



BRSI

Accidents involving trucks – Phase 1

Problem extend, literature review, analysis of accident data and survey

Summary

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Temmerman P., Sloomans F., Lequeux Q., (2016) *Les accidents impliquant des camions – Phase 1 – Étendue du problème, revue de littérature, analyse des données d'accidents et enquête*. Bruxelles, Belgique: Institut Belge pour la Sécurité Routière – Centre de Connaissance Sécurité Routière

Summary

Goal and methodology

This report examines the main causes of truck accidents and contains different parts:

- A statistical analysis of crashes with HGV's;
- A summary of the main results regarding the causes of these accidents, based on literature review;
- A summary of the results from previous BRSI research;
- Analysis of international traffic accident databases;
- The results of the BRSI survey among truck drivers in 2016.

Main results from the statistical analysis of crashes with HGV's in Belgium

According to BRSI's road safety monitor, 2204 accidents involving trucks occurred in 2014. That is slightly more than the year before and after that. Those accidents in 2014 caused 121 fatalities on site, which is substantially more than the 85 fatalities in 2013 and 92 in 2015. During the first semester of 2016, 1101 injury accidents were already recorded, which caused 49 fatalities. So far it is unclear whether the decreasing evolution will continue further in the second semester of 2016 or not.

The number of injury accidents per distance covered is considerably lower for injury accidents involving HGV's than for all injury accidents. Both show a clear decrease over the years. In 2013, 255 injury accidents involving HGV's per billion kilometres covered by HGV's were recorded.

Accidents with HGV's are more often fatal than other traffic accidents. Despite the lower number of injury accidents per distance covered, the number of fatalities (within 30 days) per distance covered is considerably higher. In 2013, 12 people died in a crash or of the consequences of a crash involving a HGV per billion kilometres covered by HGV's. When we consider all road crashes and all road user together, 7 people died per billion kilometres driven. The number of fatalities per 1000 injured remains constant for all injury accidents, but shows a remarkable increase in 2014 for accidents involving trucks.

Main results from own research and international research

Driver behaviour is considered to be the most important accident cause. These are the main causal factors regarding truck accidents:

- Behaviour of other road users, for example passenger cars merging right in front of an HGV;
- Viewing behaviour: it can be difficult to maintain an overview of complex situations;
- Maintaining insufficient headway;
- Distraction: truck drivers are more vulnerable to distractions and use their mobile phone more often than other road users;
- Consumption of alcohol and other substances: alcohol is not a major problem among truck drivers. Other substances, however, are;
- Drowsiness: truck drivers are particularly susceptible to drowsiness due to their working schedule, long monotonous drives, poor sleeping facilities, ...

Personal characteristics play a role as well:

- Men are more likely to have a crash than women;
- Sleep apnea is more common among truck drivers;
- Truck driver are more likely to suffer from overweight and heart and vascular diseases.

Concerning environmental factors, especially road works, congestion and infrastructure play a role. Examples of shortcomings in the infrastructure are:

- Sharp bends that are difficult to take with an HGV;
- Short ramps and accesses (loaded trucks need longer distances to accelerate);
- Slopes can cause substantial differences in speed with other vehicles.

The following vehicle factors appear in international literature:

- Overloading or improperly secured cargo;
- Blind spots at the right side, in front of and behind the vehicle remain problematic, despite the numerous compulsory mirrors.

Main results from the analysis of international traffic accident databases

Truck drivers are better protected than other road users due to the physical characteristics of their vehicle. In the IGLAD and IFSTTAR databases it was found that the majority of truck drivers remain unharmed in an accident. Other road users have a much smaller chance to remain unharmed. Nevertheless, truck drivers can benefit from wearing a seat belt as well. It can prevent that the driver is ejected from the vehicle in case of a crash. In the IFSTTAR database, 1 in 5 involved truck drivers did not wear the seat belt. The Volvo Trucks analysis even shows that only 5% of the truck drivers who died in a crash were wearing the seat belt.

In more than half of the accidents involving HGV's in the IGLAD database, the truck did not slow down before the impact. It could indicate that the truck driver was distracted and did not notice the imminent danger.

Technical deficiencies rarely cause accidents. According to the GIDAS database, only 1,6% of the trucks involved in an accident had a technical deficiency that played a role in the accident.

Main results from the survey among truck drivers

One of the most striking results from the survey is that 17% of the truck drivers find it acceptable to not always wear the seat belt while driving. Only 58% confirms to wear the seat belt (nearly) always while driving.

48% would consider it acceptable to exceed the allowed daily driving time by less than one hour. A small part of the respondents stated to be in favour of less stringent driving time rules.

From the self-reported behaviour it is found that truck drivers use their mobile phone and other communication tools more frequently than other drivers. 88% reported to phone hands-free at least once in a while, and 51% even declared to phone handheld at least once during the past 12 months. In the ESRA panel, these percentages were 41% and 28% respectively. 69% of the truck drivers reported to read text messages while driving and 47% even wrote messages. In the ESRA panel, these percentages were 37% and 27% respectively.

Only 7% reported having been involved in an accident over the past 3 months. Two of these crashes resulted in more than property damage. Cars are the most common adversary, both in accidents and in near-accidents. Truck drivers are 3 times more likely to get involved in a road accident than other drivers. Since they cover 6,5 times a much kilometres, their accident risk is 2,3 times smaller than that of other drivers.

The most common suggestion from the open question was to let candidates for other driver licenses join a truck driver for an hour or two. This way, they would develop a better understanding of the tasks truck drivers have to perform to drive a truck.

Further steps

In the second phase of this study individual accidents will be investigated in detail, based on data gathered by the police. Based on the findings in this report three types of accidents were selected:

- Accidents involving a truck driving into the rear of a traffic jam. We will attempt to determine the extent to which distraction plays a role in these accidents;
- Blind spot accidents;
- Accidents in which the driver of the truck wasn't wearing the seat belt.



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