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Road safety training for professional drivers: worldwide practices

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The problem

• Work-related motor vehicle crashes are a leading cause of death in the workplace.

• It is estimated that in Europe six out of ten work accidents resulting in death are road collisions, including both crashes while driving for work and commuting crashes (ETSC, 2017).

• Despite the fact that their rate of death in road crashes is lower than for other groups of road users, professional drivers impose substantial risks on other groups of road users.
Particular risk factors

- **High mileage** work-related driving in cars and light vans leads to a **higher risk** of **crash involvement** than similar non-work driving but crash **causes** are **similar**.

- Road accidents involving Heavy Good Vehicles (HGV) tend to be **more severe** than other accidents because of the **size** and the **mass** of these vehicles.
The number of deaths in accidents involving HGVs and in accidents involving buses or coaches fell by 46% and 41% respectively between 2006 and 2015.

The EU total number of deaths fell over this period by 39%.

Source: CARE database
However, the percentage of fatalities in accidents involving HGVs and buses or coaches between 2006 and 2015 decreased only by 2% and less than 1% respectively.

Source: CARE database
55% of fatalities in HGV accidents in 2015 occurred in rural areas and 25% in urban areas.

46% of fatalities in bus or coach accidents occurred in rural areas and 43% in urban areas.

Source: CARE database
50% of those who were killed in 2015 in road accidents that involved HGVs were car occupants, 15% were pedestrians and 13% were HGV occupants.

36% of those who were killed in 2015 in road accidents that involved buses or coaches were car occupants, 27% were pedestrians and 17% were bus or coach occupants.

Source: CARE database
85% of those who were killed in 2015 in road accidents that involved HGVs were drivers and 15% were passengers.

20% of those who were killed in 2015 in road accidents that involved buses or coaches were drivers and 80% were passengers.

Source: CARE database

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Main causes of occupational road accidents

• On the road
  ✓ Unsafe driving
  ✓ Overload and other cargo problems
  ✓ Road conditions/ weather conditions
  ✓ Vehicle condition
  ✓ Loss of control

• On site
  ✓ Coupling and uncoupling, unsafe parking
  ✓ Loading and unloading
  ✓ Vehicle maintenance

• Psychological factors
  ✓ Stress and workload
  ✓ Fatigue
  ✓ Alcohol and drug abuse
  ✓ Illness
  ✓ Violence
EC recently proposed the update and clarification of the rules on the initial qualification and periodic training of truck and bus drivers in order to contribute to higher road safety standards and to facilitate the mobility of professional drivers.


It allows the option of periodic training for professional drivers: 35 hours – can be spread over several years

EU member states are free to decide about how they implement directive 2003/59/EC within their national systems, leading to major differences.
EU Directive on professional driving

- **Initial qualification:**
  Italy, Spain and the UK apply training and test, Austria, Hungary and the Netherlands for the test only option and Germany allows both.

- **Periodic training:**
  the Netherlands and UK allow a high degree of flexibility in the choice of topics, while other countries strongly regulate the topics to be covered by defining a fixed set of topics partially to be implemented within given timeframes.

- **Mandatory training** as part of periodic training:
  the UK and the Netherlands consider ADR-training as eligible while this is not the case in all other countries.

- **Differences also exist on requirements on training providers and trainers, on the assurance of training quality and on the way how assessment is implemented, overall organisation of training and the didactical approaches.**
Professional driver training-common practices

- **Induction** for New Drivers
  - ✓ importance of road safety
  - ✓ role in corporate road safety programs

- **Education, Development, and Motivation** Programs
  - ✓ ensure drivers constantly learn and expand their knowledge of road safety
  - ✓ use communication paths to distribute safety messages

- **Safety and Defensive Driving Training**
  - ✓ for all drivers on a regular basis

- **Driver Monitoring**
  - ✓ use of telematics and driver behavior technologies
  - ✓ management ride-alongs
  - ✓ public feedback from the road
Professional driver training effectiveness

- Worldwide there are training programs designed specifically for the initial or periodic training of professional drivers either required by the competent authorities or based on private initiatives.

- There is no scientific evidence that conventional fleet driver training is effective in reducing crashes despite the strong belief in the effectiveness of driver training courses.

- Formal defensive professional driver training, taught at the workplace, combined with motivation and incentive systems for crash-free driving, has been found to reduce the crash rate by around 20%.
The effectiveness of other types of instruction for professional drivers, including skid training, both amongst ambulance drivers and drivers of lorries and articulated lorries has not been verified.

First aid training of drivers was not found to be effective in mitigating driver mortality.

Periodic refresher training is recommended to maintain skill aptitude.

<table>
<thead>
<tr>
<th>Crash severity</th>
<th>Type of crash affected</th>
<th>Best estimate</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course in defensive driving for experienced drivers (crashes per km driven)</td>
<td>All types of crashes</td>
<td>-20</td>
<td>(-33; -5)</td>
</tr>
<tr>
<td>Skid training for ambulance drivers (crashes per driver)</td>
<td>Crashes in icy conditions</td>
<td>+45</td>
<td>(-35; +220)</td>
</tr>
<tr>
<td>Skid training for drivers of heavy vehicles (accidents per km driven)</td>
<td>Crashes in icy conditions</td>
<td>+22</td>
<td>(+9; +36)</td>
</tr>
<tr>
<td>More stringent driving tests for drivers of HGVs (total crash figure)</td>
<td>All types of injury</td>
<td>+5</td>
<td>(+4; +6)</td>
</tr>
</tbody>
</table>

Source: Elvik et al, 2009
Professional driver training worldwide

In a UK questionnaire study among 70 HGV drivers from 3 different companies:

- 30% of drivers claimed their induction training included information or instruction on stress
- 20% said the training was adequate
- 59% declared that driver training in this area is appropriate
- 76% of respondents believe that enhanced training will correct their driving behaviors and improve their ability to cope with stress & fatigue
- In total 74% of drivers agreed that enhanced training on stress & fatigue causal factors would improve road safety.

Source: Murphy and Leach, 2013
In New Zealand, a programme of fatigue management strategies included education and training for drivers and managers.

- The **driver education** package comprised a 2-hr live **presentation** and a corresponding handout.

- Among 8 experienced drivers and 4 managers:
  - 50% of the group claimed they were ‘**quite likely**’ to make changes to improve **alertness** (40% ‘definitely’)
  - 91.7% of the group asked for **recurrent training** every 1-3 years

Source: Gander et al, 1998

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A follow-up study on the New Zealand fatigue management training programme revealed that:

- Training was carried out by private companies
- All drivers assessed their knowledge of the causes of fatigue and use of countermeasures and follow-up surveys were conducted. Training results (HGV/LGV drivers) showed that:
  - 50% of drivers reported changing the strategies that they use at home
  - 43% reported changing the strategies that they use at work
  - 47% of drivers indicated that they would be interested in recurrent fatigue management training

Source: Gander et al, 2005
The examination of motor carrier scheduling practices in the U.S.A. trucking industry among 116 firms, 113 drivers, 98 dispatchers, and 109 safety directors concluded that:

**driver fatigue training**, among other measures, should be implemented by firms to strengthen the perception of safety culture.

Source: Arboleda et al, 2003
Safety Culture of professional drivers

Transport safety culture can be defined as: 
“shared norms prescribing certain transport safety behaviours, shared expectations regarding the behaviours of others and shared values signifying what’s important (e.g. safety, mobility, respect, politeness)”.

The safety culture perspective has traditionally been ascribed to organizations, thus professional drivers as part of organizations, can be subjected to traditional safety culture studies and interventions.

The level of safety culture in organisations and companies reflects the management’s focus and emphasis on safety in the company’s operations and activities; thus, influences the safety behaviours of professionals.
Different groups of professional drivers have been studied with respect to safety culture (e.g. bus drivers, van drivers and truck drivers) in order to identify the existing level of safety culture and factors affecting it.

Safety culture of professional drivers is affected by:
- national factors (i.e. paternalism, trust in authorities, expectations from other road users in the country)
- sectorial factors (i.e. safety level assessment, importance of safety, priorities, expectations, acceptance of safety level)
- organisational factors (i.e. management/ employee commitment to safety, reporting culture and reactions to incident reporting, safety training)
Corporate issues

- The costs of work-related crashes are high both for society and employers and can adversely affect efforts to demonstrate corporate social responsibility.

- Barriers to effective activity:
  - limited collection of basic data
  - operational procedures and structures
  - lack of senior management commitment
  - poor integration between fleet safety and occupational health and safety
  - reliance on ‘claims-led’ procedures
  - inadequate crash investigation
  - reactive rather than proactive response to injury prevention
  - inflexible attitudes to change and poor management
Discussion

• Despite alignment with the EU Directive, different specifications lead to major differences in the implementation and the actual results of training and therefore to missing comparability of professional driver training and its results in Europe.

• Examining work schedules to ensure that drivers are not pressured by time and ensuring that people do not drive long journeys after a full day’s work are means by which companies can help to create a framework for safer driving.

• Research suggests that unless companies adopt such policies, the effectiveness of any driver-centred interventions such as selection and training may be undermined by day to day working practices and pressures.
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