





About PRAISE

Using the roads is a necessary part of our working lives. But it's an ordinary activity that leads to an incredibly high level of injury and death. ETSC's PRAISE (Preventing Road Accidents and Injuries for the Safety of Employees) project addresses the safety aspects of driving at work and driving to work. Its aim is to promote best practice in order to help employers secure high road safety standards for their employees.

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Contributing Experts

ETSC gratefully acknowledges the invaluable contributions of the following experts in the preparation of this report:

Nicola Christie - University College London

Fernando Rodríguez Camarero – Fundacion Mapfre

Emmanuelle Dupont – Belgian Road Safety Institute

Jacqueline Lacroix - German Road Safety Council

Will Murray - Interactive Driving Systems

Deirdre Sinnott - Health And Safety Authority, Ireland

For more information

European Transport Safety Council 20 Avenue des Celtes B-1040 Brussels Tel: +32 2 230 4106

information@etsc.eu www.etsc.eu/praise

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MANAGING YOUNG DRIVERS AT WORK

Authors Luana Bidasca Ellen Townsend

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PART I INTRODUCTION



Organisations are increasingly aware of the business case for introducing road safety management programmes to reduce work-related road risk. The many benefits include cutting preventable injuries, mitigating losses associated with collisions and boosting corporate social responsibility efforts¹.

The focus of this report is to give an overview of the issues specific to managing young drivers at work. Evidence shows that young people have the highest collision involvement of any road user group². This report looks into the direct and indirect factors associated with higher collision rates of young drivers at work and makes recommendations on how to assess and mitigate the specific risks associated with this group.

The report begins with a look at the data, to assess the nature and scale of the challenge. This is followed by an overview of the most common risk factors and how they impact on younger drivers. Risk assessment for this group is also examined, together with management issues including recruitment policies. Some recommendations are also given on vehicle choice and in-vehicle technologies that can help mitigate the risks linked to, for example, speeding, intoxicants (drugs and alcohol) and fatigue.

Case studies highlighting how real businesses from across Europe have been tackling the risks associated with young drivers can be found throughout the report, as well as recommendations and links to further information on other aspects of work related road safety management (WRRSM).



¹ ETSC (2014) The Business Case for Managing Road Risk at Work.

² ETSC (2013) 7th Annual Road Safety Performance Index (PIN) Report.

1.1 Young people in traffic: what the data show

Young people continue to face a disproportionately high risk on the road, especially young males. Between 2001 and 2010, around 140,000 young people aged 15 to 30 were killed in road collisions in the EU27. In 2010, 9,150 young people aged 15 to 30 were killed in road collisions, compared with 18,670 in 2001³. In other words, road fatalities have more than halved amongst the age group over the space of 9 years.

Despite these improvements, young people continue to face a disproportionately high risk on the road, especially young males. On average, the road mortality rate is 69% higher for young people than it is for the rest of the population. But for young males specifically, this figure increases to 168%. Approximately one in four young people who die within Europe's borders do so as a result of a road collision.

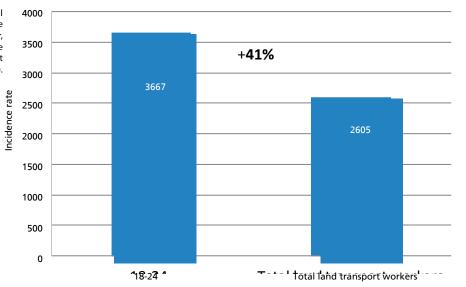
Young drivers, especially males, are not just a danger to themselves; they also pose a greater risk to their passengers and other road users than all other age groups⁴. For each young driver killed, an additional 1.2 passengers or other road users are killed during the same accident. Collisions involving a young vehicle user account for 37% of total road traffic deaths.

The importance of differentiated data collection is crucial for assessing the impact of measures taken⁵ at EU, national, and also employer level. Monitoring employee policies will assist businesses in reaching organisational targets, and in assessing the cost-effectiveness of measures in place, as well as identifying areas where further progress is possible.

At the European level, collision data is already collected. This section presents the latest statistical data concerning young people on Europe's roads. A few examples of countries that collect specific occupational road deaths data will also be highlighted.

The following graph concerns non-fatal road accidents at work for those working in "land transport and transport via pipelines." It can be seen that the incident rate of young workers (18 - 24) is almost 41% higher than for older workers.





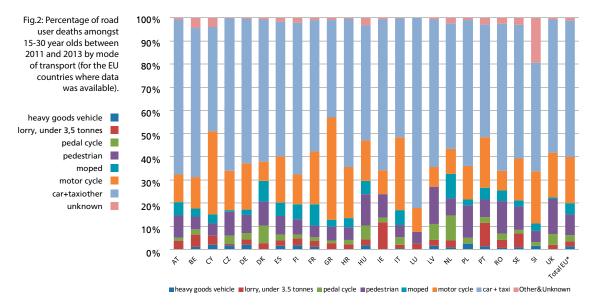
³ ETSC (2012) 6th Annual Road Safety Performance Index (PIN) Report.

⁴ Ibid.

⁵ Ibid.

⁶ This division includes the transport of passengers and freight via road and rail, as well as freight transport via pipelines: http://bit.ly/1zpOse8

Number of non-fatal accidents at work per 100 000 people employed: http://bit.ly/1bSxU3K

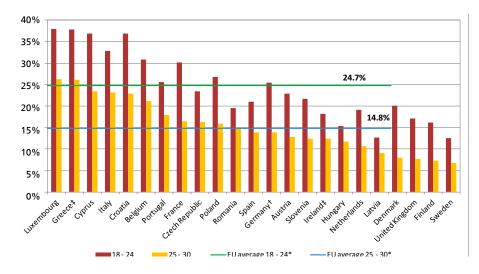


The chart above illustrates the percentage of youth road fatalities according to each mode of transport. Young people killed in car collisions (either as drivers or occupants) dominate the statistics (this being largely due to higher exposure).

New data from PIN panellists of young road deaths by age category shows the disproportionate risk these road users face in different EU countries. In countries such as Greece, Cyprus and Croatia, over 35% of deaths for people between 18 and 24 were due to a road collision. The average share was lower for young people aged 25 to 30 (14.8% versus 24.7% for 18 to 24 years old). However, in Greece, Italy or Croatia, it still accounted for over 20% of deaths in that age category. The data show the increased risk young drivers face on the road, and highlight the need for targeted actions at national level.

Fig.3: Share of young people's road deaths out of the total number of youth deaths in the respective age category – average for 2011 – 2013 for the countries where data was available. † Only 2010-2012 Eurostat data were available to calculate the average total number of youth deaths for both age categories. ‡ Last year available for the road deaths by age was 2012. Luxembourg data should interpreted with caution as the total values were low.



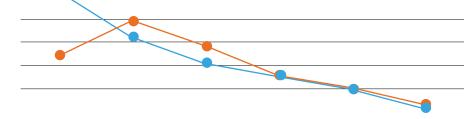


The Belgian Road Safety Institute has conducted a study on work-related road collisions based on data provided by the Belgian Work Accident Fund. The research covers both collisions during commuting and work-related journeys, and involves all types of road users. The data did not include self-employed workers and workers from the public sector. When looking at the distribution of work-related collisions by

age, the data mainly reflect the share of the various age categories in the working population. But when disparities in terms of level of employment are controlled for by calculating the number of work-related road collisions per 1000 workers for the different age categories – the data clearly show that the rate of work-related road collisions decreases with age⁸.

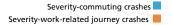
Fig. 4 Number of work-related road collisions per 1000 workers in Belgium by age and gender, 2010-2012 -Source: Belgian Road Safety Institute; Belgian Work Accident Fund; Belgian National Security Office.

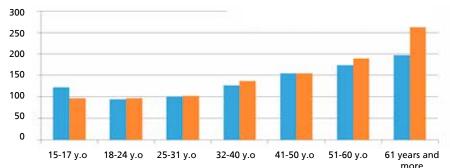
Men Women



When looking at the severity of work-related collisions - defined as the ratio of accidents resulting in the death of the worker or in permanent work incapacity per 1000 work-related accidents – the chart below illustrates that severity increases with age⁹.

Fig.5 Severity of work-related road collisions (collisions resulting in death or permanent work incapacity/1000 workrelated road collisions) in Belgium as a function of age (2008-2012) - Source: Belgian Road Safety Institute; Belgian Work Accident Fund.





A self-reported crash involvement study by Darby et al. (2009)¹⁰ found that company drivers of 21-25 years of age had a higher crash rate than company drivers of 17-20 years of age. This is most likely because the younger drivers had not been driving on company business for very long and had not entered in to jobs which entailed a lot of vehicle use and consequently they had been exposed to less risk. They may also not have held a driving license for the full three year period over which the collision data were based. The study also found that maturity is generally associated with a lower involvement in collisions. Age groups lower than 50 years and those that drive a higher mileage or longer driving hours were linked to higher likelihood of collision involvement. Those who had been for an eyesight test or license check as well as those who drove a car to work were found to be less likely to be involved in a collision. Drivers that scored well on attitudes to safe driving and hazard perception were also less likely to crash.



RECOMMENDATION TO MEMBER STATES:

■ Collect data on young driver journeys and young drivers employed in each economic sector and in the transport sector as drivers and professional drivers (as defined in the CPC Directive) to establish a reliable profile on young driver collision involvement by economic sector.

⁸ Steegmans D., Dupont E. (2015) Impact des accidents du travail liés à la circulation. Bruxelles, Belgique : Institut Belge pour la Sécurité Routière - Centre de Connaissance.

⁹ Ibid.

¹⁰ 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(3), 436-442.

PART II

ADDRESSING KEY RISK FACTORS

Young drivers are susceptible to all the major driving risk factors, such as speeding, drink and drug driving, and night-driving. This section will address the main road safety risks together with work specific risk factors such as fatigue and stress. Young drivers at work face, and create, a higher risk than other drivers because they are inexperienced and because driving for work involves a higher risk than driving for personal reasons¹¹.

Furthermore, the higher levels of young and novice driver risk result principally from factors of inexperience, age, and gender. Research has indicated that lack of experience is the most notable cause of the high collision rate among young and novice drivers and that a sharp decrease in crash liability during the first few years of driving is noticed in young and novice drivers. This is mostly associated with experience rather than age. Several analyses of month by month collision statistics after licensing showed that initially very high collision involvement decreases rapidly during the first half year of driving¹².

This risk is aggravated by the circumstances under which many young people drive. Young people, especially men, are over-represented in collisions at high speed, at night, involving alcohol, and when not wearing seatbelts¹³. Collision causation studies have found that 75% of young drivers were at fault when involved in a collision and that "the types of collisions were largely run off the road, rear end, and right-of-way violations. The factors involved in these collisions were found to be failures of detection, speeding and loss of control"

It is well known that young car drivers run a higher risk of being involved in road traffic crashes and suffer road traffic injury than older drivers. It is less known that, among young drivers, road traffic injuries are far more common among those coming from lower socioeconomic groups¹⁵. Research indicates that social deprivation is associated with increased injury and fatality levels in collisions. Studies have identified two main problem areas of social deprivation and road safety: the first is concerning the behaviours of younger drivers and their passengers, who took the most risks and travelled at the high speeds. As opposed to older drivers who are prone to errors, younger ones were more likely to commit traffic offences¹⁶.

¹¹ RoSPA (2009) Young Drivers at Work.

¹² Maycock et al., (1991) in OECD (2006) Young Drivers. The road to safety.

¹³ OECD (2006) Young Drivers. The road to safety

¹⁴ McKenna, F.P (2012) Young Driver Challenges.

¹⁵ Hasselberg, M., Laflamme, L. (2008) Road traffic injuries among young car drivers by country of origin and socioeconomic position. International Journal of Public Health, 53(1), 40-45.

¹⁶ Åberg and Rimmö (1998) in Clarke et al (2008) "A poor way to die: social deprivation and road traffic fatalities". Behavioural Research in Road Safety 2008. Department for Transport.

2.1 Speeding



Speeding is a primary factor in about one third of fatal and serious collisions and an aggravating factor in all accidents where it occurs¹⁷. Loss of control of the driving task, and thus potentially of the vehicle, arises when the demands of the driving task exceed the capability of the driver¹⁸. ETSC's PRAISE Report on Managing Speed¹⁹ outlines that employers have a clear responsibility to reduce incentives to speeding and to raise understanding of the serious consequences it can have, especially for young drivers. It is recommended that, before a new employee is assigned a vehicle for driving for work, the employer should assess their competence (knowledge, skill and experience), needs and vehicle options. Employers should also be aware of the various types of passive and active vehicle safety technologies on the market that can assist with speed management (see chapter 4) and should include the most appropriate of these as standard requirement when purchasing or leasing vehicles.

In general drivers do not appreciate that speed is associated with risk where their own driving is concerned.

Research from the UK has demonstrated that, "in terms of the speed of an individual driver relative to the speed of all drivers, faster drivers tend to be younger rather than older and to drive high annual mileages in company cars; they were also likely to be in the managerial, administrative or professional occupational groups and to be travelling without passengers for business purposes". Industry data also suggest that speed is the most common drivers licence violation type received by most company car drivers in the UK²⁰.

The SARTRE project found that the age group most likely to find speeding acceptable is those aged 18-24. One of the main findings of this report, which should be key information to employers trying to manage speed, is that in general drivers do not appreciate that speed is associated with risk where their own driving is concerned. For example, whereas 18% of drivers report driving faster than average, only 4% acknowledge that it can be more dangerous²¹. In the work context, there is also the work-driver effect²², caused by the extra pressure of work including time pressure, time sensitive deliveries, payment by results, as well as other work distractions, which can all cause drivers to speed or lose concentration.



- Assess employee competence and needs, taking into account age and experience, when selecting vehicle type and most appropriate speed adaptation and limiting technologies.
- Adopt a clear speed policy advocating driving at speeds that are appropriate to the prevailing conditions rather than just focussing on speed limit compliance.
- Communicate to staff the reasons why policies are in place and the consequence of driving at inappropriate speeds for employees and other road users, particularly vulnerable road users.
- Require employees to comply with company policy at all times when using company provided vehicles or own vehicles when driving for work.
- The socioeconomic patterning of road traffic injuries among young people should receive attention from employers, public health and road safety authorities.

¹⁷ OECD/ECMT (2006) Speed Management.

¹⁸ Fuller, R. (2005) Towards a general theory of driver behaviour. Accident Analysis and Prevention, 37, 461-472

¹⁹ ETSC (2011) Driving for Work: Managing Speed.

²⁰ ETSC (2011) Driving for Work: Managing Speed.

²¹ SARTRE 4 (2012) European road users' risk perception and mobility.

²² Broughton et al. (2003). Work-related road accidents. TRL Report 582. Crowthorne: Transport Research





The business case for addressing alcohol impaired driving in the workplace is strong. The vast majority of citizens with alcohol problems are employed full time. Employers can reap productivity gains and savings from a reduction in alcohol-related vehicle collisions²³.

Driving is more demanding for young novice drivers than for other drivers and, as they need to pay more attention to their driving task, the disrupting effect of alcohol is greater than for drivers with more experience.

Alcohol and drugs, even if they are consumed outside working hours, can have long-lasting effects that continue into work time. Drink driving is particularly dangerous for young people for several reasons²⁴:

- Their tolerance of alcohol is lower, as their body is not used to dealing with it.
- Driving is more demanding for young novice drivers than for other drivers and, as they need to pay more attention to their driving task, the disrupting effect of alcohol is greater than for drivers with more experience.
- Alcohol reduces inhibition. As young people possess less developed self-control mechanisms, they suffer a stronger euphoric and emotional impact from alcohol.
- Studies have shown that young people tend to underestimate their actual level of intoxication.

In 2001 the EU published a recommendation on the maximum authorised level of alcohol in the blood of motor vehicle drivers. While the maximum recommended level for passenger car drivers was set at 0.5 g/l, the second reduced level of 0.2 g/l was recommended for drivers of heavy commercial vehicles (above 3.5 tonnes) and for novice drivers. However, Member States were not required to implement these limits and several have failed to follow the recommendation for young drivers²⁵.

Only in Bulgaria, Denmark, Finland, Malta, Portugal and the UK are novice drivers allowed to have as high a BAC as other older drivers, namely up to 0.8g/l in Malta and the UK and up to 0.5 g/l in the rest. In France the legal alcohol limit for new drivers will be reduced from 0.5 grams per litre to 0.2 g/l in 2015.

²³ Network of Employers for Traffic Safety NETS.

²⁴ European Road Safety Observatory (2006) Novice Drivers.

²⁵ Maximum allowed BAC limits for EU countries for all category of drivers can be found on the ETSC webpage at - http://etsc.eu/blood-alcohol-content-bac-drink-driving-limits-across-europe/

This measure is particularly aimed at the 18-24 age group, in which alcohol was responsible for a quarter of road deaths between 2011 and 2013²⁶. Belgium lowered the BAC limit to 0.2 g/l for professional drivers in 2014.



RECOMMENDATIONS TO EMPLOYERS:

- Inform and educate employers and employees about the risk of drink-driving and adopt a zero tolerance approach to alcohol in the work place and whilst driving for work.
- Develop clear written internal policies and procedures on drink driving and screening (e.g. before employment, after a collision and randomly) linked to clear consequences for non-compliance up to and including dismissal.
- Train supervisors, line managers and drivers on the negative effects of alcohol on driving, and how to identify the symptoms of alcohol misuse.
- As part of a preventative and holistic road safety policy, install alcohol ignition interlocks in commercial vehicles.



2.3 Drug use

The use of prescribed and illegal drugs is more common in young people and is associated with their age and lifestyle. ETSC's report on Fitness to Drive looked into prescription and illicit drugs use and how it can affect drivers at work²⁷. Studies show that the range of psychoactive substances available for illicit use is widening, and evidence of their use amongst drivers has been found. Drug use is being discovered in various subsets of the motoring population, whether while being tested randomly, upon suspicion, in hospital or after a collision resulting in death²⁸.

As in the case of alcohol impairment, drivers may still be under the influence of an illegal substance during work hours, from having consumed the evening before. Prescribed medicine is also used by drivers to counter sleepiness. Time pressure, stress and peer pressure may lead to drug and alcohol use²⁹.

The DRUID project found that cannabis was the most frequently detected drug in drivers, followed by cocaine. Illicit drugs were in general mainly detected among young male drivers, during all times of the day but mainly during the weekend³⁰. Cocaine was mainly found in male drivers and, in general, the prevalence of cocaine was very low but varied significantly by age and country. Cocaine was most prevalent among male drivers aged 25-34 years, and least prevalent in the age group 50 and above. Cocaine was detected during all time periods. Cannabis seemed to be a weekend drug mainly detected in younger male drivers.



http://etsc.eu/fitness-to-drive/

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



²⁶ http://etsc.eu/france-announces-new-road-safety-measures-as-deaths-rise/

²⁷ ETSC (2010) Fitness to Drive.

²⁸ ECMDDA Insights 8 in ETSC (2010) Fitness to Drive.

Millies (1998) in ETSC (2010) Fitness to Drive.

³⁰ DRUID (2012) Final Report: Work performed, main results and recommendations.

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About 16% of all collisions are sleep related and a substantial proportion of sleep related collisions involve people under the age of 30

2.4 Fatique

ETSC's report on tackling fatigue investigated the risks for commercial drivers³¹. It found that young male drivers, truck drivers, company car drivers and shift workers are most at risk of falling asleep while driving. Research investigating the relationship between sleep and performance in general and collision involvement in particular shows that about 16% of all collisions are sleep related and that a substantial proportion of sleep related collisions involve people under the age of 30³².

Young male drivers are most commonly involved in sleep-related road collisions, but this may be because they are more likely to drive in situations which are likely to lead to fatigue rather than because they are more susceptible to falling asleep at the wheel³³. Similarly, shift workers and commercial vehicle drivers may have a higher risk of sleep-related collisions due to work-related factors³⁴. Other research suggests that the higher risk of younger drivers is primarily due to chronic sleep debt accumulated through poor sleep habits linked to lifestyle³⁵.

Several studies have found that young drivers, and males in particular, were the most likely to be involved in fall-asleep collisions. For example, Åkerstedt & Kecklund³⁶ studied the factors associated with involvement in early-morning collisions (from midnight to 6 am), controlling for driving exposure. They reported that the highest risk for early-morning collisions was for younger drivers. Their collision risk at this time was at least five times higher than their risk when driving at other times of the day. The age factor may also play a role with professional drivers. In a simulator study, Otmani et al.³⁷ found that young professional bus and coach drivers had more difficulty to drive in light traffic and felt sleepier during light traffic driving in the late evening than middle-aged professional drivers³⁸.



- Adopt journey management strategies to minimise fatigue.
- Train drivers to take rest breaks and find somewhere safe to stop if they feel sleepy.
- Allocate budget for overnight accommodation and develop subsistence policy that fits in with journey management practices.

³¹ PRAISE (2011) Tackling Fatigue: EU Social Rules and Heavy Goods Vehicle Drivers .

³² McKenna, F.P (2012) Young Driver Challenges.

³³ Jackson, P., et al. (2011) Fatigue and Road Safety: A Critical Analysis of Recent Evidence. Department for Transport, Road Safety Web Publication No. 21.

³⁴ Dacota-Project (2013) Fatigue.

³⁵ RoSPA (2011) Driver Fatigue and Road Accidents.

³⁶ Akerstedt, T. & Kecklund, G. (2001) in European Road Safety Observatory (2006) Fatigue.

³⁷ Otmani, S., Rogé, J. & Muzet, A. (2005) in European Road Safety Observatory (2006) Fatigue

³⁸ ERSO (2007) Young Drivers.

2.5 Stress

Time pressures may cause drivers to engage in unsafe behaviour while driving, such as speeding, overtaking and following vehicles closely.³⁹ The pressures of just-in-time management in the professional transport industry, and the risks this poses to road safety in terms of issues such as fatigue and speeding, are already well documented⁴⁰ and can also affect young drivers.

Lorry and bus driving hours are regulated in Europe through tachograph legislation and through the use of maximum speed limiters. However, vans are currently exempt from this legislation (see ETSC's PRAISE Report on Van Safety⁴¹). Workloads are also increasing and employees can face escalating pressures, for example pressure from clients to deliver faster and more cheaply, with issues such as 'just-in-time management', increased traffic, remote monitoring and working irregular and long hours.

Drivers can be over-stressed by the demands placed on them to complete work or to deliver goods to meet the schedules of modern transport systems. If they fail to meet such schedules, employers may have to compensate the client for delays incurred. Two other common practices of delivery jobs are "job and finish" and payment by customer contact. These are incentives that could encourage staff to travel at unsafe speeds or adopt risky behaviours.

The "Delivering Safely" information sheet developed by the Irish Health and Safety Authority stresses the importance of effective consultation and communication with the drivers. Cooperation in the transport chain can be used to influence and result in safer deliveries in all situations⁴². At the European level, the Occupational Health and Safety Agency is running a campaign raising awareness on the risks of psycho-social stress



For more information:

http://etsc.eu/managing-

the-road-risk-of-van-fleets/

RECOMMENDATIONS TO EMPLOYERS:

- Provide journey planning capabilities for managers and employees to facilitate realistic scheduling of trips and contribute to appropriate time management.
- In dealing with clients, avoid making any concessions that might adversely affect work related road safety, such as commitments to deliveries or completion of work packages that set unrealistic time constraints.
- Establish schedules, including those for sub-contracting chains, which allow drivers enough time to obey speed limits and avoid peak hours driving. These should be flexible and adaptable to changes such as the weather.
- Review scheduling, rostering and load route planning arrangements and proactively address driver stress in the context of risk management practices.
- Ensure that the current shift patterns, journey planning, employment contracts and work schedules do not contribute to risky behaviour.

FIND OUT MORE

For more information and tools on assessing and tackling stress in the workplace, see the EU OSHA's healthy workplaces campaign www.healthyworkplaces.eu





- 39 Husband, P.A., (2011) Work-related drivers A review of the evidence on road safety initiatives for individuals at work: implications for practice.
- ⁴⁰ ETSC (2011) Tackling Fatigue: EU Social Rules and Heavy Goods Vehicle Drivers.
- ⁴¹ ETSC (2014) Managing the Road Risk of Van Fleets.
- ⁴² Health and Safety Executive (2013) Delivering Safely Information Sheet.

2.6 Distraction

Driver distraction is thought to play a role in 20-30 per cent of all road collisions

Distracted driving has been defined as the "diversion of attention away from activities critical for safe driving toward a competing activity"⁴³. ETSC's report on minimising distraction at the workplace⁴⁴ gives examples of physical, visual, auditory and cognitive distractions and recommendations to tackle these. Young people tend to lead technology-friendly lifestyles which make them prone to distraction while on the road.



A recent study by Yannis et al. on young drivers showed that texting leads to statistically significant decrease of the mean speed and increase of the mean reaction time in urban and rural road environment. Simultaneously, it leads to an increased collision probability due to driver distraction and delayed reaction at the moment of the incident. The study also found that drivers using smart phones present different driving behaviour with respect to their speed (mean speed was lower), however, they had an even higher probability of being involved in a collision ⁴⁵.

Driver distraction is thought to play a role in 20-30 per cent of all road collisions⁴⁶. There is a long list of distractions that undermine the driver or the rider's ability to perform the driving task.

Distraction increases the risk of a collision or a near-collision among novice drivers who are performing secondary tasks such as texting and dialing mobile phones A study from the Belgian Road Safety Institute estimated that at least 4 per cent of trips on Belgian roads are made while talking on the phone, in addition to drivers using their mobile phones to send or receive texts, browse the internet or play games. Given the large amount of distraction observed among drivers of goods vehicles on motorways (vans and trucks) and during week days (a prevalence for mobile phone use), it was concluded that professional travel is especially affected by distraction-related issues while driving⁴⁷. Other research linked distraction with higher risk of a collision or a near-collision among novice drivers as they were performing secondary tasks to driving, including texting and dialling mobile phones⁴⁸.

- Adopt a clear policy against distracted driving / use of mobile phones and other electronic devices while driving for work, including as a minimum "engine on, phone off" and asking staff to put their phone on voicemail with an appropriate message.
- Make sure that senior managers take the lead by being seen to comply with company distraction policy at all times.
- Undertake a review of communication strategies and tools in place. Communicate to staff the reasons why policies are in place.
- Create a safety culture: management should ensure work practices that do not pressurise staff to use a mobile phone or another electronic device while driving.

⁴³ Klauer, S. G., Guo, F., Simons-Morton, B. G., Ouimet, M. C., Lee, S. E., & Dingus, T. A. (2014). Distracted Driving and Risk of Road Crashes among Novice and Experienced Drivers. New England Journal of Medicine, 370(1), 54-59.

⁴⁴ ETSC (2010) Minimising In-Vehicle Distraction

⁴⁵ Yannis, G., et al. (2014) Impact of texting on young drivers' behavior and safety on urban and rural roads through a simulation experiment.

⁴⁶ IGES Institut, ITS Leeds, FTSC (2010) Study on the regulatory situation in the Member States regarding broughtin (i.e. nomadic) devices and their use in vehicles. Study tendered by the European Commission, Berlin 2010.

⁴⁷ Riguelle, F., Roynard, M. (2014) Conduire sans les mains. Utilisation du GSM et d'autres objets pendant la conduite sur le réseau routier belge. Bruxelles, Belgique: Institut Belge pour la Sécurité Routière – Centre de connaissance Sécurité Routière.

⁴⁸ Klauer, S. G., Guo, F., Simons-Morton, B. G., Ouimet, M. C., Lee, S. E., & Dingus, T. A. (2014). Distracted Driving and Risk of Road Crashes among Novice and Experienced Drivers. New England Journal of Medicine, 370(1), 54-59.





There is a trend of increased commuting distances for workers across the European Union due to difficult economic circumstances; employees are travelling longer distances to their work-place

2.7 Commuting

As outlined in ETSC's PRAISE report on safer commuting⁴⁹, the risk of being involved in commuting collisions might be increasing as populations decentralise and choose to live further away from work. Data from the Fourth European Working Conditions Survey on "commuting time" demonstrate that the percentage of workers living more than 20 minutes away from work has increased. There is also a trend of increased commuting distances for workers across the European Union due to the economic crisis, as employees have to travel longer distances to their work-place.⁵⁰

ETSC's PRAISE report on Safer Commuting to work made very clear the fact that commuting collisions are a very significant proportion of all fatal occupational collisions, and that most commuting collisions are, unsurprisingly, road collisions. The report made the case for why commuting should be managed by employers through travel plans and safe company vehicle management and management of grey fleet. The report also encouraged alternative means of commuting to work such as car pooling, cycling, walking, and public transportation or company shuttles⁵¹.

A study conducted in Germany⁵² revealed that the risk is higher for young commuters up to 25 years of age (2.5 higher than for commuters between 25 and 50 years) and for women. The study showed also that the risk of being involved in a commuting collision doubles during darkness and early morning hours. Between midnight and 5:59 AM, 1.8 more drivers per 1 million km driven are involved in a commuting collision than between noon and 19:59 AM. Beside the factor of fatigue, the survey conducted in the context of the study showed that the drivers have the subjective feeling to be less at risk due to less traffic during night commuting. Due to darkness, the weather conditions and the traffic and road circumstances are often not interpreted in an appropriate way by the drivers.



RECOMMENDATIONS TO EMPLOYERS:

- Help employees to maximise their safety when they are about to use the roads, through adapting working hours accordingly, providing information about the traffic conditions to assist employees prepare their trip (weather conditions, road works) and providing maps on the best way to reach the place of work.
- Reduce unnecessary journeys, including providing a canteen for lunch breaks and, for certain occupations, setting shifts that do not provide long breaks that might encourage employees to return home in the middle of the day.
- Incentivise public transport by providing discounts to employees, or providing shuttles financed by the employer.

Commuting accounts for a little over 20% of work related deaths in Spain, and reaches 45% in Germany. In France 47% of work related deaths occur on the road, which highlights the increased risk employees face while using the road for work.

For more information: http://etsc.eu/5kzYY

⁴⁹ ETSC (2010) Safer Commuting to Work.

⁵⁰ Rzin, E., Dijst, M., Vazquez, C., (2007) Employment Deconcentration in European Metropolitan Areas: Market Forces versus Planning Regulations, Springer Science & Business Media – Publisher.

⁵¹ ETSC (2010) Safer Commuting to Work.

⁵² Geiler M, Musahl, H.-P. (2003): Zwischen Wohnung und Arbeitspaltz. Eine Untersuchung zum Arbeitsweg und zum Wegeunfallgeschehen. Zeitschrift für Verkehrssicherheit 49.

PART III

RISK ASSESSING YOUNG DRIVERS

3.1 Where to start

Duty of care, occupational health and safety and road safety compliance are legal necessities in all EU Member States, and are an essential consideration for employers.

The European Framework Directive 89/391/EEC on the health and safety of workers⁵³ requires every employer in Europe to undertake a risk assessment according to the principles of prevention. This should include employees driving and travelling for work. A special focus should be taken when considering young drivers reinforced by a specific Directive 94/33 EC on protecting young people at work. This Directive also includes specific provisions relating to working hours, night work, rest periods, annual leave and rest breaks. Moreover, there are convincing economic arguments that support the need to prepare and implement a WRRRM programme set out in the ETSC report on the business case for managing work-related road safety⁵⁴. As mentioned earlier, measures focussing on improving road safety for all employees who drive will also benefit young drivers⁵⁵.

Costs can be split into two types: vehicle costs and driver costs. Sometimes the full costs of a collision are hidden. While the obvious costs such as repairs are easy to see, the hidden costs such as absenteeism, customer service intervention, downtime, loss of production, damaged reputation, loss of clients and administrative burden are often forgotten.

3.2 Work-Related Road Risk Management (WRRRM) Models

There are different models and management frameworks for managing work-related road risk as outlined in an earlier PRAISE report⁵⁶. Two examples: the ISO standard and the Haddon Matrix, both stress the need to look at the driver, vehicle and journey. All these factors are also relevant when looking to reduce the risk of young drivers. For a more detailed overview and presentation of the models, refer to the earlier report. Such an approach and framework, with vehicles and drivers managed as part of the workplace, is relevant to organisations of all types and sizes, including SMEs.

3.3 The importance of risk assessment

As previously mentioned, there are a variety of management models for WRRRM which state the importance of clearly assigning the roles and responsibilities of all staff involved. All of the management models include the need to undertake a risk assessment. It is also a requirement of EU legislation⁵⁷. Specific to transport, is the risk assessment of the three elements: road user (driver, pedestrian, cyclist, motorcyclist), the journey and the vehicle⁵⁸.

⁵³ Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work.

⁵⁴ ETSC (2014) The Business Case for Managing Road Safety At Work.

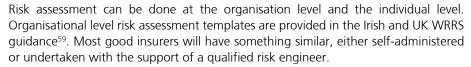
⁵⁵ OECD (2006) Young Drivers

⁵⁶ ETSC (2012) Work Related Road Safety Management Programmes.

⁵⁷ Ibid.

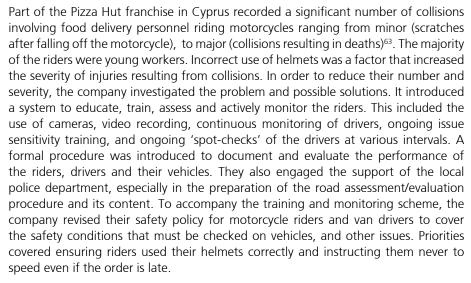
⁵⁸ Ibid.





At the individual driver, vehicle or journey level Dubens and Murray⁶⁰ and Murray⁶¹ suggested a six-step approach to implement an assessment, monitoring and improvement programme which has been adapted to reflect the legal requirements of Directive 89/391/EEC⁶² and is detailed in ETSC's PRAISE Thematic Report on Work-Related Road Safety Management Programmes.

Example - Pizza Delivery - Cyprus



The main results documented were three-fold. The company noted a significant decrease in the frequency and severity of incidents involving their motorcycle riders. In addition, the condition in which motor vehicles were kept improved significantly. And, finally, cooperation between managers and staff on health and safety also improved considerably.

3.4 Overconfidence and risk assessment

Of specific relevance to young people when undertaking a risk assessment is overconfidence. The OECD report on young drivers points out that young and novice drivers have a poor perception of their actual ability⁶⁴. They are generally not good at assessing potential and real risks in different traffic situations. They underestimate the demands of the driving task and overestimate their own ability behind the wheel. Although, it must also be noted that experienced drivers also tend to rate themselves better than the average experienced driver. The difference is that, among experienced drivers, the gap between self-assessment and actual skills is less, and this misconception less often leads to risk-taking behaviour than it does among young drivers.



⁵⁹ www.fleetsafetybenchmarking.net also provides a quick organisational level tool.

⁶⁰ Dubens, E., Murray, W., (2000) Creating a crash-free culture, 4Di, Brighouse, UK

⁶¹ Murray, W., (2004) The driver training debate. Roadwise: Journal of the Australasian College of Road Safety, Vol 14 (4), May 2004, pp. 3-5.

⁶² Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work.

 $^{^{\}rm 63}$ EU OSHA (2006) A Safe Start for Young Workers in Practice.

⁶⁴ OECD (2006) Young Drivers.

This should also be taken into account when communicating on road safety within the driving for work context. A recent German study identified 9 different lifestyle groups which differ significantly from one another in terms of the hazards in road traffic⁶⁵. The highest accident risk exists for the "car-centred type A". Aside from the traditional media that reports on entertaining motoring topics, people of this lifestyle group can be reached via mobile phones, mobile apps and social networks. Their relatively low interest in road safety makes it necessary to engage in risk communication with an appropriate strategy and "packaging" in order to reach this target group.

3.5 Age as a starting point for risk assessment?

Age is a consideration which should be taken into account in risk assessment given the higher levels of collision involvement of younger drivers. The COHORT II study found that, in the first six months of driving after passing the test, older drivers have a lower reported accident rate (per year) than younger drivers. In this study, the age effect was clearest for drivers in the first year of driving.

However, some companies do not take the age of the driver as the starting point, but use sophisticated models to target drivers who need extra support.

Example - Arriva Denmark

Arriva is one of Denmark's providers of passenger transport and the operator of buses, trains and waterbuses with close to half a million daily customers. The company has 4,500 employees, of which 3,300 are bus drivers working out of depots across the country. Arriva Denmark does not have any special programmes for young drivers. Instead, they use data models to determine which drivers (of all ages) need support and coaching. Their coaching covers: eco driving,



passenger friendly/safe driving and "damage free" driving. They also integrate these data into their feedback to reward those who have driven safety and have a structured introduction program for all new drivers in the company.

Since January 2015, they have set up a mentor scheme for their bus driver trainees. Under the mentoring program, the Arriva mentors undertake a two day educational training programme in mentoring. Thereafter, they follow the trainees throughout a period of three months/60 hours. The main focus of the program is to give them an introduction to Arriva, follow up on both their professional and personal skills and to give them extra support at the beginning. The mentor has also the opportunity to follow the trainee closely and to support them. The bus driver trainees are aged between 21 and 25 years old. Arriva recognises that, as this is their first employment, it is important that they do whatever they can to support them to become really good bus drivers.



- Undertake an organisational and driver-level risk assessment that covers the road user, journey, vehicle and management systems in compliance with the European Framework Directive 89/391/EEC.
- Provide regular training programs linked to risks identified during assessment.

⁶⁵ Holte, H. Et al (2014) Wirkungsvolle Risikokommunikation für junge Fahrerinnen und Fahrer BAST.

PART IV

IN-VEHICLE TECHNOLOGIES

Vehicle safety features can reduce the incidence and severity of collisions. This sectionlooks at the most important systems for mitigating the risks highlighted earlier in the report. Information concerning the safety benefit of intelligent speed assistance, seat belt reminders, alcohol interlocks or electronic stability control – among other safety technologies – should also be included in the theory training provided by employers and questions about safety technologies included in the driver theory test. Employers could also support the uptake of safety technologies by their young employees. After an initial risk assessment of their drivers, those with a higher risk would benefit from having lifesaving, risk prevention technologies fitted in their vehicles. The section also examines safer vehicle procurement more generally.



Assisting ISA could cut collisions on all roads by 28.9% (33% on urban roads; 18.1% on motorways).

4.1 Intelligent Speed Assistance

Intelligent Speed Assistance (ISA) is the term given to a range of devices that assist drivers in choosing appropriate speeds and complying with speed limits, bringing speed limit information into the vehicle. Drivers receive the same information that they see (or sometimes miss-see) on traffic signs through an on-board communication system, helping them to keep track of the legal speed limit throughout their journey. Information regarding the speed limit for a given location is usually identified from an on-board digital map in the vehicle. Other systems use speed sign recognition.

The information is then communicated to the driver in any of the following three ways: informing the driver of the limit (advisory ISA), warning them of driving faster than the limit (warning ISA) or actively aiding the driver to abide by the limit (assisting ISA). Assisting ISA systems have even greater potential to reduce fatal and serious collisions and can also be overridable. The introduction of Intelligent Speed Assistance will help to achieve a high level of compliance with speed limits and thereby reduce road deaths substantially⁶⁶. Estimates by Carsten⁶⁷ show that assisting ISA could cut collisions on all roads by 28.9% (33% on urban roads; 18.1% on motorways). There would also be benefits in terms of lower fuel consumption (up to 8%) and more effective road traffic enforcement⁶⁸.



4.2 Event data recorders

Event data recorders (EDRs) collect information about a collision that could enable the employers, police, accident investigators, insurance companies, manufacturers and researchers to understand better the causes of collisions and what may be done to mitigate them⁶⁹.

⁶⁶ Carsten, O. and Tate, F. (2005) Intelligent Speed Adaptation: Accident savings and cost benefit

⁶⁷ Carsten O., et al. (2008), ISA-UK Intelligent Speed Adaptation, Final Report.

⁶⁸ ETSC (2011) Driving for Work: Managing Speed.

⁶⁹ Transport Research Laboratory (2014) Study on the benefits resulting from the installation of Event Data Recorders.

Studies⁷⁰ have noted a collision reduction of 20% in EDR-equipped fleets, as well as a change in driving habits amongst young drivers who were made aware of a black box fitted to a vehicle.

In addition to the safety benefits that may be brought about by positively influencing the driving behaviour, fitment of an EDR may also have other safety benefits. For example, EDR data provide objective data for the vehicle state during the precrash phase and therefore provide higher quality collision data than are currently available, particularly in terms of understanding the causation of collisions and the effectiveness of new safety technologies.⁷¹

4.3 Alcohol interlocks



Alcohol interlocks are devices that can prevent the driver from starting a vehicle unless a breath test is done. If the driver fails the test, the device locks the car's ignition. The gradual introduction of alcohol interlocks, starting with target groups (commercial drivers and repeat drink driving offenders) could reduce the high toll of drink driving casualties in the EU⁷². Crucially, in the commercial context alcohol interlocks must not be seen as a stand-alone issue but should be introduced as an integral part of an employer's drink driving policy. ETSC recommends that employers have a 'zero tolerance' policy to alcohol which is also specified in employee contracts. Alcohol interlocks can also be a good preventative tool for deterring drink driving and reducing recidivism⁷³ for drivers still affected by alcohol the morning after drinking has taken place.



RECOMMENDATIONS TO EMPLOYERS:

- Integrate vehicle safety technologies that address the greatest risks.
- Train staff on the technologies and monitor their use.

4.4 Safer Vehicles to Mitigate Driver Risk

Purchasing safe vehicles is an excellent way for employers to provide a safe working environment for their employees⁷⁴. At a basic level, those responsible for procuring vehicles in an organisation need to communicate closely with the employees who will be using the vehicles and safety professionals to ensure that they will be fit for purpose and appropriate for the required job.

There is also a need to link fleet safety and vehicle procurement with broader business management, planning and operations. The ISO international standard 39001 for road traffic safety management shows how organisations can influence road safety through vehicle selection highlighting four areas where this has an impact, namely: the protection of occupants in collisions, the capability to avoid or mitigate collisions, the protection level given by the vehicle for unprotected road users, and the vehicle's compatibility with other vehicles.⁷⁵

⁷⁰ SWOV (1997) in Hynd, D., McCharty, M., (2014) Study on the benefits resulting from the installation of Event Data Recorders, Transport Research Laboratory.

⁷¹ Ibid.

⁷² ETSC (2010) Drink Driving in Commercial Transport.

⁷³ Willis, C., Lybrand, S., Bellamy, N., (2004) Alcohol ignition interlock programmes for reducing drink driving recidivism. Cochrane Library.

⁷⁴ ETSC (2013) PRAISE Report Work Related Road Safety Management Programmes.

 $^{^{75}}$ ISO International Standard 39001, (2012) Road traffic safety (RTS) management systems – Requirements with guidance for use.

The findings of the risk assessment should inform the purchasing process and assist organisations in identifying the vehicle type and specifications most appropriate for them. A guide to selecting safer vehicles can also be found in an earlier PRAISE Report⁷⁶.



RECOMMENDATIONS TO EMPLOYERS:

- Develop policies and procedures for the management of vehicles which link and require cooperation between financial, fleet management and occupation risk management functions in the business.
- Include safety criteria when purchasing vehicles, including 5 star EuroNCAP cars and vehicles using in-vehicle safety technologies.
- Specify safety features that avoid collisions in order to improve safety and increase vehicle resale values.

Example - Electricity Supply Board (ESB)

The Electricity Supply Board⁷⁷, a major Irish company involved in the production, supply, distribution and maintenance of electricity throughout Ireland and internationally, addresses the road safety of young employees through a specific driver training programme. The program includes regular reporting of road traffic collision statistics associated with this age group's past performance and appointing road safety champions within an apprentice programme. Apart from vehicle familiarisation training for employees, certain vehicles have speed restriction, and large and medium vans driven by young drivers are fitted with reversing sensors.



The ETSC (2013) PRAISE Report Work Related Road Safety Management Programmes.

⁷⁷ ETSC (2014) Case Study ESB.

PART V

REDUCING ROAD RISK, AVOIDING UNNECESSARY JOURNEYS AND CHOOSING THE SAFEST MODES

As for drivers of all ages, journeys for young drivers should be optimised to minimise the need to travel, thus reducing risk, preventing harm and leading to financial savings. Journeys should also be shared or consolidated as far as possible and public transport should be used wherever practical and appropriate (i.e. attending business meetings). Several reports stress how the existence and use of an effective public transport system with reduced fares for young people can have an important impact in changing young novice drivers' patterns, mileage and risks.⁷⁸ In the Netherlands, for example, the introduction of a free public transport pass for students has systematically and enduringly reduced mileage in the age group 18-24, and subsequently reduced their collision rate⁷⁹. Steps taken to reduce travel and exposure by the riskier road modes such as driving (for example by taking public transport – bus and rail) have the best chance of reducing road injuries⁸⁰.

Employers' mobility policies can influence and prioritise such modal choice. Under journey management and planning the following are key questions that should form part of the risk assessment process:

- Is the trip necessary?
- If yes: what can be done to reduce the exposure to risk while driving? For example, setting limits on time spent on the road (days of the week and times of the day that are known to be less risky)⁸¹.
- Is it possible to use other means of transport? If a risky mode for commuting and/or travelling is chosen, efforts should be made to make it safe⁸².



⁷⁸ SafetyNet (2009) Novice Drivers Web Text and OECD (2006) Young Drivers.

⁷⁹ Ibid.

⁸⁰ Ibid

⁸¹ Grayson, G. B. and Helman, S., (2011) Work related road safety: a systematic review of the literature on the effectiveness of interventions. Research report 11.3. Institute of Occupational Safety and Health.

⁸² ETSC (2010) Safer Commuting to Work.

PART VI

MANAGEMENT

Commitment of top management is crucial for the successful introduction and implementation of a WRRRM programme by an employer and this will also benefit young employees. Young, novice drivers are in the middle of a socialisation process in which they are moving away from their parents influence to become independent. At this moment they are strongly influenced by peers, who may not be a good role model for safe driving⁸³.

Alongside parents, employers and other adult role models have an important role to play in reducing young driver risk⁸⁴. The level of involvement of top management depends on the size of the organisation. The CEO must be convinced of the added value and should be involved in the process. This shows that the issue is being taken seriously and can help smooth away resistance⁸⁵. "Lead by example⁸⁶" and "Lead from the Top⁸⁷" are catch phrases of many employers who have introduced successful WRRRM programmes. All of the management models for WRRRM stress that this is a core activity and cannot be seen in isolation from business overall⁸⁸. Line managers and supervisors are equally important for WRRRM as most of the time they are the ones directly responsible for the initiative. Management training should include WRRRM so that prospective managers are made aware of the responsibilities they have towards their employees.



RECOMMENDATIONS TO EMPLOYERS:

- Recognise the importance of positive adult role models in promoting WRRRM.
- Demonstrate leadership by taking on the responsibility of WRRRM programmes at CEO level.
- Assign clear roles for implementing the WRRRM programme within the organisation.

6.1 Safety culture

As well as an engaged leadership, safety culture should also be diffused throughout the organisation. New recruits should be made aware of it right from the start, even at the interview stage. Safety culture 'characteristics' include safety policies and procedures issued by senior management, the commitment to implementing safety policy shown by line management and the willingness to comply with safety rules shown by the workforce⁸⁹. Safety culture can also be defined as shared attitudes, values, beliefs and behaviours related to safety. The adoption of a safety culture also involves a proactive rather than reactive approach to safety. The approach is data-driven with procedures for collecting and analysing data which is then used as a basis for managing risk⁹⁰.

⁸³ SafetyNet (2009) Novice Drivers.

⁸⁴ OECD (2006) Young Drivers the Road To Safety.

⁸⁵ Price, A., et al, Building work-related road safety into organisational DNA: Case study of Vauxhall. Draft paper, currently in review process for Journal of the Australasian College of Road Safety.

⁸⁶ ETSC (2011) PRAISE Factsheet, Interview with Kevin Warburton, TNT Express.

 $^{^{87}\,}$ ETSC (2011) PRAISE Factsheet, Interview with Claire O'Brien, KTL.

⁸⁸ Murray, W. (2011) The Work-Related road safety business case: Societal, business, legal and cost factors".

⁸⁹ European Road Safety Observatory (2006) Work-related road safety.

⁹⁰ ETSC (2011) Tackling Fatigue: EU Social Rules and Heavy Goods Vehicle Drivers.

6.2 Employee management and internal communications

Employee management can include any process or activity designed to ensure that work-related road safety (WRRS) policies and practices are being consistently followed.

Organisations should develop procedures that allow them to effectively manage the risk faced by employees at both the organisational and individual level. These should also include adapting their policies and procedures to the specific needs of young drivers as outlined in the earlier sections of this report. Employees also have a responsibility to behave in a way that minimises risk for themselves and others. They should be informed of and involved in all stages of the development and implementation of road safety management programmes for their organisation.

Communicating road safety



Thinking about how to communicate messages specifically to young drivers is essential. The OECD Report on Young Drivers refers to "persuasive communication" as efforts to persuade young people to drive safely by way of information, including advertising campaigns⁹¹. Communication campaigns have been found to be effective if combined with enforcement. This point too can be adapted to the 'employer' context. Persuasive communication comes in many forms, from simply giving factual information to emotional and confronting visual messages⁹². A study on "persuasive communication" has also suggested consulting and collaborating with youth from the start of a campaign. This approach could be integrated into employer internal communication campaigns.

6.3 Sanctioning or incentivising employees

It is also important that there are clearly defined enforcement and sanctioning measures within individual organisations for ensuring compliance with their WRRS polices and legal requirements in this area. This is relevant for all drivers but also for managing young drivers. However, it is important to note that, whatever form sanctions take, they should only be considered once all possible organisational and management root causes for the inappropriate behaviour have been eliminated.

From psychological theories on learning and motivation it is known that rewarding good behaviour is at least as powerful as a behaviour modification tool as punishing bad behaviour. In road safety theories, rewarding has not received, that much attention. However, research has indicated that it can indeed have a positive effect on traffic behaviour. ^{93,94} Employers can incentivise employees in relation to their behaviour. Incentives could be in the form of vouchers or bonuses. It should however be highlighted that these programmes are difficult to implement in practice and there is not yet much evidence on their cost-effectiveness. ⁹⁵

⁹¹ OECD (2006) Young Drivers the Road To Safety.

⁹² Lockhart in OECD (2006) Young Drivers the Road To Safety.

⁹³ Hagenzieker (1999) in OECD (2006) Speed Management.

⁹⁴ See also Grayson, G. B. and Helman, S. (2011). Work related road safety: a systematic review of the literature on the effectiveness of interventions. Research report 11.3. Institute of Occupational Safety and Health.

⁹⁵ ETSC (2011) Driving for work: Managing Speed.



Driving should be part of the recruitment process where driving for work purposes represents a big part of the job responsibilities.

6.4 Recruitment and fitness

When driving for work is required, employers should consider this as part of the recruitment process. It is possible for employees to request a minimum amount of driving experience and/or specific experience with handling certain types of vehicle as part of job requirements. This is particularly relevant for young drivers. During the application process it is also important to ask whether or not driving violations are held and to check that employees are physically and mentally fit to carry out the job and to ensure that they understand the legal requirements in relation to driving for work.

'Driving is a demanding task and the risk of collision is high when individuals are not physically or mentally fit to drive. This is especially true when looking at work related driving, since conditions such as work related stress or sleepiness resulting from driving long hours come to play a role.'96

In this regard, 'a minimum 'fitness to drive' standard must be set, and procedures should be in place to ensure that these are met.'97 For posts where a significant proportion of driving is required it may also be advisable to check the competence and ability of the potential employee as part of the recruitment process. This might also be extended to their competence of driving a different vehicle type such as a van. As with any new hiring it is important to check references from previous employers; where appropriate this should include commentary on previous driving history.

Example - British Telecom – Training to support gradual access to vans for new recruits



British Telecom has one of the largest motor fleets in the UK, with approximately 35,000 vehicles, about two-thirds of which are vans driven by engineers. BT follows UK Health and Safety Executive Guidance in managing its road risks, and utilises a 14-point strategy based on the Haddon Matrix covering management culture, journeys, road/site environment, people, vehicles and society/community. BT runs induction courses which focus mainly on young drivers, apprentices and new starters. One of the elements of the BT policy is a van familiarisation training which is built into the apprentice and induction programs participated in by all newly recruited engineers.

Driver selection strategies

For those with more time and resources, exploring peoples' perception of risks and their attitudes towards driving may assist in identifying and recruiting safer drivers. 'Research has highlighted the potential scope for recruitment of safer drivers based on personality profiles, risk perception, experience, age, and medical screening. Little evaluation, however, seems to be available of driver selection strategies.' ⁹⁸ 'A number of driver selection strategies have been proposed to improve fleet safety. Their general focus has been on trying to identify potentially-risky drivers on the basis of their previous driving record. It has been noted, however, that while this may identify a small number of highly risky drivers (e.g. disqualified drivers or repeat drink drivers), it may not be predictive of later collision involvement for the majority of drivers'⁹⁹. Despite this, it is possible to include some simple questions surrounding perception¹⁰⁰.

⁹⁶ ETSC (2010) Fitness to drive.

⁹⁷ Shaw, K., Global Road Safety Partnership (2009) Draft Fleet Safety Manual.

⁹⁸ European Road Safety Observatory (2006) Work-related road safety.

⁹⁹ Ibid

¹⁰⁰ETSC (2012) Work Related Management Programmes.

When a new employee is hired it is critical that their induction process include all aspects of health and safety (including WRRS), the organisation's expectations and culture in general as well as elements relevant to their specific role. This should include the following:

- Legal requirements under health and safety and road safety legislation;
- Organisations health and safety and road safety policy including employer and employee responsibilities;
- The role of risk assessment and procedures for monitoring and evaluating risk;
- Procedures for reporting incidents;
- Implications of not complying;
- Other requirements specific to their role (including vehicle familiarisation checks and more in-depth training regarding use of specific vehicles or machinery);
- Detailed medical assessments (which then should be followed up annually).

Example - ASDA

ASDA - a UK supermarket - runs a 'buddy' scheme. Due to difficulties in recruiting new drivers, drivers are recruited from the shop floor and then offered training as well as mentoring via a 'buddy' to support them at the start of their driving career. Training in defensive driving is compulsory during a week long course covering company policy, equipment training, and the driver



handbook. During this stage individual driver objectives and targets (for example fuel efficiency and safety) are set.



- Identify quantitative or/and qualitative indicators, based on the outcome of the risk assessment, covering drivers, journeys, vehicles, incidents and the operational environment.
- Set up clear procedures and lines of responsibility for carrying out the monitoring/data collection in each of the areas identified.
- Build monitoring and evaluation into the day-to-day operations of the organisation.
- Set up clear, standardised incident and collision reporting and investigation mechanisms.
- Set up procedures and facilitate audits and management reviews.

PART VII

MONITORING AND EVALUATION



Setting targets is a critical part of WRRRM and is covered in more detail in the PRAISE Report on Work Related Road Safety Management Programmes . Targets can act as a tool for motivating and monitoring action to reduce death and injury in road collisions. As such, targets need to be clearly distinguished from any road safety vision or philosophy that may be adopted, and clearly related to a strategy, or plan of action . Monitoring allows for the identification of changes over time and is a critical part of the ongoing risk management process which involves measuring key performance indicators .

Deciding what is required in terms of monitoring should be linked directly to the risk assessment process, its outcomes and the measures identified to manage risk. Employers, especially SMEs, should be encouraged to set SMART (specific, measurable, achievable, relevant and time based) objectives.



- Identify quantitative or/and qualitative indicators, based on the outcome of the risk assessment, covering drivers, journeys, vehicles, incidents and the operational environment.
- Set up clear procedures and lines of responsibility for carrying out the monitoring/data collection in each of the areas identified.
- Build monitoring and evaluation into the day-to-day operations of the organisation.
- Set up clear, standardised incident and collision reporting and investigation mechanisms.
- Set up procedures and facilitate audits and management reviews.

PART VIII

INITIAL DRIVER TRAINING



This next section gives an overview of driver training and how this is relevant to improving the safety of young drivers at work. The first sub-section covers initial driver training and the second sub-section will cover post qualification training, both legal obligations.

8.1 The goals of driver training

Driver training should create drivers that are safe, and not just technically competent. Driver training should engage novice drivers personally and emotionally, increase their awareness of their own limitations and of the dangers inherent to driving. This would be a new development compared to the current situation, in which most driver training concentrates on vehicle control and the application of traffic rules.

This will involve instilling novices with an appropriate cognitive skill level and safety-oriented motives. The primary goal of training should not be to help novices pass their driving tests. Based on existing knowledge, driving tests are currently unable to discriminate accurately between those drivers who will be safe and unsafe once they start solo driving, although they remain essential as a means of ensuring that novice drivers have essential, basic competencies. Here employers can play a role in adding to the initial training gained by novice drivers. This will be covered in the next sub-section.

8.2 The EU driving licence framework

The general aim of licensing systems is to exclude individuals with insufficient driving ability and competence. Licensing systems are based on laws and regulations referring to the requirements for being licensed (e.g. age, driving aptitude and driving qualifications), the quality of licences (e.g. licence categories, restrictions), the administrative procedures for licensing (e.g. licensing process, withdrawal, relicensing), and fitness to drive¹⁰¹.

¹⁰¹ OECD (2006) Young Drivers the Road To Safety.

Having well-educated instructors who possess the necessary knowledge and teaching skills is vital for a well-functioning system.

Having well-educated instructors who possess the necessary knowledge and teaching skills is vital for a well-functioning system. The EU project MERIT has made an inventory of the standards in EU countries, and has set guidelines for further improvements¹⁰².

In many countries, the driving test consists of a theory and a practical test. Tests are used to decide whether the learner has achieved the defined training objectives, so they need to be of high quality. Some countries have a separate hazard perception test. The European Union project TEST showed that the test procedure differed significantly between countries and that not all elements required by the European Driving License directive are tested 103. It must be recognised that high quality training is important as it is necessary to equip learners with the basic competencies they need to enter the driving population. However, education should not be seen as a 'magic bullet' for improving young driver safety in the high-risk post-qualification period 104.

8.3 Extra module on driving for work

ETSC recommends that a specific module be offered within the context of initial driver training that covers 'driving for work'. This could cover the different context of 'driving for work' including the risks, situations and stresses that this may bring. Topics brought up by a UK survey of employers on what should be included in a post-test driving qualification included:

- motorway driving;
- better hazard perception skills;
- driving in difficult weather conditions;
- driving at night;
- developing driver attitudes to safer driving;
- journey planning¹⁰⁵.

Another topic that could be covered is making the novice driver aware of the different skills needed to drive a different vehicle such as a van - especially within the work context. Other topics included: dealing with anger or stress; driving in stressful situations; driving and journey planning, including considering when a journey may be too dangerous to undertake and considering of modal choice. Ideally, initial driver training could be adapted to include some of these elements.

This module could be offered during the initial training as an extra option that young trainee drivers could choose. Another incentive for them to take it up could be that employers prioritise those that have taken this module of training in their recruitment process. Alternatively they could cover the costs of this training and help tailor content based on a risk assessment in the post training phase (see next sub-section).

¹⁰²Craen, S. de Vissers, J.A.M.M. Houtenbos, M. and Twisk, D.A.M. (2005) Young drivers experience: the results of a second phase training on higher order skills: evaluation study in the framework of the European project NovEV. Leidschendam, SWOV Institute for Road Safety Research, R-2005-8 in SafetyNet (2009) Novice Drivers
¹⁰³TEST (2005) Towards European Standards for Testing; final report.

¹⁰⁴ McKenna (2010) Education in Road Safety: Are we getting it right? In RAC Foundation: London in PACTS (2013) Getting Young Drivers Back on the Road to Safety.

¹⁰⁵RoSPA (2009) Young Drivers at Work.

8.4 Hazard perception skills



A number of studies link hazard perception skill with reduced collision risk, raising the possibility that improving hazard perception through training may lead to reduced collisions. Hazard perception is defined as the ability to predict dangerous situations on the road ahead, and it is arguably the only skill specific to driving that has been found to correlate consistently with collision risk. Such training programs improve driving behaviour and reduce the crash rate of young drivers as it correlates it with driving experience: more experienced drivers typically have superior hazard perception skill¹⁰⁶.

The purpose of hazard perception testing is to enable an assessment of a driver's anticipation and scanning skills to be made so that only those candidates who have demonstrated a certain level of hazard perception ability are allowed to take their practical driving test. Drivers with good hazard perception skills should more able to avoid collisions¹⁰⁷.

8.5 Graduated Driving Licence (GDL) or 'multiphase' training systems

Graduated Driving Licence (GDL) systems are primarily designed to address the inexperience component of young drivers' collision risk but also target risk-taking behaviour, which can result from age-related factors¹⁰⁸. GDL systems are usually divided into three stages: learner, probationary, and fully licensed. Support and restrictions are reduced from stage to stage. With growing experience, more driving privileges are phased in. GDL systems are currently being successfully used and implemented in more and more EU countries and other parts of the world (America, Australia, New Zealand). Most evaluations of the impact of GDL systems have shown that these systems report significant reductions in collisions and road deaths¹⁰⁹.

Large scale evaluations stress the characteristics of a 'good' GDL program¹¹⁰:

- A mandatory learner period of accompanied driving of at least six months or a minimum of 5000km.
- A probationary licence phase that includes:
 - Night-time driving restriction that begins before midnight or passenger restrictions on carrying persons under 21.
 - Stricter sanctions coupled with rehabilitation courses to educate offenders.
 - A zero Blood Alcohol Concentration (BAC) limit for both learner and provisional drivers.
 - A second phase course during or at the end of the probationary licence phase focusing on risk perception and self-awareness and not enhancing driving skills.
 - A high level of enforcement and adequate levels of sanctions are also key.

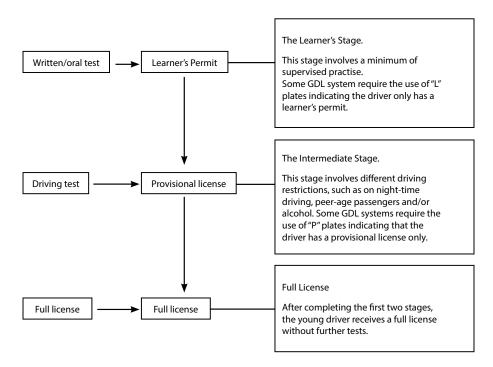
¹⁰⁶Wetton, M. A., Hill, A., & Horswill, M. S. (2013). Are what happens next exercises and self-generated commentaries useful additions to hazard perception training for novice drivers? Accident Analysis & Prevention, 54(0), 57-66.

¹⁰⁷ Wells, P., Tong, S., Sexton, B. F., Grayson, G. B., & Jones, E. (2008). Cohort II: A study of learner and new drivers. (Vol. 1 - main report). London: Department for Transport.

¹⁰⁹Senserrick, T. M., & Williams, A. F. (2015) Summary of literature of the effective components of graduated driver licensing systems. Sydney: Ausroads Ltd.

¹¹⁰i.e. EU projects GADGET & DAN, Sagberg (2002b).

Different Stages of a Graduated Licensing (GDL) System¹¹¹



Post-licensing driving risks would be greatly reduced if all learner drivers were to acquire much higher levels of pre-licensing driving experience.

Accompanied driving implies that a candidate driver is allowed to practice under the supervision of an experienced driver, often the parents, without the presence of a qualified driving instructor, in order to increase driving experience prior to solo driving. Young drivers often have significantly less than 25-40 hours of driving experience when they are licensed for solo driving. Post-licensing driving risks would be greatly reduced if all learner drivers were to acquire much higher levels of pre-licensing driving experience. This could be achieved by way of targets for minimum hours or kilometres of accompanied practice, as well as minimum periods during which this practice should take place. A lower level of accompanied practice is counterproductive, as it might raise collision risk as a result of an increase of 'perceived' driving skills without a proportional increase of 'actual' driving skills.

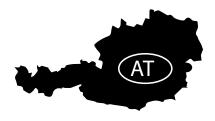
8.6 GDL for young employees - exemptions

There are some concerns about the impact on education and employment opportunities of the GDL¹¹². However the GDL seeks to restrict recreational driving, rather than purposeful driving. Countries that have introduced elements of GDL have usually put in place exemptions from the restrictions for journeys to and from home and work or school¹¹³. It has been argued that this makes GDL unworkable and unenforceable. But most of the systems for which the evidence of effectiveness is presented operate such exemptions.

¹¹¹ OECD (2006) Young Drivers the Road To Safety.

¹¹²PACTS (2013) Getting Young Drivers Back on the Road to Safety.

¹¹³ Williams (1999) Graduated licensing comes to the United States. Journal of the International Society for Child and Adolescent 5(2):133-135 in PACTS (2013) Getting Young Drivers Back on the Road to Safety.



Example – Austria – Multi-phase driver training

Austria introduced a multi-phase driver training system in 2003 applied to car drivers. Drivers take part in a feedback drive 2-4 months after licensing. They have track-based safety training and take part in a psychological group discussion over the course of a day, 3-9 months after licensing. Car drivers also participate in eco-driver training 6 to 12 months after licensing. Austrian novice drivers also have a lower BAC limit of 0.1.g/L for the first two years of driving. If they commit one of a list of specific offences (speeding, drink driving or red light running) they must take part in a mandatory course of 15 x 50 minutes with the extension of the probation period by one year.



Example – Germany - Accompanied driving

Germany introduced an accompanied driving scheme or "Driving Licence at 17" which is the official term for getting a probationary driver's license at the age of 17. First introduced in 2004, 20% of young people make use of the scheme¹¹⁴. Young drivers can apply and begin driving lessons as of the age of 16□. After passing the test, applicants receive a test certificate and enter a two year probationary period. Until their 18th birthday, license holders may only drive a vehicle if accompanied by a previously designated competent adult driver, and only within German borders. At 18, the novice drivers can apply for a regular driver's license. Accompanying drivers must be at least 30 years old and have held a valid car driver's license for at least five years. Moreover, they cannot have more than three penalty points in the Central Register of Traffic Offenders, and they must observe the legal blood alcohol limit when accompanying the novice driver.

A German assessment of the "Driving Licence at 17" studied the effect on self-reported collisions as well as on registered collisions¹¹⁵. Various effect analysis seem to indicate a positive result: the effect estimates of the decrease in violations, caused by the measure, vary from - 15% to -26%; the effect estimates of the decrease in the number of collisions vary from -17% to -36%¹¹⁶.



RECOMMENDATIONS TO EU INSTITUTIONS:

- Encourage Member States to introduce Graduated Driving Licence systems to address the high risks faced by new drivers, thus allowing them to gain initial driving experience under lower-risk conditions between gaining the learner permit and fully licensed status.
- Encourage Member States to introduce special demerit point systems which make novice drivers subject to penalties (e.g. loss of licence) or rehabilitative measures (e.g. mandatory traffic risk awareness training) if they lose a certain number of points.

¹¹⁴ CIECA (2006) in Twisk & Stacey 2007 in SWOV (2012) Fact Sheet Accompanied Driving.

 $^{^{115}\}mbox{Schade}$ and Heinzmann, 2011 in SWOV (2012) Fact Sheet Accompanied Driving.

¹¹⁶Goldenbeld et al., 2011 in SWOV (2012) Fact Sheet Accompanied Driving.



RECOMMENDATIONS TO MEMBER STATES:

- Improve training and licensing systems. The fundamental goal of pre-licence training and the licensing process should be to create drivers who are safe, and not just technically competent, by the time they are permitted to drive unsupervised.
- Ensure high levels of experience, via accompanied driving, prior to licensing for solo driving.
- Reduce exposure to risk immediately following licensing for solo driving. Novice drivers should be subject to probationary periods in conjunction with stricter demerit points which make novice drivers subject to penalties (e.g. loss of licence) or rehabilitative measures (e.g. mandatory traffic risk awareness training) if they lose a certain number of points.
- Introduce Graduated Driving Licence systems to address the high risks faced by new drivers and consider including a fast track option for young employees to enable them to access work.
- Provide appropriate incentives and disincentives i.e. support other countermeasures with stricter demerit point systems for young, novice drivers that provide a concrete disincentive to inappropriate driving behaviour and noncompliance with driving laws and licensing regulations; working with the insurance industry, conduct more research into the potential benefits of economic incentives by way of automobile insurance.
- Offer a specific extra module to driver training focusing on skills needed for driving for work, and consider integrating some of the listed priority elements in initial driver training.

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 main criticism is that many driver-training courses 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 important¹¹⁷.

These factors affecting safety should also form part of an employer's culture to promote work related road safety. As mentioned previously, great care should therefore be given 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.

As discussed in more detail in the PRAISE Report 'From Risk Assessment to Driver Training'¹¹⁸, there is no scientific evidence in the literature in the form of scientific controlled studies that conventional fleet driver training is effective in reducing collisions¹¹⁹, despite the strong belief in the effectiveness of driver training courses by those involved¹²⁰.

¹¹⁷ Murray, W., et al. (2009a). Promoting Global Initiatives for Occupational Road Safety: Review of Occupational Road Safety Worldwide (Draft).

¹¹⁸ ETSC (2010) Fit for Road Safety: From Risk Assessment to Training.

¹¹⁹Downs, C.G., et al. (1999) The Safety of Fleet Car Drivers: a Review. Transport Research Laboratory.

¹²⁰ 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.

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. 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 collision rate than they would have had without formal training and testing. Furthermore it is desirable to aim for a lower collision rate for professional drivers than for other groups of road users¹²¹. Post driver training is also highly relevant for young drivers who have just started a new job where they need to drive.

Example - Young Drivers at Work - Royal Society for the Prevention of Accidents (RoSPA)

In 2008-2010 RoSPA in the U.K. conducted a 'Young Drivers at Work Study' among employers that have young staff (17-24 years) that drive as part of their work. The study comprised individual interviews with employers and managers of young atwork drivers, a questionnaire survey of a wide range of employers, and a number of focus groups with young drivers who drove as part of their job. The study explored whether employers and young drivers perceived learner driver training and the driving test as providing young drivers with the knowledge, skills and attitudes they need when driving for work (as opposed to driving for their own private purposes). It also sought to assess whether they would value and use additional 'driving for work' qualifications, and if so, what should be included.

Main findings:

- 60% of employers surveyed felt that the current system of driver training and testing was 'not at all' or 'not very' adequate for preparing young drivers to drive for work.
- Employers were not relying on the driving licence as evidence of competence in driving for work. Many conducted their own assessments before allowing their employees to drive for work purposes.
- Three-quarters of employers surveyed reported that their young employees were driving in situations that were not covered by the current learner test, for example driving at night or in icy conditions.
- More than two-thirds of young employees were driving vehicles for work which are larger than a car, and in which they were not trained or tested when learning to drive.
- Developing safer driver attitudes, driving in different conditions, enhanced hazard perception, and motorway driving were the top issues employers would like a post-test qualification to include. Employers were using probation periods and restrictions on what young drivers can initially do in order to structure their driving for work experience.



¹²¹ Elvik, R. and Vaa, T. (2004) Road Safety Handbook, Elsevier, Amsterdam.

PART IX POST DRIVER TRAINING AND QUALIFICATIONS

9.1 Training to drive other vehicle types and in other contexts

Driving a delivery route requires skills (navigation, route planning, regular stops, time schedule pressures) that are not included in learner driver training.

According to a UK employer survey, young at-work drivers undertake a wide range of journeys, in many different types of vehicles; but very few drive their own car for work purposes¹²². This means that young at-work drivers are often required to drive vehicles that they were not trained or tested to drive when they were learning, and to drive these vehicles in situations that their learner driver training, and the driving test, did not include. For example, driving a light van on a delivery route. Few, if any, young drivers will have learnt to drive, or taken their test, in a van. And driving a delivery route requires skills (navigation, route planning, regular stops, time schedule pressures) that are not included in learner driver training. The survey also found that more than two-thirds of young employees are driving vehicles for work that are larger than a car, and in which they were not trained or tested when learning to drive¹²³. Over half (53%) of young people were specifically responsible for driving a transit van¹²⁴.

Collisions involving vans and pickup trucks are highest for young drivers (21-25) The same report cites a review of police reports of over 2,000 work-related road collisions¹²⁵ that found that the number of collisions involving vans and pickups peaked when drivers were aged between 21 and 25 years. No other category of vehicle peaked in collision frequency for this age group¹²⁶. Some employers specifically train young and novice drivers to make the transition from driving a car to a van and other vehicle types as part of their induction.

9.2 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/motorcycle) 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 (DVR)¹²⁷. For an overview of countries offering post licence driver training see the PRAISE Report on driver training¹²⁸.

¹²²RoSPA (2009) Young Drivers at Work.

¹²³RoSPA (2009) Young Drivers at Work.

¹²⁴ Ibid

¹²⁵Clarke et al (2005:14) in RoSPA (2009) Young Drivers at Work.

¹²⁶ETSC (2014) Managing the Road Risk of Van Fleets.

¹²⁷Advanced (2002).

¹²⁸ETSC (2010) Fit for Road Safety: From Risk Assessment to Training.



Example - Germany - "Work & Drive - Profiler"

To change risk-taking attitudes and behaviour and elicit a more responsible driving style, the German Road Safety Council (DVR) developed "Work & Drive - Profiler", a coaching programme in place since 2008¹²⁹. The programme evaluates the personal strengths of young trainees using an online survey¹³⁰. The participants then take part in three coaching sessions, each lasting half a day. Group size varies from five to eight participants. Each participant brings their own problem situations to the sessions, which are then discussed in the group. Together, the group tries to develop exemplary solutions. This enables the development of personal strengths and aims to reduce the risk of collisions. After completing the coaching programme, four out of ten participants were convinced that their driving style had improved as a result of the programme and two out three participants stated that they tried to actively apply what they had learnt in their day to day driving¹³¹.



Example - UK Special Vocational Training Qualification

In the UK, Nottingham City Council has developed a special vocational training qualification offering post licence driver training ¹³². A Business and Technology Education Council (BTEC) is a secondary school leaving qualification and further education qualification in the UK. The special course called "BTEC Driver" is a 60 hour accredited qualification of 40 hours in-class driver education and 20 hours of practical (in-car) driver coaching with peer review. The content and delivery of BTEC Driver has been designed by experts based on the latest research and educational theories such as the Goals for Driver Education Matrix. Much of the course content correlates with reduced collision risk and this has been recognised with 15% insurance discounts for graduates. It also specifically targets employers and states that it can lead to increased confidence in employing young people in a driving role. It can also help young people to understand risk assessment in a fleet context. One of the topics it covers with young people is the development of journey planning. It also cites the positive benefit of the potential to reduce insurance costs.

¹²⁹ http://www.jungesfahren.de/profiler/inhalt.htm

 $^{^{130}} http://www.junges-fahren.de/html/profiler/profiler_kurz.pdf$

¹³¹ http://www.junges-fahren.de/html/profiler/profiler_evaluationsbericht.pdf

¹³² http://www.btecdriver.org/



RECOMMENDATIONS TO THE EU:

- Revise the Certificate for Professional Competence Directive 98/76 EC with the aim of reaching high common standards in all Member States.
- Since aspects concerning management, administration and policy are not yet fully developed in each Member State in the educational and training sector, the European Commission should create a platform to exchange information and experiences with the aim of developing best practice guidelines¹³³.
- Act as a catalyst for the enhancement of an appropriate "training" infrastructure including qualification of trainers and content of the training.
- Monitor the implementation of the Directive on safety and health of workers 89/391/EEC and ensure the proper provision of training by employers and application of the training by the workers themselves.
- Support the setting up of a quality labelling scheme for post licence driver training including a special element adapted to young and novice drivers.



- Make sure that all professional drivers of category C and D vehicles have gained their CPC and take part in initial and periodic training.
- Guarantee that training is rooted in the company's health and safety at work
- Comply with the requirements of the Directive on Health and Safety at Work 89/391/EEC in ensuring that appropriate instruction, information and training is given, linked to the needs of the employees including the use of different types of transport vehicles.
- Provide young drivers with support, opportunity for further training and feedback during the probation period in new employment.

¹³³ETSC (2003) Transport Safety Organisation in the Public and Private Sectors.

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European Transport Safety Council

20 Avenue des Celtes B-1040 Brussels information@etsc.eu Tel: +32 2 230 4106 www.etsc.eu/praise @ETSC_EU

