

# Work-related road safety

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## Work-related road safety

### Overview

Work-related motor vehicle road crashes occur at the workplace and in driving associated with work (excluding commuting). Most work-related crashes involve company cars. In the United States, Australia and the European Union, work-related crashes contribute about one quarter to over one third of all work-related deaths. Improving work-related road safety and fleet management would much improve road safety as a whole. Scientific understanding and monitoring of key problem areas, solutions and their effects on road and occupational crash injury, however, is limited and needs to be developed further.

### The problem

Severe health loss: Work-related motor vehicle crashes are a leading cause of death in the workplace in industrialized countries. In Britain, about one fifth of all road crashes involve someone at work.

Higher risks: Professional driving is a highly hazardous activity, involving far higher risks than those encountered in virtually any other occupation or most other activities of daily life. 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 [17]. 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. Drivers at work are a heterogeneous group and further research is needed to allow full analysis of the work-related risk factors which affect different groups.

High costs: The costs of work-related crashes are high both for society and employers.

Barriers to effective activity: include limited collection of basic data e.g. 'purpose of journey' 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, a reactive rather than proactive response to injury prevention and inflexible attitudes to change and poor management.

### Work-related road safety management

Policy frameworks: Work-related road use is both a road safety and occupational safety issue covered within the framework of international and national road traffic law and health and safety law. The need for a systematic approach within national road safety and occupational health programmes is starting to be acknowledged in several countries. Small improvements could lead to large benefits.

Employer policies: There is an increasing level of activity by employers in the public and private sectors. In Sweden and some of the Australian States, the lead agency for road safety, local and state authorities, insurance and research organizations have led by example with safe travel and fleet policies aimed at reducing occupational road safety risk. Many companies have embarked upon work-related road safety activities but few programmes have been studied to establish the effectiveness of the variety of the approaches and measures adopted.

Strategies, measures and their implementation:

Data: Some countries include 'journey purpose' in their national crash reporting; conduct linkage studies; require employers to conduct risk assessments; encourage gathering, recording, analysis and monitoring of road incident data (including damage only), injury crashes, driver and vehicle history.

Safety culture and championing: Fleet safety is most likely to be improved by introducing integrated sets of data-led measures based on a strong safety culture within the organization and strong commitment from senior management. The relatively low crash involvement of

tankers carrying flammable goods merits examination to identify useful lessons for fleet management in general.

*Driver recruitment and testing:* Recruitment of safer drivers based on personality profiles, risk perception, experience, age, and medical screening takes place, although evaluation of driver selection strategies is limited. More stringent driving tests do not appear to lead to fewer crashes.

*Driver training:* No evidence exists in the form of scientific controlled studies that conventional fleet driver training is effective in crash reduction, despite the strong belief to the contrary by those involved. Formal, defensive driver training at the workplace, combined with incentive systems for crash-free driving, can reduce the crash rate by around 20% amongst professional drivers.

*Work scheduling:* Unless companies adopt work schedules to ensure that drivers are not pressured by time and do not have to undergo long driving trips after a full day's work, the effectiveness of any driver-based measure may be undermined by day to day practices and pressures.

*Fleet safety policies:* While such policies have not yet been evaluated, the benefits of ensuring that vehicle fleets are as safe as possible in their construction and safety equipment are likely to be large.

*Implementation issues:* Guidance for employers on work-related road safety strategies, safer fleet purchase and safer road use at work has been developed at national, state, and local levels and by the non-governmental sector. Government-appointed task-forces, stakeholder coalitions and advocacy, all-party parliamentary committees and sustainable funding help drive safety management improvements.

## 1. The problem

### 1.1 Introduction

#### What do we know?

Work-related motor vehicle crashes are often the leading cause of death and a major contributory factor to loss of life in the workplace in industrialized countries.

Work-related crashes are defined here as those at the site of work, and/or crashes during work journeys (except commuting). It should be noted that different definitions of work-related crashes make simple international comparisons of work-related crash statistics difficult. Most countries, however, do not collect comprehensive data which allows definition of the extent of the problem. While work-related road deaths are usually reported at the site of work, few European countries record 'journey purpose' in their national road crash reporting systems which means that the total number of crashes and injuries occurring during work journeys are not recorded. At the same time, while employers, in general, have an obligation to ensure the safety of workers who use large and dangerous machines as part of their employment, no equivalent measures are usually taken with employees who are expected to use vehicles as part of their work [11] [50].

Some countries are starting to acknowledge the size and cost of the problem and the need for a systematic approach. There is a wide body of international research on specific issues such as driving fatigue in heavy goods vehicle operations. However, research into work-related road safety (as a whole) is limited. While research, mainly in north-west Europe and Australia, has produced some useful pointers, scientific understanding of the extent of the problem and the scope for improvement in work-related road safety is still in its infancy.

### Who is involved?

Work-related road users are not a homogeneous group, but comprise drivers and riders of varying types of vehicle used for a range of purposes (e.g. company cars, vans, pickups, large goods vehicles, buses, taxis, minicabs, emergency vehicles, construction and agricultural machinery, motorcycles, mopeds and bicycles). Additionally many people work on, or near the road, for example maintenance workers, refuse collectors, postal workers, vehicle breakdown employees and the police [10]. The type of work-related driving is also highly varied. Vehicles can be company owned or leased vehicle use solely for business; company owned vehicle use for work and private purposes, or privately owned but used for work purposes.

### Work-related car driving in Britain

Over 50% of new cars registered in Britain are company owned or financed, over 10% of driving is work-related and drivers on work-related journeys (not including commuting) drive more than two and a half times the annual distance of drivers of private cars [5].

### Who is responsible?

Work-related road use is both a road safety and occupational safety issue. Road traffic law provides the framework for use of public roads. In some national occupational health and safety legislation, the vehicle is considered to be the 'workplace', if driven both on the public highway and at the organization's site. In such cases, employers have an obligation to ensure that vehicles and their operation comprise a working environment that is safe and with as few risks to health as possible. In other countries, employers' responsibilities are confined to the site.

The different responsibilities and limited datasets for various aspects of work-related road safety have, no doubt, contributed to different levels of awareness of the importance of this issue to both road and occupational safety in Europe.

## 1.2 Work-related traffic injury

### Number of crashes and injuries

In the United States, Australia, and for EU countries in general, work-related motor vehicle crashes are estimated to contribute at least one quarter to over one third of all work-related deaths [42] [46].

Using a very wide definition of work related accidents it was estimated that, in Britain, up to a third of all road crashes involved someone at work [15]. More recent data based on journey purpose coding suggests that a figure of around 20% may be more appropriate for those casualties who are directly involved in a work related journey. A French study indicated that around 10% of road traffic injuries were sustained during the course of work [9]. The majority of work-related road deaths occur on the public highway [27].

In a survey of over 1000 organizations in Scotland about work-related road safety, cars were the most common type of vehicle used by organizations, followed by light goods vehicles and then large goods vehicles. The majority of crashes occurred during travel by peripatetic staff and in the delivery or collection of goods. Of the work-related road crashes occurring during the past 3 years, the majority of organizations experienced a maximum of 10 crashes with 3% claiming to have had 50 or more crashes [31].

### Risks of crashes and injuries

*All work-related driving:* A Norwegian study found that professional driving is a highly hazardous activity, involving risks far higher than those encountered in virtually any other occupation or most other activities of daily life. In addition, and 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 [17]. An in-depth study in Britain showed that work-related drivers, when considered as a whole, were more likely to actively cause crashes than become involved as blameless or passive participants. Lorries, light vehicles, pickups and company cars had a lower risk of involvement than that associated with emergency vehicle, minicab and taxi drivers [10].

*Dangerous goods:* Research shows that tankers carrying flammable goods have a 70-80% lower risk of crashes than heavy goods vehicles in general. Factors may include more stringent training of drivers of tankers for flammable goods, stricter standards for vehicles, and differences in the road and traffic environment in which tankers carrying flammable goods and other heavy goods vehicles travel [16].

*Cars and light vans:* Research in Britain indicates that car and light van (up to 3,500kg gross vehicle weight) drivers with high proportions of work-related mileage have a 53% greater risk of injury crashes than other drivers of similar age, sex, annual mileage and motorway mileage. Those with 80% or less of their total mileage engaged in work driving had, on average, about 13% more crashes than non-work drivers who were otherwise similar in terms of age, sex and annual mileage [5]. This study confirmed earlier research which found that car drivers with high proportions of work-related mileage have a much greater risk of crashes (including damage only of between 29% and 50%) than other drivers of similar age, sex, and annual mileage [32]. Research has shown that those driving company cars included in a company perks package and sales staff appear to be particularly at risk of crashes, whilst those driving their own car and liveried vehicle drivers experienced similar risks to those of the general population [8].

*Motorcycles:* While there are, as yet, few published studies, the involvement of motorcycle dispatch riders has also been highlighted [37].

### **Key risk factors and hazards**

Research shows that work-related crashes are not fundamentally different in their causal structure to any other road crashes, except in certain conditions such as the risks engaged in, of necessity, by emergency drivers [10]. An international study indicates that the characteristics and main hazards associated with driving for work in three countries under review were similar [13].

Occupational drivers are, however, a heterogeneous group and further research is required to allow fuller analysis of the work-related risk factors which affect the different groups.

The reasons for the increased liability of occupational drivers, termed by researchers as the 'fleet driver effect' are not well understood, although several tendencies have been noted.

A British study found that car and light vehicle drivers with very high proportions of work-related mileage tend to have an elevated crash risk and tend also to drive while fatigued (e.g. driving on long journeys (more than 50 miles) after a full day's work, under time-pressure to reach a destination (so they speed), and while distracted by in-car tasks such as mobile phone conversations, eating and drinking [5].

### **Speeding**

A British study found that speeding amongst company car drivers was common for over half the sample, and excessive speeding was common for 13% of the sample. The most important reason was the desire to arrive at meetings on time, even if this meant breaking

the speed limit combined with a reduced perception of excess speeding as an important accident risk factor and lower driving experience [1].

Research has shown that company car drivers, on average, drive faster than other drivers [50]. An Australian study found that higher driving speeds were associated with business or work car use, driving a large, relatively new car owned by someone other than the driver, a relatively high level of driving exposure, being on a long trip and driving relatively little in built-up areas [28].

### **Fatigue**

An Australian study of fatigue involvement in work and non work-related road traffic casualty crashes found that heavy and light trucks were likely to be involved in fatigue-related crashes. Work-related fatigue-involved crashes tended to occur around dawn whereas work-related non-fatigue crashes occurred in peak hour traffic [54].

Truck driver fatigue: Research undertaken in some EU Member States indicates that driver fatigue is a significant factor in approximately 20% of heavy commercial transport crashes [18]. The results from various surveys carried out at different times, show over 50% of long-haul drivers have at some time fallen asleep at the wheel [26]. One of the most important findings concerning the causes of all fatigue-related crashes is that peak levels at night are often 10 times higher than daytime levels. French research into lorry driver working times and habits showed that risk levels vary with three key factors as regards the general problem of fatigue [23] [24] [25]. There is an increased risk of crashes at night (see also the Polish study by Zużewicz and Konarska [57]), an increased risk the greater the length of the working day, and also with irregular working hours. Driving time is only a part of the total working time for commercial drivers, who have many more tasks than driving. Most studies show that it takes around nine or ten hours of driving, or eleven hours of work, before accident risk starts to rise [33] [23]. After 11 hours of work, the risk of being involved in an accident doubles [23].

Car driver fatigue: A survey of car drivers in the United Kingdom found that 29% admitted to having felt close to falling asleep while driving in the previous year [34]. An Australian study reported that over a third of driver fatigue crashes or near crashes occurred on work-related journeys [19]. In another study 43% of respondents who had a fatigue incident (a crash, near miss or moved out of their lane because of fatigue) stated that their trip was work-related [29].

Other factors which have been identified include larger average engine size of fleet cars, reduced personal cost of crashes, and psychological characteristics such as aggression or extroversion [10].

### **Crash characteristics by type of work-related use**

A recent in-depth study of work-related crashes in Britain explored the different crash circumstances of different types of work-related motor vehicle crashes [10]

The crash-involved drivers were almost all male.

- Company car drivers had more of their crashes on slippery roads, or while under the influence of alcohol, or while speeding, than would be predicted by chance compared with drivers of other vehicles used for work purposes.
- Lorry drivers had a higher proportion of close following, fatigue/illness crashes as well as crashes resulting from load/handling problems associated with this type of working vehicle.

- Bus drivers showed a higher proportion of close following and failure to signal crashes although another driver shared blame with the 'at fault' bus driver in the majority of cases.
- Taxi drivers were the only group (albeit very small) that showed over-involvement in crashes caused by deliberate recklessness or failure to correctly judge gaps in traffic before making a manoeuvre.
- Emergency vehicle drivers showed over-involvement in crashes involving time pressure (understandably) and excess speed.

### 1.3 Costs of work-related road traffic injuries

The socio-economic costs of work related road traffic crashes and injuries are substantial both for countries and employers. Due to their greater frequency, the total costs of property damage crashes are even greater than that of injury crashes.

#### Crash costs comprise:

- Lost work time and production losses
- Emergency medical costs
- Vehicle repair and maintenance costs - the average repair cost of a car is £700 in Britain
- Legal and insurance costs – annually, 66% of company cars in Britain are involved in a claim
- Damage to employer reputation – especially when liveried vehicles are involved
- Environmental costs – due to spillages of dangerous substances

Many organizations do not count the hidden costs of crashes (e.g. lost time and productivity) [29].

Little information is available in European countries about the specific socio-economic costs of work-related road traffic crashes (given the limited numbers of countries which collect data on 'journey purpose'). In Britain work-related crashes have been estimated at around £2.7 billion annually [15]. In the US, crash costs typically comprise between 13-15% of a fleet's total spending and crashes cost companies around \$US54.7 billion a year [35]. Work-related road crashes in Australia cost around \$AUS425 million each year, and the average time lost from traffic crashes is greater than from any other workplace injury claim [49]. An Australian review [29] indicates that the costs are particularly high for organizations, for example, comprising between \$AUS14 and \$AUS21 million a year for a large telecom company [14].

A Swedish study of medically impairing occupational injuries sustained in national traffic indicated more than half of the cases with a permanent medical impairment were caused by minor injuries. Soft tissue injuries to the neck (whiplash injuries) made up nearly half of all permanently impairing injuries, and half of these were caused by rear-end collisions [7].

For companies, lost work time for employees involved in crashes from injury and ill-health is a costly consequence of the lack of an effective fleet management policy.

### 1.4 Benefits of work related safety

A range of benefits have been identified with managing work-related road safety as illustrated in the example below.

**Benefits of managing work-related road safety (HSE [30])**

- Control over costs, such as wear and tear, fuel, insurance premiums, legal fees and claims from employees and third parties
- Informed decisions about matters such as driver training and vehicle purchase and identifying where health and safety improvements can be made
- Fewer days lost due to injury
- Reduced risk of work-related ill health
- Reduced stress and improved morale
- Less need for investigation and paperwork
- Less lost time due to work rescheduling
- Fewer vehicles off the road for repair
- Reduced running costs through better driving standards; fewer missed orders and business opportunities so reduced risk of losing the goodwill of customers
- Less chance of key employees being banned from driving, e.g. as a result of points on their licences

## 2. Work-related road safety management

In several countries, governments, public and private sector employers as well as non-governmental organizations have taken steps to address work-related safety against the background of national road casualty reduction targets and with the aim of reducing costs. Such actions range from national strategies, employer policies in the public and private sectors to ad hoc measures. Research and experience has, to date, identified substantial potential benefit associated with managing work-related road safety, though little activity has been evaluated scientifically and systematically and knowledge is fairly limited.

A review of UK and Australian activity identified ten barriers to effective work-related road safety activity: the absence of 'purpose of journey' data, the nature of operational procedures and structures, the lack of senior management commitment, lack of integration between fleet safety and occupational health and safety, the focus on 'claims-led' procedures, lack of crash investigation, lack of standard definitions and conventions, a reactive rather than proactive response to injury prevention and inflexible attitudes to change and poor management.

Work-related road use comprises a highly diverse group of drivers, vehicles and working environments, making it unlikely that their crashes are homogeneous and susceptible to a single remedial measure [21]. Experience to date suggests that fleet safety is most likely to be improved by the introduction of an integrated set of data-led measures based on a strong safety culture within the organization [12] [29].

### 2.1 Policy frameworks

#### 2.1.1 National and international

National approaches to work-related road safety vary in form and coverage from one country to the next. Work-related road safety can fall within the framework of road traffic law, health and safety legislation and policies for the asset and quality management of road transport.

The policy tools in use include collecting data, research, legislation, national guidance to employers, stipulating safety demands in transport contracts, leading by example with safe fleet policies and encouraging effective delivery partnerships.

In Europe, most attention to work-related road safety within road traffic law has been to regulate large commercial and passenger road transport operations and the carriage of dangerous goods. Various initiatives have been taken at EU level e.g. [EU driving and rest period rules](#), [Transport of dangerous goods by road](#), [Checks on the transport of dangerous goods by road](#), [Safety adviser for the transport of dangerous goods](#). A strategy exists on occupational safety 'Adapting to change in work and society: a new Community strategy on health and safety at work 2002–2006'. However, little reference is made to work-related road safety and work at EU level beyond large commercial transport has yet to be started.

In general, there has been little attention to addressing the risks from work-related road traffic crashes in national health and safety law. One of the consequences of allowing road traffic law to take precedence over health and safety at work legislation has been that, other than for large vehicles, there has been little motivation for employers or enforcing authorities, to examine whether a failure in health and safety management systems might have contributed to an incident [15].

Few countries have taken steps to investigate and address the problem systematically or have foreseen activity on work-related road safety in their national road safety strategies. Several countries, however, are starting to address some of the issues.

#### **Examples of national strategies and programmes**

In Sweden, Vision Zero states that public authorities should apply quality assurance principles to work-related travel. The Swedish Roads Administration has subsequently adopted a strategic approach to improving the safety of the entire national vehicle fleet through its fleet safety policies. Fleet safety is part of quality management of the transport component of an institution (whether government or private). The quality assurance of transport aims to ensure that people and goods arrive at the right place, at the right time and in the right way (i.e. without any related danger of serious injury or damage to goods or the environment). Road safety and environmental outcomes are linked and there is emphasis on ensuring the quality of outsourced transport as well as the use of owned vehicles. In specifying high safety standards, corporate purchasers of vehicles and transport services can create an economic imperative for providers of vehicles and transport services to meet these standards [29]. The Swedish Work Environment Authority encourages employers who operate vehicles as part of their work to develop road safety policies and programmes (e.g., seat belt use, driving without alcohol and drugs), monitoring of employees compliance with these rules by the employer, and the installation of safety equipment in vehicles (e.g. seat belt reminders, alcohol ignition interlock for commercial vehicles).

Following a research programme carried out since the late 1990s, Britain is now making provision for the application of health and safety at work law to on-the-road work activities. In Britain, employers have a duty to manage risk on the road as part of their health and safety responsibilities. This entails carrying out risk assessments to see what 'reasonably practicable measures' are needed to ensure 'safe systems of work' for their employees while on the road.

### **British health and safety requirements for work-related road use**

The Health and Safety at Work etc Act 1974 (2) requires the employer to ensure, so far as is reasonably practicable, the health and safety of all employees while at work and that others are not put at risk by the employee's work-related driving activities

The Management of Health and Safety at Work Regulations 1999 (3) sets out the requirement for employers to manage health and safety effectively. They require the carrying out of an assessment of the risks to the health and safety of employees, while they are at work, and to other people who may be affected by their work activities. The Regulations require the employer to review the risk assessment periodically so that it remains appropriate.

Consultation with employees and, where applicable, their health and safety representatives, on the health and safety issues, is covered in governmental guidance. Health and safety law does not apply to commuting, unless the employee is travelling from their home to a location which is not their usual place of work.

These requirements of health and safety law are in addition to the duties of employers under road traffic law, e.g. the Road Traffic Act and Road Vehicle (Construction and Use) Regulations, which are administered by the police and other agencies such as the Vehicle and Operator Services Agency.

Source: Driving at work: managing work-related road safety, HSE [30]

Various measures are promoted through national guidance to employers [Driving at work: Managing work-related road safety](#); [Reducing at-work road traffic incidents](#). Work-related road safety is now expected to address both national road safety and health and safety targets. Work-related road safety management is expected to cover several key strategies: policy, responsibility, organization, systems and monitoring.

### **Work-related road safety management guidance in Britain (HSE [30])**

*Policy:* An organization's health and safety policy statement should cover work-related road safety and should be written down if 5 or more people are employed.

*Responsibility:* Top-level commitment to work-related road safety management is required with clear accountabilities set out.

*Organization and structure:* An integrated organizational structure is needed which allows cooperation between departments with responsibilities for work-related road safety.

*Systems:* Adequate management systems are needed.

*Monitoring:* An effective monitoring system is needed

In Australia, health and safety at work legislation makes employers responsible for minimising the risks involved in driving for work. This has mainly involved implementing safety policies and procedures, ensuring vehicle safety, and providing adequate training for employees. In addition to this, 'chain of responsibility laws' have been introduced which increases the accountability of employers, managers, and all other workers involved in the chain of commercial transport [55].

France has implemented a programme to increase the involvement of private companies in road safety related to their use of vehicles. The French programme is documented in a publication titled "*National Steering Committee For The Prevention Of Road Risk Incurred By Employees - Programme of Action 2000 - 2001*" which is produced by the "Occupational Accidents and Diseases Commission" of the National Health Insurance Fund for Salaried

Employees (CNAM-TS). Voluntary agreements have been drawn up between government, insurance companies, the national occupational health fund and companies. The programme aims to motivate companies to undertake road safety programmes by increasing awareness of the high cost of road crashes to the company and by decreasing workers compensation and vehicle insurance premiums if programmes are implemented [29] [47].

In the Netherlands, the Ministry of Transport encourages transport companies to create a safety culture and offers a range of tools to assist in this task. These include a digital safety scan with which transport companies can gain insight into their safety performance and a protocol to assist companies to earn discounts in their insurance premiums in exchange for better safety performance.

## 2.1.2 Regional

### Australian State Initiatives

Victoria, New South Wales and Queensland have all developed policies on improving work-related road safety, given that occupational driving comprises a high proportion of road use. An example of the range of activity is given from New South Wales.

#### New South Wales, Road Traffic Authority (RTA) initiatives

- Providing the RTA's own Safe Driving Policy as a sample safe driving policy
- Providing a wide range of education resources for the workplace (fatigue, speed, alcohol and drugs, seatbelts)
- Implementing work road safety initiatives in all RTA regions
- Working with other states and territories to exchange information on best practice
- Providing consumer information on the safety of new and used cars.

## 2.1.3 Local

Local government also plays a role in improving work-related road safety as outlined in examples from Britain and Australia. Again, studies of the effectiveness of local activity have not been carried out.

### Derbyshire's Road Safety Interagency Group

The Derbyshire Road Safety Interagency Group was established in 1996 and comprises representatives from Derbyshire County Council, Derby City Council, North Derbyshire Health Authority, South Derbyshire Health Authority, and Derbyshire Constabulary. The Group formed following a number of years of informal working, to provide a structure to share expertise, opportunities and goals, such as crash reduction and health improvement. A key objective of the work of this group, which is reinforced in Derbyshire's Road Safety Strategy, road safety in the wider community. This provided a focus for workplace activities. The workplace register was formed to enable contact with companies who were interested in promoting safe practices for drivers. Initiatives include, a document outlining policies to put in place, regular newsletters and a biennial conference. The workplace register currently stands at 86 members with interest from firms ranging from 2 to 3 driver companies to companies with over 700 drivers [15].

### The FleetSafe Project

The FleetSafe Project has developed a policy and procedures to improve fleet safety in 12 Councils in southern Sydney, New South Wales. These Councils have a combined fleet of about 2,720 light and heavy vehicles. The FleetSafe Project was coordinated by the Southern Sydney Regional Organization of Councils (SSROC) and funded by the Roads and Traffic Authority of New South Wales. The rationale was that the 12 Councils had an annual

crash rate of about 50%, which is approximately double the average for fleets. This corresponded to a \$AUS1.2 million annual repair bill and annual insurance premiums of approximately \$AUS900,000. The FleetSafe policies and procedures were developed by a team from all of the Councils which covered a range of disciplines involved in Council fleet management including risk management, occupational health and road safety. The FleetSafe Project was the joint winner of the 1999 Local Government Excellence in Road Safety Awards. The Project was described by the judges as a sustainable model with state-wide applications in both government and industry [29]. The FleetSafe program is divided into three sections:

**Model FleetSafe Policy:** This is a general model that Councils can incorporate with minor individual changes.

**Recommended Guidelines:** A detailed set of best practice procedures.

**Implementation:** Implementing and Maintaining the FleetSafe Program - A guide to successful implementation.

## 2.2 Employer policies

Over the last 10 years, awareness of the importance of work-related road safety together with developing national governmental policy in this field has led to an increasing level of activity on the part of employers, both in the private and public sectors. The rationale for development includes:

- Responding to new national government policy
- Desire of government departments to lead by example in adopting in-house work-related safety policies
- Contributing to national and regional road safety policies and targets
- Responding to transport system quality goals
- Cutting organization road crash and incident costs
- Improving organization profile

To date, little evaluation has been made of the effectiveness of different approaches. Examples are presented below.

### 2.2.1 Government

#### Public sector as exemplar

*National government:* In Sweden and some of the Australian States, the lead agency for road safety has adopted a travel and fleet policy aimed at reducing occupational road safety risks. The [Swedish Road Administration's Travel Policy](#) was introduced in January 1998. This policy relates to fleet cars and rental cars used by the employees. The safety specification relates to frontal and side protection, weight of the vehicle and ABS brakes. The use of the vehicle in terms of safety has also been specified. In the Netherlands, the Ministry of Transport has adopted a broad vision for in-house road safety which is realised by safety management and the establishment of a safety culture.

*Regional or State government:* Other examples include the [Transport Accident Commission Vehicle Purchase Policy, Victoria](#) and the [New South Wales](#) policy at State level in Australia.

*Local government* also plays a role. For example, in Sweden, the municipality of Gothenburg purchases bus and tram services from a corporation and sets out specific requirements in terms of speed etc. which are built into contracts. The stated speeds may be lower than the posted speed limits in certain areas. If speed limits are exceeded, the contract is used to negotiate the consequences. The following is an example where actual road user legislation

is combined with contracts. In 1997, the Borlänge municipality in Sweden started a programme to purchase transport services featuring safety as a key element. Transport providers had to provide their service in a way that is safe in terms of vehicle used, drivers used and the way the vehicle is driven. The contracts between the local government and the providers specified that the provider must have a quality system in place to be able to guarantee the safety standard. A local non-governmental traffic safety organization was contracted to audit the activity to ensure that safety systems were in place [29].

### 2.2.2 Private sector

A growing number of companies are embarking upon work-related road safety activities in European countries. However, very few programmes have been studied to establish the effectiveness of the variety of the approaches and measures adopted.

A survey of over 1000 organizations in Scotland about work-related road safety indicated that just under two thirds of organizations (64%) claimed to have a policy relating to safe driving procedures (70% of large organizations and 60% of medium sized organizations). About one third of those with a safe policy reported that they had demonstrated positive results. However, when these were followed up in order to identify case studies, it appeared that organizations reported having a policy if they had a general health and safety policy, even where this was not specific to work-related road safety. Where organizations had taken some action, usually training, this often could not be backed up with evidence of improvement, partly due to the lack of data on which to compare before and after training intervention [31].

An Australian review of international practice found that there often appears to be a gap between those responsible for fleet management and those responsible for occupational health and safety within an organization [29].

Company [case studies](#) cited by the UK Health and Safety Executive illustrate a range of current practice in large companies in Britain. Also listed are examples from Sweden.

#### Swedish private sector initiatives

In Sweden a taxi company in Sodertalje, a city with many large companies, has developed and implemented a safety and environmental policy in order to provide especially the large clients with a safe and environmentally sound transport service. The policy relates mainly to driving, requiring that speed limits should be complied with and that special consideration is given to unprotected road users. The policy is perceived by the company to offer competitive advantage, gaining more clients having a positive impact on some of the larger clients [29].

Swedish insurance companies are responsible for approximately half of the rental car market with most of this demand comprising replacement cars for cars under repair [20]. The Folksam insurance company has developed environmental and safety requirements that must be met by the rental car companies with which it forms agreement. In 1999, the safety requirements were set out as follows. "The cars which meet with our approval must firstly meet the requirements of alternative I below. If the car in question is not represented in our ranking list, it should meet the requirements of alternative II. If the car is not listed in Euro NCAP's research results, alternative III will apply.

- I At least 20 percent safer than the average car (safety class green or blue)
- II Safety classified with 3 or 4 stars, in accordance with Euro NCAP's crash test results
- III Meets European requirements for head-on and side-impact collisions (96/79/EEG and 96/27/EEG)" [20].

## 2.3 Identifying problems and setting goals

### 2.3.1 Data collection, risk assessment, monitoring and feedback

While data generally exists in countries internationally on the numbers of road traffic crashes and vehicles involved, few countries currently collect information on the proportion involving workers [29] [15].

While work-related road crashes are likely to be a very substantial proportion of crashes in most European countries, the absence of data collection and reporting at national level is a major inhibitor of action. In fleet management, there is a general emphasis on counting crashes (particularly “preventable” crashes) and repair costs, rather than injuries. This may be because injury crashes are much less common than property damage crashes [29]. At the same time, it was noted that in 2001, British and Australian data could not identify or quantify the full extent of crashes involving work vehicles since most fall outside national level recording systems, and the link between this type of crash, injuries and fatalities is largely overlooked. Most were relatively minor, damage only, slow speed manoeuvring, costing on average less than £1,000 (€1,470) and frequently single vehicle. Legal, claims handling, establishing liability/mitigating circumstances and insurance cost minimisation requirements drove crash reporting and recording. Systems typically focused on claim and cost minimisation rather than risk management analysis and investigation [38].

A system for gathering, recording and analysis of information about road incidents and injury crashes is necessary as well as information about driver and vehicle history. Some countries include ‘journey purpose’ in their national road crash data reporting systems e.g. Britain. It is also possible to conduct linkage studies between different data sets e.g. New South Wales.

#### **Linking data in New South Wales (NSW) on work-related road crashes**

In an attempt to learn more about the extent and nature of work-related crashes, the New South Wales Roads and Traffic Authority (RTA) created a dataset linking the NSW crash data covering the period 1996 to 2000 (inclusive) and NSW registration data for the period 31 December 1995 to 30 June 2000. The linkage was made using the vehicle’s registration number, which was present in both the registration and crash databases. The registered keeper was the organization or individual on record within the six months immediately preceding the crash (a particular vehicle could therefore appear more than once in the crash database and be registered to different keepers). The data was supplied to a university road accident research group post-matched and de-identified. According to the RTA, the matching process was successful for more than 94% of all crashed NSW-registered vehicles [29].

In several countries, health and safety legislation requires employers to conduct risk assessments for work-related road use and national guidance is provided to assist organizations in this task.

**Guidance in risk assessment in Britain (DfT, HSE, 2003)***Five steps in risk assessment*

- Step 1 - Look for hazards that may result in harm when driving on public roads.  
Step 2 - Decide who might be harmed.  
Step 3 - Evaluate the risk and decide whether existing precautions are adequate or more should be done.  
Step 4 - Record your findings.  
Step 5 - Review your assessment and revise it if necessary.

*Key considerations in risk assessment**The driver*

- Competency
- Training
- Fitness and health

*The vehicle*

- Suitability
- Condition
- Safety equipment
- Safety critical information
- Ergonomic considerations

*The journey*

- Routes
- Scheduling
- Time

*The weather*

Monitoring and review of risk assessments is necessary to ensure that the risks to those who drive, and others, are managed effectively and to take account of changing circumstances. Such a review should seek the views of employees and safety representatives where appointed.

**2.3.2 Work-related road safety and national outcome targets**

No specific work-related road safety targets have been identified during the course of this review, but several countries foresee activity in this field in outlining their national road safety strategies and targets.

For example, in Sweden the operational strategy of Vision Zero states that public authorities should apply quality assurance principles to work-related travel. "The operational strategy of Vision Zero means that public authorities should, for example, take considerably greater responsibility for the quality assurance of their road transports, official business trips, and trips to and from work, so-called work-related trips from a road safety and environmental point of view. If this is done in an organized way throughout society, there will be significant impact on the road traffic safety within the country" [36].

**2.4 Strategies, measures and their implementation****2.4.1 Safety culture and championing***What is safety culture?*

In Sweden, the Netherlands and Australia, the *Vision Zero, Sustainable Safety and Safe Systems* concepts are contributing to the establishment of a national safety culture and

championing in road and work-related safety policies and approaches. These highlight the unacceptability of the high social cost and avoidable serious public health loss resulting from road crashes and the need for these to be addressed by systematic, results-focused and well-coordinated approaches (See AAA Foundation Conference, 2006 for general discussion about safety culture issues [2]).

For organizations in general, there is no generally accepted definition of safety culture, but examples of safety culture 'characteristics' include safety policies and procedures issued by senior management, the commitment to implementing safety policy shown by line management and the willingness to comply with safety rules shown by the workforce.

In-depth research of the operations and management of 5 large companies in the Netherlands characterised safety culture by:

- The extent to which the management has a safety policy and acts accordingly.
- The extent to which a company wants to learn from failures;
- The extent to which a company has insight into its own safety and is willing to adopt structural measures to improve safety.

The study concluded that a safety culture was not present in all 5 companies which they explained by the following: the absence of indicators for measuring safety performance; an acceptance of crashes as the price of business compensated for by insurance premiums; lack of understanding of the importance of planning (e.g. work/trips (influencing fatigue and time pressure)); the tendency of employees to want to work hard for their company but to want to have freedom of the road. Where companies decided to take some safety action, it was as a result of being pressed in some way by customers, insurance companies, or government regulations [52].

A British study of fleet trainers, fleet managers, fleet drivers and the insurance industry indicated that the driving culture within an organization may stress business needs, such as delivery quotas, before safety. A strong 'safety culture' within a company led to safety concerns being addressed more rigorously in that company. In addition, companies with strong safety cultures were found to be more satisfied with the outcomes of safety measures that had been implemented [12].

An Australian study noted that organizations may shape individuals' work-related driving behaviour indirectly through the organizational fleet safety climates that evolve [55].

#### *Safety culture and crash liability*

The organization's 'safety culture' has an important effect on the crash liability of company drivers. A British study of company vehicle drivers in both small and large companies (using mainly company cars and LGVs) showed a relationship between safety culture, driver attitudes and crash liability [4]. Another British review emphasised the importance of the organizational conditions under which drivers work. Individual measures such as driver training will be undermined if no steps are taken to change the conditions under which employees drive, e.g. reducing time pressure and fatigue, and keeping attention-demanding tasks to a minimum [5].

### **2.4.2 Strategy and programme development**

Guidelines: Guidance for employers for establishing work-related road safety strategies and programmes has been developed at national, State, and local levels as well as by non-governmental road safety organizations and trades unions. Examples include:

[Driving at work: Managing work-related road safety \(UK\)](#)  
[Reducing at-work road traffic incidents \(UK\)](#)  
[Vic Roads Safer Driving Manual \(Victoria, Australia\)](#)  
[Managing Occupational Road Risk Road: the RoSPA guide \(UK\)](#)  
[Safer Driving at Work: A guide for Unison Safety Representatives \(UK\)](#)  
 Roads and Traffic Authority of NSW. (1994). *Safe driving policy: Safe vehicles operated safely.*  
 Roads and Traffic Authority: Sydney, Road Safety Council. (1997). *Guidelines for a safe driving policy for fleet operators.* Perth: Road Safety Council, Western Australia.

Programme measures: Research indicates that the fleet safety initiatives which have potential to be effective are [29]:

- Selecting safer vehicles
- Some particular driver training and education programmes (e.g. Hertz study by National Safety Council in Kedjijian, 1995; the Swedish Televerket Study)
- Incentives (not rewards). Incentive programmes appear to be most effective when the time period in which the desired outcome is expected is short. They may also be more effective in younger drivers. Drivers with good records who are given a reward either show no difference or an increase in their crash rate.
- Safety programmes in companies with an overall safety emphasis.

### 2.4.3 Safer fleets

*Fleet buying and safety.* In North America, surveys have shown that safety is among the top considerations of fleet managers in selecting new vehicles. In most cases, fleet buyers rank the safety record of a vehicle just behind its initial cost, suitability for a particular job, and depreciation/resale value [35]. Vehicle selection by fleet buyers is generally a choice of the safest possible car within reasonably tight constraints, rather than the safest possible car on the market [29].

#### **VicRoads Safer Driving Manual outlines four steps for policy development .**

1. Gain management commitment  
In order to begin the process of developing a Safer Driving Policy, senior management needs to accept the important role that driving and cars play in your organization.
2. Identify key people  
Decide who is going to be involved in the development of your policy. People such as fleet managers, human resource managers, OH&S managers and industrial relations managers may be suitable. Others to include could be employees with a particular interest in road safety issues. Involving employees in the policy development stage will ensure their ideas and input are considered. A consultative and collaborative approach will lead to greater acceptance of the policy at the implementation stage. Ideally, appoint a manager to co-ordinate the Safer Driving Program, who reports directly to senior management.
3. Develop a policy suited to your organization, targeting key road safety issues  
Since no two organizations are exactly alike, you will need to devise a Safer Driving Policy that suits your particular needs and meets your organization's specific activities and priorities. Your fleet's crash data/insurance claims and also information such as WorkCover claims involving motor vehicles can guide the development of the policy. The policy should be suitable for implementation in your organization. Sample policies have been included in this kit and can be used as a starting point. As a minimum, the policy should cover:
  - Buying safer cars
  - Education of employees
  - Monitoring of crash data.
 The policy should clearly outline the responsibilities of employees and management.

#### 4. Gather support

Consultation is the key to a successful Safer Driving Policy. Once the draft policy has been developed, consider making it available to staff for comment. This will ensure their future support. Also identify which key decision makers will need to support the policy and its implementation throughout your organization. Key decision makers may include the Chief Executive Officer (CEO), board members, support.

*Support from senior managers is essential.*

*Performance-based safety buying:* Some fleet policies identify lists of vehicle measures which are to be sought in fleet buying. Others use safety performance ratings such as New Car Assessment Programmes. Safety rating schemes, based on real-world crash data, show a 1 to 5 ratio between the best - and the worst-performing cars, while if taking size (more strictly mass) into account, the ratios are in the order of 1 to 2.5 between best-performing and worst-performing cars [29].

*Vehicle safety features:* Car mass, also plays a major role in crash protection. In general, the risk of a serious injury is reduced by 5-10% for every extra 100 kg of car mass, in two car collisions [6] [40]. Additional crash protection features such as driver-side airbags, side airbags and anti-whiplash protection may also be included, as are crash avoidance measures such as electronic stability control and daytime running lights. Many of these features are taken into account in Euro NCAP safety ratings. Alcohol interlocks are used increasingly in Sweden in company fleet policies to prevent excess alcohol and driving. Preventative maintenance is often promoted, but the extent to which it contributes to safety (rather than reduced unscheduled maintenance costs) is unclear [29]. Studies of 'event data recorders' or 'black boxes' in Europe and the U.S. have shown that driver and employee awareness of an onboard EDR reduces the number of crashes by 20 to 30%, lowers the severity of such crashes, and decreases the associated costs. [48] [56]. In EU countries, the fitment of speed limiters in lorries and buses has been mandatory since the mid-nineties.

#### **Speed limiters in lorries and buses**

Since the mid nineties, speed limiters have been obligatory for all new lorries heavier than 12 tonnes and all new buses heavier than 10 tonnes, following European regulation. Since 1 January 1995, this obligation has also applied to existing vehicles.

Lorries must have their speed limiter set to 85 km/h and buses to 100 km/h. In practice, speed limiters for lorries are set at 89 km/h.

From 2004, heavier delivery vans (> 3,500 kg) also have to be equipped with a speed limiter

In addition, advanced driver assistance systems (ADAS): systems that support the driver in his/her driving task have been identified as holding much future promise. These include such as:

- Speed limitation/warning devices
- Active anti-roll systems and active steering systems to improve the sideways stability
- Intelligent cruise control, lane keeping support and collision avoidance to prevent collisions
- Black boxes for checking driving behaviour
- Automatic vehicle guidance for the safety and optimum use of the road network

Benefits: While fleet safety policies as a whole have not yet been evaluated, the benefits of ensuring that vehicle fleets are as safe as possible are likely to be substantial.

Examples of safer fleet policies include:

The [Monash University Accident Research Centre \(MUARC\)](#) fleet purchase policy

The [Swedish Road Administration's Travel Policy](#)

The [Transport Accident Commission Vehicle Purchase Policy, Victoria](#)

## 2.4.4 Safer use of the network

### Driver selection

Research has highlighted the potential scope for recruitment of safer drivers based on personality profiles, risk perception, experience, age, and medical screening [31]. Little evaluation, however, seems to be available of driver selection strategies.

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 crash involvement for the majority of drivers [29].

An Australian overview concluded that many drivers of fleet vehicles are not selected on the basis of their ability to drive safely, but on other characteristics necessary for their main job which necessitates driving. In general, driver selection has only been considered important for drivers of commercial vehicles [29].

### Driver testing and training

*Conventional fleet training:* There is no scientific evidence in the literature in the form of scientific controlled studies that conventional fleet driver training is effective in reducing crashes [12], despite the strong belief in the effectiveness of driver training courses by those involved [29].

*Defensive driver training:* However, formal defensive driver training for professional drivers, taught at the workplace, combined in larger companies with motivation and incentive systems for crash-free driving, has been found to reduce the crash rate by around 20%. Other types of instruction for professional drivers, including skid training, both amongst ambulance drivers and drivers of lorries and articulated lorries have been found to increase the crash rate [16].

Effects of training and testing professional drivers on the number of accidents [16]			
Percentage change in the number of accidents			
Accident severity	Type of accident affected	Best estimate	95% confidence interval
<i>Course in defensive driving for experienced drivers (accidents per km driven)</i>			
Unspecified (all)	All types of accidents	-20	(-33; -5)
<i>Skid training for ambulance drivers (accidents per driver)</i>			
Unspecified (all)	Accidents in icy conditions	+45	(-35; +220)
<i>Skid training for drivers of heavy vehicles (accidents per km driven)</i>			
Unspecified (all)	Accidents in icy conditions	+22	(+9; +36)
<i>More stringent driving tests for drivers of heavy vehicles (total accident figure)</i>			
Injury accidents	All types of injury	+5	(+4; +6)

*Group discussions:* A Swedish study of countermeasures implemented by Televerket showed statistically significant reductions of crash risks in the groups which had participated in defensive driver training and group discussions [22].

*Driver testing:* More stringent driving tests do not appear to lead to fewer crashes [16].

*Work scheduling:* Company drivers, who travel longer distances during the hours most associated with sleep or after a hard day's work, are more likely to be at risk of fatigue than are most private motorists. Driving hours of long haul commercial heavy goods vehicles and public transport driving and rest are covered by European legislation. 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 two means by which companies can help to create a framework for safer driving [5]. 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 [5].

*Incentives:* A review [29] of the effects of incentive and disincentive programmes reported in the literature indicates that:

- Some programmes had negative effects
- Incentive programmes (where benefits are conditional upon future safe driving) are more effective than reward programmes (where benefits are conditional upon past safe driving). Incentive programmes appear to be most effective when the time period in which the desired outcome is expected is in the near future. Incentive programmes may be more effective in younger drivers.
- Drivers with good records who are given a reward either show no difference or increase their crash rate.

## 2.4.5 Sustainable funding

As for road safety in general, sustainable annual sources of funding are needed to improve work-related road safety management. The Work-related Road safety Management Task Group concluded that the societal savings to be made were so considerable that they dwarfed the added funding to enforcing authorities that might be necessary [15].

## 2.4.6 Delivery partnerships

*Work-related road safety task forces:* One organizational mechanism which has been successful in encouraging awareness and activity nationally is the establishment of work-related road safety task forces. In Britain, for example, the independent Work-related Road Safety Task Group, which was foreseen in the national road safety strategy, was established in 2000. It comprised expertise of a wide range of organizations: employers, both large and small, worker representatives, law enforcement agencies, road safety experts, driving standards, transport groups, the insurance industry and policy makers with a secretariat of officials from the Health and Safety Executive [30] and the Transport Department. It produced a report with a series of recommendations for national policy development, some of which have been implemented.

**Terms of Reference - Work-related road safety task force, Britain [15]**

- Establish (or signal what further work is required to establish) accurate casualty and incident statistics for work-related activities on or near roads
- Establish (or signal what further work is required to establish) the main causes and methods of preventing work-related road traffic incidents
- Promote a public debate on best practice in relation to preventing at-work road traffic incidents;
- Propose minimum health and safety management standards for employers, the self employed and others for work-related journeys and other work activities on the highway;
- Propose if possible non-legislative mechanisms for dovetailing road traffic law with health and safety at work law
- Propose mechanisms for effective liaison between those who enforce road traffic law and those who enforce health and safety at work law
- Prepare a Regulatory Impact Assessment if appropriate.

Similarly, task forces were established in several Australian States to assist with policy development. For example, the Corporate and Fleet Safety Working Party was formed, with representation from VicRoads, Transport Accident Commission, Victoria Police and the Royal Automobile Club of Victoria. It reports to the Road Safety Reference Group and its aim was to implement a program (or programs) that is likely to be well accepted in the business environment and which will reduce casualty crashes.

*Stakeholder coalitions:* In April 2002, the Occupation Road Safety Alliance (ORSA) was established in Britain by the Royal Society for the Prevention of Accidents bringing together over 60 key road safety and occupational safety stakeholders. The organization is 'virtual' having no formal constitution, officers or funds. However, it has proved to be a valuable network, bringing together key players from the occupational and road safety communities to help sustain the momentum generated by the Dykes Report and to work towards a coordinated national effort to make risk on the road while at work part of mainstream health and safety management and regulation.[3]

**Occupational Road Safety Alliance (ORSA, 2006)**

Aims to:

- Facilitate networking between key stakeholders;
- Encourage joint working to raise awareness in organizations of the need for action on work related road safety
- Promote the exchange of information on new initiatives and best practice
- Establish a statement of common goals
- Organize events
- Establish technical co-operation

In September 2002 ORSA agreed a core statement which is a road safety 'challenge to business' setting out the safety, legal, social and business case for action and indicating the steps which employers should be taking to manage at-work road risk as a mainstream health and safety issue.

In 1994 the Department of Development, Housing, Transport and Tourism in France recommended the establishment of Clubs Entreprises. The Clubs are organized as associations in nine regions. For example, the association in Haute-Garonne has 38 partner companies which correspond to about 69,000 employees, 17,500 vehicles and 218 million kilometres of vehicle travel per year. The objectives of the association are to lessen the

human and economic costs of road crashes and, to work cooperatively to mobilise companies around a common plan, and to facilitate the exchange of ideas and experiences among the partners.

### 2.4.7 Research and knowledge transfer

Effective work-related road safety requires an evidence-based approach. With some exceptions, investigation of the problems and solutions has barely begun in most European countries. International differences in data collection make international comparisons difficult. European-wide research is necessary to inform cooperative approaches. Further knowledge is needed about crash and injury causation, the costs of work-related crashes and the effectiveness of different approaches to work-related road safety management. The main means of national, regional and local knowledge transfer is through guidance, funded and directed by central government. In some countries, the research organizations and the non-governmental road safety sector are active in identifying the key problem areas and contributing to knowledge transfer about effective countermeasures. A coalition of stakeholders in work-related road safety management in Britain has proved useful in sharing knowledge [41]. In countries that are considering extending the remit of health and safety legislation and enforcement to include work-related road safety, management training to include at-work road safety risk management issues will be needed within management courses that address health and safety.

### 2.4.8 Non-governmental sector activity

The non-governmental road safety sector is an important partner in work-related road safety activity, as advocates, facilitators of best practice information exchange, researchers and employers, as illustrated by examples from Britain, Sweden and Australia.

The [Royal Society for the Prevention of Accidents \(RoSPA\) Britain](#) has long campaigned for organizations to adopt a proactive risk management approach to reducing the risks connected with 'at work' vehicle use, tackling this issue within the framework which they will already have in place for managing health and safety at work. As a member of the Government's Work Related Road Safety Task Group, RoSPA has helped to establish a national strategy on managing occupational road risk including the development of the recent HSE/DFT guidance 'Driving at Work - managing work-related road safety', for employers on their duties to manage risk on the road under the Health and Safety at Work Act and the Management of Health and Safety at Work Regulations. In 1998, it carried out an [international survey of work-related road safety](#) in different countries. The BRAKE organization has also played a key role in knowledge transfer and advocacy for improvements to work-related road safety in Britain.

In Sweden, the [National Society for Road Safety, Sweden \(NFT\)](#) advocates for improvements in work-related safety and is developing a safety rating for the work-related road safety contributions of companies and organizations.

### NTF work-related safety demands

- Road safety in commercial traffic is a responsibility for management and transport buyers
- Transport companies and transport buyers should introduce transport safety quality systems.
- Minimum demands in a transport safety quality system are a sober driver, who always follow the speed limits and use his seat belt. The essence of the quality system is the control of these demands.
- Transport companies and transport buyers that introduce genuine systems for safe transport should be highlighted as good examples.
- Legislation and wage-conditions that encourage illegal high speeds and violations of regulations of driving-time and resting-time should be changed.
- The Work Environmental Act should be applied even when it comes to safe transport.
- Permits for commercial traffic should be connected to the companies traffic safety work.
- In the case of travel to and from work, employers should encourage the use of, for example, cycle helmets and reflectors even if there is no relevant legislation.

In the research sector, the [Monash University Accident Research Centre \(MUARC\)](#) has been active in conducting research into work-related road safety and developing its own fleet safety policy.

The German Traffic Safety Council (DVR) has conducted programmes in conjunction with the German occupational accident insurance funds aimed at improving work-related road safety. The Council has promoted the establishment of voluntary safety circles in which employees from the company vehicle fleet met together to discuss critical points and devise solutions under the leadership of an experienced moderator. DVR also runs training courses.

### 2.4.9 Parliamentary Committees

The important role of parliamentary committees in work-related road safety management has also been recorded [39]. In New South Wales, Australia “The Staysafe committee produced the highly influential Staysafe36 report, and several other relevant publications and related events. Staysafe36 covered a range of road safety and Occupational Health and Safety issues, and can be seen as a very important starting point for many of the current fleet safety initiatives in Australia”. In Queensland, “the Travelsafe Committee co-organised and hosted a symposium on work-related road trauma and fleet risk management and released Travelsafe Report No. 34. This has led to a range of recommendations for different government agencies in Queensland, including the collection of purpose of journey data, more fleet safety in the road safety action plan and closer collaboration between key Government agencies, including Police, Transport and OH&S. Several participant organizations have also implemented fleet safety reviews, programs and specific countermeasures as a direct result of the symposium.”

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