

**Summary:**

# **Fatal road accidents involving people at work**

## **An analysis of the situation in Norway from 2005 to 2010**

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*Analysis of accident reports shows that 41 per cent of fatal road accidents in Norway involve at least one driver who is either at work or on the way to or from work. Thirty per cent of the accidents involve occupational drivers (at least one), while six per cent involve at least one driver who is at work, but is not an occupational driver. Ten per cent involve at least one driver on the way to or from work. The report also examines how work-related road accidents involving fatality differ from other types of fatal road accidents. The findings include that work-related accidents have a greater tendency to occur in the winter, on weekdays and in the daytime. The report recommends that findings about seatbelt use, time pressure and fatigue should be communicated to all who are responsible for those who must drive for work.*

Driving in traffic is for many one of the largest risks faced while at work. This applies not only to occupational drivers, but sales persons, pizza deliverers, plumbers, midwives and many others who must drive in connection with their everyday work. Appropriate HSE measures have recently been prioritized by the European Transport Safety Council and the European Safety and Health Agency as an important way of reducing the number of work-related road accidents. Such measures would conceivably affect a large number and wide range of employees.

Norway's National Transport (2010-2019) states as an aim that traffic safety should be included by organizations as an important part of their HSE work. This report serves to provide part of the groundwork needed to fulfill this aim.

Questions the report aims to answer are:

- What share of fatal road accidents in Norway from 2005 to 2010 involved at least one driver who drove while (a) at work, and (b) on the road to or from work?
- How and to what extent do accidents of the type (a) and (b) differ from other fatal road accidents in Norway?

### **Why fatal road accidents?**

Fatal accidents have large implications for both individuals and society in Norway. All fatal road accidents in Norway are therefore analysed in-depth. This has been the case since the start of 2005. For each fatal accident there is a corresponding in-depth report written by a regional Accident Analysis Group

(AAGs) of the Norwegian Road Authority. Many variables extracted from these reports are entered into an AAG-database to enable the collective analysis of many fatal road accidents. The present project extracts new variables describing work-related driving from all available in-depth reports on fatal road accidents in Norway, and enters them into the AAG-database to enable the analysis of work-related accidents. The resulting comprehensive analysis would not have been possible using databases populated with many more less serious road accidents in Norway, because these databases have neither variables describing work-related driving nor corresponding in-depth reports from which such variables may be extracted.

## **Prevalence of work-related fatal road accidents in Norway**

Table 1 shows the number of fatal accidents in Norway where at least one of the involved drivers drove while at work or on the way to or from work.

*Table 1. Number of fatal accidents involving at least one driver driving at, to or from work.*

	Fatal accident involved at least 1 who drove:		
	At work		To/from work
	Occupational driver	Other driver	
Yes	352	53	81
Likely	11	34	61
Unlikely	10	235	197
No	833	784	751
Insufficient information	5	105	121
<b>Total</b>	<b>1211</b>	<b>1211</b>	<b>1211</b>

Based on these numbers and other similar analyses, we draw the following conclusions about the scale of work-related road accidents in Norway<sup>1</sup>.

- 36 per cent of fatal road accidents in Norway from 2005 to 2010 involved at least one driver who was “at work” at the time of the accident.
- 30 per cent involved at least one occupational driver at work.
- Six per cent involved at least one driver who drove for some other work-related purpose.
- Ten per cent involved at least one driver who was on the way to or from work.
- 41 per cent involved at least one driver who drove at, to or from work at the time of the accident.
- Due to insufficient information in the AAG-reports, these shares can be somewhat underestimated. This applies particularly for those relating to drivers at work that are not occupational drivers, and those who driver to and from work.

<sup>1</sup> Here we exclude “likely” and “unlikely” cases from the calculations, because we consider them to be cases with insufficient information.

## **Fatal road accidents involving at least one driver at work: characteristics and risk groups**

We draw the following conclusions about how fatal accidents in Norway (2005-2010) involving at least one driver at work differ from other fatal road accidents:

- Fatal road accidents involving at least one driver at work made up a larger share of all fatal road accidents during winter months.
- They occurred most often on week days between the hours of 08:00 and 16:00 h.
- They occurred mostly as collisions with oncoming traffic, and on roads with speed limits 70 and 80 km per hour.

We draw the following conclusions about those that drove at work at the time of the fatal accident.

- They drove mostly heavy goods or vehicles and buses when the driver at work was an occupational driver, and mostly cars or vans when the driver drove for some other work-related purpose.
- They were almost always men.
- 17 per cent of occupational drivers were over 54 years of age, compared with 26 per cent of the other drivers.
- 37 per cent did not use safety equipment (usually the seatbelt)
- Those who drove for some other work-related purpose (i.e. at work but not occupational drivers) had a greater tendency to drive vehicles judged to trigger the accident (*utløsende*).
- Almost one half of those who drove for some other work-related purpose were in less than ideal state at the time of the accident, due mostly to time pressure / stress, and tiredness.
- Occupational drivers in a less than ideal state at the time of the accident (16 per cent) also suffered from time pressure / stress and tiredness.

## **Fatal road accidents involving at least one driver on the way to or from work: characteristics and risk groups**

We draw the following conclusions about how fatal accidents in Norway (2005-2010) involving at least one driver on the way to or from work differ from other fatal road accidents:

- They made up a greater share of the fatal road accidents in the winter months (16 per cent in January and February, compared with seven to nine per cent for other times of the year).
- They occurred mostly on working days, and were responsible for almost one in four of those accidents occurring between 04:00 and 08:00 h.
- They were also mostly accidents with oncoming traffic.
- They tended to occur on roads with lower speed limits than those accidents with drivers at work.

We draw the following conclusions about those who drove to or from work at the time of the fatal accident.

- They were involved in one out of every four accidents occurring between 04:00 and 08:00 h.
- They drove mostly cars or vans, but also motorcycles and bicycles.
- One in five was under 25 years old.
- One in four was fatigued.
- One in four did not use safety equipment (usually seatbelt).

## **Recommendations**

Overall the results imply that work aiming to increase the importance of road safety and safe transport as part of routine HSE work should continue, in line with Norway's National Transport Plan.

As part of this process, it may be important to communicate the finds reported here on use of safety equipment and drivers' state at the time of the accident, to all who have responsibility for those who drive while at work, whether they are occupational drivers or drive for some other work-related purpose.

The authorities should consider two main groups who are involved in work-related accidents: (1) occupational drivers driving heavy vehicles, and (2) others at work who mostly drive cars or vans. A potential third group are those who drive cars and two-wheeled vehicles to and from work. The results imply that the safety challenges for each of these groups could vary somewhat.

It will be important to supplement the current findings with the following analyses, to further inform those who will carry out HSE measures to tackle the risks of work-related driving:

- How much the shares of fatal road accidents that are work related reported here, could be underestimated (using the STRAKS-database).
- Scale of all work-related road accidents in Norway involving personal injury.
- Additional analysis of some of the existing variables in the AAG-database, which we did not have time to consider here. These include especially a variable describing the cause of the accident and another describing measures recommended by the AAG as a result of their accident analysis.
- The relationship between work environment, time pressure / stress and driver behavior (violations, speeding) among those who drive at work.
- The relationship between working hours, tiredness and driver behaviour (violations, sleepy driving) among those that drive at, to and from work.
- The relationship between organisational safety culture, use of safety equipment and driver behaviour among those that drive while at work.

Finally, there is a need to improve future analyses of work-related fatal road accidents by providing better information in the AAG reports about working conditions, working hours and vehicle ownership for drivers involved in fatal road accidents.