ETSC
European Transport Safety Council

PRAISE
Work-Related Road Safety

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

February 2010
Report 2

Fit for Road Safety: From Risk Assessment to Training

ETSC PRAISE Project

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

Introduction

This second thematic report aims to present how driver risk assessment and training can improve work related road safety. This report aims to address all employers managing all types of vehicle from public authorities providing school transport, small two car delivery companies to large international companies

Table of Contents

and organisations. The scope of this report covers both fleet and grey fleet (i.e.: private vehicles used for work-related purposes) drivers and riders, from all vehicle classes: truck, bus, van, car and Powered Two Wheeler.

This Thematic Report looks at risk assessment as a basis for training. It is in four sections. The first section presents what risk assessment is in the occupational road safety context whilst making reference to EU legislation. It also presents the business case behind training in the workplace, and what makes a safe fleet presenting how training should target the different levels of driver behaviour according to the GDE (Goals for Driver Education) Matrix. The second section looks at the area of driver training which is covered by new EU Legislation: the training of bus and truck drivers in the EU. It presents the legislation itself with some examples of how it has been implemented in the Member States and some initial feedback from surveys on how it has been received. The third section looks at driver and rider training of other road users including vans and powered two wheelers. It presents relevant EU legislation and gives some examples of best practice from the Member State level. It also presents the idea of setting up an EU Quality Labelling Scheme for Driver Training as suggested by the EU Advanced project (2002). The fourth and final section looks at employer level initiatives to train drivers with some examples of best practice. It also includes some advice to employers such as a checklist for employers to select trainers. The Thematic Report also elaborates recommendations to the EU, National level and employers on improving driver risk assessment and training with the aim of reducing road deaths in the EU.

Drivers are only one element of an organisation's road safety programme, that should also focus on issues such as management culture, vehicles, journeys and safety of sites (see Haddon Matrix below). Demand for post-licence driver training has grown markedly over the years (Advanced, 2002). Undoubtedly driver training can be an important tool to reduce work-related road risk. However, much care should be given by employers in identifying whether driver training is a tool that suits their needs, and when it is the case which type of training they should opt for.

There is much debate about the value of in-vehicle driver training as a road safety (and particularly a work-related road safety) improvement countermeasure. The classical criticism is the argument that many driver-training courses (often delivered by former racing icons, police or military personnel) focus on drivers' abilities to handle a vehicle in an emergency. However, in-vehicle-skills-based driver training is only one type of training, and research suggests that driving is about more than just skills. Health, well-being, lifestyle, attitude, knowledge, hazard perception, attention to detail, hand eye co-ordination, concentration, anticipation and observation are all important (Murray, 2009). Exactly these factors affecting safety should also form part of an employer's culture to promote work related road safety. Great care should therefore be taken into identifying programmes that are not only 'skid courses', but in which driving skills are part of an overall package that also trains drivers to be aware of risks and how to avoid risky situations.

Finally, it should also be borne in mind that driver training is of course intended as a mean to reduce collisions and casualties, but it also has other goals such as mediating more general responsibility, generating interest in safety issues, team-building, quality assurance, and preparing positive attitude to « harder » safety measures.

Part 1: Driver Training in the work context

Risk Assessment

In accordance with Framework Directive 89/391/EEC, employers shall, taking into account the nature of the activities of the enterprise and/or establishment, evaluate the risks to the safety and health of workers. This first section gives an overview of what makes good training with links to different theoretical frameworks with practical applications. It includes the importance of risk assessment as a starting point. Subsequent to this evaluation the employer must implement the resulting preventive and protection measures, in particular the training needs required to the situation. Overall, it is important for organisations considering driver training to have an effective risk assessment-led process. There is a requirement for compulsory training on safety and health issues (Article 12 of Framework Directive 89/391/EEC). Whatever type and level of training is chosen, it should always be based on a needs analysis. Typically

1 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989L0391:EN:HTML

organisations tend to have a reactive approach following an increase in collisions demonstrated by insurance data, their own reported collision data, or telemetry. However, an effective risk assessment should also involve participants in assessing their own needs, as Framework Directive 89/391/EEC expressly requires employers to consult workers and/or their representatives and allow them to take part in discussions on all questions relating to safety and health at work. Proactive organisations consult their drivers from the outset to know whether they feel they ought to receive training, and what their training requirements are. The outcomes should be fed back to operational managers and drivers through discussion. This can take place within workshops, toolbox chats, debriefs, intranets, notice boards, newsletters and with the support of handbooks.

A screening process should also be undertaken to determine which drivers need, apart from the compulsory safety and health training, to undergo specific and target training. This can be done for example by monitoring excessive fuel consumption, excessive tyre usage, collisions or infringements.

Murray & Dubens (2001) and Murray (2004) suggested the following 6 step approach to implement a driver assessment, monitoring and improvement program which has been adapted to reflect the legal requirements under the Directive 89/391/EEC:

1. Review the existing road safety system in the organisation using a detailed framework such as the Haddon Matrix, a fleet gap analysis or the forthcoming ISO39001. This should also be in line with the general principles of prevention as set out in Directive 89/391/EEC Article 6.3.

2. As a result of the assessment of the occupational risks, managers, supervisors, driver assessors, work schedulers, shop stewards and any other potential users must undertake the assessment themselves including assessing the tasks they must carry out as well as the skills they possess. This shows their commitment to safe driving and helps to sell the concept to the rest of the workforce, as well as learning how to use the system and the data outputs from it. Actually this phase should be more than just "showing their commitments". The assessment should contain also "organisational level" as described later. This organisational level is the most important one in safety as also set out in Directive 89/391/EEC Article 6.3a.

3. All existing drivers should then undertake the assessment again covering their tasks, possibly at one site initially, to build up a benchmarking database of existing company norms and standards.

4. The output must be used to identify the training needs of existing staff and set appropriate targets for all new drivers to achieve (Article 12 of 89/391/EEC Directive). For example in a case using web-based assessment of the participant drivers risk exposure, attitude, behaviour, knowledge and hazard recognition, drivers obtaining >80% are congratulated, those scoring 60-80% receive a 'web-based' training package and those with <60% take an immediate on-road assessment.

5. Utilise the assessment process for a range of pre-employment, current staff and other purposes (Article 12 of 89/391/EEC Directive).

6. Reassess to identify and evaluate improvements as per Directive 89/391/EEC Article 12. Users should be aware of any potential order or familiarity effects. It is also common for 'gossip' about the correct answers and how to cheat the system to spread quickly.

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 program 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 by asking: 'Do we have the following in place?' for each of the statements in the Matrix. 'No' responses indicate the gaps in the fleet safety system, some of which can be addressed by training (Murray et al 2009a).

The starting point lies firmly at the top of the Management culture column of the matrix, as follows:

1. Identify, obtain and analyse available data (e.g. insurance, licence & telemetry) on the extent of the problem.
2. Use this to make a business case to relevant senior managers in the organisation.
3. Focus on the other areas shown under Management culture first to ensure appropriate systems are in place.

	Management Culture	Journey	Road / Site	People - Drivers & Managers	Vehicle	External/ Societal/ Community/ Brand
Pre-Collision or Pre-Drive	-Business case -Legal compliance -Safety audit, claims analysis & focus group discussions -Benchmarking -Board level champion -Pilot studies & trials -Goals, policies & procedures -Safety culture / climate -Management structure -Fleet safety committee -Safety leadership by example and commitment -Communications program -Contractor standards -Grey fleet (own vehicle) policy	-Travel survey -Travel policy -Purpose -Need to travel -Modal choice -Journey planning and route selection -Route risk assessment -Journey scheduling -Emergency plan -Shifts / working time -Fatigue management	-Risk assessment -Observation -Guidelines & rules -Site layouts & signs -Work permits -Delivery & collection procedures -Road improvement -Black-spot mapping and hazard assessments -Engage local and national agencies	-Select -Recruit -Contract -Induct -Licensed & qualified -Handbook -Risk assess -Train -Work instructions -Engage & encourage -Equip e.g. high viz -Communicate -Driving pledge/ Code of Conduct/ Risk Foundation -Health & wellbeing -Monitor -Correct	-Risk assessment -Selection -Specification -Active and passive safety features -Standards -Servicing -Maintenance -Checking -Use policy and legal compliance e.g. loading -Mobile communication and navigation policy -Telematics to monitor -Wear and tear policy -Grey fleet standards	-Regulator/ policy engagement -Insurer engagement -CSR -External benchmarking -External communications -Family members program -Community involvement -Engaging other road users -Road safety weeks / days -Safety / ECO groups -European Road Safety Charter -Road safety conference presentations -Media / outreach / PR -Safety & environmental achievement awards
At Scene	-Emergency support to driver	-Engage local investigators	-Manage scene	-Known process and 'crash pack / bumpcard' to manage scene	-Reactive safety features -Crashworthy -Telemetry data capture	-Escalation process

	Management Culture	Journey	Road / Site	People - Drivers & Managers	Vehicle	External/ Societal/ Community/ Brand
Post-Collision	-Policy and process to report, record & investigate incidents -Change management process -Ongoing claims data analysis -Data warehousing & linkages -Evaluation, KPI benchmarking & program development	-Debrief and review -Review journey elements of collision data -Ongoing journey management review	-Investigate and improve -Review site / road elements of collision data	-Reporting and investigation process -Driver debrief and corrective action -Review people elements of collision data -Counselling, trauma management & support -Reassess / train	-Strong open able doors -Investigate telemetry data -Vehicle inspection & repair -Review vehicle elements of collision data -Review vehicle selection & use	- Manage reputation and community learning process

Murray et al (2009b) provides a good practice example of how one organisation used such an approach to implement its driver risk assessment, monitoring and improvement program as one element of its fleet safety system. Darby et al (2009) provide another detailed case, based on a driver risk assessment initiative involving 26,000 drivers.

The freely available, UK Department of Transport supported, 10 question fleet gap analysis on the Fleet Safety Benchmarking project website at www.fleetsafetybenchmarking.net is also a good free resource for undertaking the initial review of an organisation fleet safety.

Business case

Quantifiable results are not always possible (e.g. small driver population). However, as much as possible driver training in the workplace should be conducted if there is a clear business case for it (i.e.: it will lead to quantifiable reductions in collisions and casualties). Each training course considered needs to be backed up by a detailed investment-based business case, and linked to the risks that have been identified. This should be done by using a model of collisions' costs. Collisions most often have financial implications on a business that stretch well beyond reported costs (for a model of collision costs see ETSC 2009 PRAISE Thematic report 1).

Once a training programme has been identified as likely to provide positive results, a pilot study at one site or with one group of drivers (depending on the size of the organisation this might not always be possible) helps to evaluate the usefulness, cost effectiveness and implementation of the program before deciding to proceed with its full implementation.

In fact, from an academic point of view, the literature on driver training in the workplace draws rather mitigated conclusions. A number of studies have evaluated the effects of formal training of professional drivers, including people who drive a great deal as part of their work (for example, craftsmen). The measures reviewed include: courses in defensive driving, skid training and more stringent driving tests. There is no scientific evidence in the literature in the form of scientific controlled studies

that conventional fleet driver training is effective in reducing crashes (Keigan et al 1999 in Elvik et al 2004), despite the strong belief in the effectiveness of driver training courses by those involved (Hawarth et al 2000 in Elvik et al 2004). However, formal defensive driver training for professional drivers, taught at the workplace, combined in larger companies with motivation and incentive systems for crash-free driving, has been found to reduce the crash rate by around 20%. Other types of instruction for professional drivers, including skid training, both amongst ambulance drivers and drivers of lorries and articulated lorries have been found to increase the crash rate (Elvik et al 2004). It should be emphasised that these studies should not be interpreted as criticism towards training overall, but rather suggest that simple skill-based training schemes do not suffice, and that training should always be integrated into a wider employer safety strategy.

Effects of training and testing professional drivers on the number of accidents (Elvik et al 2004)

Percentage change in the number of accidents			
Accident severity	**Type of accident affected**	**Best estimate**	**95% confidence interval**
Course in defensive driving for experienced drivers (accidents per km driven)			
Unspecified (all)	All types of accidents	-20	(-33; -5)
Skid training for ambulance drivers (accidents per driver)			
Unspecified (all)	Accidents in icy conditions	+45	(-35; +220)
Skid training for drivers of heavy vehicles (accidents per km driven)			
Unspecified (all)	Accidents in icy conditions	+22	(+9; +36)
More stringent driving tests for drivers of heavy vehicles (total accident figure)			
Injury accidents	All types of injury	+5	(+4; +6)

A Swedish study of countermeasures implemented by Televerket also showed statistically significant reductions of crash risks in groups which had participated in defensive driver training accompanied by group discussions [Gregersen et al 1996].

Such mitigated results clearly show that choosing an efficient driver training program is no easy business, and particular attention should be given to which type of course is chosen, based on what one´s needs are.

The process:

So what should be the best process for an employer who wishes to embark on a fleet training program? Murray (2009) distinguishes the following steps:

- A problem or level of risk is identified, either proactively through a fleet safety review or gap analysis like that described in the Haddon Matrix above, or more typically through a series of negative symptoms – such as a high cost insurance claim, road death or an increasing amount of vehicle damage. Typically this leads proactive individuals in organisations to make a business case to develop a safety program, including driver risk assessment, monitoring and improvement.
- If the risks are identified as being people related, a training needs analysis should be undertaken to identify causes and any training issues. Detailed claims analysis, driver assessment, use of vehicle telematics and safety audits are all effective tools to identify training needs.
- The required type of training is determined, varying from totally in-vehicle to totally out of vehicle based options.

• An in-house or external trainer is chosen, depending on the situation and requirements.
• A pilot study at one site or with one group of drivers helps to evaluate the usefulness, cost effectiveness and implementation of the program.
• Once the training has been undertaken it is important to evaluate its effectiveness.

What makes a safe fleet: "A safe driver in a safe organisation"

There is a plethora of training programmes available on the market and, as we have already touched upon, a first defining feature of training is that there are a number of environments in which it can take place: the classroom, the track, public roads, or a mixture of those. The matter is not merely to prefer one type of course over another but to understand the specific features of these different types of courses and the needs that they address. The training environment will dictate to a large extent the level of individual attention given to participants; the possibility to interact with other participants; and the flexibility to respond to individual needs. It is very important that employers understand the different types of training that are on offer, and are therefore able to assess whether or not a certain type of training will respond to their demand.

Research in the field of driver training underlines four hierarchical levels permeating driving behaviour, and the need to design training to address each level. These are: basic vehicle maneuvering (knowing how to start; change gear, etc.); mastery of traffic situations (being able to adapt one's behaviour in accordance to the traffic situation, e.g. at junctions, when in the vicinity of vulnerable users, etc.); the context of driving (this involves the goals behind driving and the context of driving including the why, when, where, and with whom the driving is performed: day-time; night-time; rush-hour; driving under fatigue, alcohol etc.); and goals for life and skills for living (this refers to personal motives and tendencies in a broader perspective). The two last and highest levels generally tend to be neglected, but should be an integral part of good training as they are very important for risk awareness as opposed to merely improving driving skills, which is the content of the two first and lowest levels (Advanced, 2002).

These four levels can best be visualised in the GDE matrix (Goals for Driver Education) that is a major outcome of the EU-project "Gadget". A fifth level has also been included in the latest version of the matrix, that includes not individual characteristics of the driver but rather the organisational setting within which the driving takes place. There are two versions of the latest model: GDE-5PRO (PRO for professionals and their organisational environment) and GDE-5SOC (for private drivers and their social environment) that help describe the different situation of a professional driver and a private driver (Keskinen, Peräaho & Laapotti, 2010).

GDE-5 PRO (Keskinen, Peräaho & Laapotti, 2010)

Level/Dimension	Knoweledge and skills	Risk increasing factors	Self-evaluation
Level V Company awareness, characteristics, safety situation (organisational level)	In logistics, safety systems, management, economy, safety culture, values	Production/protection, feedback system, company's motivational system	Company's / organisation's awareness of safety situation and its development
Level IV Goals for life and skills for living	Lifestyle, age, group, culture, social position etc. vs driving behaviour	Sensation seeking, group norms, peer pressure	Introspective competence, own preconditions, impulse control

Level/Dimension	Knoweledge and skills	Risk increasing factors	Self-evaluation
Level III Goals and context of diving	Modal choice, choice of time, role of motives, route planning	Alcohol, fatigue, low friction, rush hours, young passengers	Own motives influencing choices, self-critical thinking
Level II Driving in traffic	Traffic rules, cooperation, hazard perception, Automatisation	Disobeying rules, tailgaiting, low friction, vulnerable road users	Calibration of driving skills, own driving style
Level I Vehicle control	Car functioning, protection systems, vehicle control, physical laws	No seatbelts, breakdown of vehicle system, worn-out tyres	Calibration of car control skills

Driver training usually focuses on levels 1 and 2, however a good driver is not only one that is skilled but also one that is aware of risks and his own individual abilities and characteristics. The hierarchy was expanded into a matrix in order to cover these different dimensions, and in addition to the four levels, three crucial dimensions were added: knowledge and skills; risk increasing factors; and self-evaluation. The first column describes knowledge and skills needed under normal circumstances for each level: for the lowest levels this equates to knowing how to maneuver the car and how to behave in traffic and following rules; whereas on the highest levels this has more to do whit planning trips. The second-column is about the risk-increasing factors at every level of driving. On the highest levels this includes risky driving in darkness, on low friction, among vulnerable users, excessive speeding, mental overload, etc. It is also related to dangerous motives for driving and risk-increasing aspects of lifestyle and personality. The third column is about how the driver assesses his or her situation on the different levels. This is important for the driver to calibrate his self-perceived skills to correspond to his/her actual skills; and it also plays an important role in shaping the driver's abilities to make decisions about trips and in life in general.

When considering safety issues of a whole organisation, the fifth level is necessary. A private driver is independently selecting when, where, with whom and in what schedule they drive, but a professional driver is accomplishing tasks that they have from their organisation. The organisation sets the prerequisites for the task and also for the safety, providing the framework or the degrees of freedom within which the individual driver has to operate. The organisation is thereby limiting the driver's own set of choices, which, in the worst case, can be counterproductive to the driver's own safety orientation. It is not often that a professional driver can select the timetable on their route nor are they able to change the route and they also drive the vehicles which belong to the organisation's fleet.

Organisations have their own cultures, based on values and these cultures are affecting organisational safety by setting goals, standards, norms and in many ways giving and rewarding or restricting possibilities for safety increasing behaviour. Knowledge and skills in an organisational setting mean the global way how the organisation handles safety issues. Risk increasing factors on company level are connected to low level of knowledge and skills but also to the company climate where production, which is necessary for safety, of course, runs over the protection, like Reason (1997) noted. An organisation's s self-evaluation concerns mainly the control of the whole system: does it function in an appropriate way? One important element concerning this organisational level is that there must be a well functioning feedback system from driver level to company level and the company has to be interested in getting feedback in a real way.

The production vs. protection problem can be seen in an even wider environment than on the company/ organisation level. Legislation and values behind legislation give a degree of freedom to companies/ organisations when they are running their business under the pressure of economic (production) and safety (protection) factors. This society and legislation level could be described as the sixth level in the

hierarchy concerning driving (Keskinen, Peräaho & Laapotti, 2010). As this level, containing legislation and its surveillance, is affecting every transport company in a country or in the whole EU, it is a most important factor in safety work. Legislation should be based at least as much on ensuring correct protection as on delivering production.

In practice this matrix is of very important use both for providers of training courses but also to inform those who seek to identify good courses available on the market. It should therefore provide a theoretical background to shape both the demand for and supply of training courses.

The Advanced project, concerned with post-licence training, issued a number of recommendations (2002), including the following: course content should be based on the different levels of driver behaviour; there should be a balance between skills and risk awareness exercises, the training environment; and overconfidence among participants should be recognised and discouraged. Advanced also recommends periodic, continuous training (training shouldn't be a one off). Employers should overcome the difficulty of keeping projects going through the "calendar theory of motivation" like Thierry (2003) described the everyday situation in any organisation. It is easy to start different kinds of projects to increase e.g. safety, but it is extremely difficult to keep them going on and make them a functioning part of work. Often much emphasis is put on starting the project but too little is done to ensure that the new ways of behaviour have been permanently taken as routines in the organisation. One of the real dangers in one or two day safety courses is, self evidently, that there will be no change in the long run in drivers' behaviour, if there are no follow-up feedback mechanisms on the whole organisation level. This means that there has to be a common agreement of how the safety system of the organisation should work and what the responsibilities of each person are in the system.

One way of trying to make behavioural changes more permanent is to make training more self-controlled, self-activated, student centred. This means that, instead of traditional teacher centred teaching methods, it should use coaching type methods to support learning.

Coaching vs Teaching

An important question for trainers is: do you use coaching techniques or do you tell your clients to do what you think is best? The Advanced project underlines how a participant-centered approach is most likely to bring positive results (Advanced 2002). This is well illustrated by the standard 1:1 trainee-trainer ratio that allows for a very intense learning environment, provided the approach is right. Trainers are too often looking to impose their own perception of matters. Many trainers only think in terms of detecting ″errors″ and correcting them. It tends to be more constructive to engage with the driver and ask him or her to express his or her experiences, difficulties, needs and work on those together. Constant targeted questioning should encourage the driver to think for himself or herself about his or her behaviour.

Stanton et al. (2007) carried an experiment involving advanced coaching and concluded that drivers in the coaching condition improved markedly. They observed changes in the knowledge used by drivers and the information they attend to, which in turn improves their situational awareness. It also appeared in this experiment that drivers are able to deploy that to carry out more skillful driving behaviours. Finally they observed a favourable change in attitudes regarding external locus of control, with drivers more prone to anticipate hazards as a result. The focus in coaching is as much about changing drivers´minds as it is about improving their technical skills.

The European project HERMES "High Impact approach for Enhancing Road safety through More Effective communication Skills for driving instructors" aims at creating an easy-to-use training package on teacher-trainee communication in classrooms, in cars and on dedicated tracks, based on coaching techniques. http://www.gutefahrt.at/hermes

Training: Safety and Fuel Efficiency Benefits

Finally, one point worth considering is the synergies between training drivers on eco-driving / fuel-efficiency and safe driving. Typically there are a number of training programmes offered that address both eco-driving and safe driving. This is

also reflected in the new Directive for training truck and bus drivers. Examples for this kind of training schemes include courses reviewed in the study "To the Point 3 _- studies on drive like a pro – safe driving, both in a professional and a private context" published by the German Road Safety Council, and the German Statutory Accident Insurance. This is also a good way of linking a company's sustainable development policy and road safety.

The Hamburger Wasserwerke HWW (Water suppliers) carried out a data collection to ascertain whether the fuel saving training served to reduce fuel consumption and if it had an impact on safety. A comparison of the fuel consumption for the time periods before the training and after it showed that fuel consumption had decreased by 6,2 % and that third part liability claims dropped by 21,7 %, whereas own damage claims declined by 34%.

This section has given an overview of steps to risk assessment of drivers and their tasks. It also presented the background to what makes good training including explaining concepts such as training and coaching.

Part 2: Training for Truck and Bus Drivers

Overview of EU Level Legislation

Having established some of the background to driver training this next section will focus on driver training in the area where new EU legislation exists namely for bus and truck drivers. It will present the legislation itself, some examples of how it has been implemented in the Member States and some initial feedback from surveys on how it has been received.

Directive on Initial Qualification and Periodic Driver Training of drivers of certain vehicles (2003/59)

EU professional drivers will now be required to have followed professional training. The Directive on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers was adopted in 2003. This legislation came into force for bus drivers in autumn 2008 and for truck drivers in autumn 2009. It is hoped that this important milestone in the harmonisation of social aspects in road transport policy will lead to enhanced safety on European roads and that this becomes a part of increased professionalism of this group of workers. It aims to improve road safety and the safety of the driver including operations carried out by the driver when the vehicle is stopped.

Until now very few EU drivers have followed professional competence training. Only some drivers were obliged by EU legislation to follow any training and in most of the Member States only 5 to 10% of professional drivers underwent such training, which was based upon requirements specified in a Directive that dates back to 1976[2]. The vast majority of professional drivers therefore worked solely on the basis of their driving licence.

However, it has now been recognised that the demands on professional drivers today call for both basic and periodic training. Whereas the legislation on driver licensing concentrates on basic driving skills, the Directive has a much broader perspective and the syllabus covers elements to improve road safety in general, as well as safety during stops and also reducing CO2 emissions through a special focus on reduction of fuel consumption. It also covers other areas such as how to act in an emergency situation. The Annex of the Directive goes into more detail on the topics to be included in the curriculum of the Directive. This includes the objective to make drivers aware of the risks of the road and of accidents at work. Member States will issue the driver with a certificate of professional competence, referred to as 'CPC', certifying his or her initial qualification or periodic training.

These skills and knowledge will be kept up to date through periodic training. Periodic training is designed to complement the individual driver's work and be relevant to their everyday job. This will allow drivers to keep up with ever changing regulations and benefit from the state of the art in training throughout their whole career.

2 Council Directive 76/914/EEC of 16 December 1976 on the minimum level of training of some road transport drivers, OJ L 357 of 29.12.1976.

Member State Implementation of the Directive

This next section will present the different approach to implementing the Directive as well as examples of how two Member States have chosen to implement the Directive. It also gives first results from two organisations who have surveyed the first steps to put the Directive in place.

The Directive provides for two options for initial qualification and requires the systematic periodic training be put in place for all professional drivers. For the initial qualification Member States can combine both course attendance and a test or introduce an option only involving tests on theory and practice. Some Member States took great trouble to consult with industry to consider which option would suit them best and also to encourage high levels of compliance with the training take up.

Table of EU MSs taking Training or Testing Approach or a mixture

Training Approach	Testing Approach	Training and Testing
Norway, Luxembourg, Sweden, Poland, Switzerland, Estonia, France, Finland, Latvia, Czech Republic, Slovakia, Bulgaria, Greece	Netherlands, UK, Malta, Belgium, Ireland, Portugal, Spain, Austria, Hungary, Romania	Germany, Lithuania, Slovenia

The Netherlands have chosen the testing approach, this is because of the right to freedom of education included in its constitution. The Netherlands already have a mandatory system of certificates of professional competence. The new Directive will thus build on existing structures and processes. Another approach is that taken by France which introduced a system of compulsory training (basic and periodic) which was extended to include all professional drivers in 1998. The initial training takes four weeks and includes road safety on the curriculum. The periodic training is a 3 day programme held once every 5 years (CIECA Workshop report 2006).

The Irish Road Safety Authority (RSA) is responsible for the implementation of the Driver CPC Directive in Ireland and has produced a periodic training curriculum for all professional bus and truck drivers which was developed in line with the EU Directive and in consultation with the industry[3]. In order to be in a position to facilitate Driver CPC training, interested training providers apply to the Road Safety Authority for approval and this is subject to a rigorous process assessing the quality and standards of their facilities and trainers. There are in excess of 200 approved training centres located around Ireland; this ensures competition in the marketplace for good standards and costs of training. All new bus and truck drivers will have to pass 2 two hour theory tests and a 30 minute practical test as well as the current driving test in order to obtain Driver CPC. The theory tests and the practical test are developed to ensure the applicant has a comprehensive knowledge of the Rules of the Road and of the skills and professionalism to be a full time bus/truck driver. The RSA has developed a number of information documents including a 'Frequently Asked Questions' document to inform drivers and employers of all aspects of the Driver CPC process. The RSA have also engaged with the training organisations and have put a process in place whereby driver feedback is collected at each training course, the main purpose of this is to assess how the training can be improved. One issue of concern is the development of training materials that are easily understood and relevant to the driver. The RSA believes that the Driver CPC will lead to a change in the perception that driving professionally can be achieved by a once off test. It will now be seen as a profession which has continuous training and development of skills as a requirement.

3 http://www.rsa.ie/SERVICES/RSA_Services/CPC_Unit.html

Results of first Feedback on Implementation of the Directive

The Information and Initiative Days (I&I Days) recently completed a survey on the Directive 2003/59. This is a joint initiative of UITP[4] (represented by UITP Euro Team) and the European Transport Workers' Federation (ETF), led by AFT[5]. The survey looked at training of bus and truck drivers in the urban context. The survey of employers, employees and authorities looked at the impact of training on the quality of work, driver's occupational qualifications and the policies of human resources. The first responses from the side of the employers are that the Directive will have a very positive effect on reducing incidents and accidents (by 71%). A same high level, 71%, said that there will also be an increase in the level of service. Another positive impact, 63% said that they see a decrease in the fuel consumption. One key finding of the survey was that the Directive will lead to higher professionalism of the Training Centres. Most of those surveyed agreed that there should be some national level regulation monitoring the quality of the training centres.

Eurotra, the European Transport Training Organisation, acting as the umbrella association covering the major European transport training institutes ran a two year project called EU Safe Driver. One of the key outputs was a "Handbook on Initial Qualifications and Periodic Training of Professional Drivers"[6]. This gives common recommendations for training, minimum qualification and training requirements. At an expert forum held in the autumn of 2009 Eurotra concluded that so far the level of implementation of the Directive in the Member States is enormously diverse. Different measures and developments are being put in place by the authorities. These differences arise first of all from the different historic situation in countries in delivering training programme. Other differences are due to different socio-economic situations. Some countries support the training activities via national financial compensatory systems. The second main conclusion made at the Expert Forum is the strong concern of almost all Eurotra representatives to face a capacity issue in the field of the availability of the necessary training infrastructure, training facilities and trainers at the end of the transition period ending in most of the Member States in 2015 and 2016.

They also propose the idea that information campaigns could be launched to raise awareness within all actors demonstrating the advantages of qualified drivers based on a high level of training leading to less damage in handling goods, less accidents, less cargo loss, less fuel consumption leading to better cost control and/or cost reduction. The higher professional qualification is also likely to lead to better recognition of the profession and lead to a positive overall social impact.

EU Respect Project – Testing the new Directive for Truck Drivers

The objectives of the RESPECT project (managed by NEA Transport Research and Training, the Netherlands) were to set up a 3-day education programme for truck drivers with the aim of reducing the fuel consumption of the drivers and reduce the accident/data rate. This programme includes simulator training, "real" truck driving and classroom training on theory. Agency for Transport, Training and Logistics in France (AFT-IFTIM) was one of the organisations in the RESPECT project and 300 professional drivers in France were involved in the project and completed a questionnaire providing feedback about the education programme developed in RESPECT. The questionnaire covered topics such as general opinion, most useful and least useful parts of the programme, structure of the theory programme, structure of the practical programme, use of the simulator, value of practical on-road driving, etc. The most notable improvements in the skills of the professional drivers who completed the RESPECT programme were to be found in reduced fuel consumption, increased road safety, reduction in emitted pollutants, and increased professionalism.

CIECA Risk Awareness Database for Training

The Risk Awareness Database was developed as part of the Advanced project (2002). This was in reaction to the limited amount of quality risk awareness exercises used in post-licence training. The database is seen as a first step on an international level towards encouraging

4 UITP is international organisation for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry http://www.uitp.org/
5 Association pour le développement de la Formation professionnelle dans le Transport, was created in 1957 by the French transport trade organisations. http://www.aft-iftim.com/infos-secteur/
6 In English, Danish, Polish, German, Swedish, Czech and French

more focus on risk awareness in post-licence courses. The examples on site have all been provided by course providers and can be used or adapted.

EU Level Recommendations

European Commission:

- Carefully monitor the implementation of the Directive and offer support to Member States in implementation with the aim of reaching high common standards in all Member States.
- Aspects concerning management, administration and policy are not yet fully developed in each Member State in the educational and training sector. The European Commission could create a platform to exchange information and experiences in that field in view of the development of "best practice" guidelines[7].
- Should act as a catalyst for the enhancement of an appropriate "training" infrastructure including qualification of trainers and content of the training.

National Level Recommendations

Member States should:

- Be able to guarantee the quality of both the initial and periodic training of professional drivers of trucks and buses in their countries
- Inform drivers and employers about the new Directive by also setting up websites with information.
- Set up financial compensation systems to fund training.
- Develop the capacity of training institutions to deliver training for professional drivers.
- Encourage trainers to include risk awareness in their training by, for example, making use of the CIECA risk awareness training database.
- Ensure enforcement of CPC qualification card of drivers will take place.

Employers Must:

- Make sure that all professional drivers of category C and D have gained their CPC and take part in initial and periodic training.

Part 3: Training for Professional Drivers of Other Vehicle Classes

This third section will look at driver training of other vehicle classes. Firstly looking at two European Directives that apply to all drivers, then by looking at best practice examples from Member States and employers to set up structures and implement effective driver training to improve road safety. It also presents the idea of setting up an EU Quality Labelling Scheme for Driver Training as suggested by the EU Advanced project (2002).

EU Legislation

Driving Licence Directive (2006/126)

A new EU Driving Licence Directive was adopted in 2006 which brings in new requirements for qualifications and the continuous training for driving examiners. The issuing of new licences will be obligatory as from 2012, since the new directive will apply two years after entry into force, and after that period Member States will have four years to comply with its provisions. Under Article 7 Driving Licences can only be issued to those who have completed training or passed a test of skills and behaviour, or completed a training and passed a test of skills and behaviour.

Council Directive on Safety and Health of Workers at Work 89/391/EEC

There is also another relevant Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work already mentioned earlier. This Directive includes under Article 1 general principles concerning the prevention of occupational risks, through also the training of workers. Under Article 6, within the context of their responsibilities, the employer shall take necessary measures for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organisation and means. There is a whole Article 12 on the training of workers which states that the employer shall ensure that each worker receives adequate safety and health training, in

7 ETSC Transport Safety Organisation in the Public and Private Sectors 2003

particular in the form of information and instructions specific to their workstation or job. This should cover all aspects from time of recruitment or in the event of a transfer or a change of job. Also training should take place in the event of the introduction of new work equipment or a change in equipment, or in the event of the introduction of any new technology. The training shall be adapted to take account of new or changed risks, and repeated periodically if necessary.

As well as the employers, under Article 13 workers also have obligations. Each worker should take care as far as possible of their own safety and health in accordance with their training and the instructions given by their employer. Workers must in particular, in accordance with their training and the instructions given by their employer, make correct use of machinery and transport equipment. Finally, they should also cooperate with the employer to ensure that the working environment and working conditions are safe and pose no risk to safety and health within their field of activity.

EU Level Recommendation

The EU Should:

• Monitor the implementation of its Directive on safety and health of workers and ensure the proper provision of training by employers and application of the training by the workers themselves. This should also include explicitly tasks such as the use of transport vehicles.

National Level Recommendations

Member States Should:

• Develop the capacity of training institutions to deliver training for all professional drivers.
• Promote the implementation according to the Directive on health and safety at work of employers delivering adequate training to enable employees to protect the health and safety of its employees.

Company Recommendations

• Guarantee that training is rooted in the company's health and safety at work culture.
• Comply with the requirements of the Directive on Health and Safety at Work in ensuring that proper training is given linked to the needs of the employees including the use of transport vehicles.

Drivers and Riders of Vans and Powered Two Wheelers

Apart from the aforementioned parts of relevant legislation there is not yet any specific legislation foreseen at EU level on training of drivers or riders of other vehicles. One next step supported by experts would be the extension of the Council Directive Initial Qualification and Driver Training of drivers of certain vehicles (2003/59) to another group associated with driving for work: van drivers and Powered Two Wheeler drivers.

Formal training and testing of professional drivers is intended to prevent clearly unsuitable drivers from becoming professional drivers and to give professional drivers a lower accident rate than they would have had without formal training and testing. Furthermore it is desirable to aim for a lower accident rate for professional drivers than for other groups of road users (Elvik et all 2004).

The Advanced project reported that over 400,000 drivers took part in continuous driver training throughout Europe in the year 2000 (Advanced 2002). Moreover, demand for post-licence driver training has grown over the last 5-20 years across the European Union. Amongst the various reasons cited, the main explanation for this rise in demand is the growth of fleet driver training. The increase in the provision of company cars over the last few years has led to higher accident and damage claims which company management are at pains to reduce and which their insurance companies are unwilling to support over the long-term. Changes in working practice are also encouraging governments and authorities to consider the company car as an extension of the workplace. Health and safety regulations, in addition to legal concepts such as corporate responsibility, are therefore no longer restricted to the office. Post-licence training varies considerably in popularity from one country to another. Fleet driver training accounts for the vast majority of current post licence training (Advanced 2002).

Light Commercial Vehicles (Vans)

LCV is the formal term in the European Union for goods vehicles with a Gross Vehicle Mass (GVM) of up to 3.5 tones. There has been a rise in LCVs use in Europe. A large part of this rise is a consequence of the home

delivery sector, which has seen phenomenal growth recently due to internet shopping. There is some evidence on certain behavioral aspects concerning LCV drivers. In Great Britain the DfT's campaign to improve the safety record of this group observes that, in the last 10 years, the number of vans in the UK has increased by around one third and van traffic by 40%. It goes on to note that there are now three million vans on Britain's roads, and the annual volume of new registrations is around 320,000[8]. The SafetyNet project collected information on daytime seat belt wearing rates in light vehicles, distinguishing passenger cars and commercial vans and found a consistent pattern of much lower rates of seatbelt wearing by the drivers and passengers of LCVs.

In GB the examination of the severity of accidents show that LCVs are more likely than other vehicle groups to be involved in fatal and serious accidents. About a quarter of fatalities caused by LCV drivers involve breaking the speed limit; these include cases where the driver is breaking the applicable limit for a vehicle of that class, as well as those ignoring posted speed limits[9].

In Germany there is a considerable increase in the frequency of registered goods vehicles with a maximum permissible weight less than 7.5 t involvement in collisions since the end of the 80s (Niewöhner 2001). Transporters (box-type trucks) are the majority within this vehicle category. With this background the accident research unit of DEKRA started to study real-world crashes with involved transporters. One of the results of the study is that transporters drive and collide at similar speeds as cars but only 20 % of the transporter drivers wear seat belts.

As in the case of truck and bus drivers training can be appropriate. But only if this is part of an integrated approach to risk assessment by an employer with the aim of improving the safety of their operations.

UK Best Practice: SAFED for Van Drivers

The UK's Department of Transport has adapted an existing Guide for Safer and Fuel Efficient Driving (SAFED) to van drivers. The SAFED Handbook aims to outline the elements of Safe and Fuel Efficient Driving training specifically relevant to the driving of vans. It also aims to define the qualifications, skills and experience required by trainers intending to deliver the SAFED training programme to candidate drivers. The Department for Transport also oversees the delivery of the one-day SAFED training course designed to improve the safe and fuel efficient driving techniques of existing van drivers.

The LCV driver is initially assessed by a qualified trainer. Training on best practice in safe and fuel efficient driving techniques is then given. The driver is then reassessed to record improvements in driving technique and where possible actual fuel consumption. The driver is also assessed on performance in safety check and knowledge test exercises as well as the number of faults recorded during the day's practical driving sessions. Successful drivers receive a certificate of achievement.

Powered Two Wheelers

It is well known that motorcyclists face a much higher risk of being killed than other road users. For the same distance travelled, the risk for riders to be killed in road accidents is on average 16 times the risk of being killed in traffic for car drivers. In 2006 at least 6,200 Powered Two Wheeler (PTW) riders were killed in road crashes in the EU25[10] representing 16% of the total number of road deaths while accounting for only 2% of the total kilometres driven (ETSC PIN 2007). While riding a motorcycle will inevitably carry more risk than driving a car, evidence shows that the implementation of dedicated safety measures can substantially improve PTW safety. The measures should aim at improving the behaviour of motorcyclists, but also the behaviour of other road users and providing a safer environment for PTW riders. The rider's skills, training, experience and attitudes are fundamental to safe motorcycling. A project co-funded by the EU has developed a basic manual for initial rider training that includes hazard awareness and rider attitude and behaviour www.initialridertraining.eu. At present there is very little post licence training within the work context. However general multiphase training does exist and has been introduced for example in Austria www.kfv.at/departmnet-transport-mobility/safety-measures-in-austria/multi-phase-driving-licence

8 DfT, THINK! http://www.thinkroadsafety.gov.uk/campaigns/drivingforwork/index.htm
9 PACTS (2003), Speed Cameras: 10 criticisms and why they are flawed, PACTS & SSI, London, p4
10 Estimation based on 2006 national data; except GR, SI (2005 data), IT: min. 1000 deaths (based on 2000-2004 data). This report considers GB and not the UK.

One example of post licence training for powered two wheelers in the driving 'for work' and 'to work' context comes from the UK. BikeSafe-London invites motorcyclists, moped and scooter riders to participate in Rider Skills Days that offer assessment on present skills, and advice to help make their riding in London safer and more enjoyable. As well as professional riding techniques, topics covered include the system of motorcycle control, collision causation factors and security. Research also indicates that motorcyclists and scooter riders are disproportionately represented in serious injury road crashes and within London this is linked significantly to the journey to/from work - a feature not as apparent in the rest of the country. BikeSafe-London has therefore initiated partnerships with a number of forward thinking companies to support them in encouraging and supporting their staff to undertake BikeSafe, and in turn further training, as part of its commitment to `Working Together to make London Safer`. The team has in recent months been to train British Airways, Tesco and HSBC staff. Many motor insurance companies acknowledge the value of the scheme and offer a discount on premiums to riders who have completed the programme.

A specific Guidance document has also been produced by the Royal Society for the Prevention of Accidents and the Department for Transport on reducing risk to do with motorcycling for work [11].

Further Initiatives for all types of drivers

An EU Quality labeling Scheme for Driver Training

In the absence of government regulation, the Advanced project looked at if a voluntary quality label scheme for post-licence driver training could meet the needs of consumers, course providers and policymakers. In fact, positive and very constructive steps were taken to lay the groundwork for a proposal for a future European Quality Label in this area. Benchmarking is important in this sector due to the almost complete lack of standards for post-licence driver and rider courses across the EU (especially in terms of the instructors). With the exception of the UK, Luxembourg, Finland, Austria and Switzerland there is no legislation regulating post licence driver training in the EU. Current knowledge on training needs and measures for drivers and riders were then seen as still insufficient to assess what "quality" is in reality (in terms of course content and instructors). However despite some reservations the Advanced Project concluded that a quality scheme would be useful, as long as it does not complicate any efforts to introduce standards at national level (for instance in Germany or the UK) and that its structure allows for ongoing change (research has been limited in this field until now). The project also worked out the principles of a labelling scheme and setting up such an organisation (Advanced 2002).

National Level Initiatives

At present there are only a few Member States that regulate post licence driver/rider training of other vehicle classes (car/van/PTW) in terms of course content and instructors. Non legislative standards governing this sector range from non-existent to elaborate and are either set internally by driver / rider training companies or by road safety bodies (such as the German Road Safety Council (Advanced 2002).

Luxembourg

Training is provided for voluntary and company participants at the (track-based) Centre de Formation pour Conducteurs, where Luxembourg's obligatory 2nd phase course for novice drivers (and riders) is run since 1996. The instructors are the same for both voluntary and obligatory training, meaning that Luxembourg is one of the few countries, alongside Finland, Austria and Switzerland with legally required standards for post-licence instructors.

The Luxembourgish employers association conducted in 2002 a report on accidents at work showing that while such collisions were decreasing, the number of commuting collisions on the roads was on the rise, and that as much as 67% of work related collisions leading to deaths were in traffic. An agreement between a number of partners including the employers association, the insurers association, the labour inspectorate, trade unions, and the national road safety NGO, was therefore reached to launch a campaign called "Trajet: sécurisons-le!" (This would translate into: "let's make

11 http://www.bikesafe-london.co.uk/motorcycling_through_work.pdf
http://www.bikesafe-london.co.uk/wrrr.htm

commuting safer"). The campaign, launched in 2003, aims at providing materials to employers to conduct simple training of their employees. The materials prepared for this campaign were fact sheets on 12 topics (one topic per month of the year) including a reminder of the traffic rules, information about the various risk factors (alcohol, speed, not wearing seat belts, mobile phones etc.) but also explanations about certain important laws of physics (such as braking distances), the impact of weather conditions on safety, or how to prepare for long journeys. The materials can be found on www.trajet.lu

Portugal

In Portugal in 2000 there were many collisions with buses, coaches and minivans which performed the transport of children groups to school, cultural and leisure activities, sports, and holiday camps. The Association for the Promotion of Child Safety (APSI) launched innovative training courses for drivers, including theory and practice on defensive driving, case simulation and circuit training. Besides the theory on Child Restraint Systems, drivers were given an intensive practical training on how to choose, fit and use them correctly. Courses also include specific norms and safety measures concerning children transport, general road legislation, first aid and acting in case of emergency, practical training to use a fire extinguisher, interpersonal relationship, psychological factors related to the specific transport of children, and at last evaluation of drivers defensive driving and ability to choose places to take and leave children in real traffic situations on public roads.

At the same time APSI tried to persuade the government to publish a law, and raised public awareness on this problem, since a first study, showed that in a period of 18 months (October 1998 to June 2000) there were 19 accidents that caused the death of 8 children and 192 injuries. A specific Law on the group transport of children was published in 2006 obliging 35 hours training courses for drivers, including all the topics mentioned above. A second study with the same methodology to evaluate the number and severity of collisions in the transport of children groups showed that from January 2004 to December 2007 there were 21 accidents that caused the death of 2 children and injuries in 131. This was for a longer period of time (4 years) and there was an important reduction in the number of accidents, deaths and injuries. These global training courses, in which APSI has already trained more than 600 drivers, have had a very positive impact for the safety of Portuguese children and adolescents as vulnerable road users.

UK

In the UK demand for post licence training has risen over the last 5-10 years. There are two main reasons for this. Firstly, insurance companies are encouraging companies to send their employees for fleet driver training (Advanced). Secondly, strong UK legislation on Health and Safety at Work such as the first Act Health and Safety at Work 1974 requires the employer to ensure the health and safety of all employees while at work and that others are not put at risk by the employees work related driving activities. The Management of Health and Safety at Work Regulations 1999 set out the requirement for employees to manage health and safety effectively including a risk assessment (HSE 2000).

A Fleet Driver Register was also introduced (in 2002), designed to allow the Driving Standards Agency to monitor the fleet driver training sector – and standards - more closely. Training is almost exclusively on-road. All trainers must be in possession of a (pre-licence) driving instructor qualification (ADI). In addition, future trainers will have to be specially trained by accredited training organisations in order to be included on the new fleet driver register. Course providers often offer full risk management services, based on a company audit and a tailored course to meet company needs.

In the UK the Institute of Car Fleet Management which was established in 1992 and aims to develop the capability and enhance the standing of fleet professionals. It provides a structured education and training syllabus and methodology designed to meet the needs of newly appointed as well as established vehicle fleet managers, administrators and fleet industry specialists leading to vocational qualifications. It also supports research and best practice which it communicates to members and stakeholders.

In the UK the Department for Transport has established an outreach programme to raise awareness of the importance of work related road safety in the business community and public sector. It uses advocates drawn

from these communities to promote the business benefits of managing it effectively. Business champions, some of whom are featured in our PRAISE project, constitute the central element of the Driving for Better Business campaign. They are those firms that are prepared to step forward to champion good practice in work related road safety by taking a business message to business. Each Champion makes public a case study to demonstrate how driving on business is managed. The studies always centre on the business case and include the following elements on driver safety:

1. Provide a driver's handbook that includes road safety guidance and sets out individual driver responsibilities, in support of the company's policies and procedures, e.g. what to do in the event of an incident.

2. Ensure that all employees driving on behalf of the company are initially vetted, inducted and regularly assessed, to establish that they are properly licenced, competent, suitably trained and medically fit to do so.

The UK's Health and Safety Executive has also been involved in a pilot project whereby certain Metropolitan Police officers have been given powers under the Health and Safety at Work Act, to supplement their powers under Road Traffic Law. These powers allow trained officers to follow up possible inadequacies in the management of risks by employers to those who drive at work. Feedback to date has been positive with early data suggesting that there is room for improvement, in many cases, and a belief that this can best be addressed by increasing awareness of employers' responsibilities under health and safety law and by advising them of suitable action.

In 2003, the UK Department for Transport and and Health and Safety Executive issued a guidance document on 'Driving at work: Managing work-related road safety'. It clarified that the vehicle is classed as part of the workplace under health and safety regulations, and that organisations need to have risk assessments in place for their drivers, vehicles and the journeys they undertake. The document, can be found online (http://www.hse.gov.uk/pubns/indg382.pdf).

Research was also prepared and piloted for the UK's DfT on Company Incident Vehicle Reporting and Recording in 2002[12]. The aim of this project was to help companies and organisations which use vehicles ranging from motorbikes to lorries to work out how many accidents their vehicles are involved in, and why this is so. Information about the extent and causes of their accidents can help companies make informed decisions about the most effective measures to implement to reduce their accident rates. Such measures could be applied to organisational systems, people (including driver training), the working environment and the vehicles. The project provides a range of excellent tools for organisations to report, record and learn from their collisions, and use the information to guide the development of their driver risk assessment, monitoring and improvement initiatives.

Germany

The German sector differs considerably from other countries in that the German Road Safety Council (DVR) has developed a quality scheme of their own which was implemented in 2008 and is valid until 2011. The Quality Standard is called: Quality Certificate for recognised and controlled learning. One of the reasons for setting up the standard was to certify quality offers on the market and provide an incentive to training companies to meet certain criteria and standards. The aim of the standard is to offer clients seeking training an easily recognizable sign. This is to make clear that improving road safety is one of the key aims of the training offered. Quality certificates are given to those trainers who offer practical training seminars with driving on suitable practice areas and also on the road and in combination. Trainers must fulfill criteria which are evaluated qualitatively in the five areas of content, methodology, education and further education of the trainer, quality assurance as well as a further option on the place of training. The Quality Certificate is managed by the DVR project with input of a special working group on content and quality assurance, independent experts and auditors who observe training on site. For more information about how the Certificate works and for a full list of the criteria that the trainers are evaluated on look at: http://www.DVR.de/download/qualitaetssiegel_broschuere_05_08.pdf. The DVR has also developed a manual on delivering driver and rider training http://www. DVR.de/download/QM_H_SHP_SHT_2009_03_10.pdf. Experts from DVR member organisations, aided by technical committees, develop DVR safety programmes for target groups including

12 http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme5/companyvehicleincidentreport4781

professional drivers tailored to different vehicle types: http://www.DVR.de/download/safety_quality_cost_2007.pdf.

Sweden

The Swedish Work Environment Authority has provided a brochure[13] for employers on occupational road safety including relevance of the Directive 89/391 on Health and Safety. It also includes advice on how to develop a road safety policy covering risk assessment.

Sweden is the home of the famous Vision Zero approach. Early in 2010 a new Vision Zero Academy under the Vision Zero Initiative will be launched. The role of the Academy is to generate knowledge based policy advice on innovation and implementation of traffic safety management systems, services and technologies. This aims to create a new centre that will inform stakeholders about the most effective and science based innovations and how they can be implemented to eradicate serious health losses due to road traffic crashes. The Vision Zero Academy will be set up by the Swedish Road Administration and will focus on professional training, research and development adapted to specific target audiences. Legislation for employers, such as Occupational Health and Safety regulations or licences to operate, play a major role in safety. Investigating how this legislation works so far is important and should be a main theme for the Academy. The Academy could also study the implementation and the effects of the introduction of the Traffic Safety Management System, ISO 39001. This will play a major role in shaping future road safety policy and is likely to be crucial for the understanding of market growth for traffic safety.

Poland

The Polish Road Safety Partnership, an NGO, runs a Fleet Safety Programme launched in 2006. The fleet safety initiative focuses on gaining commitment from senior management in companies operating vehicle fleets to implement programmes to improve the road safety performance of their drivers and vehicle fleets. As part of this programme it published "Fleet Safety Guidelines" in September 2007. The 2007 edition consists of two safe fleet handbooks, one targeting management and the second aimed at drivers.[14] The handbooks were developed by partners using international good practice models and examples. The handbooks are supported by awareness raising and training seminars run regularly in fleet safety are offered by the Partnership.

Member State Recommendations

- Member State governments should encourage initiatives which build capacity to ensure that driver training is tailor made to suit particular driver/trainer's needs.
- At the national level, including 'purpose of journey' in the reporting and recording systems of road traffic collisions would allow a fuller understanding of the 'work driving' problem and better targeting of both road and health and safety resources including driver training.
- Governments should ensure that riders receive appropriate training when they start to use a motorcycle (or re-start after a period of not motorcycling) and that they receive further training as they progress from smaller to larger motorcycles. Motorcyclists should be made aware of the difficulties other road users have in detecting them and evaluating their speed.
- Develop a common, practical accident data management framework to assist employers in managing the risks for 'at work' drivers and needs including driver training.
- Include training on fitting Child Safety Restraints to vehicles, how to use a fire extinguisher, and how to respond to an emergency with children during the transport (for bus and truck drivers as included in the Directive 2003/59).

Part 4. Employer Level Initiatives

The fourth and final section looks at employer level initiatives to train drivers with some examples of best practice. It also includes some advice to employers such as a checklist for employers to select trainers. Although employers are only legally obliged to train drivers of certain vehicles under EU law as presented above they must also comply with its Health and Safety Directive. Moreover the private sector is keen to show how it is

13 http://www.av.se/dokument/inenglish/broschures/adi_578eng.pdf

14 Fleet Safety Handbook for Management, http://www.pbd.org.pl/fileadmin/Dokumenty/przewodnik_bezpieczna_flota.pdf
Fleet Safety Handbook for Drivers, http://www.pbd.org.pl/fileadmin/Dokumenty/Przewodnik_kierowcy.pdf

acting in a socially responsible manner, which in the field of fleet management very often means going beyond legal requirements. Also all non-private customers, such as governmental bodies, local authorities and companies can play an important role by setting examples for others. This means that both private and public employers should consider driver training as part of an integrated approach to improving road safety. If selected and run properly then drive training can be part of a strategy taken by an employer to reduce work related road risk. As stated earlier, the crucial starting point for employers is a risk assessment which includes the drivers. Part of this should also be to ask drivers themselves what they need; a self assessment. This can be undertaken in house or by an external organisation.

Employers should look at which different courses exist but also look at what needs they will address and link these as closely to what their employees need. They should try and select courses which address each of the four levels of the GDE Matrix which form driver behaviour: basic vehicle control, mastery of traffic situations, trip related considerations, personal characteristics. A good course would also include the fifth level, the organisational setting within which the driving takes place. Courses that place the participant at the centre should also be prioritised. The practical experience should build up risk awareness of the driver. The classroom sessions should include ample time for discussion and feedback particularly at the very end of the course. In fact, interaction and interactive and reflective training methods are the optimal ones.

Johnson and Johnson

Johnson and Johnson is one of the multinational companies working in Europe which has one of the world's most proactive organisations with regards to occupational road safety[15]. In the Europe, Middle East and Africa (EMEA) region alone the company operates over 13,500 field sales, service and management vehicles. Its SAFE Fleet programme has been in place for ten years and provides a standard framework that its subsidiary companies work to six key objectives. This includes that senior management support safe driving as part of the work culture though leadership, monitoring improvement, training and ongoing engagement. Local Safe Fleet teams are responsible for implementing measures such as training new drivers, reducing cases of high-risk driving and hiring field safety coordinators. Driver development including orientation, home study and behind the wheel training is one of these objectives as is meeting health and safety objectives. These efforts have translated into real success. SAFE Fleet has reduced injuries, accidents per million miles (APMM) and percentage of vehicles involved in incidents. Part of this success has also been due to a high-risk driver early detection system to identify drivers with the potential to drive unsafely. The company uses innovative tools and technologies, including Virtual Risk Manager[16], to identify risks in a proactive way and contribute to further decreases in collisions. J&J are also involved in the leadership of a pan-European fleet safety benchmark initiative and involvement in www.fleetsafetybenchmarking.net to exchange cross-company best practices and experiences. Finally their fleet safety does not end when engaging drivers to take the road safety message home to their families and friends.

Heracles General Cement Co.

Heracles General Cement Co. in Greece, a member of Lafarge group, has implemented a wide scale road safety programme including driver training. The success of the driver training component of the programme lies in its coordination within a wider road safety programme and policy developments, the continuous nature of the training, the collaboration with contractors and a marked accent on defensive Driving training. The company achieved the target of 0 road deaths.

In 2007, training in defensive driving of subcontractor drivers and Head Quarters personnel was implemented, as well as training of new employees though trips with instructors. A series of regular road transport safety meetings with all the company's drivers (more than 600 in total) was launched in 2008, providing an opportunity for discussion and collaboration on safety issues.

Finally, GPS was installed in 2009 in almost 90% of the fleet, providing information for assessing drivers' performance and their profile. As a result speed limit violations were reduced from a number of 14,000 on 1.2million km in January 2009 to 20 violations on 2.2 million km in December 2009.

15 Case Study Summary adapted from http://www.fleetsafetybenchmarking.net/main/repeat/sidemenu/casestudies.php
16 http://www.virtualriskmanager.net/main/

In addition to all the above, road safety is enhanced in terms of technical equipment, by the new "safe pass" of each vehicle, which certifies that the vehicle has passed specific technical inspections in certified workshops ensuring its regular monitoring[17].

Wolseley UK

Wolseley UK is part of Wolseley PLC, one of the world's largest building and plumbing suppliers to both trade and private customers. Wolseley UK operates a fleet of around 3,000 commercial vehicles throughout the UK. Wolseley UK established the Fleet Safety Steering Group, aimed at reducing the number of collisions experienced each year. A number of different initiatives are being introduced at present including some related to driver risk assessment and training. Online driver risk assessment is run based on a scheme of the Risk Foundation and using the Safe Driving Pledge program. Plans are now in discussion for a UK roll-out to 4,500 drivers and a pan-European program for 8,000+ people, followed by a global roll-out to all of the current 74,000 employees who drive as part of their work. One important element of Wolseley's driver training approach is the online driving assessment programme, which has been developed in conjunction with their insurer Zurich, designed to enable the identification of potentially 'at risk' drivers, so that preventive measures can be taken prior to any such incidents occurring. The Risk Foundation section of the online driver risk assessment has taken 15 sections of the Wolseley UK fleet safety policies at random, and tests an employees' understanding of the procedures. An employee cannot complete the assessment or move onto the next section until all the questions are answered correctly and hence the policies both read and understood. Many organisations have road safety policies but few make their interaction with their employees so live[18].

Checklist for Employers to select trainers (adapted from Advanced 2002 and Virtual Murray et al 2009a)

If employers are in a country where a validated accreditation system exists, this should be their first port of call when selecting a training course. We propose that employers refer to this checklist when choosing which training for their employees. For organisations considering the implementation of BTW (behind the wheel) training, the following good practice questions to ask the training supplier have been useful in many previous cases:

a. Can you undertake a full fleet audit to ensure compliance legal requirements on work-related road safety?
b. Can you carry out risk management analysis on costs, causes and collision numbers?
c. Can you provide validated risk assessment, monitoring and evaluation tools?
d. What research and experience is the programme based on?
e. What type of training are you offering (ranging from basic skills, through defensive driving to attitude/management culture based programmes)?
f. Can you administer the programme?
g. Can you train managers, supervisors and in-house trainers if necessary?
h. Will the recommendations/interventions/training be based on a detailed needs analysis or an off the shelf package?
i. Who are your other clients (successes and failures)?
j. Do you have long term performance evaluation data?
k. Will you run an initial small scale pilot programme?
l. What are your pricing mechanisms and are there any hidden 'back end' costs?
m. Will the training require 'work time' or can it take place 'on the job'?
n. What 'shift patterns' do you work to? Is it available 24/7/365?
o. Are you registered, qualified in OHS and risk management and what quality badges do you have?
p. Is driver training actually what we really need, or should we be focussing on wider management culture or mobility management programme?
q. Can the solution offered cope with our volumes of drivers and data?
r. What Management Information, data warehousing and integration with our other systems is provided and how secure will our data be?
s. What long term supplier support is available?
t. How is the driver feedback and feedback to line managers managed?
u. How will the service support our Corporate Social

17 EU-OSHA (in print) Case Studies Report Study of Protection of Road Haulage Workers, Bilbao.
18 Source for Case Study http://www.drivingforbetterbusiness.com/casestudies/wolseley.aspx

Responsibility (CSR) and brand enhancement needs?
v. How will you support our union and change management initiatives?
w. Can the program be implemented beyond the UK, or for international visitors to the UK, and in what languages is it available?
x. How are privacy issues managed, particularly around very sensitive data such as collisions and licence violations?

Training for Grey Fleet Drivers?

Some employees drive their own vehicles for work, the so-called 'grey fleet'. A gap analysis risk assessment should be undertaken to ensure that if drivers use their own vehicles on work business they are also included in the employers' work related road safety policy. Employers need to specify minimum standards of vehicle safety features, maximum age, etc if they are being driven for work purposes. Managing the grey fleet should respect the same requirements as other company cars. Training, following a driver risk assessment, should therefore be offered to all who need to drive for work, regardless of if they are using their own cars or vehicles of the company. Also, any incident involving a vehicle being driven on company business must be reported and investigated for risk management purposes.

Training of other employees?

As well as the training of drivers, employers should also look to integrate road safety requirements into other aspects of their business. This includes training fleet managers themselves but also vehicle purchasers to integrate safe vehicle into their purchasing policies (PRAISE Thematic Report 1). In the transport sector, training should also include those responsible for setting up scheduling to take fatigue into account. Finally, training should also include educating the leadership and management of an employer to raise the understanding of integrating road safety into their management practices.

Recommendations

Employers should:

- Recognise and apply the business case to implementing risk assessment and training.
- As a minimum comply with aforementioned Directives.
- At the interview stage explore past accident or prosecution history and attitudes towards road safety.
- Undertake driver/rider assessment on recruitment. This should also include checking documentation, licences, driver training records and fitness to drive records and assess driving competence and attitudes.
- In case of Powered Two Wheelers also ensure for appropriate training including provision and proper use of protective equipment and clothing and check that this is being implemented by the riders (Directive 1989/391 EEC Article 13.2b).
- Integrate training needs and assessment in an ongoing system of driver monitoring.
- In case of a collision or driving incident (even when driving own vehicle for work purposes), undertake an in depth driver assessment.
- Fully train drivers in all relevant aspects of their jobs. Refresher training to ensure that drivers will maintain a high level of performance over a prolonged period of time should be performed.
- Provide adequate training if the driver is required to drive a new or different type of vehicle or with in-vehicle safety technology.
- Choose accredited trainers, if this system exists, use a checklist to choose their training provider and ensure that the training delivered is tailored to the needs of the driver.
- Ensure that training sessions include reference to specific company policy on driving for work.
- Subject drivers using their own vehicles to the same recruitment, induction, assessment and training procedures as company-car drivers.
- Integrate road safety relevant themes into the professional development of other staff such as schedulers, vehicle purchasers and of course management and leadership.

Conclusion

Applying risk assessment and appropriate driver and rider training is a key part in improving road safety whilst driving for work. Examples of what can be done also illustrate the benefits of this approach. This Thematic Report has presented the main ingredients for employers to put into practice and take note of when setting up the system for driver risk assessment and training. It has also presented room for further action on the European and Member State level for improving existing legislation and initiatives. A PRAISE Fact Sheet Case Study focussing on Driver Assessment and Training featuring the Suckling Transport

Company is published together with this Thematic Report.

ETSC would like to thank the following experts who contributed to this report:
Will Murray, Esko Keskinen, Mika Hattaka, Marc Pannacci, Jacqueline Lacroix, Greet Deschrijver, Maria Cristina Marolda.

References and Further Reading

Advanced Project (2002) http://www.cieca.be/download/SummaryAdvancedEN.pdf

Darby, P., Murray, W. & Raeside, R. (2009). Applying online fleet driver assessment to help identify, target and reduce occupational road safety risks. Safety Science, 47, 436–442.

Downs, C.G., Keigan, M., Maycock, G. and Grayson, G.B. (1999) The Safety of Fleet Car Drivers: a Review. TRL.

DVR (German Road Safety Council), UK/BG (German Statutory Accident Insurance), 2009 "To the Point 3 _- studies on drive like a pro – safe driving, both in a professional and a private context."

ETSC (2003) Transport Safety Organisation in Public and Private Sectors, http://www.etsc.eu/documents/safetyorg.pdf.

Elvik, R. and Vaa, T. (2004) Road Safety Handbook, Elsevier, Amsterdam.

EU OSHA Factsheet Preventing Vehicle Transport Accidents at the Workplace, http://osha.europa.eu/en/publications/factsheets/16/view.

EU OSHA Factsheet Preventing Road Accidents involving Heavy Good Vehicles, http://osha.europa.eu/en/publications/factsheets/18/view.

GDE Matrix (CIECA Project 2007: "Integrating the GDE Matrix into category B Driver Training", http://ec.europa.eu/transport/road_safety/consultations/doc/2009_06_22_training_education_consultation_paper_annex.pdf.

Gregersen, N.P., Brehmer, B. and Moren, B. (1996) Road safety improvement in large companies. An experimental comparison of different measures. Accident Analysis and Prevention, 28, 297–306.

Health and Safety Executive (2000) Driving at Work: managing work-related road safety http://www.orsa.org.uk/guidance/pdfs/hse_guide.pdf.

ETSC PIN Flash 7 (2007) Reducing Motorcyclist Deaths in Europe ETSC.

Haworth, N., Tingvall, C. and Kowadlo, N. (2000) Review of Best Practice Road Safety Initiatives in the Corporate and/or Business Environment, Report N. 166, Monash University, March 2000.

Keskinen, E., Peräaho, M. and Laapotti, S. (2010). GDE-5PRO and GDE-5SOC: goals for driver education in a wider context - professional and private drivers in their environment (unpublished manuscript). Unversity of Turku, Finland.

Murray W & Dubens E Driver assessment including the use of interactive CD-ROMs Paper presented at the 9th World Conference on Transportation Research, Seoul, 24-27 July 2001.

Murray, W. 2004, The driver training debate The driver training debate. Roadwise: Journal of the Australasian College of Road Safety, Vol 14 (4), May 2004, pp. 3-5.

Murray, W., Pratt, S., Hingston, J. & Dubens, E. (2009a). Promoting Global Initiatives for Occupational Road Safety: Review of Occupational Road Safety Worldwide (Draft), www.cdc.gov/niosh/programs/twu/global.

Murray, W, Ison, S.G., Gallemore, P and Nijjar, H.S., Effective Occupational Road Safety Programs: A Case Study of Wolseley, Transportation Research Record, 2096, 2009b, 55-64.

Niewoehner, W. Berg.F; A., Froncz, M. (2001) Accidents with Vans and Box-Type Trucks: Results from Official Statistics and Real-Life Crash Anaylses DEKRA.

Reason, J. (1997). Organizational accidents. Manchester: Manchester University Press.

Royal Society for the Prevention of Accidents Driver Assessment and Training, http://www.rospa.com/roadsafety/info/drivertraining.pdf.

Royal Society for the Prevention of Accidents Safer Motorcycling Through Work, http://www.rospa.com/roadsafety/info/motorcycling_through_work.pdf.

Stanton, N.A. Walker G. H., Young, M.S., Kazi, T. and Salmon, P.M. (2007) Changing driver´s minds: the evaluation of an advanced diver coaching system.

Thierry, H. (2003) Calendar model of work behavior. Paper presented at the European Congress of Work and Organizational Psychology (EAWOP), Lisbon, Portugal.

Members

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

Board of directors

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

Executive director

Antonio Avenoso

Secretariat

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

PRAISE Reports

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

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

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