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Road safety training for professional drivers: worldwide practices

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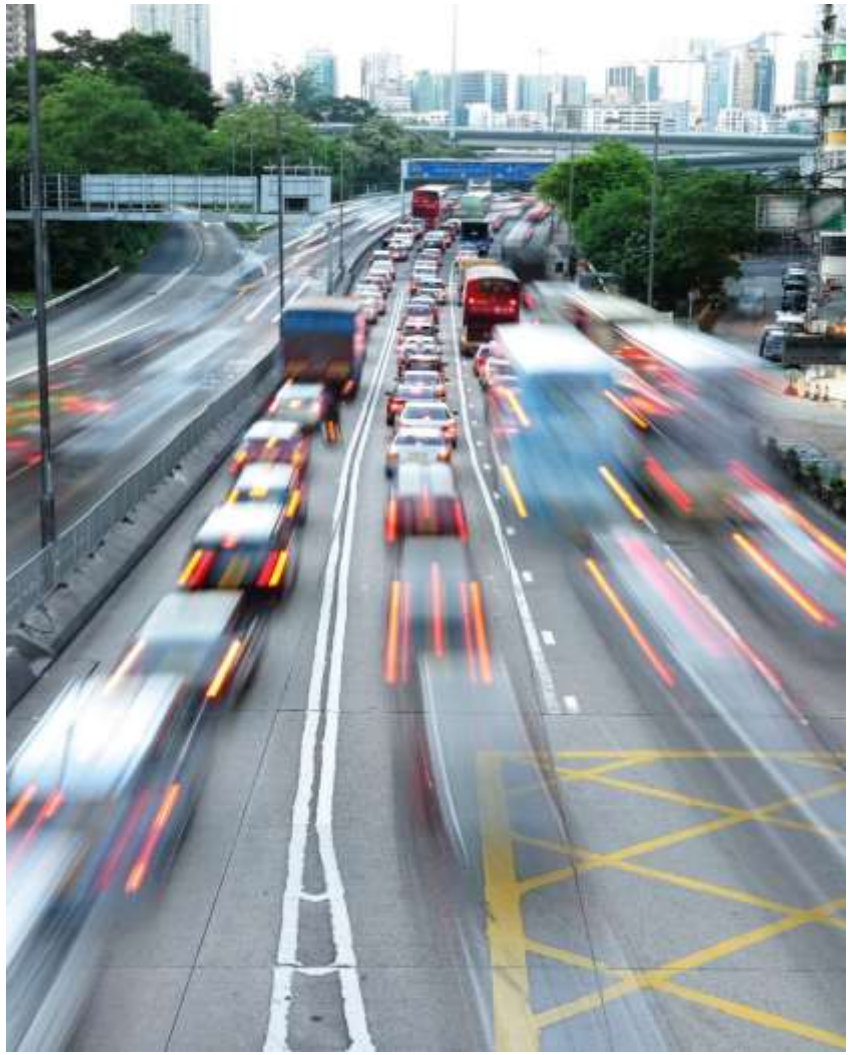
The problem

- 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**.

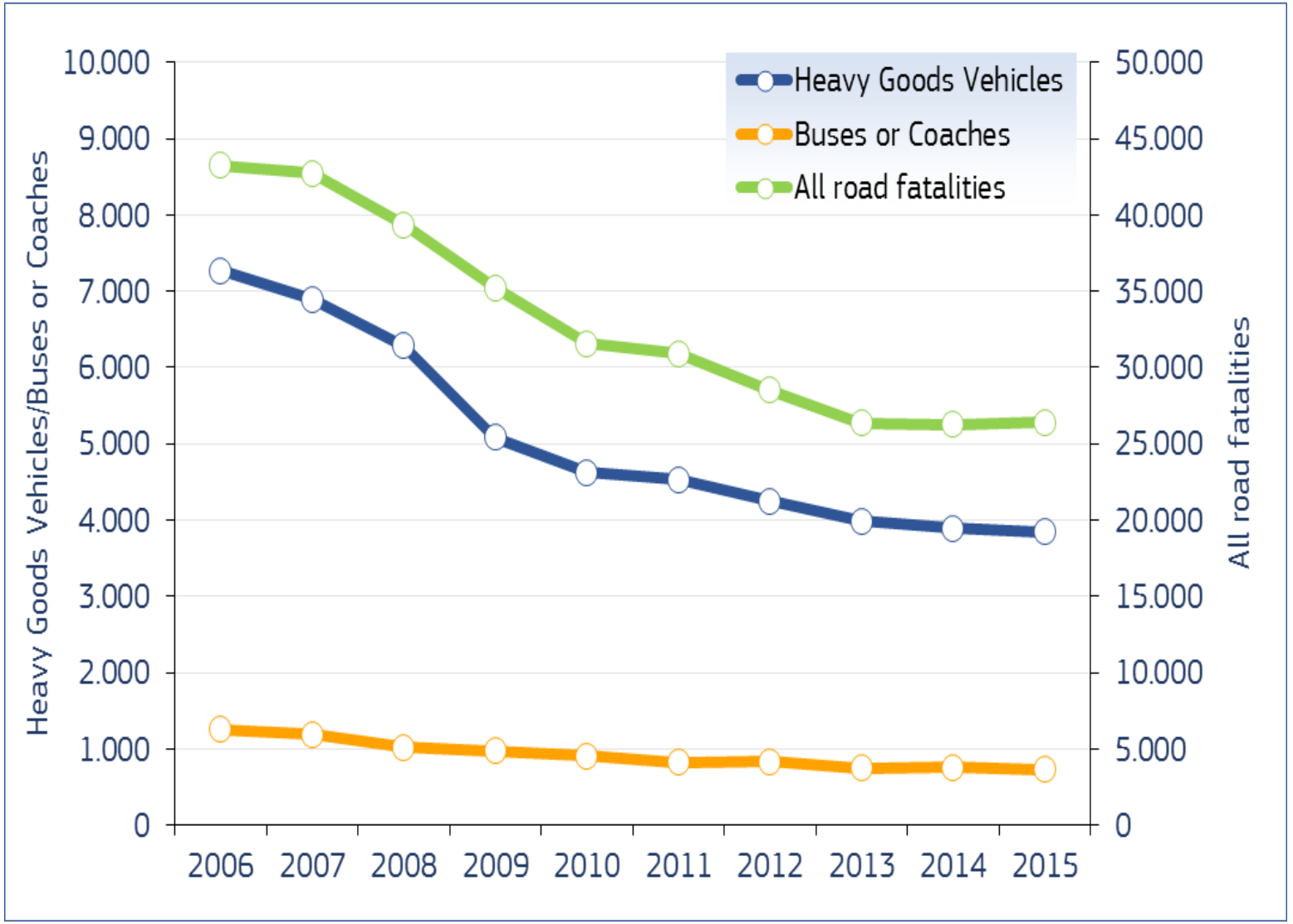
- Road accidents involving Heavy Good Vehicles (**HGV**) tend to be **more severe** than other accidents because of the **size** and the **mass** of these vehicles.

HGV & Buses accident statistics

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%.

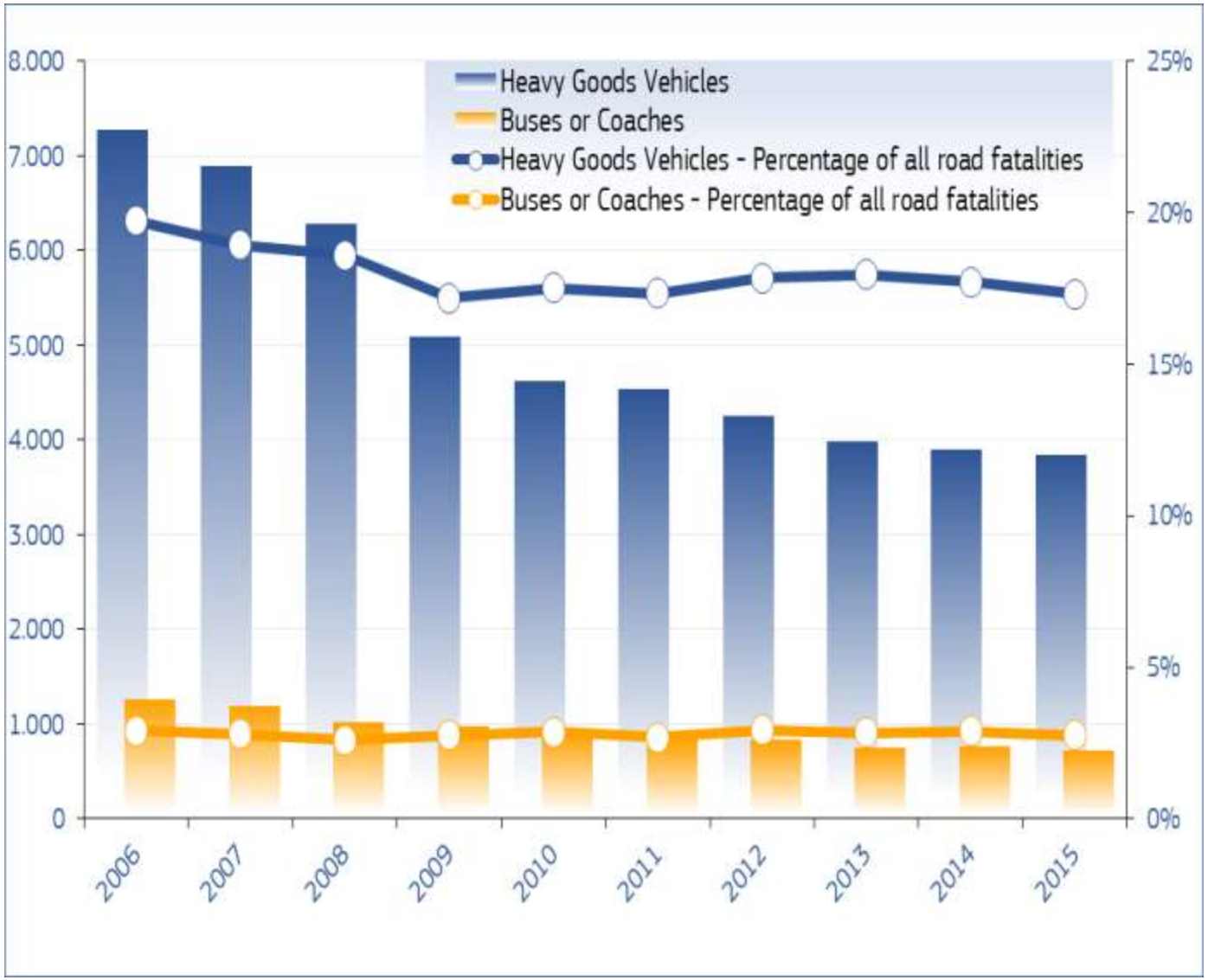
Source: CARE database



HGV & Buses accident statistics

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

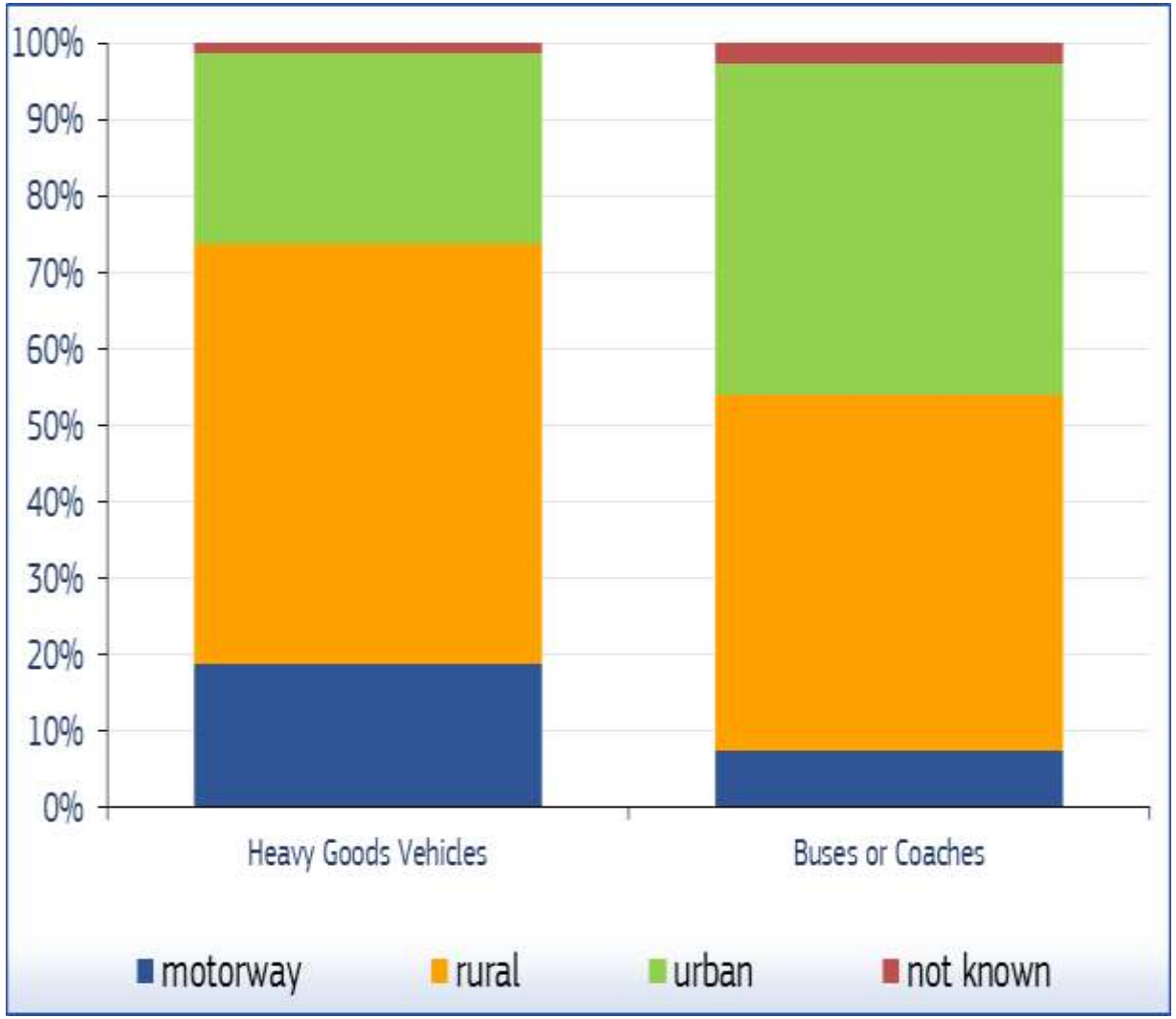


HGV & Buses accident statistics

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

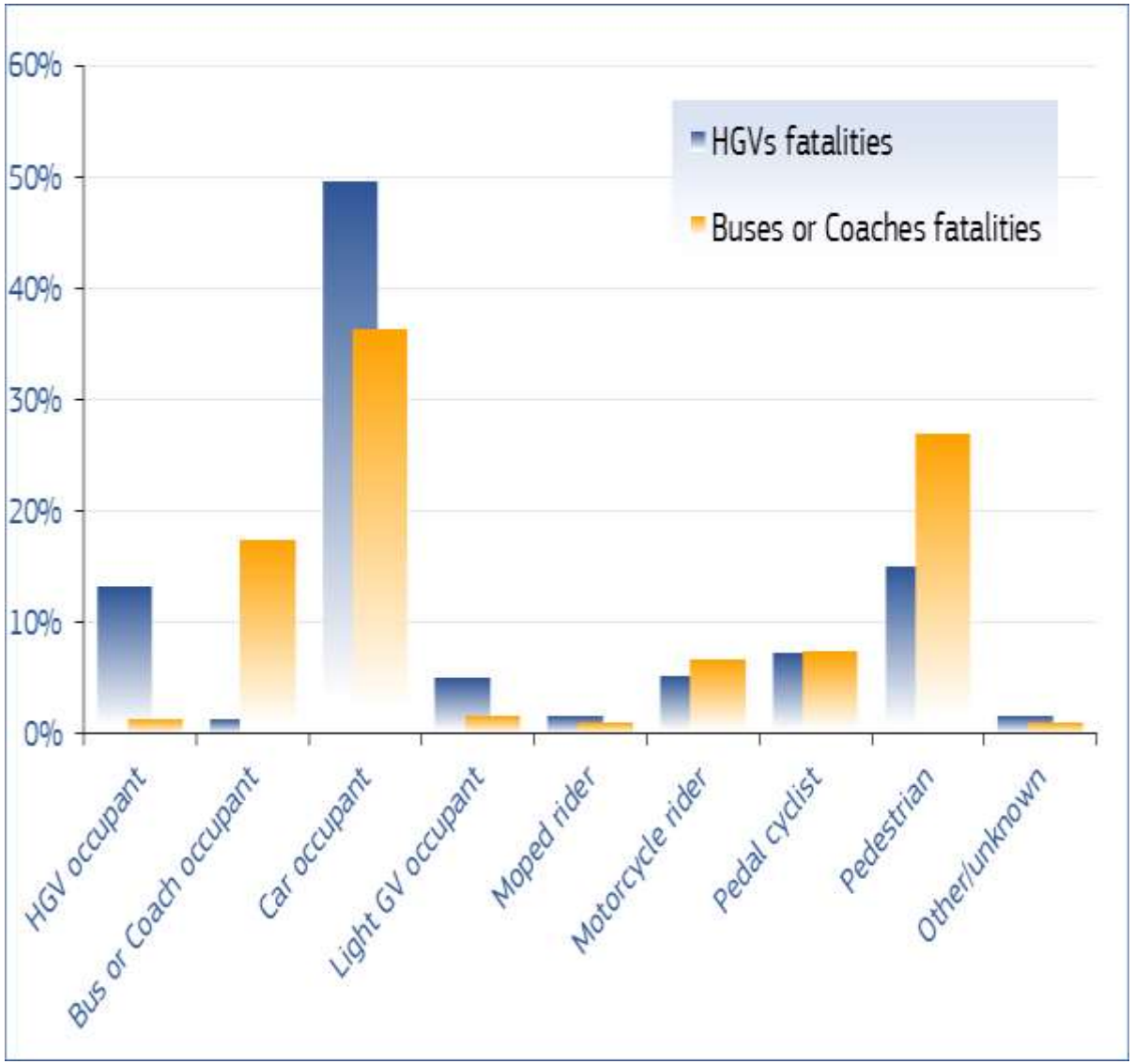


HGV & Buses accident statistics

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

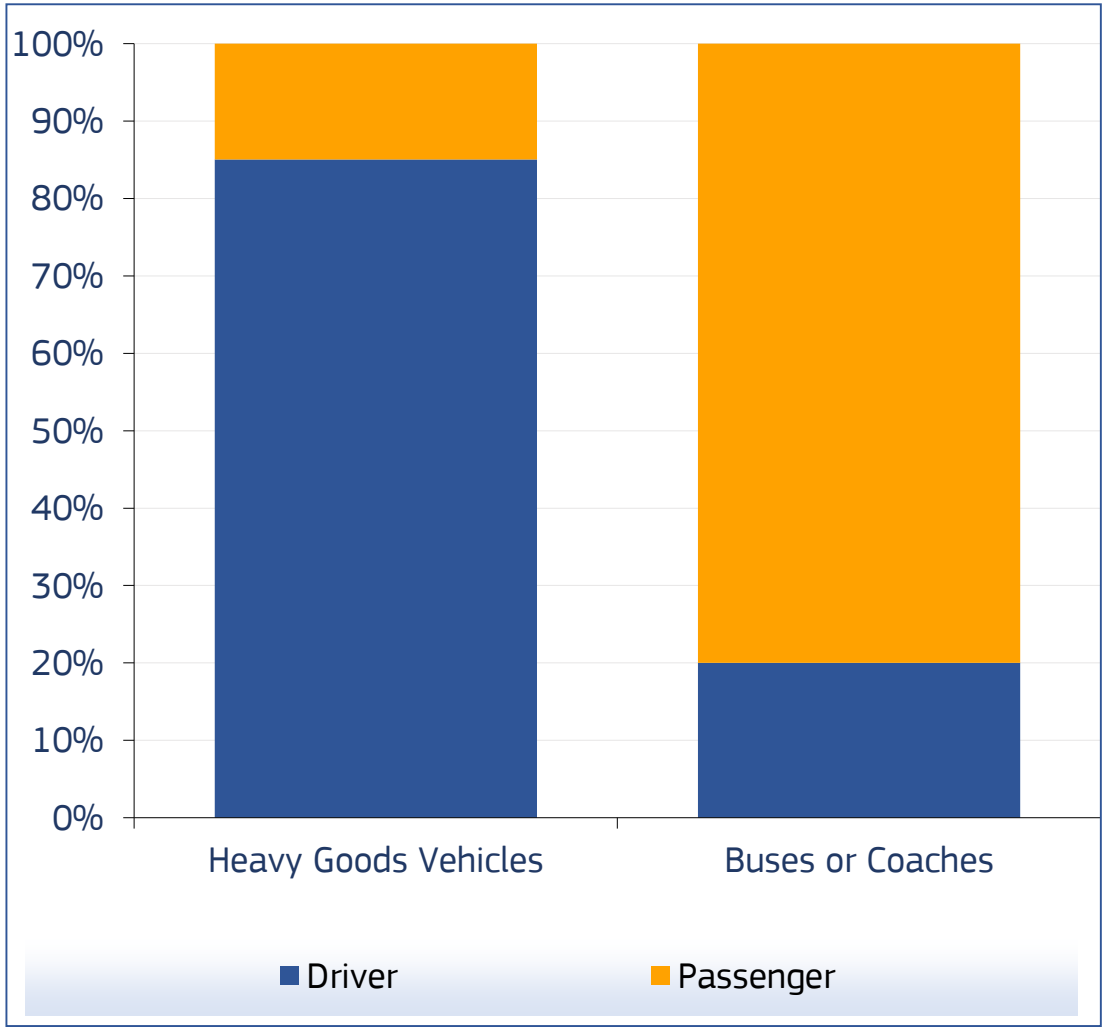


HGV & Buses accident statistics

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



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

EU Directive on professional driving

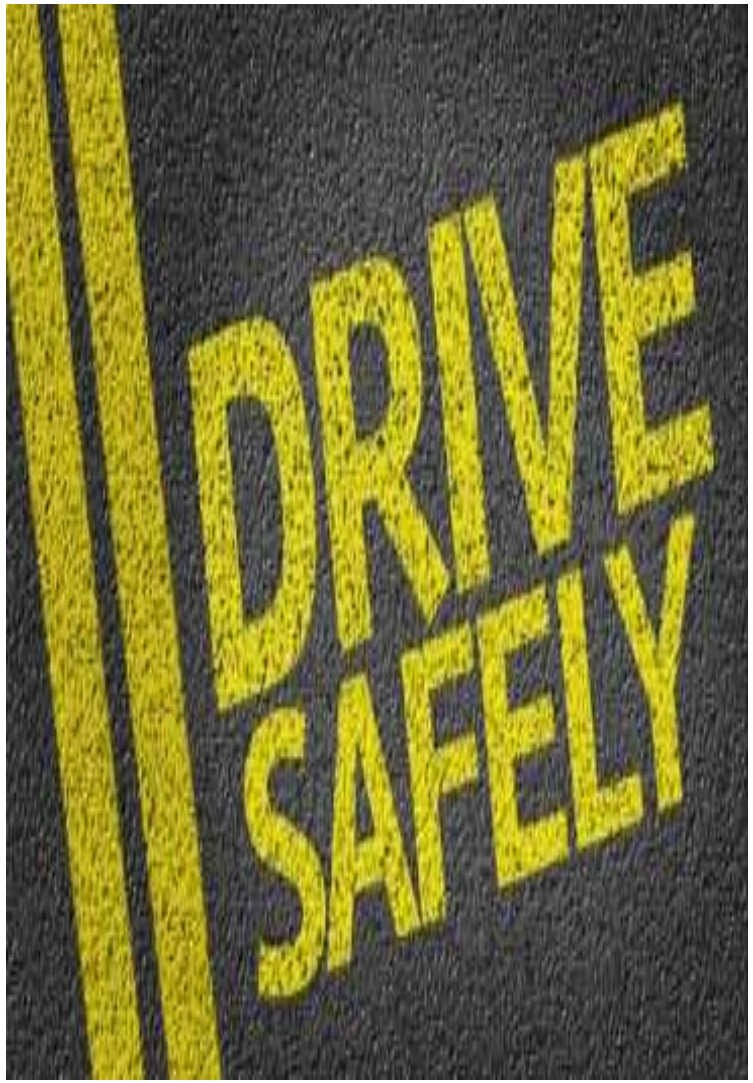
- EC recently proposed the **update** and **clarification** of the rules on the **initial qualification** and **periodic training** of **truck** and **bus** drivers in order to contribute to higher road safety standards and to facilitate the mobility of professional drivers.
- EU Directive **2003/59/EC** obliges drivers of HGVs over 7.49 tn to attain a '**Driver Certificate of Professional Competence**'
- 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%**.

Professional driver training effectiveness

- 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.

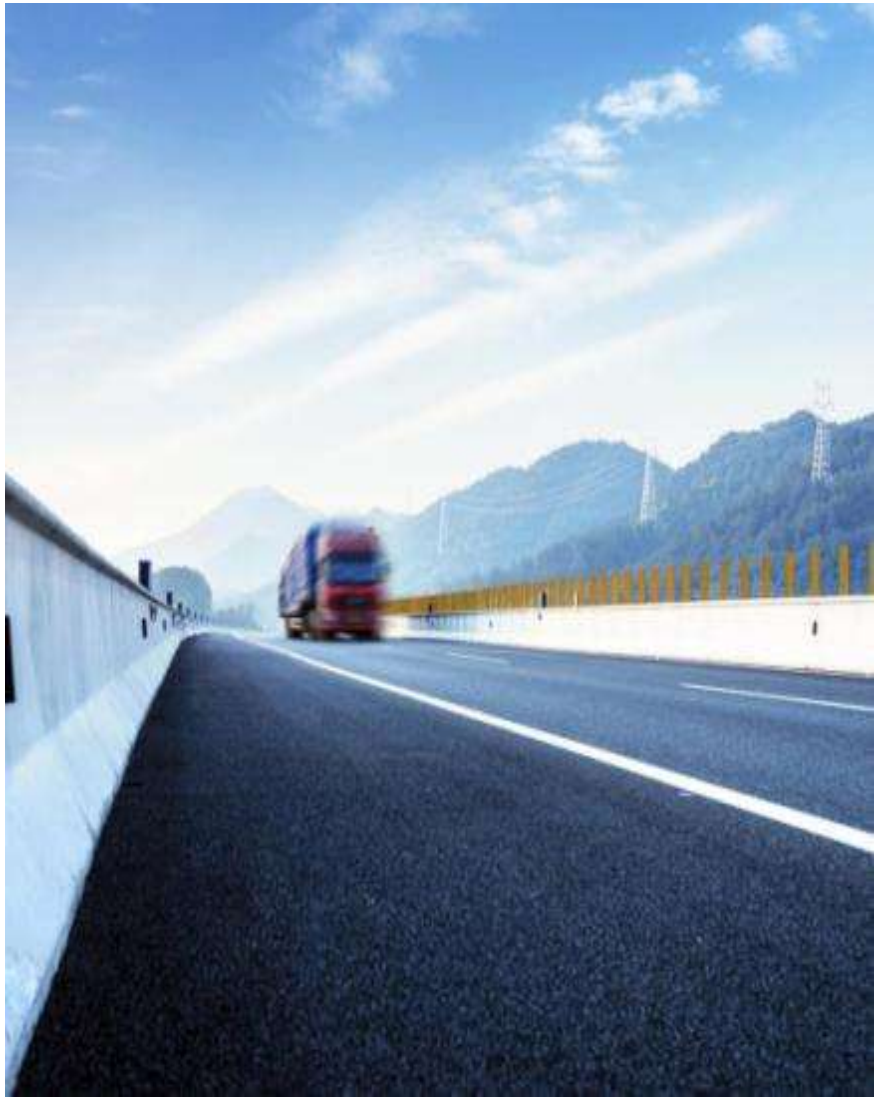
Crash severity	Type of crash affected	Percentage change in the number of crashes: Best estimate	Percentage change in the number of crashes: 95% confidence interval
Course in defensive driving for experienced drivers (crashes per km driven)			
Unspecified (all)	All types of crashes	-20	(-33; -5)
Skid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

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

Professional driver training worldwide

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

Professional driver training worldwide

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

Professional driver training worldwide

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

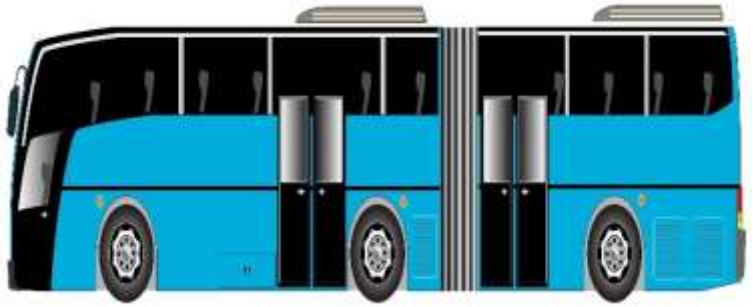
Transport safety culture can be defined as:
"**shared norms** prescribing certain transport safety behaviours, **shared expectations** regarding the behaviours of others and **shared values** signifying what's important (e.g. safety, mobility, respect, politeness)".

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.

Safety Culture of professional drivers

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**.

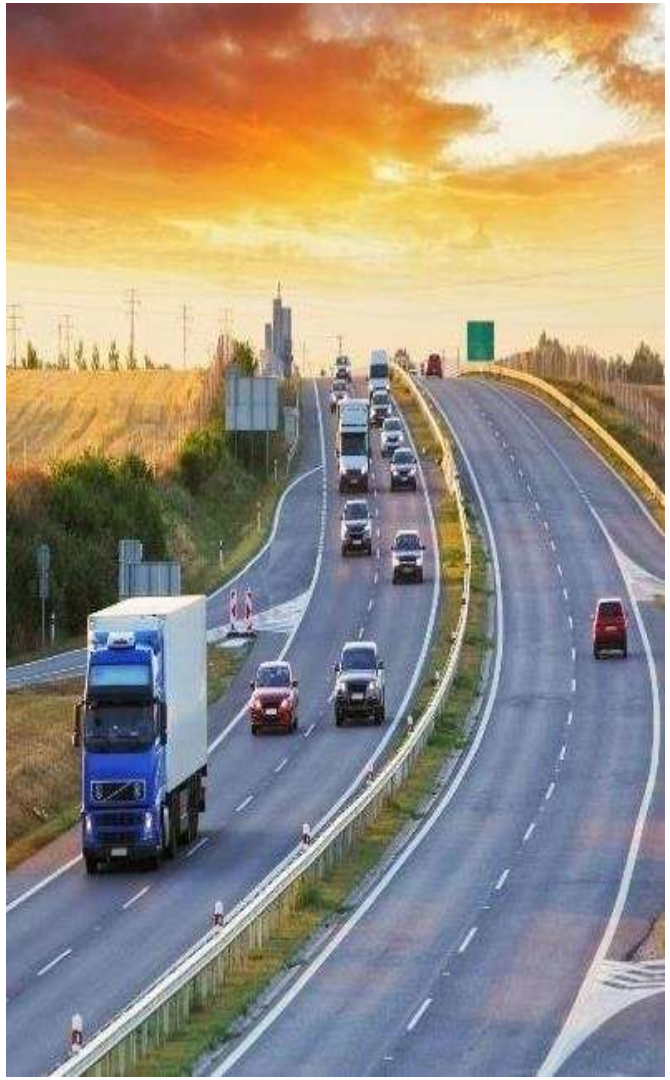
- **Barriers to effective activity**:
  - ✓ limited collection of basic data
  - ✓ operational procedures and structures
  - ✓ lack of senior management commitment
  - ✓ poor integration between fleet safety and occupational health and safety
  - ✓ reliance on 'claims-led' procedures
  - ✓ inadequate 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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