crashes[29]. The ETAC Study, based on the 624 collisions in the database, showed that while fatigue was the main cause in only 6% of the collisions, 37% of these were fatal. When fatigue played a role in the collision, 68% involved a truck and another vehicle and in 29% of the cases the collision was a single truck collision. These figures do attest to the seriousness of fatigue induced collisions, but they do not detract from the relatively small proportion of collisions (6%) that are caused by fatigue according to the study. Figures from the UK show that commercial vehicles constitute less than 2% of the national vehicle fleet and travel only 6% of the distance travelled by all vehicles, but are over-represented in collision statistics. In addition, in the UK, the percentage of fatigue-related goods vehicle fatal crashes is over twice that for cars (8% versus 3%)[30].

In a recent study undertaken by SWOV, a group of mainly international truck drivers said they were tired behind the wheel and reported falling asleep while more frequently driving than car drivers (23% to 10%). They also said that in the past year they had continued or started to drive although they felt they were too tired to do so (37% HGV drivers vs. 20% of car drivers)[31]. Increased crash risk occurs at night particularly in the case of longer working days and of irregular hours. Those fatigue factors that have been shown to influence road safety need to be better controlled through regulation enforcement and risk management. In general, professional drivers undertake more long journeys, drive more often under time pressure and are more likely to carry out distracting tasks while driving, such as making phone calls, eating and drinking[32]. The sedentary lifestyle and poor eating habits contribute to more than 40% of professional drivers being categorised as obese or having a significantly elevated body mass index[33]. Obese individuals are more frequently falling asleep whilst driving[34]. Fatigue also affects local/short haul drivers. Hanowski et al monitored 42 local/short haul drivers for approximately two weeks each with video cameras and sensors, finding evidence of driver fatigue such as driving for periods with eyes 80%-100% closed[35].

### 1.5.1 Night and Shift Work

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 collisions: if a collision occurs at night, the risk for a serious collision is much higher. According to the European Survey on Working Conditions (Eurofound, 2005), workers in the transport sector 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).

### 1.5.2 Just-In-Time Management

Workloads are increasing and drivers face escalating pressures, for example pressures from clients to deliver faster and more cheaply, with issues such as 'just-in-time management', increased traffic, remote monitoring and working irregular and long hours.[36] Drivers can be over-stressed by the demands placed on them to deliver goods to meet the schedules of modern transport systems and the impact of elaborate subcontracting chains. If they fail to meet such schedules the transport operator may have to compensate the client for delays incurred. This situation encourages drivers to flout the rules in relation to rest times so that they can deliver on time and remain competitive.

### 1.5.3 Quality of Sleep

Another issue in tackling fatigue is the quality of sleep. The ETSC Review cites that the duration and quality of sleep have a direct effect on the level of alertness and the ability to drive a vehicle safely[37]. Evidence suggests that following severe sleep restriction, recovery of performance may not be complete even after three nights of recovery sleep[38]. Furthermore, sleep starts to be negatively affected if this daily rest falls below 12 to 14 hours.

### 1.5.4 Working Time, Driving Time and Rest Time

Drivers have to fulfill many different functions beyond driving, which can already account for 9-10 hours per day. This can contribute to increased stress and fatigue. For professional drivers, long working hours often go together with early waking and reduced sleep. Short trips can also end up in fatigue-related crashes because time of day and long and irregular working hours are stronger predictors of fatigue than time spent driving[39]. Hamelin found that after 11 hours of

29 ETSC (2001) The Role of Driver Fatigue in Commercial Road Transport Crashes.
30 DfT Stats 2009 in Jackson, P. et al (2011) Fatigue and Road Safety: A Critical Analysis of recent Evidence, DfT
31 Goldenbled, C. Et al (2011) Driver Fatigue: prevalence and state awareness of drivers of passenger cars and trucks: A questionnaire study among driving licence holders in the Netherlands, SWOV.
32 Broughton et al., 2003 in EU OSHA 'A review of collisions and injuries to road transport drivers.' 2010
33 Jackson, P. et al (2011) Fatigue and Road Safety: A Critical Analysis of recent Evidence, DfT.
34 Goldenbled, C. Et al (2011) Driver Fatigue: prevalence and state awareness of drivers of passenger cars and trucks: A questionnaire study among driving licence holders in the Netherlands, SWOV.
35 http://scholar.lib.vt.edu/theses/available/etd-07272000-08470013/unrestricted/Hanowski_ETD.pdf
36 EU OSHA Website
37 ETSC (2001) The Role of Driver Fatigue in Commercial Road Transport Crashes.
38 ibid
39 SafetyNet (2009) Fatigue

work the risk of being involved in a collision doubles. His data also shows that risk levels vary with three key factors. There is an increased risk of impaired function and drowsiness at night, an increased risk due to the greater length of the working day, and irregular working hours also seem to lead to sleep/alertness problems[40].

### 1.5.5 "Hours of Work" vs. Fatigue Risk Management

EU legislation governing hours of work will be presented in the next section. One important question is whether or not hours of work legislation can manage fatigue effectively. A recent review[41] cites that this "one size fits all" approach cannot possibly manage the complex influencing factors and consequences of fatigue. Researchers argue that Hours of Work (HoW) are simplistic and do not give due consideration to the range of factors relating to work hours such as different operations, working conditions and risk exposure[42]. Moreover, the rules have not changed since 1969 while the context in which they operate has changed dramatically (i.e vehicles, technology, market demands). Other more singular efforts have been made such as launching awareness campaigns at a national level, training and educating employees and the use of in-vehicle technologies that detect tiredness. However, research[43] points to the need for a more systematic approach that 'improves HoW limitations and isolated measures for managing fatigue'. Yet, hours of work should remain as the regulatory starting point. Part 4 of this report looks at what fatigue risk management could offer employers and employees. These management systems would go above and beyond the current legislative requirements on Hours of Work and employers taking this systematic approach would be better placed to prevent fatigue.

### Recommendations to the EU and the EU Member States

- Improve data collection and harmonisation on the involvement of HGVs in collisions. What is monitored is more likely to be improved.
- Increase investigation of collision causation involving HGV to better understand collision causes and adopt preventative measures.
- Work with Police to develop a course on identifying and investigating fatigue collisions.
- Undertake a large scale EU driver fatigue survey to gauge current prevalence rates for driving while fatigued, the use of effective counter-measures and differences between commercial and non-commercial drivers.
- Strengthen the enforcement of the liability clause (Article 10) of EC 561/2006 in order to prevent the pressures of just-in-time management contributing to fatigue and stress.

## 1.6 Business Case and Liability of Employers

Employers have clear requirements as regards to setting out driving time for their employees and complying with the EU legislation under Regulation (EC) 561/2006 covering Driving and Rest Times. Article 10 clearly sets out employers' obligations relating to road safety: 'A transport undertaking shall not give drivers it employs or who are put at its disposal any payment, even in the form of a bonus or wage supplement, related to distances travelled and/or the amount of goods carried if that payment is of such a kind as to endanger road safety and/or encourages infringement of this Regulation.' Article 10.4 covers other parts of the supply chain including contractors and sub-contractors. This chain of responsibility should raise safety levels through extending the scope of liability to those parties who, through action or inaction, contributed to a breach and therefore bear a level of responsibility for it[44]. This is looked at in more detail in Part 3.

Beyond duty of care and the aforementioned legal obligations, a successful organisation will benefit in a number of ways from managing fatigue within their fleet of drivers, 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;

40 ibid
41 Fourie C. et al (2011) Fatigue Risk Management Systems DfT
42 Dawson and McCulloch (2005) in Fourie C. et al (2011) Fatigue Risk Management Systems DfT
43 Fourie C. et al (2011) Fatigue Risk Management Systems DfT
44 Quinlan, M. (2008) Remuneration and Safety in the Australian Heavy Vehicle Industry.

- enhanced motivation;
- improved productivity;
- easier recruitment;
- increased turnover;
- a positive and caring image.

The European Commission has calculated that non compliance with obligations for minimum rest periods can result in driver fatigue and is estimated to produce an increase in the societal cost of collisions of 2.8 Billion Euro a year[45].

## Part 2 European Legislation

At European level a framework of social rules for goods and passenger road transport operators has been established over the years, in order to ensure the adequate social protection of road transport workers and improve road safety by preventing fatigue. At international level, drivers' activities are regulated by the European Agreement concerning the work of Crews of Vehicles engaged in International Road Transport (AETR), of 1st July 1970.[46] This section presents a brief overview of EU legislation, Part 3 will look at its implementation and will seek improvements which would result in better fatigue management and road safety.

### 2.1 Driving Hours Rules

Rules on driving hours and rest periods as defined by Council Regulation (EEC) No 3820/85[47] of 20 December 1985 have been replaced by Regulation 561/2006/EC[48] of 15 March 2006. This set of common rules aims to avoid distortion of competition, improve road safety and ensure drivers' good working conditions within the EU. In particular, according to this regulation, daily driving must not exceed 9 hours (with an additional hour allowed twice a week) while a break totalling 45 minutes (separable into 15 minutes followed by 30 minutes) must be taken after 4 ½ hours' driving at the latest. The daily rest period ought to be at least 11 hours, with an exception of going down to 9 hours three times a week. In a week, it is allowed to drive for six days (while respecting the daily driving time) and the total weekly driving time must be limited to a maximum of 56 hours. The weekly rest is 45 continuous hours, which can be reduced to 24 hours. Compensation arrangements apply for reduced weekly rest periods.

The Commission Implementing Decision C (2011) 3759, adopted in accordance with Article 25(2) of the Regulation (EC) 561/2006, provides for a uniform model of calculating driving period starting from the moment an infringement on the daily rest requirement occurs (when the driver has not taken rest periods in their entirety as requested by Regulation (EC) 561/2006). The purpose of establishing this common calculation method was to enable enforcement authorities to make uniform decisions on the number and gravity of infringements committed by drivers who failed to comply with their rest period obligation. This method does, however, not provide for any tolerance as to non-compliance with rest periods requirements, which will always be regarded as an infringement and sanctioned accordingly. This common approach is meant to enable to avoid situations where drivers are penalised differently and disproportionately for the same records in different Member States[49].

### 2.2 Working Time

Whilst the EU drivers' hours rules place limits on driving times and rest periods, they do not place any specific limits on overall working time. The provisions of Regulation (EC) n° 561/2006 are, therefore, supplemented by the EU Parliament and Council Directive 2002/15/EC[50] of 11 March 2002 laying down minimum requirements with regard to the organisation of the working time for all persons performing mobile road transport activities, including self-employed drivers. The Directive regulates on a longer perspective the daily, weekly, monthly working time. Its main objective is to ensure that professional drivers are not being overloaded with work and to create comparable competition between the Member States. Compared to the driving and resting time regulations, it has only an indirect influence on road safety[51]. Under this Directive 'working time' for mobile workers must not exceed an average 48 hour week (normally calculated over a 4 month reference period), 60 hours in any single week and 10 hours in any 24 hour period, if working at night. Working time includes activities such as: driving; loading and unloading; cleaning and technical maintenance; assisting passengers boarding; disembarking the vehicle. It excludes: mandatory breaks and rest periods; and periods of availability. The Directive also entails break requirements (maximum 6 consecutive working hours without breaks) and extends the rest time provisions of the EU drivers' hours rules to crew members when operating on in-scope vehicles.

### 2.3 Tachograph Legislation

A tachograph is recording equipment, fitted to commercial vehicles, which stores details of the movement

45 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
Cited in the CE Delft, Handbook on estimation of external costs in the transport sector, 2008. On the basis of these estimations the EC conservatively estimated the cost of fatigue of professional drivers in terms of accidents to € 2.2 billion. Furthermore, it is estimated (CARE Database) that fatalities involving buses represent 28% of those involving heavy Duty Vehicles (HDV). Under the simplifying assumption that other costs of accidents (injuries, damage to the infrastructure, congestion, etc…) involving buses are following the same relation to the same costs generated by HDV, the total cost of accidents for all commercial vehicles above 3.5 t would amount to € 2.8 billion.
46 A consolidated and updated text of the AETR was produced by CORTE (entered into force on 20 September 2010).
47 Regulation (EEC) n°3820/85 of 20 December 1985 o Directive 2002/15/EC of the European Parliament and of the Council of 11 March 2002 on the organisation of the working time of persons performing mobile road transport activities. n the harmonisation of certain social legislation relating to road transport.
48 Regulation (EC) n° 561/2006 of 15 March 2006 on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) n°3821/85 and (EC) n°2135/98 and repealing Council Regulation (EEC) n°3820/85.
49 http://ec.europa.eu/transport/road/social_provisions/enforcement_en.htm
50 Directive 2002/15/EC of the European Parliament and of the Council of 11 March 2002 on the organisation of the working time of persons performing mobile road transport activities.
51 Kühner, R.: Straßengüterverkehr in Deutschland- rechtlicher Rahmen, Strukturen und Sozialvorschriften, speech at the VGT 2011.

of vehicles and of certain work periods of their drivers. The recording of the driver's individual duty periods is mandatory in commercial vehicles in European countries for enforcement of driving-time regulations.

The digital tachograph records drivers' activities, speed, distances, identification data of the vehicle, of the tachograph fitted, calibration data as well as faults and attempts to manipulate the system and when data has been accessed (for example by the enforcement authority). It stores digital data of the driver activities and vehicle activities on its internal memory and separately on a driver's smart card. A truck operator must periodically download this data from the digital tachograph and the driver cards. They also need to analyse the data, to ensure that the rules have been complied with. The system of the digital tachograph is controlled by four different Smart Cards: Driver, Company (operators), Workshop (Tachograph manufacturers, Vehicle manufacturers or Tachograph Calibration Centres) and Control Card for enforcement authorities. Each Smart Card is issued according to the specific needs. All Member States have to ensure the availability and provide all necessary infrastructure and equipment for application, personalisation and issuing of digital tachograph Smart Cards.

Under Regulation (EC) n° 561/2006, the driving and rest time periods must be recorded and compliance with these rules must be regularly monitored. Digital tachographs are required by law. Regulation (EEC) n° 3821/85[52] of 20 December 1985 provided the legal basis for the installation of recording equipment (analogue tachographs) in road transport. The tachograph has been mandatory since 29 September 1986, and digital tachographs were introduced with the Regulation 2135/98/EC[53]. This Regulation amended Regulation (EEC) n° 3821/85 so that today Regulation (EEC) n° 3821/85 covers both analogue and digital tachographs. The digital tachographs must be fitted into goods vehicles that come into scope of the Drivers' Hours rules and which were brought into service after 1st May 2006.

The European Commission[54] has recently proposed to further revise the tachograph legal framework. The legislative proposal looks at using the satellite positioning system, which would allow for better monitoring and provide important information for organising the logistics chain. The proposed regulation also aims to improve the technical capabilities of the digital tachograph and make it a real 'smart' tachograph and link into current ITS developments. According to the European Commission, the proposal includes non-technical measures such as improving the trustworthiness of the workshops, introducing a minimum degree of harmonisation of sanctions, of training of control officers and simplifying rules on the use of tachograph.

### 2.4 Enforcement

Member States are obliged to enforce Directive 2006/22/EC[55], as amended by Directive 2009/4/EC and Directive 2009/5/EC, this determines the minimum level of enforcement required to ensure 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 strengthening cooperation between Member State authorities in charge of road transport enforcement. In addition guidelines[56] were adopted in 2009 on countermeasures to detect and prevent the manipulation of devices.

## Part 3 Focus on the Social Rules

This next section covers different issues related to the social rules including enforcement, training of control officers, levels of fines, combating fraud, providing information to drivers on interpreting the rules and preventing fatigue and, finally journey planning and infrastructure rest area requirements. Improvements in these areas would lead to better fatigue management for HGV drivers.

### 3.1 Enforcement

'A significant share of the vehicles checked by national police or enforcement officers are found to be breaching the social rules.'[57] On average, at any point in time, around 45,000 vehicles are in breach of EU tachograph rules.[58] Some of these breaches can have a negative impact on road safety. The EU regulations on driving and rest time and on tachographs are not enforced in a harmonised way across Europe. Instead, what exists is country specific or even sub national enforcement areas resulting in a lack of consistent legal interpretations, control practices and sanctions policy. The European Commission has issued guidance notes to clarify ambiguous provisions in the Regulations. CORTE, the Confederation of Organisations in Road Transport Enforcement, aims at the development and agreement of common interpretations in the field of Road Transport, Road Safety and Road Security Legislation and Enforcement and harmonised Best Practice

52 Regulation (EEC) n°3821/85 of 20th December 1985 on recording equipment in road transport.
53 Regulation (EC) n°2135/98 of 24th September 1998 amending Regulation (EEC) n°3821/85 on recording equipment in road transport. See also Regulation (EC) n°1360/2002 of 13th June 2002 adapting for the seventh time to technical progress Council Regulation (EEC) n°3821/85 on recording equipment in road transport (Text with EEA relevance) and Commission Regulation (EU) No 1266/2009 of 16 December 2009 adapting for the tenth time to technical progress Council Regulation (EEC) No 3821/85 on recording equipment in road transport.
54 Proposal for a Regulation of the European Parliament and of the Council amending the Council Regulation (EEC) N. 3821/85 on recording equipment in road transport and amending Regulation (EC) N. 561/2006 of the European Parliament and the Council.
55 Directive 2006/22/EC of 15 March 2006 on minimum conditions for the implementation of Council Regulations (EEC) n° 3820/85 and (EEC) n° 3821/85 concerning social legislation relating to road transport activities and repealing Council Directive 88/599/EEC.
56 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:021:0087:0099:EN:PDF
57 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
58 http://ec.europa.eu/employment_social/dsw/public/actRetrieveText.do?id=8903

enforcement methodologies. The organisation has developed a number of factsheets on interpretation of different parts of the Regulations.

The Commission undertook a review of the implementation by Member States of the legislation on social rules in road transport for the term 2007-2008.[59] The report stated that 'a total of 3,244,997 offences were reported, which is a very significant increase on the number of offences reported in the previous reporting period (i.e. 1,016,755). This is due to the greater number of controls (39% more working days checked) and to the increase in the frequency of offences detected. Occurrence of offences has doubled in terms of offences detected per working day checked, reaching 3.9 offences, on average, per 100 working days checked, which indicates that the checks have become more efficient and effective since the introduction of the new enforcement regime'[60]. The report also demonstrated disparities in the enforcement process and highlighted a number of issues. The Commission stated that enforcement of working time rules for mobile workers is a complex process, which does not always guarantee that the results of checks are reliable. The report also highlighted varying enforcement approaches across the EU in that 'Some countries declare that they carry out regular targeted checks. In other countries, checks are organised solely on an ad hoc basis in reaction to complaints, requests from drivers or transport undertakings or evidence of irregularities received from other enforcement activities.'[61] Furthermore, many Member States are focusing too much on random checks and not enough on targeted ones especially those to be carried out at undertakings' premises (as required by the legislation). The quality of enforcement differs across countries depending on the approach taken by national governments and how this area is prioritised and resourced by the relevant agencies.

The Commission prepared guidelines to support Member States in the national interpretation and application of Regulation (EC) n° 561/2006. However, it is noted 'that the guidelines are not legally binding and have therefore not achieved their aim of uniform transposition in Member States'[62].

A recent exploratory study[63] looking at compliance and enforcement of safety and security regulations of international road freight transport in the Baltic Sea Region (CASH Project) found that some hauliers neglect safety and security issues under heavy cost pressures brought about with the economic downturn. Collaboration between authorities and hauliers and drivers' training were mentioned as the developments which had most improved road freight safety.

### 3.1.1 New Proposals on Technology

The use of different analysis software across Europe results in different interpretations and therefore different enforcement practices. 'The ways to download the data are provided in the regulation, together with guidelines for data interpretations, but the technical design of the downloading and interpretation tools are left to Member State responsibility. The recording equipment is not supposed to evaluate if there are infringements of the drivers' hours regulation. It is only supposed to record data without evaluating it; interpretation of the data is up to enforcers, drivers/operators.' Consequently, 'there are large disparities among Member States regarding the capacity and the efficiency of enforcer's instruments for road side and company checks.'[64]

The European Commission has launched a new proposal[65] to revise the tachograph legislation with a view to improving the system, facilitating better enforcement of the social rules and reducing unnecessary administrative burden. In relation to the standardisation of tachograph equipment, the consultation informing the new proposal highlighted 'an acceptance of the need for some minimum standards to be set by regulation, alongside scope to innovate for tachograph and other manufacturers beyond these minimum standards.'[66] Further improvements in the technology aimed at making road side checks more efficient were also envisaged and supported.

A number of the changes to be implemented through the proposed Regulation offer the potential to further harmonise and improve the existing tachograph system. These include:

- 'Remote communication from the tachograph for control purposes (Article 5): this measure will give control authorities some basic indications on compliance before stopping the vehicle for a roadside check. Compliant undertakings will avoid unnecessary roadside checks and could thereby benefit from a further reduction of administrative burden.'

- 'Automated recording of precise location through GNSS (Article 4): this provision will give control authorities more information for checking compliance with social legislation. By using automated recording, it will also help to

59 http://www.uni-mannheim.de/edz/pdf/sek/2011/sek-2011-0052-en.pdf
60 http://www.uni-mannheim.de/edz/pdf/sek/2011/sek-2011-0052-en.pdf
61 Ibid pg 12
62 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN
63 http://www.cash-project.eu/en/Frontpage
64 http://ec.europa.eu/transport/road/consultations/doc/2010_03_01_background_info.pdf
65 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
66 http://ec.europa.eu/transport/road/consultations/doc/2010_03_01_responses_summary.pdf

reduce administrative burden.

- Ensure integration of digital tachograph in Intelligent Transport Systems (ITS) (Article 6): by providing for a harmonised and standardised interface of the tachograph, other ITS applications will have easier access to the data recorded and produced by the digital tachograph.'[67]

### 3.1.2 Liability

Under Article 10(4) of Regulation (EC) n° 561/2006 consignors, freight forwarders, tour operators, principal contractors, sub-contractors and driver employment agencies must ensure that contractually agreed transport time schedules comply with the provisions on drivers' hours (rest and driving time). A report from the European Parliament in 2010 noted that this obligation was only explicitly referred to in the national legislation of Denmark, Estonia, Finland, Poland and Sweden.[68] Furthermore, there are varying approaches across Member States on how control authorities check compliance with these rules by each of the actors involved. It is difficult to clearly identify who is responsible for infringements. For example, 'the undertaking must take all reasonable steps to comply with this requirement. If a contract with the customer includes a provision for transport time schedules to respect the EU rules, then the requirement would normally be satisfied. However, a driver employment agency is unlikely to absolve itself from the liability if it is found to have been offering back-to-back jobs to drivers where it will be impossible for the driver in question to take a daily or weekly rest in between those jobs.'[69] Some Member States are already moving more towards a concrete application of Article 10 underlining the chain of responsibility and focusing on consigners. This recognises, especially in the case of large companies/consigners, that they are responsible for taking the decisions in terms of scheduling of work rather than individual drivers. There is an onus on all Member States to ensure that the chain of responsibility is enforced and that all of those involved take necessary steps to prevent driver fatigue through the appropriate application of the rules. 'Ultimately any satisfactory scheme to regulate the working hours of commercial drivers should be built on mutual obligations or requirements.[70]'

#### a) Italy

In Italy steps have recently been taken to ensure that the chain of liability is enforced. Italian law 127/2010[71] contains a series of measures concerning the carriage of goods for hire or rewards including agreeing minimum costs for carriers, new rules on terms of payment and shared liability covering the entire transport chain. Each month, the Ministry of Transport (and in the future a special State Observatory of Transport Costs) calculate a minimum cost per kilometer travelled which must be adhered to by contractors (e. g. if "costo minimo" is 1.8 euros per km, contractor and hauler are free to agree on 1.9, or 2.2 or 2.5 etc- but not below 1.8). Negotiation is free and EU competition law is respected. This aims to ensure that minimum transportation costs are always covered thereby reducing pressure on providers to deliver more / faster in order to simply cover costs. In particular, according to Articles 7 and 8 of the law, the police must assess the liability of both the client and the carrier along with that of the driver of the vehicle when they carry out roadside checks. Italian law requires a specific separate document of instructions ("scheda di trasporto") to be kept on board by the driver which is also completed and signed by the contractor thereby allowing the police to check and enforce co-liability and impose sanctions. The law also provides clarity in terms of interactions with the Highway Code.

#### b) Ireland

The Road Safety Authority has produced a guidance leaflet for those involved in the industry explaining the chain of responsibility for breaches of the rules on driving time, breaks and rest time. The simple two page leaflet clearly underlines that the rules relating to drivers' hours are not just the responsibility of drivers. They are also the responsibility of anyone who, as part of their business, manages, operates, schedules or uses road transport services. The RSA advises the following steps should be followed to ensure responsibilities are fulfilled:

- 'You must ensure that all journeys undertaken on your behalf are properly planned and allow sufficient time for the driver to take account of reasonably foreseeable traffic congestion, roadworks and bad weather conditions.

- In planning the journey, you must also ensure that consideration is given to any places where delays generally occur and to how well the driver knows the route.

- Any contractually agreed time schedule with a transport undertaking must comply with the EU and national rules on driving times, breaks and rest periods.

67 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
68 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN
69 http://www.fta.co.uk/_galleries/downloads/email_news/vosa_rule_on_drivers_hours_tachographs.pdf pg 44
70 http://www.etsc.eu/documents/drivfatigue.pdf pg 22
71 http://www.altalex.com/index.php?idnot=11741

- You must ensure that drivers are not encouraged to disregard the drivers' hours rules and that no incentive is provided to drivers to breach these rules.

- In planning journey times, you must ensure that the driver's requirements for daily living are taken into account – for example eating, breaks, rest and so on. The drivers' hours rules specify maximum daily driving periods and minimum daily and weekly rest periods for drivers.

- Time schedules: you must allow the driver to take the required daily and weekly breaks and rest periods.'[72]

In summary the key message is that a person who influences drivers and haulage contractor behaviour can be legally held responsible if that behaviour results in non-compliance with the tachographs and driving time rules.

### 3.1.3 Complementary methods of Enforcement

Effective enforcement requires commitment from Member States in terms of resources for equipment, personnel and training and the traditional methods of enforcement focusing on manual checks are man power intensive. 'The main method of achieving compliance has been enforcement based on designated officers observing the offence.'[73]

In an attempt to increase the efficiency of enforcement some Member States are developing complementary approaches that maximise and target resources. 'Smart enforcement' methods include initiatives in the area of targeted checking of poorly performing companies, developing gap analysis mechanisms and working closely with the industry to develop self assessment based approaches.

'The current trend in trucking enforcement includes:

- Electronic detection of non-compliance;

- Use of information technology to gather and apply information on patterns of behaviour, to enable the focussing of enforcement resources on high-risk drivers and operators;

- Use of accreditation and safety ratings schemes to encourage the application of safety management systems; and

- Imposition of legal requirements on off-road parties with control over truck operations.

- Improved information technology enables more rapid and efficient processing of detected breaches and the development of operator compliance and risk profiles. That enables the targeting of high-risk operators, either through safety ratings, compliance scores or operator licensing schemes'[74]

Agencies involved with enforcement need to conduct periodic reviews of their enforcement methods. These reviews need to look at the type of inspections to be conducted (prior notice of checks, unannounced checks) and the nature of the check – internal management systems, procedures, records for the purposes of effectiveness and efficiency, increasing deterrence, promoting compliance and addressing persistent offenders who don't take corrective action after detection. Agencies need to explain the enforcement methods to industry associations, collaborate where possible particularly in terms of information and guidance and develop mechanisms for understanding between the agencies and those being regulated. Ideally these activities need to take place against a wider road safety strategy context that promotes road safety across all socio-economic groups.

#### a) The Netherlands

In the Netherlands, a country with high HGV traffic, there are only 55 enforcement officers and 30 traffic police which limits what can be done in terms of traditional enforcement action. To overcome this, enforcers are working with companies to help them achieve a high level of compliance with the social rules and therefore reducing the need to target them in random checking. Experience to date has demonstrated that cooperation with companies to build trust gives good results in terms of compliance and reduces the need for sanctions.

The IVW (Inspectie Verkeer en Waterstaat / Transport & Water Management Inspectorate) supervises compliance with legislation and regulations in the transport sector including the driving and rest time legislation. To fulfil this role they have a targeted approach using five types of supervision namely 'Object Inspections, Company Inspections, Audits, Enforcement and Digital Inspections.'[75] The Inspectorate recognises that flexibility is required and that a 'one size fits all' approach to enforcement of the legislation is not appropriate given the diversity within the industry in terms

72 http://www.rsa.ie/Documents/Tachograph_Enf/Tacho%20Cards/Tacho%20Guides/drivers_hours_dl_low_res.pdf
73 Moving Freight with Better Trucks, Summary Document OECD/ITF 2011 pg 15.
74 ibid
75 Road Transport Audit Charter, Audits and Enforcement Agreements, Inspectie Verkeer en Waterstaat, 2010.

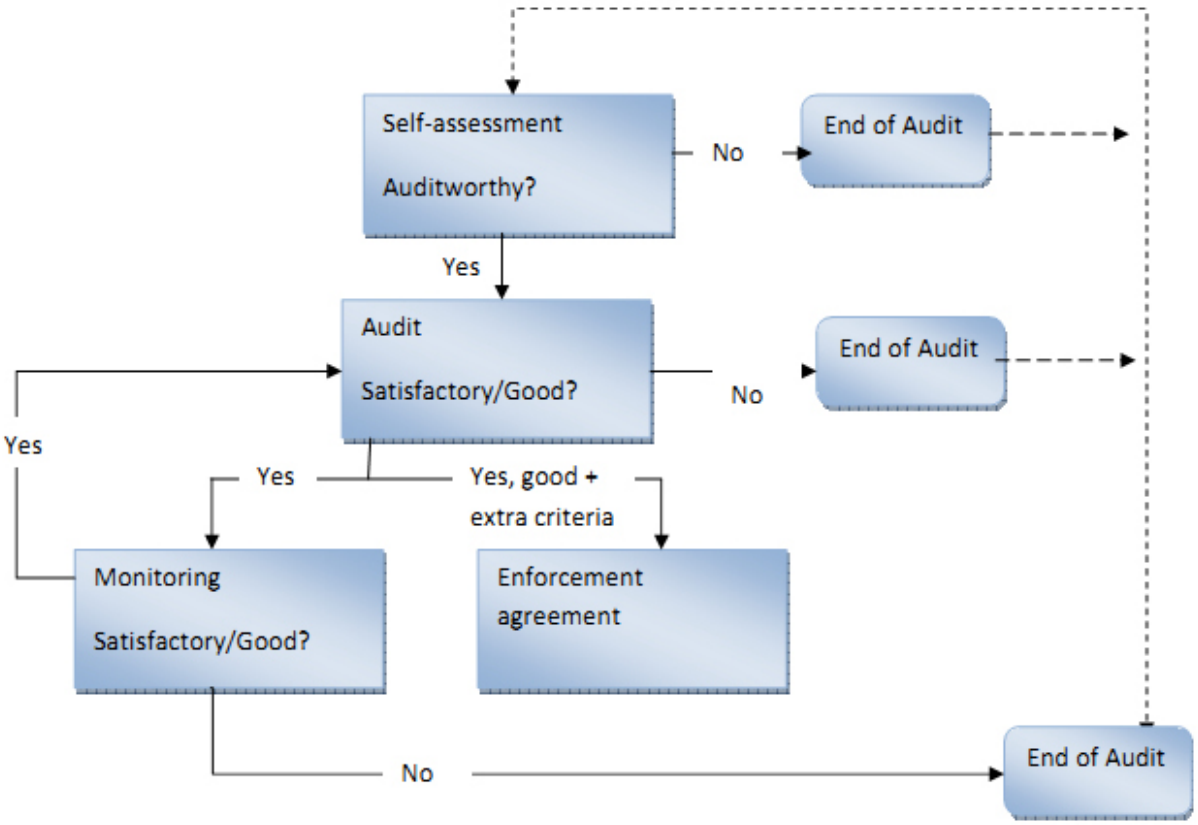
of company type and characteristics. The system of 'audits and enforcement agreements' involves 'supervision of the systems, processes and methods for ensuring compliance with the laws and regulations.'[76] This serves to reduce the regulatory burden on companies by encouraging them to actively comply with legislation.

'In order to test whether a company is in fact in control of its systems and processes, the

Inspectorate uses the following criteria:

- The management demonstrates its responsibility for compliance with the laws and regulations.
- The personnel (planners, drivers, etc.) understand the importance of compliance with the laws and regulations and act accordingly.
- The responsibilities and powers of those who deal with the compliance with the laws and regulations are clearly defined and well known within the organisation.
- The personnel possess sufficient knowledge and the proper attitudes in order to be able to comply with the laws and regulations.
- The personnel possess adequate means for complying with the laws and regulations.
- Demonstrable control measures have been integrated into the primary, supporting and management processes in order to guarantee compliance with the laws and regulations.
- The management monitor and check at demonstrably regular intervals the guarantee of compliance with the laws and regulations for effectiveness and possible improvements and intervene whenever and wherever necessary.'[77]

The audit process consists of three steps: a self-assessment, an audit and monitoring as depicted below (good results are required at each stage in order for a company to move on to the next stage).




76 ibid
77 ibid

Good results of an audit may result in the signing of a covenant or enforcement agreement between the companies and the inspectorate. 'In the enforcement agreement...more detailed agreements are reached in order to improve compliance with the laws and regulations, reduce the supervisory burden and expand the services.'[78] The company must also demonstrate above-average compliance with what the Inspectorate supervises and good reputation with other inspection services where applicable.

If an organisation satisfies these conditions, the Inspectorate makes covenants about how it conducts supervision and therewith departs from the regular form of supervision. In the new form of supervision, the Inspectorate assesses the quality of the control measures and guarantees for complying with laws and regulations and minimising risks. This control must be based on a plan-do-check-act methodology.

'The objective of this covenant is to establish the agreements which the Parties have made on the basis of their own responsibility in order to achieve an effective and efficient supervision with a minimal supervisory intensity.'[79] Under the covenant the company will agree to a set of conditions including, for example, provision of a management system that checks compliance and works towards continual improvement of this, regimes for reporting on risk management and incidents that occur and ensuring that any third parties which are contracted also fit with the quality requirements. In return the Inspectorate agrees to conduct as minimal as possible a number of audits or inspections to verify the activities of the company instead of the normal checking procedures and to evaluate the reports submitted by the company. The Inspectorate works in consultation with the company and designates specific persons to fulfill a consultation role.[80]

**b) Ireland**

In Ireland a risk based and intelligence led approach to enforcement has been taken facilitating a more targeted use of enforcement resources for premises inspections. There has been a focus on informing and educating the industry and using a stepped approach to enforcement, instead of turning to penalties and sanctions in the first instance, in order to support those wanting to comply with the social rules legislation but struggling with the practicalities. The RSA work with operator, who clearly demonstrate a commitment to addressing compliance issues in an effective and robust manner, through education and guidance, while reserving more punitive measures for persistent offenders. Education and enforcement are critically interlinked and key components of the enforcement and compliance strategy being implemented by the RSA.

The RSA has developed various guidance material for drivers that is distributed at roadside checks as well as at CPC training courses[81]. As part of a major reform programme of the commercial vehicle testing system in Ireland, the Road Safety Authority is planning to implement a commercial vehicle information system (COVIS) intended primarily as a business intelligence and management tool which will capture inter-alia infringement data, commercial vehicle test results and maintain risk registers with regard to operators and other relevant entities.

The COVIS information will be available to enforcement personnel for roadside and premises checks. Operators who meet compliance standards will be rewarded through going about their business with minimal disruption while those who do not keep their fleet in a roadworthy condition or fail to comply with the social rules will experience frequent targeted compliance and enforcement checks.

**c) UK**

Since 2006 the Vehicle Operator and Services Agency (VOSA)[82] have been using Operator Compliance Risk Score (OCRS) as a tool to help target those operators who are perceived to offer a greater risk to public safety through non-compliance. OCRS scoring is calculated from VOSA's records of compliance of a specific operator over a rolling two year period and fed from a central server to a hand held Mobile Compliance Device kept by traffic examiners at the roadside. An operator is rated over the two years by comparison with other operators' of a similar type and given a relative score based largely on history of encounters with VOSA and ranking this into a percentile. The figures are updated weekly so an operator's scoring is constantly changing. Even though the operator's specific historic record may not change his scoring may change due to a general improvement or deterioration in the records of the industry comparators. Scores are allocated for 'roadworthiness' and for 'traffic', the latter of which is based on the history of VOSA prosecutions and roadside encounters in relation to non mechanical infringements such as driver's hours, tachograph and overloading offences.

78 ibid
79 Ministry of Infrastructure and Environment, Transport and Water Management Inspectorate Covenant.
80 Dit is een uitgave van de Inspectie Verkeer en Waterstaat (2010), Auditstatuut Wegvervoer (Audits en Handhavingsconvenanten), only in Dutch.
81 http://www.rsa.ie/en/RSA/Professional-Drivers/Driving-Safely/Driver-Hours/
82 http://www.vosa.gov.uk/

The system is being further developed to bring in the system of graduation of penalties to OCRS scoring. The introduction of the graduated element of fixed penalties into OCRS will better define more serious levels of offending which will be reflected in operators OCRS. This improved approach recognises the fact that there are 'different reasons why operators might be non-compliant, ranging from a simple lack of awareness of regulations to wilful non-compliance based on a perception of cost'[83]. This suggests that different responses to non-compliance would be appropriate. In developing the graduated approach VOSA are aiming to partner willing operators into compliance through engagement and education while dealing with hardened and serial evaders through more punitive measures.

**d) Germany**

A more classical enforcement approach is taken in Germany where roadside checks continue to make a substantial contribution towards supervising the legal framework for road freight transport. The Police from each Federal State and the Federal Office for Goods Transport (BAG) are responsible for the enforcement measures: apart from roadside checks, on site checks and control measures in the premises of the haulage companies take place. The BAG is an independent Federal authority within the domain of the Federal Ministry of Transport, Building and Urban Development. The BAG is also the authority responsible for issuing fines for offences by residents and non-residents covering social rules in transport such as working time, driving and resting time and tachograph regulation. It is organised on a decentralised basis with 11 branches nationwide. Eight of them are responsible for on-site checks and offences procedures. About 240 inspectors are deployed on Germany's roads every day and also on weekends and at night. They have around 120 vehicles equipped with special IT technology, this enables a direct link to the respective branch via UMTS. Approximately 1.4 to 1.5 million vehicles are controlled every year by both enforcement authorities in relation to rest- and working time, 2/3 by the police and 1/3 by BAG. The latter has produced an information leaflet in several languages concerning the content and the procedure of the inspections to have a better communication with the drivers (see 3.5).

In the context of the Freight Transport and Logistic Action Plan[84] from the Federal Ministry of Transport, Building and Urban Development, improvement of safety in the haulage sector is foreseen by stepping up enforcement of social legislation. Several measures are undertaken to increase the level of compliance, among others, detailed analysis of the enforcement data and identification of target groups. In cooperation with the stakeholders, proposals are to be developed on training, improving the enforcement strategy and, if appropriate, on carrying out special checks.

### 3.1.4 Co-operation across Europe

'According to Directive 2006/22/EC, Member States must, at least six times per year, undertake concerted checks in cooperation with at least one Member State. According to the information available, most Member States participate regularly in concerted checks and other bilateral or multilateral initiatives. However, the threshold set by the Directive is not always reached.'[85]

**a) Risk rating system**

Article 9 of Directive 2006/22/EC requires Member States to introduce a risk rating system for undertakings based on the number and severity of infringements committed. The aim is to increase checks on undertakings with a poor record concerning the compliance with driving times. In addition, the Commission has undertaken to analyse the risk rating systems introduced by the Member States, in accordance with Article 9 of Directive 2006/22/EC.'[86] This approach obliges MSs to exchange data and opens the door for a European Risk Rating System through which poorly performing companies could be identified and targeted at the EU level. This requires good relationships and cooperation between enforcement organisations across borders.

**b) Good Practice**

Euro Contrôle Route (ECR) is a group of European Transport Inspection Services working together to improve road safety, fair competition and labour conditions in road transport through activities related to compliance with existing regulations. ECR's activities focus on providing coordinated cross border checks, education and training, multi and bilateral inspector exchange programmes, harmonising and consolidating points of view and influencing decision making processes. Euro Contrôle Route currently has 14 members covering 20 countries. Euro Contrôle Route, with the help of its 'complaint desk' tool, is drawing up an inventory of the main enforcement problems, to gain insight and understanding in this area, and passing this information on to the various countries.[87] CORTE also run help desks (see Section 3.4) and has issued

83 KSBR Brand Futures: Road to Compliance, 2009
84 http://www.bmvbs.de/DE/VerkehrUndMobilitaet/Verkehrspolitik/GueterverkehrUndLogistik/Aktionsplan/aktionsplan_node.html.
85 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:0391:FIN:EN:PDF pg 8
86 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:021:0087:0099:EN:PDF
87 http://www.euro-controle-route.eu/site/

a range of explanatory notes and guidelines on the social legislation and the use of tachographs. TISPOL, the European Traffic Police Network runs regular joint truck enforcement campaigns[88].

### Member States

Many Member States have already well developed lines of communication across borders between enforcement authorities which can be further built upon.

The Irish and Northern Irish Authorities have established an 'All Island Freight Forum' (AIFF). The core purpose is to provide a mechanism for consultation on road freight transport issues involving the development of ideas for the movement of goods in a competitive and sustainable manner. The work is, being taken forward by working groups focused on competitiveness and sustainability, safe, compliant and eco-efficient road freight transport, rail freight and other alternatives, international connectivity, and data and network management. The Forum is committed to taking action to improve compliance across the north and south of the island of Ireland and to establish a level playing field in the internal market. It is recognised that having a joined-up approach to vehicle operator compliance between neighbouring areas is vital in achieving meaningful improvements on the roads. One of the initial ideas to emerge from this is developing a compliance strategy spanning the entire island and this will be taken forward by the relevant agencies.

### c) Cooperation between European Enforcers and the road transport Industry

National enforcement authorities and their European Associations have been cooperating with the IRU (International Road Transport Union) and its Members for several years, through dialogue, exchange of information, joint events and projects aimed at making enforcement more efficient and improving regulatory compliance. In 2010, the IRU and enforcement authorities sought to expand and formalise this cooperation through negotiations that led to the signing, in March 2011, of a Declaration of Intent with two European enforcement organisations, Euro Contrôle Route (ECR) and TISPOL. This document is accompanied by a work programme of concrete measures and joint initiatives aiming to:

- Establish a common EU enforcement environment to complement the common regulatory framework for road transport in the EU which should improve the functioning of the regulatory framework, reduce costs and improve fair competition and road safety;
- Improve standards of regulatory compliance, enhance road safety, develop new contemporary enforcement techniques, and a better working environment for operators, drivers and enforcement officers;
- Encourage the creation of a progressive and cooperative enforcement culture across Europe that improves control efficiency and industry's regulatory compliance through alternative ways of enforcement and preventive measures.

88 https://www.tispol.org/

## Recommendations to the EU

- 'Create an effective and appropriate coordination instrument at the European level'[89] to achieve a harmonised approach to checks
- Establish an EU wide type approval system for digital tachographs interrogation software and analysis tools used by enforcement authorities across the EU in order to ensure consistent and reliable interpretation of the tachographs and driving time rules.
- Improve the collection of statistical information so as to enable more meaningful analysis of the effectiveness of enforcement and promote a harmonised approach by the Member States to enforcement issues[90]
- Ensure that the Member States respect the amount of checks to be organised as referred to in Article 2 (3) of Directive 2006/22/EC
- Support the implementation of the European Risk Rating System and deal with any existing barriers to data sharing
- Encourage Member States to allocate adequate resources to enforcement of these rules

## Recommendations to Member States

- Ensure that comprehensive information flows exist between national enforcement authorities and also between the latter and domestic and foreign road transport operators. This should include information on national rule changes, as well as new enforcement practices and requirements. Member State information points providing such information should be obligatory and interconnected until such a time as there is full harmonisation of control techniques and requirements in the EU;
- Provide adequate resources to facilitate enforcement;
- Develop targeted enforcement programmes focusing resources on the most serious / repeat offenders;
- Consider the development and application of 'smart' enforcement methods, including gap analysis and self assessment, working in partnership with industry;
- Determine together how to use the gathered information more efficiently; Conduct more frequent and accurate checks at transport firms' offices (e.g. to define highly targeted checks).

## 3.2 Non-Compliance and Fraud

When the regulations on working hours and tachographs are ignored or circumvented, the lives of drivers, passengers and other road users may be put at risk[91]. Non-compliance also gives undue competitive advantage to those breaking the law, with negative impacts on the functioning of the internal market.[92] Euro Controle Route defines tachograph fraud as: 'the deliberate and deceptive action to interfere with the authentic recording process of the tachograph to facilitate the production of falsified records, including;

- the preliminary acts and attempts with the same intention and
- the possession of objects or instruments specifically meant, intended or used for that purpose.[93]'

Different types of fraud occur ranging from 'occasional' fraud, undertaken perhaps anything from once a month to once a year with actions that may not have an implication for road safety to 'structural' fraud, when an entire company is fraudulent and malprac-

89 http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2010-0130&language=EN
90 ibid
91 EU OSHA (2011) A Review of Accidents and Injuries to Road Transport Users.
92 http://ec.europa.eu/employment_social/dsw/public/actRetrieveText.do?id=8903
93 Euro Controle Route Fraud http://www.euro-controle-route.eu/site/en/info/tacograph/fraud/

tice and manipulation are part of everyday working. This may also spread to the consigner or contractor giving instructions which will clearly do not respect the social rules legislation. Common types cover, for example, counting loading and unloading times as breaks, removing the driver card while driving, using the driver card belonging to the mechanic or using the driver card of an injured or sick colleague. The International Union of Professional Drivers is currently undertaking a study trying to uncover the causes behind fraud[94]. Stakeholders point at the lack of drivers and client pressure to deliver in a tighter timeframe and cut costs to a minimum.

More sophisticated ways to interrupt the signals sent to the digital tachograph have also been created, including the use of magnets located near the gear box. This interferes with the recording equipment and can show the vehicle at rest when actually in motion. Furthermore, the use of a magnet will interfere with the anti-lock braking system and will bypass the speed limiter - thereby allowing the vehicle to attain any speed. This also means none of the controls on the dashboard will be operational[95]. In the UK, VOSA[96] and the police have stepped up their enforcement activities and drivers found to be using a magnet, or any other method, to falsify their drivers' hours records are now facing prohibition and fixed penalty notices and/or arrest.

### 3.2.1 EU legislation to Counter Tachograph Fraud

The European Commission has launched a new proposal[97] to revise the tachograph legislation to make fraud more difficult. During the consultation phase leading to the legislative proposal, representatives of both employers and employees jointly stated that: 'The tachograph should be made effectively resistant to fraudulent manipulation so that the device provides the reliable and trustworthy data on driver activities that is crucial for its functions[98]'. A number of measures are proposed. One is making use of satellite positioning to replace manual recording by automatation and to monitor freight in the logistics chain. Another measure included to reduce fraud is a higher standard demanded of the workshops which install and calibrate the tachograph. The European Commission's impact assessment showed that seals to tachographs are still far too easy to manipulate. Seals are meant to detect by visual inspection any tampering with the mechanical interface between different parts of the tachograph. The Commission will give a mandate to the European Committee for Standardization (CEN) for developing European standards for seals to be used on tachograph systems. Moreover, the driver card will be merged with the Driving Licence to prevent driver cards being handed easily to other drivers. This new package follows on from measures[99] adopted in January 2009 which aimed specifically at detecting and preventing abuses of the system. In particular they required Member States to develop dedicated equipment and software that can be used to analyse the data from the digital tachograph. A Commission Recommendation[100] sets out best practice guidelines for national control authorities when carrying out checks of vehicles and the recording equipment, whether at roadside, at company premises, or at workshops. Manipulating the tachograph is considered a very serious infringement in EU legislation, with sanctions going up to the loss of the Community licence and the right to operate a road transport undertaking under Regulation (EC) No 1071/2009.

#### a) ECR/TISPOL

The ECR/TISPOL Tachoweb Working Group (TWG) undertakes a number of different activities to support fighting fraud. It has created a manual which is aimed specifically at enforcers and includes up-to-date information on digital tachograph fraud and reports on new cases. The working group has also organised master classes on tachograph fraud involving control officers and enforcement managers from different EU countries with the objective of sharing and augmenting the knowledge on fraud and tachograph manipulation. The workshops allowed officers to discuss different experiences and enforcement techniques. They also involve practical work looking at best practice in roadside checks and an overview of manipulations including indications and clues for investigation and different vehicle devices.

#### b) The Netherlands

Due to the increased concern about the magnitude of (digital) tachograph fraud, also based on the experiences gained during the TWG tachograph fraud master classes, the decision was made in the Netherlands that all enforcement staff, inspectorate as well as police, should undergo a dedicated training on tachograph fraud. The training takes several days and is composed of both theoretical and practical education completed by a test.

94 UICR Driver Questionnaire on Tachograph Manipulation.
95 http://www.cheshire.police.uk/advice--information/roads-policing/commercial-vehicles.aspx
96 http://www.dft.gov.uk/vosa/newsandevents/pressreleases/2008pressreleases/16-12-08vosavoicesconcernovertachographscam.htm
97 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
98 http://ec.europa.eu/employment_social/dsw/public/actRetrieveText.do?id=8903
99 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:021:0039:0040:EN:PDF / http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0005:EN:NOT
100 Commission Recommendation C (2009) 108 http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:021:0087:0099:EN:PDF

## Recommendations to Member States

- Ensure that enforcement officers are equipped with the knowledge and equipment to be able to spot fraud and prevent it from occurring.
- Establish "hotlines" so that drivers and operators can report suspected fraudulent, illegal and non-compliant behavior.
- Ensure that risk systems include not only tachographs and driver's hours non-compliance, but also other risk areas which present a risk to other road users such as overweight vehicles and defective vehicles.
- Establish effective data sharing arrangements between agencies within Member States.
- Actively participate in the TWG communication network by appointing a contact person whose task it is to communicate the fraud details (figures and findings) to the TWG network.
- Provide dedicated training to the involved enforcement staff.
- Implement and execute severe, dissuasive and deterrent sanctions for tachograph fraud infringements (See also the Annex IV infringements Regulation 1071/2009/EC).

## Recommendations to Employers

- Report suspected fraudulent or non-compliant behaviour to the relevant agency
- Promote a safety culture and demonstrate commitment to same
- Promote education/train drivers on work, drive and rest time regulations and on the proper use of the tachographs thus minimising inadvertent breaches of the rules
- Promote best practices and raise awareness about the importance of tackling fraud.
- Keep drivers cards at work so no other HGV driving is done in the spare time
- Give bonuses for compliance
- Work with enforcement officers and member associations to identify and eliminate the causes of tachograph fraud

## 3.3 Training of Control Officers

In terms of procedures and application of the legislation there is room for interpretation which means that the decisions of control officers vary not only across Member States but also within individual countries. Different interpretations by control officers in turn make it difficult for drivers and companies to understand what is expected from them or how to ensure compliance. As mentioned previously, the lack of consistent enforcement can add to stress for the driver thereby jeopardising road safety.

Training relating to on road checks should also cover identifying appropriate sites for checking including a consideration of elements such as road infrastructure and congestion, so that it can be carried out in a manner that will not endanger the safety of other road users. Consideration should also be given to drivers' access to facilities when being stopped at a roadside check especially in cases where the control officer requires them to take a rest period.

The recent proposal from the European Commission on revising the tachograph legislation underlines the

need for more efforts in the area of training of control officers specifically setting out the following requirements:

- 'Member States shall ensure that control officers are appropriately trained for the analysis of the data recorded and the control of the recording equipment.
- Member States shall inform the Commission about the training requirements for their control officers by [6 months after the date of application of this Regulation].
- The Commission shall adopt decisions on the methodology for the initial and continuing training of control officers, including on techniques to target controls and to detect manipulation devices and fraud.'[101]

**a) UK**

VOSA trains enforcement officers using a mixture of formal training and on the job mentoring. Formal training is classroom based with an agreed training syllabus that covers all aspects of their job description. This consists of 11 weeks with different modules to cover EC and domestic regulations plus VOSA policy and guidance. This is followed by prescribed and measured local training and mentoring. It is not expected that VOSA examiners will be deemed fully effective for at least one year and normal performance management is tailored to suit this expectation. VOSA examiners are also supported throughout their career with regular update training which is delivered in a variety of ways – cascade, e-learning and if required formal classroom.

**b) Italy**

The "Comitato Centrale per l'Albo degli Autotrasportatori" (governing body of Italy's National Road Haulers' Register[102]) composed by representatives of national professional organisations, public authorities, in collaboration with the Ministry of Transport and the Ministry of Internal Affairs, has organized and financed special training courses for control officers. The courses focus in particular on EU and ITF/CEMT legislation, Italian law and procedures. Professional organisations (Confartigianato Trasporti and CNA FITA) are involved in the development of the courses which include theoretical and practical sessions. The courses are organised based on three educational levels ranging from general knowledge to specific knowledge and professional knowledge for the sector that verifies tachograph devices.[103]

### 3.3.1 ECR

The ECR Training working group focuses primarily on the training of inspectors by organising multilateral and bilateral exchanges each year. The main objectives of this initiative are to increase knowledge about inspection procedures and national and international regulations, but attention is also devoted to team-building and language training. In 2010 multilateral exchanges were organised in France, the United Kingdom and Hungary with an overarching theme of the methodology of the roadside check.

The ECR Harmonie working group deals with the coordinated international road checks and also works constantly on data exchange concerning infringements, risk companies and fraud. In addition, the working group's attention is focused on streamlining inspection procedures, the transposition of European regulations, sanctions and techniques. The results of this work ease the tasks of the inspectors and make European roads much safer.

The TWG group (Tacho Web Group) is a joint working group of ECR and TISPOL[104]. Its main focus is the gathering and updating of information on digital fraud. Over the years the scope of the working group has widened to include the following joint ECR-TISPOL ambitions including formulating recommendations on the best way to enforce the regulations and providing legislative support and instruction to enforcement bodies. ECR produced a Multilingual lexicon (in 12 languages) providing practical step-by-step guidance for control officers carrying out roadside checks.[105]

### 3.3.2 TRACE[106]

Directive 2006/22/EC requires that 'roadside checks are executed efficiently and quickly, with a view to completing the check in the shortest time possible and with the least delay for the driver.' They are conducted to monitor compliance with 561/2006 and 3821/85.

The European Commission is co-funding TRACE (Transport Regulators Align Control Enforcement), a project to develop a harmonised training format for enforcers on the Drivers' Hours Rules Regulation (Regulation (EC) No. 561/2006) and to consequently support a common interpretation of the Regulation.

101 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
102 www.alboautotrasporto.it
103 http://www.alboautotrasporto.it/index.php?option=com_content&view=article&id=87&Itemid=82
104 https://www.tispol.org/
105 http://www.euro-controle-route.eu/site/en/info/recommendations/
106 http://www.traceproject.eu/

The project aims to:

1. Create training modules and a generally applicable curriculum for control officers of European road transport legislation; the modules and the curriculum should be designed to be easily adaptable to the national organisational and legal situation in all Member States in order to improve and harmonise training of control officers;

2. Produce modules designed for the initial and continuous training of control officers throughout the EU;

3. Train the relevant people in each Member State to disseminate the training modules.

Standard training modules are to be delivered to enforcement officers across the European Union. TRACE can offer a valuable contribution to clarifying enforcement issues and should continue to be built upon both at the EU and national levels.

### Recommendations to EU

- Support the dissemination and adaption of TRACE outputs at the MS level
- Support further research into the training of control officers in a harmonised manner
- 'Draw up recommendations and European minimum standards for the training of inspection bodies and for coordinating cooperation between the inspection bodies'[107]
- 'improve the collection of statistical information so as to enable more meaningful analysis of the effectiveness of enforcement'[108]

### Recommendations to Member States

- Support the dissemination and use of the outputs of the TRACE project
- Develop specific training modules (where possible based on TRACE outputs) as standard for control officers in their own countries as part of continuous training
- Ensure a harmonised approach to training within enforcement authorities in their countries
- Exchange experiences and best practices with other Member States
- Establish guidelines on the priorities for roadside checks with a focus on road safety
- Train enforcement staff in the latest developments in data collection and, in implementing common standards, work closely with the European Commission in order to promote a harmonised approach to checks, thus creating legal certainty[109]

## 3.4 Levels of Fines

Article 19 of (EC) 561/2006 states that 'Member States shall lay down rules on penalties applicable to infringements of this Regulation and Regulation (EEC) No 3821/85 and shall take all measures necessary to ensure that they are implemented. Those penalties shall be effective, proportionate, dissuasive and non-discriminatory. No infringement of this Regulation and Regulation (EEC) No 3821/85 shall be subjected to more than one penalty or procedure.'[110] Directive 2006/22/EC originally contained an Annex III with a non-exhaustive list of what is to be regarded as an infringement. This Annex III has been replaced upon the adoption of Commission Directive 2009/5/EC and the new Annex III contains guidelines on the categorisation of infringements against the two Regulations.

107 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN
108 ibid
109 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN
110 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:102:0001:0013:EN:PDF

A report was produced by the Commission in 2009 which analysed the penalties for serious infringements against the social rules in road transport provided for in the legislation of the Member States.[111] The report concluded that 'The rules on penalties applicable to serious infringements of the social legislation vary appreciably between Member States as regards the types of penalties, the level of fines and the categorisation of infringements'. 'For drivers and undertakings engaged in international transport, it is therefore very difficult to receive a clear message concerning the gravity of possible infringements when they do not comply with certain provisions of Regulation (EC) No 561/2006 and Regulation (EEC) No 3821/85, as the penalties they risk in the different Member States give contradictory feedback.'[112]

Manipulation of a driver's tachograph, for example, is penalised with a fine of up to €586 in Lithuania but €2,460 in Poland. In other countries, the fine can be even higher for such an infringement – €4,601 in Spain; up to €6,232 in Italy; and up to €30,000 in France, with the additional possibility of a one-year jail sentence. In the UK, deliberate falsification of tachograph records can result in a £5,000 fine, and a jail sentence under the more general conviction of fraud.[113]

The new proposal from the European Commission on revising the tachograph legislation includes the intention to ensure a minimum degree of harmonisation of sanctions in relation to the tachograph rules. Proposed Article 37 of the future tachograph regulation on minimum harmonisation ensures that infringements against the tachograph rules which are classified in EU legislation as 'very serious infringements' and as 'most serious infringements' will attract the highest category of penalties in national legislation.[114]

The disparity in terms of type and level of penalties, both financial and other, has arisen as a result of socio - economic factors, differing legal systems and differing policy approaches to road safety. As such, there are large disparities across Europe in the type and level of penalties or sanctions and general acceptance of the need to move towards a more level playing field. However, this can result in a situation where the overarching aims of improved road safety may not be upheld by the system and levels of sanctioning. Anecdotal evidence suggests that if fines are too low then companies simply provide for their cost within their budgets and operators are prepared to make infringements and pay fines in order make gains in terms of time savings. The result can be an increase in the number of fatigued drivers on the roads. 'A basic principle of enforcement is that the risk of punitive consequences for violation of regulations should weigh more heavily than the gain accrued through the violation. Both the risk of detection and the size of the penalty are important.'[115]

The White Paper for Transport (2011)[116] underlines a commitment of behalf of the European Commission to move towards further incorporating a social dimension in road transport. The aim should be to construct the system in a manner that means sanctions are not required and to ensure that, when sanctioning is required penalties are proportionate to the infringement in terms of its road safety impact. The sanctions which are applied should also be decided upon based on the nature of the infringement and should rectify the infringement that has occurred for example by ensuring that a driver takes appropriate rest. Further harmonisation across the EU in terms of categorising severity of infringements and setting appropriate sanctions would be useful also in terms of reducing stress for drivers. Finally, alongside the use of fines one could also consider the positive impact of the ERRU (international register of companies and sanctions) as a means to incentivise compliance.

### 3.4.1 Complaints Desk

ECR administrates a 'Complaint Desk' online to get a better understanding of the enforcement of the European regulations on driving and rest times. This facilitate complaints of drivers and transport companies due to actions of enforcement bodies throughout Europe while enforcing the rules of the driving and rest time regulations including reposting on what the industry and drivers feel are disproportionate fines.[117][118] CORTE's 'Monitoring the Implementation of the Digital Tachograph Platform' also runs a Help Desk for its members[119]. A second help desk run by CORTE responds to questions from its members on the drivers hours[120]. More than 50,000 questions on legislative and enforcement issues have been answered since 2005 through CORTE's help desks.

111 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0225:FIN:EN:PDF
112 ibid
113 ibid
114 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0451:FIN:EN:PDF
115 http://www.etsc.eu/oldsite/drivfatigue.pdf pg26.
116 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF
117 http://www.euro-controle-route.eu/site/forms/inventory_fines_en.php
118 As part of their cooperation with ECR and TISPOL, the IRU has agreed to co-host this complaints desk on their website in order to help the gathering of data that shall contribute to the analysis of fines and their effect.
119 http://www.eu-digitaltachograph.org/HelpDeskHome.asp
120 http://www.corte.be/HelpDeskHome.asp

## Recommendations to EU

- Work with Member States to lay down minimum and maximum penalties for each breach of the rules on working time.
- Monitor Member State adherence to the principles on which sanctions should be set (i.e. effective, dissuasive and proportionate) and intervene if necessary to defend these principles.
- Provide more specific guidance on how to link fines to infringements.

## Recommendations to Member States

- 'Adopt national legislation that has an effective, proportionate and dissuasive effect and that takes due account of how serious an infringement is'.[121]
- Achieve further approximation of the types of penalties and of the levels of fines, a categorisation of fines linked to a categorisation of penalties, and minimum and maximum penalties for each infringement against the social rules in road transport. In streamlining penalties make sure that fines are proportionate in the different Member States in accordance with objective criteria (such as GNP or geographical factors) and are balanced by an effective deterrent against serious infringements.[122]
- Find 'legislative and practical ways' to reduce the differences in the types and levels of penalties applied.
- Enact the ability to immobilise vehicles for the most serious road safety risk causing infringements.

## 3.5 Training and Information to Drivers

Improving drivers' understanding of the dangers of driving while fatigued is extremely important and can be achieved through appropriately targeted educational initiatives and information. Changing drivers' attitude and behaviour is the key to reducing their likelihood to drive while fatigued. To maximise the effectiveness of road safety campaigns promoting safe driving behaviour, it is recommended that campaigns and initiatives should adopt a multidimensional approach, using a range of methods...It is suggested that more emphasis be given to primary prevention efforts, such as improving understanding of drivers about the importance of getting sufficient sleep prior to driving, the proactive use of naps to reduce hours of wakefulness prior to commencing a drive, and avoiding circadian performance troughs when planning journeys.'[123]

A survey conducted in Germany concerning the training needs of HGV drivers[124] revealed that the EU Social Rules take 7th place in a ranking of 13 training topics considered as important. The topics viewed as most important were first aid measures and general traffic rules, while those considered least important were customs regulations and (foreign) languages. However, 64% of the drivers stated that they would like to have EU Social Rules included in qualification and further training measures.

There is a responsibility on the relevant authorities in each Member State and on employers and trade unions to provide effective means of communicating the requirements under the social rules and general mechanisms for improving health and well being and this may require specific inter-agency liaison involving health promotion measures.

### 3.5.1 Legislation

EU professional drivers are now required to have followed professional training as set out under Directive 2003/59 on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers. Further information on this can be found in PRAISE Thematic Report 2 'Fit for Road Safety.'[125] The Annex of the Directive goes

121 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN
122 ibid
123 http://www.pacts.org.uk/docs/pdf-bank/rswp21report.pdf
124 Fühauf; Roth und Schygulla: Aus-und Weiterbildung von LKW-und Busfahrern zur Verbesserung der Verkehrssicherheit. Berichte der BAST, Heft M 197, 2008.
125 http://www.etsc.eu/documents/PRAISE%20Report%202.pdf

into more detail on the topics to be included on the curriculum. This includes training on the 'principles of healthy, balanced eating, effects of alcohol, drugs or any other substance likely to affect behaviour, symptoms, causes, effects of fatigue and stress, fundamental role of the basic work/rest cycle.'[126] Member States will issue the driver with a certificate of professional competence, referred to as 'CPC', certifying their initial qualification or periodic training. These skills and knowledge will be kept up to date through periodic training. The requirement for CPC provides a useful means to ensure that drivers receive training on EU Drivers' Hours Rules and responsibilities relating to the operation of tachographs. The annex states that 'drivers must reach the level of knowledge and practical competence necessary to drive in all safety vehicles of the relevant license category' and then lists the subjects that should be included in training. It is therefore unambiguous about the importance of such subjects. Member States should therefore ensure an adequate level of consideration of these issues, and fatigue management in general, in their driver training curricula.

Regulation (EC) No 1071/2009[127] of the European Parliament and of the Council established common rules concerning the conditions to be complied in pursuing the occupation of road transport operators. According to the Regulation, operators must fulfil four criteria to access the profession, namely good repute, financial standing, professional competence and effective and stable establishment in a Member State. A transport manager who is responsible for the respect of the road transport legislation enforced must be designated by each road transport operator.

Many National Authorities and other industry related organisations have already taken the initiative in developing tailored training programmes that include social rules training.

### 3.5.2 Good Practice - National

#### a) Germany

The Federal Office for Goods Transport (BAG) has published a comprehensive leaflet in German, English, French, Polish, Russian, Romanian, Hungarian and Czech language informing the truck drivers about inspections, their procedures and the content. This enables a better communication between the enforcement officers and the drivers.[128] In German, guidelines on the social rules in transport have been developed[129] alongside guidelines on digital tachographs[130] and can easily be downloaded. Furthermore, in the context of the programmes De-Minimis[131] and further qualification[132] financial support is given to those companies which would like to invest in better technologies and in training their employees to be better drivers.

"Keep awake behind the steering wheel" – Wach am Steuer

The German Social Accident Insurance Institution for the transport industry offers specific training to raise the awareness about fatigue in road transport to their member companies. This training scheme was tailor-made for truck drivers and was tested and evaluated by Ford Gmbh in Cologne. The drivers learn to develop strategies against fatigue, e.g. to recognise first indicators of fatigue. The two training units are 90 minutes long and are complemented by an individual conversation with the trainer before the training units and after them. The conversations can be undertaken in a flexible way, so that the whole training can be easily adapted to the daily workload of the drivers.

#### b) Ireland

The Road Safety Authority of Ireland has produced a suite of information and guidance material aimed at both drivers and operators to assist in understanding the rules and responsibilities in the area of tachographs and driving hours and underlining their importance in terms of combating fatigue and improving road safety. The leaflets present the Directives in a clear and simple manner and are used in professional driver CPD training as well as for general distribution.[133]

- Guide to Digital Tachographs
- Guide to EU Rules on Drivers Hours
- Guide to Road Transport Working Time Directive

The RSA have also produced a pocket-size card summarising the key facts and driver responsibilities that is handed out to drivers at roadside checks. The information leaflets have been made available in a number of languages reflecting the makeup of drivers in the Irish freight sector.

The RSA training modules for driver CPC includes information on diet, exercise, stress and maintaining general well being as well as work/rest cycles, drugs and misuse of drugs. The key message is that in order for a driver to remain safe on the road and be a safe road-sharer, they must take care of all aspects

126 ibid
127 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:300:0051:0071:EN:PDF
128 http://www.bag.bund.de/cln_008/SharedDocs/Downloads/DE/Broschueren/Strassenkontrollen_en.html?nn=13156
129 http://www.bag.bund.de/cln_008/SharedDocs/Downloads/DE/Merkblaetter/Leitfaden_Rechtsvorschriften.html?nn=12502
130 http://www.bag.bund.de/cln_008/SharedDocs/Downloads/DE/Merkblaetter/Leitfaden_Kontrollkarte.html?nn=12502
131 http://www.bag.bund.de/cln_008/DE/Navigation/Foerderprogramme/Deminimis/Deminimis_2011/demin11_node.html
132 http://www.bag.bund.de/cln_008/DE/Navigation/Foerderprogramme/AW/AW_2011/aw11_node.html
133 http://www.rsa.ie/en/RSA/Professional-Drivers/Driving-Safely/Driver-Hours/

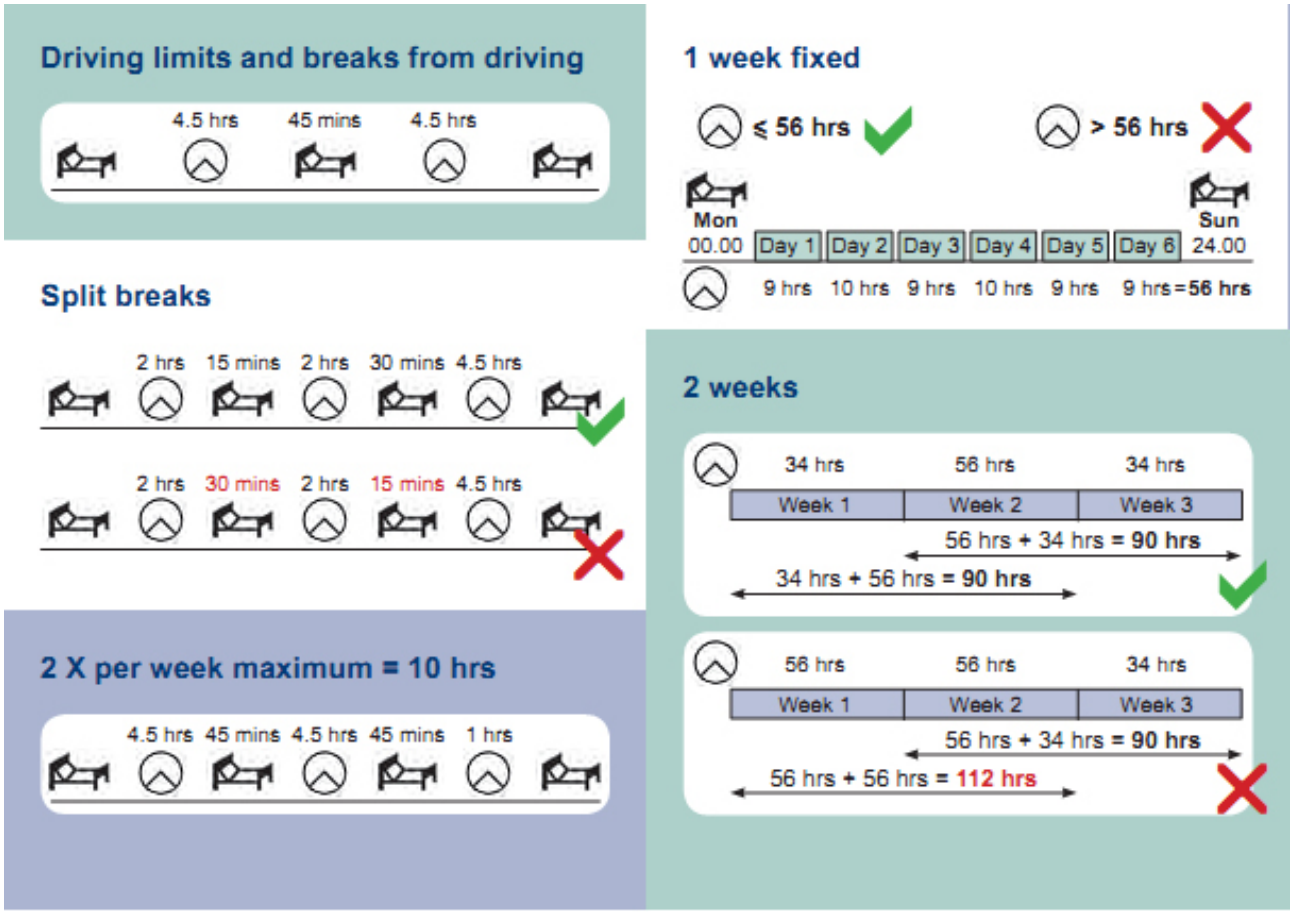
of their general health – this includes maintaining a healthy diet, taking regular exercise and maintaining a healthy sleep and rest pattern. They need also be aware of their stress levels and any effects of drug and alcohol.

**c) UK**

VOSA provides a range of licensing, testing and enforcement services with the aim of improving the roadworthiness standards of vehicles ensuring the compliance of operators and drivers with road traffic legislation, and supporting the independent Traffic Commissioners.

As part of their work they have produced a suite of publications dedicated to giving useful information to operators, drivers and other staff involved in the use of goods and passenger-carrying vehicles. This includes a pocket size leaflet for drivers entitled 'Staying legal – the basics'. The leaflet uses pictorial representation to outline the basic requirements of drivers' hours and rest time rules and performing a daily vehicle check. The use of pictures, as illustrated below, overcomes language barriers faced by foreign drivers.[134]

Research carried out by VOSA demonstrated that '24% of operators have limited knowledge of or feel uncomfortable dealing with driver and vehicle legislation and regulation issues'.[135] To counteract this, they are developing a collaborative approach to enforcement and education and have 'committed to engaging with and educating all industry sectors to enable them to comply, resorting to enforcement action only where necessary'.[136] In order to support the industry through education and information, a series of initiatives have been developed as part of the VOSA business plan that will be driven forward by a specialised Commercial Vehicle Compliance Forum. This includes exploring options for Trade Associations and other organisations to adapt or develop publications aimed at promoting higher compliance standards.[137]




134 http://www.dft.gov.uk/vosa/publications/manualsandguides/drivershoursandtachographguides.htm
135 VOSA Customer Research 2009
136 http://www.dft.gov.uk/vosa/repository/VOSA%202011-12%20Business%20Plan.pdf
137 http://www.dft.gov.uk/vosa/repository/VOSA%202011-12%20Business%20Plan.pdf

### d) Romania

The UNTRR (Uniunea Nationala a Transportatorilor Rutieri din Romania) is involved in a 2-year European Project, co-financed by the European Social Fund, called 'Adaptability for increasing the competitiveness of the Romanian road transport sector'. One of the project's aims is to build and enhance companies' capacity to develop well trained human resources, particularly through specialised professional training, focused on the new technologies. In the framework of this project, UNTRR is providing free training programmes for Romanian road transport employers, managers and professional drivers in a number of fields including driving and rest time rules and tachograph training, road safety and speed management, human resources management for road transport companies and a training of trainers programme. As part of the programmes the trainees learn how to organise their driving and rest times in order to comply with EU regulation and to avoid fines; practical schemes and advice on the organisation of a driving day/week/month, followed by practical exercises using a digital tachograph simulator.

### e) The Netherlands

"Steering on Safety" is an initiative of the Dutch Trade Associations in road transport together with the Dutch ministry of Infrastructure and Environment; its overall aim is to improve road safety. It has developed different tools that allow companies to undertake scans including also a "fatigue scan". This scan draws the attention to certain issues that offer operators to reduce fatigue risks in their company. To raise the level of "safety culture" a company can evaluate their existing levels of fatigue and identify possible solutions. The site also has a tool which includes benchmarks of measures to improve road safety performance in the road transport industry. A last important functionality of the site lies in the possibility to register a transport company in the Network of Road Safety Professionals. Once registered, members need to prove that they continuously work on road safety in their company. Two other sites are organised by the social partners in the Netherlands which advise HGV drivers on how to avoid fatigue: www.gezondtransport.nl and www.fitopderit.nl.

## 3.5.3 Good Practice - Employer

### a) IRU Academy[138]

The IRU Academy is a professional road transport training organisation focusing on road transport training and enhancing the development of professional competence in the road transport sector. The Academy offers a number of training programmes through a network of accredited training providers in a range of languages that works towards a harmonisation of training standards, and incorporates international best practices.

The IRU academy has developed a social rules training package (Tachograph Programme) aimed at ensuring that drivers and managers know how to properly use all features of a tachograph, from card use and data recording to printing and troubleshooting error messages as well as know how to comply with driving and rest time rules. The IRU Academy Tachograph Programme training materials are designed to make the learning interactive and to maximise impact, and including elements such as instructor materials with over 200 slides, a question bank with over 400 Tachograph and Drive and Rest Time Rules questions and an online Tachograph Interactive Training Module. In this way the IRU Academy has made the improvement of road safety a priority via these efforts to improve the quality of training in these important areas. Training must be current and reflect the practical/real world application of the regulations.

### b) Iron Mountain

Iron Mountain is an information management service company based in the UK. The company manages information assets, including business records, electronic files, medical data, e-mails and more for organisations around the world. They have approximately 700 vehicles across Europe and have developed a number of initiatives to improve the road safety performance within the company based on a risk and training needs assessment. Poor tachograph compliance and/or procedure in some areas were identified as areas which could be targeted by appropriate training. As part of their approach the company developed targeted training programmes and a driver handbook. The driver handbook is a working document, i.e. issued every day with updates and bulletins along with guidelines on driving techniques, internal processes, vehicle checks and tachograph use. One of the indicators for monitoring success of the initiatives to improve road safety was tachograph management and infringement ratios. Tachograph Infringements per

138 http://www.iru.org/en_about_academy

recording were monitored and showed significant improvements with an 85% reduction between the years 08/09 and 09/10, consistently tracking at 30% less than the industry sector average. Iron Mountain are committed to further reductions (target zero), through increased education and understanding: they download digital driver cards weekly and vehicles monthly to accelerate opportunities to capture anomalies and have introduced KPI's to monitor and gap analysis. This contributes to a decrease in the costs of sanctions / fines for the company and its drivers and an increase in its reputable standing.

## Recommendations to the EU

- Develop an 'easily understandable brochure in all official languages of the European Union for undertakings and for lorry drivers; this brochure should give the drivers and undertakings concerned more information about the relevant social rules and the penalties applicable to infringements in the various Member States.'[139]
- Make such a brochure available to undertakings and drivers from third countries
- Explore and support the use of intelligent transport systems to provide drivers with information in real time.[140]
- Ensure an adequate level of consideration of fatigue management in the training curricula in the context of the CPC Directive.

## Recommendations to Member States

- Work with the industry to identify knowledge gap areas requiring clarification.
- Target professional drivers with measures to combat fatigue. 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 small firms and self-employed workers.
- Ensure training on combating fatigue, complying with driving/resting/working hours and use of tachographs is included as part of driver CPC.
- Promote and support training courses, providing accredited trainers and raising awareness of the importance of complying with EU social provision (legislation, resources, finance).
- Develop information and awareness material for drivers (pictorial or/and multilingual where possible) highlighting specific national interpretations or related legislation.
- Give information for driving at ports (or during crossings) to aid driver awareness and driver experience on a systematic basis. This information could include the permitted speed limits for HGV guidelines and suggestions on driving hours and taking regular breaks.[141]
- Develop educational programmes and training for the general public should be developed to ensure that all road users are aware of how to share the road safely with commercial vehicles.

139 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010 0130+0+DOC+PDF+V0//EN
140 ibid
141 Mainland European Truck Accidents in the UK-Key Issues for Drivers (2009) Danton, R, Kirk, A and Hill, J.

### Recommendations to Employers[142]

- Include written guidelines on eliminating driver fatigue in the health and safety management policy and driver handbook.
- Ensure drivers are made aware of the dangers of fatigue 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. 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.[143]

## 3.6 Journey Planning

Transport operators must ensure that their drivers are able to comply with the regulations. They must ensure that the transport time schedules are in line with the regulation and may not award bonuses related to distance travelled as this endangers road safety. High quality journey planning and the use of ITS can contribute to ensuring that the obligations under the working time regulations are met. Directive 2010/40/EU[144] on Intelligent Transport Systems and the ITS Action Plan request the Commission to define specifications for the provision of information and reservation services for safe and secure parking places for trucks and commercial vehicles. This information is also important for planning routes and resting periods and managing fatigue. This is covered in more detail under the infrastructure management and parking section.

In the Freight Transport Logistics Plan[145], the European Commission has also identified that ITS tools could 'constitute a core enabler for the management of logistic chains, notably in maintaining a paperless information trail in the management of the physical flow of goods (eFreight)[146]'.The concept of 'intelligent cargo' is developed further under the ITS Action Plan meaning that goods become 'self-, context- and location-aware as well as connected to a wide range of information Services'[147]. Under the ITS Directive, one of the priority areas is the intention to define the necessary measures in ITS applications. Notably, this includes the tracking and tracing of freight along its journey and across modes of transport for freight transport logistics (eFreight). This would be based on the availability of the ITS technologies and use by their application developers and the integration of positioning results in the traffic management tools and centres[148].

### 3.6.1 Rostering

With regard to rostering of drivers, employers need to comply with the working and driving times scheduled for individuals over periods of weeks and months, not just days, in order to allow them to avail of adequate rest in both the short and long term. Some of the principles of good roster management include providing notice and predictability in roster patterns, preserving regularity in the 24 hour cycle and ensuring weekly rest to prevent the accumulation of fatigue. Managers should also provide a mechanism, including consultation, for the continuous improvement of the roster system to fulfil and reconcile technical, operational and individual needs[149]

### 3.6.2 Route Planning

Action Area 1 of the ITS Action Plan includes multimodal door-to-door journey planners that would also be of relevance to HGVs. Technologies to help with journey planning can also direct drivers along the most efficient routes. They can be linked to technologies used out of the vehicle to do with scheduling of shifts and linked to managing fatigue. Some satellite navigation applications (satnavs) and journey planners already take into account school times to direct drivers away from schools during peak times.'[150]

Other outside influencers also affect driver fatigue. Time pressure stress, pay structures, consumer/customer demands, a lack of safe and comfortable rest areas[151], loading or delivery queues, inadequate driver numbers, and poor roster planning and management have also been identified as potential sources of commercial driver fatigue.[152] In many areas a major proportion of freight movements are associated with deliveries to retail and commercial premises and are short trips. Changes in the delivery patterns currently operated could offer significant benefits in terms of

142 Partly adapted from Will Murray, Interactive Driving Systems, Fleet Safety Gap Analysis; ROSPA Fatigue Facts; ROSPA 2002.
143 http://www.etsc.eu/documents/PRAISE%20Report%203.pdf
144 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:207:0001:0013:EN:PDF
145 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0607:FIN:EN:PDF
146 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0886:FIN:EN:PDF
147 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0886:FIN:EN:PDF
148 ibid
149 http://www.etsc.eu/oldsite/drivfatigue.pdf
150 http://www.etsc.eu/documents/PRAISE%20Report%201.pdf pg14
151 Sabbagh-Ehrlich et al., 2005
152 Jackson, P. et al (2011) Fatigue and Road Safety: A Critical Analysis of recent Evidence, DfT

reducing congestion on the roads, increasing productivity for transport operators and reducing stress on drivers and 'just-in-time' deliveries. Options such as night-time deliveries and the development of freight consolidation centres to break down and consolidate large loads using smaller fleets for the final delivery stage should be considered to achieve these goals. However, the ability to dramatically alter delivery patterns is in turn restricted by diverse factors such as restrictions on HGV access, night delivery bans and working time rules which limit employers' ability to deploy both drivers as well as the non-mobile personnel who are required to take possession of those goods at the point of delivery.

### 3.6.3 Good Practice-National

**a) Spain** [153]

The Trade Union Federation of communication and transport of CCOO (Federación de Comunicación y Transporte de CCOO) carried out a study on 'The risk of occupational fatigue in road transport – A coordinated prevention initiative'. The project was a study of occupational fatigue as an important risk factor for road collisions by a trade union with government funding and included a number of sector-specific publications one of which focused specifically on drivers and rest. The aim was to analyse driving and rest time issues among truck drivers, in order to support their companies to develop their own time schedule, according to legal provisions. Issues covered included driving and rest time, work breaks, speed registration systems (tachographs) as control systems, and the responsibilities of the transport companies.[154]

### 3.6.4 Good Practice-Employer

**a) Suckling Transport UK**[155]

Suckling Transport specialises in fuel distribution in the UK. It operates 65 articulated tanker vehicles, employs 190 people and delivers two billion litres of fuel each year.

The company recognised that Journey Planning needed to go beyond the basic route selection and consider other issues including production of a site and route risk assessment. Following talks with the workforce, a major programme was then launched to identify safe parking locations for rest breaks. The Safe Haven programme, as it was called, produced a list of approved parking locations to ensure employees were safe when taking rest breaks. A team of managers began conducting behavioural safety observations to ensure drivers were compliant with policies and procedures. Over 100 such observations were completed in 2010. Journey management checks were conducted to check speeding against local limits and to ensure that drivers were not recording their rest break whilst making the delivery (something that is not identified through normal tachograph analysis). The Company was able to benchmark its drivers' performance on compliance issues against the national average and sector average. This showed that its drivers' recorded just 2 infringements per 100 shifts worked in relation to rules on driving hours, compared to a national average of 40 infringements and a sector average of 35.

**b) Arla Foods and The National Research Centre for the Working Environment (NRCWE), Denmark**

The vast majority of work collisions sustained by goods transport drivers are related to loading and unloading, i.e. they are non-traffic related. Working conditions in loading areas are frequently poor and responsibility for the safety of drivers in these conditions is unclear. Experienced drivers are familiar with the problems that exist but their knowledge has previously been untapped. Arla Foods sought to increase organisational learning in relation to hazards connected with loading areas. Managers, in collaboration with drivers, have developed a scheme (participatory design) which was subsequently used to gather information about working conditions in over 500 different loading areas. This information has been integrated into the company's IT system so that it is available to drivers when they print out their daily route. The issues covered include agreements with clients. For drivers it was particularly important that the measures took account of the limited time for making deliveries[156].

153 http://osha.europa.eu/en/publications/reports/managing-risks-drivers_TEWE11002ENN pg 61
154 http://www.fct.ccoo.es/webfct/menu.do?Actualidad:Salud_laboral:Publicaciones
155 http://www.etsc.eu/documents/PRAISE%20Fact%20Sheet%202.pdf (available in EN and DE)
156 EU OSHA (2011) Managing Risks to Drivers in Road Transport http://osha.europa.eu/en/publications/reports/managing-risks-drivers_TEWE11002ENN

## Recommendations to Employers

- In dealing with clients, avoid making any concessions that might adversely affect road safety, such as changes to driving hours and waiting times or agreements to overload vehicles.
- Establish schedules that allow drivers enough time to obey speed limits and avoid peak hours driving. If speed-limiting devices are fitted, check they are not tampered with.
- Monitor and control driving hours within recommended safe limits and legal requirements.[157]
- Review scheduling, rostering and load route planning arrangements and proactively address driver stress in the context of a health and safety plan.
- Use best practice in the selection of facilities for drivers when they are away from base.
- Provide advice and training in personal sleep and fatigue management and provide a mechanism, including consultation, for the continuous improvement of the roster system to fulfil and reconcile technical, operational and individual needs.'[158]
- Manage working time in order to ameliorate fatigue; this should be an essential part of mandatory qualification standards for transport operators[159]

### 3.6.5 Infrastructure

Directive 2008/96/EC[160] on road infrastructure safety management recognises that a sufficient number of safe rest areas are important for crime prevention and road safety. This legislation also ensures, through road safety impact assessment and gap analysis, that adequate and safe parking areas are foreseen when new road sections are built. Furthermore, Directive 2010/40/EU[161] on Intelligent Transport Systems and the accompanying ITS Action Plan request the Commission to define specifications for the provision of information and reservation services for safe and secure parking places for trucks and commercial vehicles. Under this Action, a number of specific aims of the Commission are identified, including building a European network of intelligent, secure truck parking areas.[162]

The issues surrounding the lack of, and inadequacy of, parking and the related impact this has on fatigue of drivers is recognised by drivers and industry alike. The IRU and ETF have produced a joint statement on truck parking calling on action from the EU and Member States. 'The lack of a significant number of parking slots together with the lack of a sufficient number of secure parking areas and accurate information about their location, coupled with the more stringent social regulations being put in place by governments, and in particular by the introduction on the EU territory of the digital tachograph...has led to drivers being forced to stop in insecure areas.'[163]

In order for drivers to be able to gain adequate and compliant rest, appropriate truck parking infrastructure is critical so that drivers are able to leave their trucks in safe and secure locations. Inappropriate truck parking can cause more problems than denying drivers proper resting, it can also cause nuisance in residential areas, contribute to congestion or pose a risk in terms of road safety. Appropriate facilities for truck parking are necessary to ensure the security of the truck and its loads and also to accommodate truck drivers in adhering to required rest and break periods.

Studies from 2002 identified approximately 111,000 existing parking spaces in Europe and a shortfall of approximately 50,000 parking spaces. The scarcity in parking spaces differs between the Member States with some countries having large overcapacities. Large deficit countries are Germany, France, Austria, Sweden and Spain[164]. A general overall shortage may also occur if the rate of building and/or utilisation of existing parking areas will not keep up with the forecasted growth in freight road transport.

In case of inability to find a purpose built parking area, or when a parking area is overcrowded, the driver has

157 http://osha.europa.eu/en/publications/factsheets/18/view
158 http://www.etsc.eu/oldsite/drivfatigue.pdf pg 25
159 http://www.etsc.eu/oldsite/drivfatigue.pdf pg 28
160 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:319:0059:0067:EN:PDF
161 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:207:0001:0013:EN:PDF
162 http://www.polisnetwork.eu/uploads/Modules/PublicDocuments/intelligent-transport-systems-in-action_its-action-plan.pdf
163 http://www.iru.org/cms-filesystem-action?file=mix-publications/Pirates_en_low.pdf
164 'Setpos Workshop, Brussels 29.04.2009 Alexia Journé' http://content.moveandpark.com/USB-stick/PPTs/pp-journe.pdf

to decide whether: (a) to continue driving or (b) to park in undesignated areas. Experience shows, that in case of overcrowded parking areas, the drivers' park in potentially dangerous and undesignated areas rather than exceeding their allowed driving times.[165]

Professional drivers' needs for rest and other facilities, to allow them to carry out their jobs in a healthy and safe environment, are met with to varying degrees across Europe. A deeper understanding of the needs of drivers, industry and society in terms of provision of truck parking facilities is required.

### 3.6.5.1 EU Projects

#### a) LABEL[166] project

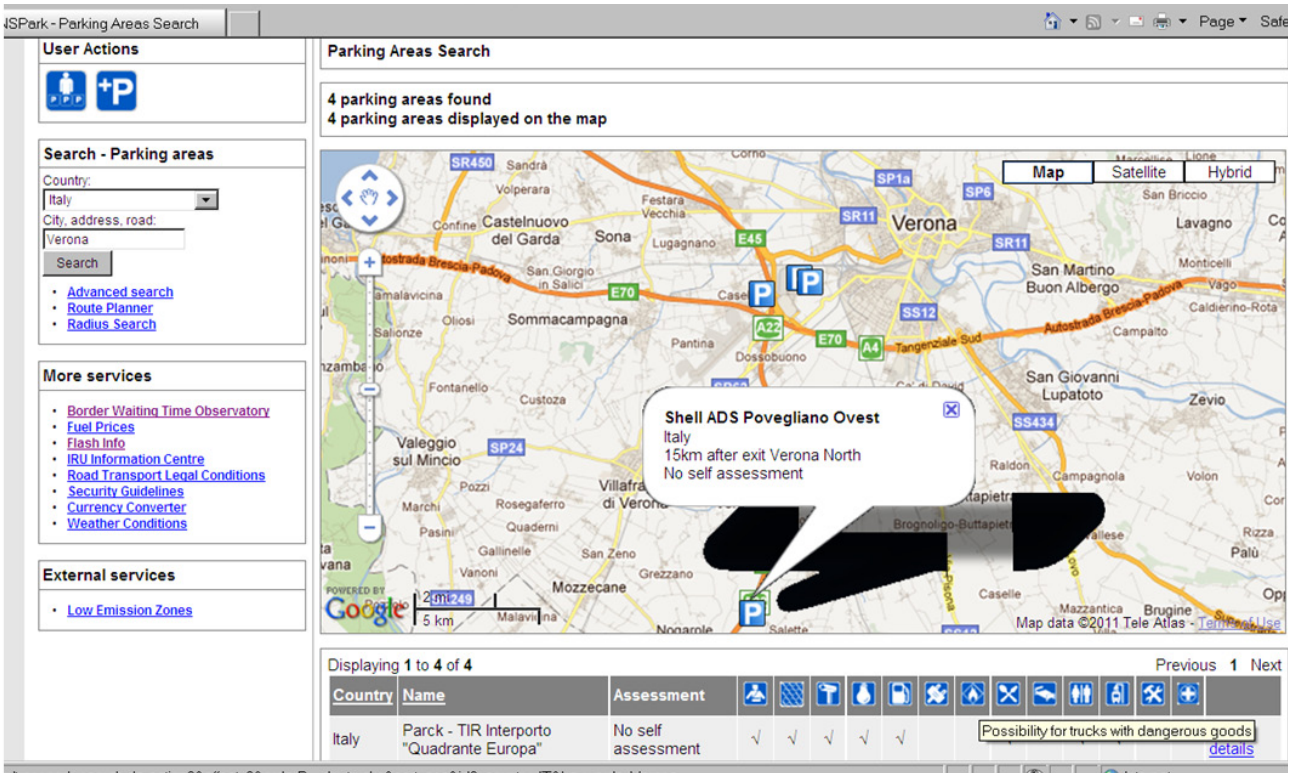
Growing awareness of the problems relating to HGV parking has led to several initiatives of the European Parliament and the European Commission being undertaken with the aim of boosting and coordinating efforts at a local and national level to provide truck drivers with information on the location of secure and comfortable rest areas. In addition to increasing numbers and improving the general quality of truck parking areas there is also a need for reliable location, security and service information to be made readily accessible to potential users to help decision making and support the appropriate use of Truck Parking Areas (TPAs). The LABEL project, building on a previous European project called SETPOS,[167] tackled these issues. The result is a set of commonly acknowledged security and service criteria that parking sites should meet in order to correspond with the desired classification level.[168] At the conclusion of the LABEL project, the European Commission handed over the results to the IRU and ITF so that they could be incorporated and implemented via the latter two organisations' TRANSPark initiative.

| Service Levels according to LABEL | |
|---|---|
| Service Level 1 ★ | **Providing the Basics**<br>Level 1 Truck parking Areas (TPAs) offer some basic service features: toilets, water taps, waste bins. Walking and driving across the area should be safe |
| Service Level 2 ★★ | **Also Providing Washing Facilities and a More Convenient Lay-out of the Parking Area**<br>In addition to the sevice criteria of Level 1, Level 2 TPA's offer washing facilities and a more convenient lay-out of the parking area. Level 2 is more geared to a truck driver making a longer stop. Moreover, service Level 2 is an intermediate category between level 1 (basic) and level 3 (providing a broader range of services) |
| Service Level 3 ★★★ | **Providing Services for Personal Hygiense and Shop/Fuel Station**<br>In addition to the sevice criteria of Level 2, Level 3 TPA's offer more services, of which the most important; showers, a shop and a fuel station. |
| Service Level 4 ★★★★ | **Providing Full Service for Driver and Vehicle**<br>In addition to the sevice criteria of Level 3, Level 4 TPA's offer more services, of which the most important; a snack bar, laundary, a spare parts shop and leisure facilities. |
| Service Level 5 ★★★★★ | **Providing the High End of Comfort Levels**<br>In addition to the sevice criteria of Level 4, Level 5 TPA's offer more services, of which the most important; a restaurant, truck wash, electricity and snow/ice removal equipment. Level 5 is the highest comfort level. |

#### TRANSPark[169]

TRANSPark is a web-based application jointly developed by the IRU and ITF to help drivers/operators to identify and locate safe truck parking best suited for their needs along their routes. TRANSPark enables truck drivers, logistics planners, transport managers and others involved in road transport operations to search, locate, select and contact truck parking areas around a location within a 100-km radius, or along their planned routes. The application contains truck parking sites in approximately 44 countries with around 3,200 truck parking areas currently listed, some 2,100 of which are GEO-identified. All facilities available at the selected parking area are listed (security features, truck repair, vehicle wash, hotel, restaurant, etc.), and can be used as parking search criteria. Full contact details and location maps are also provided. TRANSPark can be accessed free of charge on the IRU and ITF websites and is also available in PDA format for easy use from the truck cabin.

165 'Setpos Workshop, Brussels 29.04.2009 Alexia Journé' http://content.moveandpark.com/USB-stick/PPTs/pp-journe.pdf
166 http://www.truckparkinglabel.eu/
167 http://www.setpos.eu/about_setpos.htm
168 http://www.setpos.eu/handbook/SETPOS-project-handbook.pdfSecurity and Service at Truck parking Areas Along the TRANS-European Road Network. Handbook for Labelling, EC 2011.
169 http://www.iru.org/transpark-app




At a joint EU Presidency/European conference entitled 'Improving European Truck Parking', held in Brussels on 25-26 October 2010, the IRU and the International Transport Forum were mandated by the European Commission to implement and sustain the LABEL project outputs in the future. This mandate was supported by the European Council in its Resolution of November 2010 on Preventing and combating Road Freight Crime and Providing Secure Truck Parking areas[170].

## Recommendations to the EU

- Make safe and secure rest facilities a long term commitment and an ongoing work programme priority, featuring a set of annual objectives as well as providing EU funding such as through the TENs programme or via the European Investment Bank.
- Ensure that a basic level of service for truck parking areas is agreed and provided across the EU.
- Carry out an EU-level comprehensive mapping exercise to identify where the shortfalls in parking facilities exist and contribute to the collection and dissemination of information on the location and characteristics of truck parking areas.
- Carry out actions relating to intelligent truck parking under the ITS Directive.
- Encourage Member States to reinvest money from Eurovignette in road safety including truck parking provision and upgrading.
- Periodically publish, in the most appropriate format, the facilities available across the European Road Network providing information on the services on offer for road sector professionals.[171]

170 http://www.iru.org/cms-filesystem-action/transpark/117580.pdf
171 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN

### 3.6.5.2 Member States

The development of appropriate truck parking infrastructure requires a high level understanding of transport and logistics trends and journey patterns. Member States should encourage relevant agencies and the freight industry to work together on this.

Planning authorities and highways agencies should work together with the national government and the industry. Land-use plans should include provision for the safeguarding, and potential upgrading of, existing lorry park facilities and for identifying appropriate sites for further development. The need for new sites for lorry parking and freight transfer facilities should be assessed against current provisions and in consultation with stakeholders regarding location, but with consideration for residential areas and other sensitive environments.

In many Member States there are already positive examples of partnership working between relevant authorities and the freight sector to improve delivery systems such as by agreeing preferred routes, re-examination of delivery time restrictions, etc. Such partnerships can be taken forward effectively through the formation of area Freight Quality Partnerships as in the UK.

#### a) UK

The UK Highways Agency has carried out a survey of lorry drivers to identify behaviour in terms of lorry parking and attitudes towards service provision. The survey showed that 'lorry drivers are generally deterred from safe parking in lorry parks due to their cost...Worryingly, 20% of drivers are happy to park in a lay-by to save money at the risk of their safety. The main reasons for choosing to park in lorry parks... was their security closely followed by the availability of facilities such as showers and toilets. Not surprisingly, cost was the main reason for parking in lay-bys followed by the drivers not having any choice and lay-bys being convenient and not requiring detours from their routes.'[172]

The Department for Transport in the UK, recognising the importance of the truck parking provision and current issues in this regard and in response to demands from industry, has developed a Strategy for Lorry Parking Provision in England[173]. The Strategy has six Strategic Objectives under which action is proposed:

- Build on the current understanding of lorry parking provision and investigate the demand requirements up to 2014–2019 and beyond if necessary.
- Define the position of lorry parking policy at national, regional and local levels where required.
- Support Industry by providing Best Practice Guidance and further information to help stabilise business.
- Create an environment where lorry parking schemes can be brought forward by the private sector as more feasible investment opportunities. To help to make lorry parking businesses more sustainable and competitive.
- Increase awareness of existing lorry parking locations and encourage their appropriate usage. Increase the awareness of areas in need of lorry parking.
- Encourage the development and use of secure lorry parking locations with an added intention of improving working conditions for drivers.

The Department also updated the Truck Stop Guide in conjunction with the Highways Agency to ensure that drivers and operators have the most up to date information on the facilities available to them.

#### b) France

Research in France estimated a deficit of approximately 2,000 parking spaces on the motorway and of 2,500 parking spaces on the public network. One action taken to try to increase the number of parking areas available is the introduction of clauses in the contractual arrangements with motorway operators which are re-negotiated every five years. Any future contracts will have to take into account the construction of new parking spaces. The first such contract signed with ASF included the creation of 389 secured parking spaces by 2011.[174]

#### c) Germany

The provision of an adequate number of HGV parking areas is designed to improve working conditions and enhance road safety. An optimum use of these parking areas would increase the efficiency of them. On

172 http://www.tap.iht.org/objects_store/200911/lorrybaseline.pdf
173 http://www2.dft.gov.uk/pgr/freight/road/lorryparking.pdf
174 http://www.setpos.eu/docs/ppt-bourgois.pdf

German Highways alone there are 50% more trucks parked than available spaces: this is a current deficit of 14,000 parking spaces.'[175]

The Freight Transport and Logistics Action Plan[176] from the Federal Ministry of Transport, Building and Urban Development supports good conditions of working and training in the freight transport sector. One of the aims is to increase the amount of parking areas by constructing more. In addition to the 3,000 new parking spaces constructed in 2008/09, 8,000 will be provided until 2012. Considerable investment is being made in tackling the problem: in 2010, at least 130 million Euros were made available. Currently 15 pilot projects are running to trial the use of telematics applications for efficient parking management. A parallel research project will evaluate the findings by December 2011.

### 3.6.5.3 Employers

#### a) The Lübeck Port Company (Lübecker Hafengesellschaft, LHG), Germany

The company has taken innovative steps to provide heavy goods drivers with a comfortable area for both relaxation and exercise.

Key elements include:

- Rest area has an informal design and is comfortably furnished.
- Drivers are able to keep an eye on their vehicles with the help of video surveillance.
- Snacks and drinks are served.
- A film is shown demonstrating suitable exercises that drivers can do to both work and relax their muscles, to make up for the long time behind the steering wheel in static postures.
- After the fitness exercise the drivers can use the showers provided.[177]

## Recommendations to Member States

- Promote the development and operation of Distribution and Servicing Plans for freight intensive developments.
- Identify recommended preferred routes for freight transport for key locations such as ports and airports.
- Provide safe and secure truck parking facilities at appropriate locations including major transport corridors through the planning process.
- Provide more information about availability of parking facilities and levels of services available.
- Ensure and improve communication to drivers of suitable places to rest both by local authorities and transport/fleet managers.
- Include the provision of secure parking areas into contracting arrangements for road infrastructure.
- Define lines of responsibility on terms of parking provision and operation.
- Encourage and finance schemes for the construction of secure parking areas.'[178]

175 http://www.adac.de/infotestrat/tests/strassen/labeltest/default.aspx?tabid=tab
176 http://www.bmvbs.de/cae/servlet/contentblob/61432/publicationFile/30825/aktionsplan-gueterverkehr-logistik.pdf
177 http://osha.europa.eu/en/publications/reports/managing-risks-drivers_TEWE11002ENN
178 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0130+0+DOC+PDF+V0//EN

### Recommendations to Employers

- Work with Member State authorities and other organisations to identify needs in relation to parking infrastructure.
- Consider the location of safe, secure and appropriate parking areas in journey planning and scheduling.
- Communicate with Member State authorities and other relevant organisation in relation to information on the location and characteristics of truck parking areas.
- Ensure drivers have access to existing resources and websites regarding location of parking facilities and provide training on their use.
- Prepare budgets that allow drivers to park in higher quality parking areas where alternatives are detrimental to their health and safety.

## Part 4 Safety Culture

Across Europe employers must draft a road safety plan based on the business case and thus contribute to a growing 'safety culture'. Moreover, they have a legal obligation in accordance with Framework Directive 89/391/EEC, to evaluate the safety and health risks of their employees[179]. This next section looks at what makes up a 'safety culture' and how this can be linked to managing fatigue. It then presents good practice and collects recommendations in this area.

Safety culture 'characteristics' include safety policies and procedures issued by senior management, the commitment to implementing safety policy shown by line management and the willingness to comply with safety rules shown by the workforce[180]. Safety culture can also be defined as shared attitudes, values, beliefs and behaviours related to safety.

A holistic approach is needed and top management must be involved in the development of road safety plans that should include a strategy linked to measurable targets. These can cover areas such as fleet safety guidelines developed by road safety organisations, driver selection and induction procedures, vehicle selection, driver training and education, driver management, monitoring fleet safety performance, creating a continuous cycle of improvement. The Haddon Matrix is particularly useful as a framework for undertaking an overall review of the organisational safety context into which the driver assessment, monitoring and improvement programme should fit. Haddon provides an all-encompassing pre-crash, at-scene and post-crash systems-based framework for fleet safety. As well as classifying improvement interventions to be piloted, implemented and embedded, it can be used as a gap analysis and investigation tool[181].

The adoption of a safety culture also involves a proactive rather than reactive approach to safety. The International Civil Aviation Organisation (ICAO) defines this as: an organised approach with set goals, levels of authority, policies and procedures and clear accountabilities for operational safety.182 The approach is data-driven with procedures for collecting and analysing data which is then used as a basis for managing risk.

### 4.1 Fatigue Management Systems

The 'safety culture' approach should also be extended to managing fatigue which is called 'Fatigue Risk Management Systems' (FRMS). As presented in a recent UK Department of Transport Review, FRMS is an 'explicit and comprehensive process for measuring, mitigating and managing' the actual fatigue risk to which a company is exposed[183]. FRMS is adapted to the specific company and the risks their drivers face and provides a more in-depth complement to 'one size fits all' driving hour compliance. It is data-driven and the idea is that 'by measuring actual fatigue risks and developing tailored controls within an organised safety system, an FRMS is able to identify multiple sources of fatigue and provide integrated, multiple defences against fatigue.'[184]

It has six core components[185]:

- A company fatigue management policy
- Fatigue risk management procedures

179 http://etsc.eu/documents/PRAISE%20Report%202.pdf
180 ERSO (2007) http://ec.europa.eu/transport/wcm/road_safety/erso/knowledge/Fixed/60_work/work_related_road_safety.pdf
181 Murray, W., Pratt, S., Hingston, J. & Dubens, E. (2009). Promoting Global Initiatives for Occupational Road Safety: Review of Occupational Road Safety Worldwide (Draft), www.cdc.gov/niosh/programs/twu/global
182 ICAO (2008) cited in Fourie C. et al (2011) Fatigue Risk Management Systems, DfT.
183 Holmes and Stewart (2008) in Fourie C. et all (2011) Fatigue Risk Management Systems, DfT.
184 Fourie C. et all (2011) Fatigue Risk Management Systems, DfT.
185 ibid

- A process for employees to report fatigue to management
- A process for investigating the potential role fatigue plays in incidents
- Fatigue management training and education for employees and management and
- A process for the internal and external gap analysis of the FRMS.

For employers, the level of compliance with the laws regarding road safety, rest and driving times, weights and dimensions, driver's licenses provide an indication of the road safety culture within a company and vice-versa. Strong communication links and interaction with drivers is necessary to support a safety culture including explaining the importance of the social legislation to road safety and driver wellbeing and ensuring drivers are fully aware of their responsibilities and rights in this area. Managing fatigue has to be the responsibility of both employees and employers as the cause of fatigue may stem from work related issues such as the roster or personal health or stress, say both ETSC and the recent UK review[186].

The table below gives an overview of the main recommendations of two major Australian studies[187] that have had global reach in influencing academia and decision makers across the globe on developing policy and legislation. These recommendations present a useful checklist for employers and regulators and echo those made over the past 10 to 15 years by other researchers and committees.

| Topic | Quinlan | Neville |
|---|---|---|
| Flexible Hours | Require long haul trucks to carry safety management plans | Incorporate time of day considerations into allowable driving times and rest periods; increase allowable rest periods |
| Code of Practice | Code of practice to focus on the causes of the problems not symptoms | Develop a National OHS Safety Standard and Code of Practice |
| Safety Management Systems (SMS) | Carry specific SMS for each long haul trip | Develop specific driver fatigue management strategies for each major interstate route |
| Education | Education programs for other road users for HGV awareness | Education programs for transport operators to develop business skills |
| Regulation/licensing | Compulsory licensing of transport operators, freight forwarders, consignors, brokers and agents | National Operator Accreditation Scheme with a national agency to supervise it |
| Wages | Ensure employee driver and owner/driver rates are set at a minimum to ensure compliance; prohibit bonus/penalty system that relate to delivery times | Include fatigue management in all employment awards |
| Laws | Remove anomalies in OHS legislation that provide comfort to law breakers; provide protection for contractors and drivers who refuse to engage in unsafe work; WorkCover NSW[188] to ensure information, education and compliance at an acceptable level. | Develop laws which make driving while fatigued an offence; develop fatigue measuring technologies; review impacts of economic policy and practice on drivers and other road users. |

### 4.1.1 Good Practice Examples - Employers

#### a) Reynolds Logistics, Ireland

Reynolds Logistics is a transport and logistics company based in Ireland with operations in the UK. They specialise in providing services to the oil industry covering products like Petroleum, Diesel, Aviation Fuel, Bitumen and Lubricants. They operate approximately 150 vehicles and employ approximately 260 staff based in 14 operating locations; approximately 66% of their fleet is based in Ireland. The 'Reynolds Logistics Behavioural Based Safety Driving Programme' is designed to equip drivers with the tools necessary to identify problems, predict or anticipate what might

186 ETSC (2001) Role of Driver Fatigue in Commercial Road Transport Crashes. and Fourie C. et al (2011) Fatigue Risk Management Systems, DfT.
187 McKinnon, Peter Laurence (2004) Tired of Dying Fatigue and Stress in Long Distance Road Transport.
House of Representatives Standing Committee on Communications, Transport and the Arts: Beyond the Midnight Oil, Report into an Inquiry into Managing Fatigue in Transport, Parliament of the Commonwealth of Australia October 2000 (The Neville Report) and Quinlan, Michael, Report of an Inquiry into Safety in the Long Haul Sector of the Road Trucking Industry, Motor Accident Authority of NSW.
http://arrow.uws.edu.au:8080/vital/access/manager/Repository/uws:657
188 New South Wales Health and Safety Government Agency http://www.workcover.nsw.gov.au/Pages/default.aspx

happen, decide on the safest action to take, and then execute the plan by taking control of the situation.

The Defensive Drive programme is backed up with additional training such as 'Awake' training; here they help drivers to identify the early signs of driver fatigue. The initial training was provided by Dr Paul Jackson's team from the Sleep Research Centre at Loughborough University. All members of Reynolds Logistics staff including Directors where taken through a fatigue training session. The session for drivers was presented in such a way as to include pointers for their family members. They also make use of telematics, FleetBoard – the onboard internet based telematics services. FleetBoard performance analysis evaluates the individual driving style grades, and analyses the data for the entire fleet. Using the data in an objective way makes it possible to further develop a driving style that not only saves fuel and reduces vehicle wear and tear but also helps in the area of driver fatigue.

Over the past two years they have partnered with the Road Safety Authority in Ireland and now operate an interactive display vehicle for them. Responsibility for all of their innovations is part of a three way team made up of the head driver trainer, technical director and CEO. Reynolds is also tracking vehicle collision rates per million kilometres, which has reduced by 20% over the past 3 years. Their personal injury levels per hour worked have reduced by 5% over the past three years. They also set long term targets and annual targets to cover safety performance in all areas of safety performance. In 2010 they adopted their long term safety theme 'Drive to Zero' which is used in all communications relating to safety.

## Recommendations to EU and Member States

- Provide easy to understand information and guidance on developing, implementing, and maintaining an FRMS and make the process of developing an FRMS easy to follow for operators.

## Recommendations to Employers[189]

- Adopt Fatigue Risk Management systems that are endorsed at all employer levels and are part of a more general safety culture.
- Set acceptable driving durations and distances through consultation with employees.
- Ensure that the current shift patterns, journey planning, employment contracts and work schedules do not contribute to driver fatigue and stress.
- Ask employees 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.
- Carry out 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 fatigue may have been a contributory factor.
- Give particular consideration to night shift workers especially regarding journeys home after work, for example providing taxis home or sleeping facilities on site.

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