

THE IMPORTANCE OF HEAVY VEHICLE DRIVER EDUCATION IN SOUTH AFRICA

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ABSTRACT

The freight industry is one of the major players that contribute to the development of the economy of South Africa. About 80% of freight in South Africa is transported by road. As a result, heavy vehicle crashes occurring on South Africa's roads are becoming a far too familiar sight. In addition to loss of life, heavy vehicle crashes causes a great deal of damage to property, the environment, and the economy. Part of the problem might be a lack of experience and training for truck drivers. The study compares education and training levels, the amount of time spent on education, the quality of available training and education facilities in South Africa, Africa and the rest of the world. Findings indicate that currently very few formal education and training facilities for heavy vehicle driver are available in SA. Most drivers receive in-house training at the operators where they are employed. Recommendations pertain to the fact that heavy vehicle driver education needs to take place on a formal basis and the age and experience of the drivers considered before a Professional Drivers Permit (PrDP) license issued to the driver. Formal institutions such as Further Education and Training (FET) colleges needs to, in future play a bigger role in the issuing of qualifications for drivers.

1. BACKGROUND

This paper is one of three papers that were prepared based on the freight accident investigation project launched by the Department of Transport (DoT) in 2014. This paper provides an overview of heavy vehicle crashes and the possible role that driver behaviour and a lack of training and education play in the causation of heavy vehicle crashes on South African roads.

2. INTRODUCTION

The freight industry is one of the major players that contribute to development of the economy. About 80% of freight in South Africa is transported by road (Department of Transport, 2005). The freight transport is a key industry in South Africa as it contributes significantly to the economic growth of the country; however road crashes and accidents are an obstacle in transportation of goods. Some of the accidents that occur on South Africa's roads are caused by heavy vehicles. Other factors that contribute to road accidents are psycho-physiological stimulation of the

driving experience (e.g. information overload, noise, negligence, congestion and traffic) which may influence the effective state of drivers and hence their behavior in the traffic environment. These are some of the issues that contribute to the huge burden of road traffic crashes. Driving behavior is considered to contribute significantly to the huge burden of road traffic injuries and death worldwide (World Health Organisation, 2013).

In South Africa, as like in many other countries, between 80-90% of all collisions are related to driver factors (Department of Transport, 2002) and driver aggression and other high-risk driving behaviour are assumed to contribute significantly to crashes and associated fatalities. Driver behaviour, attitude, negligence and fatigue are some of the causes of road accidents on the roads.

3. OVERVIEW OF LITERATURE

3.1. Heavy vehicle crashes in South Africa

Human error is cited as the most significant contributor to road traffic crashes in South Africa. Yet little is known about the human factors that are seemingly the main factor contributing to the carnage on our roads. Gainewe and Masangu (2010) estimate the human factor contribution in South African crashes at approximately 83%.

Nordengen estimated that in 2009, there were approximately 13 fatalities per 100 million vehicle kilometres travelled (mvmkt) by heavy goods vehicles. This is very high when compared to many developed countries such as the United States of America, the United Kingdom, Germany, Australia and New Zealand where the rate is between 2 and 4 fatalities per mvmkt (Nordengen, 2009).

Recently, Minister Dipuo Peterson (Department of Transport, 2014) made a statement that professional drivers are primarily responsible for transporting tourists and goods across South Africa. The Minister highlighted the fact that many of these drivers have inadequate skills to handle the vehicles they use to convey passengers and goods.

3.2. Driving for work

Work-related drivers are defined as those who drive a fleet vehicle at least once a week for commercial purposes., this in some countries also include those people who commute from work to home and vice versa are included (*Newman et al, Tay and Mason, 2006*). Work-related driving spans a number of industries, which includes transport and logistics companies, courier service as well as police and emergency services. It might also include drivers driving with subsidised company vehicles, truck drivers and even drivers driving from point A to point B to attend meetings and so forth. Newman et al (2006) indicates that road safety is a great concern for those involved in work-related driving.

3.3. Requirements for obtaining a heavy vehicle drivers licence for heavy vehicle in the United Kingdom

Heavy vehicle drivers need to apply for provisional entitlements on the driving licence, and including a medical report, to become a heavy vehicle driver. The driver will then need to pass a theory test, hazard perception test and a practical driving test, after which the driver will receive a certificate that is valid for a period of 2 years. The driver will also need to complete the Driver Certificate of Professional Competence (Driver CPC), in order to become a driver of Large Goods Vehicles (LGVs). The CPC is also used for buses and is called a Passenger Carrying Vehicles (PCVs). Before a person can train to become a LGV or PCV driver he/she must be over the age of 18 years and hold a full car licence (category B entitlement). The type of driving licence entitlement for heavy vehicle drivers depends on the maximum authorised mass (MAM) of the vehicle you want the person intends to drive. The MAM is the total vehicle weight plus the maximum load it can carry. Drivers of vehicles with a MAM of more than 3.5 tonnes need require a C 1 licence and vehicles with a MAM of more than 7.5 tonnes need a category C licence.

3.3.1. Practical road driving test in the UK

During the practical road driving test, the examiner will look for the following important driving skills:

- Use the of vehicle controls;
- Pulling away at a gradient, both uphill and downhill;
- Doing a braking test;
- Use of mirrors;
- Giving appropriate signals;
- Showing awareness and anticipation of other road users' intentions;
- Managing progress and controlling vehicle speed;
- Dealing with hazards;
- Selection of a safe place to stop

After the test there is a 10 minute independent driving to test evaluate the ability of the driver and to see the including independent decision making of the driver in different road situations.

3.3.2. Driver Certificate of Professional Competence (Driver CPC) UK

The heavy vehicle driver must have a Driver Certificate of Professional Competence. A driver CPC qualification must be obtained before the heavy vehicle driver is allowed to drive professionally. After the driver has obtained a Driver CPC, the driver will then receive a Driver Qualification Card (DQC) which the driver must keep with him while driving. The heavy vehicle driver is also required to do 35 hours of periodic training every 5 years to retain his/her licence and test the driving skills of the driver (United Kingdom Government, 2015).

3.4. South African Development Community (SADC)

3.4.1. Driver Licence Protocol

Most crashes are caused as a result of bad driver behaviour, ultimately as a result of poor driver training. At a Southern African Development Community (SADC) level efforts are underway for to harmonise Driver Training Standards as well as certification. In this respect, a common driving licence format has been agreed upon by SADC Member States and some Member States have already started issuing the

SADC driver's licence. Furthermore, the harmonization of the SADC Manual for Learner Drivers, SADC Manual for Driver Instructors and SADC Manual for Driver Examiners has been finalized by the a Working Group (Sunke and Allopi, 2005). The aim of these licence is to standardise and have a uniform licence for all drivers in the SADC region.

3.4.2. Obtaining a heavy vehicle drivers licence in South Africa

A professional driving permit (PrDP) is required to drive on a public road in South Africa if you are transporting goods, dangerous goods or passengers for an income. The permit is issued in addition to an ordinary driving licence for all goods vehicles with a gross vehicle mass (GVM) exceeding 3 500 kg and all dangerous goods vehicles. The permit needs to be renewed every 24 months. Table 1 provides an overview of the types of professional driving permits in South Africa.

Number	Category	Description
1	D	For vehicles transporting dangerous goods. It also permits the driving of category G and P vehicles. The driver must be at least 25 years old.
2	G	Restricted to goods vehicles (non-dangerous) and breakdown vehicles. The driver must be at least 18 years old.
3	P	For buses seating more than 12 passengers, taxis and any vehicle carrying more than 12. It also permits the driving of G category vehicles. The driver must be at least 21 years old.

PrDP's are issued by Driving Licence Testing Centres operated by municipalities. No additional testing is done before issuing a PrDP. The only requirements for a PrDP in South Africa are:

- A valid driving licence for the type of vehicle in question.
- Doctor's medical certificate as medically fit by a doctor.
- Certification by an approved training body [only required for category D (dangerous goods) vehicles.
- *No criminal record (in the previous five years) for:*
- Driving a motor vehicle while under the influence of drugs.
- Driving a motor vehicle while the concentration of alcohol in your blood or breath exceeded a statutory limitation.
- In the case of an application for a category P and D permit, an offence of which violence was an element (South African Government Services, 2014).
- During 2004-2009 (Arrive Alive, 2014) there has been an increase in the issuing of PrDP's in South Africa. This is important as it raises questions regarding training and the quality of education for new and prospective drivers.
- *The National Certificate for Professional Driving*
- In order to obtain a certificate for professional driving the South African Qualifications Authority requires that the driver completes a course of which the following is mandatory (SAQA, 2014):
- Preparing a rigid heavy vehicle for road transport trips according to specification.
- Driving a rigid light vehicle in accordance with specified requirements.

- Ensuring the maintenance of road transport service quality.
- Handling unexpected situations according to specified procedures.
- Reflecting on vehicle performance and own operation of vehicle against requirements.
- Parking a vehicle in accordance with specified requirements.

3.4.4. *Driver experience and licensing*

Cerwick (2013) states that of all driver factors, age, experience, and behaviour appear to influence the probability of being in a heavy vehicle crash most. In Australia, heavy vehicle drivers over the age of 40 were mostly responsible for heavy vehicle crashes (Driscoll, 2013).

In South Africa, very little information regarding the demographics of drivers involved in crashes is available. Driving experience is an indicator of how familiar a driver is with driving a heavy vehicle as well as the challenges associated with driving a heavy vehicle safely. In 2013, a survey was conducted with 60 heavy vehicle drivers that frequently drive on the National route 3 (N3). This survey determined that companies tend to employ drivers that have more experience and most of the drivers in this study were experienced professional drivers with more than 5 - 10 years' experience indicating that they had a PrDP for this time. On average drivers have been working for the same company for between 5 - 10 years (Venter et al., Labuschagne, Le Roux and Cloete, 2013).

The South African Government specifies that in relation to the National Road Traffic Act, 93 of 1996, in order to become a truck driver one needs to be in possession of a Professional Drivers Permit (PrDP) The permit is issued in addition to an ordinary driving licence (South African Government Services , 2014).

A PrDP is required for driving:

- A goods vehicle with a gross vehicle mass exceeding 3 500 kg.
- Any vehicle for which an operating licence is issued.
- A dangerous goods vehicle (e.g. fuel tanker).

In terms of age restrictions, a driver must be 18 years or older to hold a PrDP for a goods vehicle and 25 years or older to hold a PrDP for a dangerous goods vehicle.

Venter et al. (2013) highlighted that drivers felt they need continuous education and training in order to drive safely. Private sector companies have a large role to play in assisting government with these initiatives and thereby contributing to safer roads by including driver education and training initiatives in their corporate social responsibility plans.

4. HEAVY VEHICLE DRIVERS AND DRIVER MANAGEMENT IN SOUTH AFRICA

4.1. Survey

A questionnaire was administered to sixty freight operators in South Africa. One section dealt specifically with driver behaviour and management. Thirty operators returned the questionnaires. The questionnaire probed the following:

Data collected from the questionnaires were captured in a Microsoft Excel© spreadsheet. The interviews conducted with private sector companies and health and safety consultants were transcribed and analysed qualitatively the following parameters:

- Age and experience.
- Additional driver courses offered, if any.
- Medical tests including eye tests and other illnesses.
- Alcohol tests and drug tests.
- Policy regarding driving hours.

4.2. Findings

4.2.1. Overview

Operators highlighted driver management as an important factor for heavy vehicle safety in South Africa. They also indicated that health, training, skills to handle specific vehicles and years of experience in driving heavy vehicles all have an effect on heavy vehicle crashes.

4.2.2. Employment of drivers

Seventy five per cent of operators indicated that they do not employ any foreign drivers. This was partly attributed to the fact that employing foreign drivers influences the BEE-scorecard process negatively. On the other hand companies who do appoint foreign drivers indicated that foreign drivers do not belong to unions and prepared to work for lower salaries. 10% of the operators indicated that they employ less than 10 foreign drivers, 5% between 10 and 50 foreign drivers, 5% between 50 and 100 and 5% between 100 and 500 foreign drivers. Larger companies and companies that are involved in cross-border operations also appoint foreign drivers from the countries in which they are operate.

4.2.3. Training, skills and education

Safe driving is associated with appropriate training, skills and driving experience. Driving experience is acquired with age and years of driving. Previous South African research confirmed that younger drivers, with less driving experience, are more likely to have be involved in a crash compared to older drivers that are more experienced. Maldondo et al. (2002) states that heavy vehicle crash frequency decreases with increased age (and driving experience); the driving experience acquired with age appears to equip the driver with better skills to avoid potential crash situations.

In this study, data from participating operators indicated that 37% of their drivers fall were into 31 -to 40 year age category, 29.4%. Drivers falling were in the 41 – 50 age categories 41 to 50 years were 29.4% and 27% were in the 51-60 years group age

category. No operators employed drivers younger than 18 years and only 6.2% of employed drivers were younger than 30 years. The majority of drivers have between 5 and 10 years' driving experience.

In most instances the drivers do not receive any formal training that can help them to enhance their driving skills. However informal training and refresher training is conducted by 38% of participating companies every 1-3one to three months. Larger operators have in-house training facilities or driver training academies that focuses on training new drivers or training existing drivers in terms of new vehicles. Drivers undergo regular refresher training or if involved in an incident they are required to attend the driving school. In-house driving academies therefore function as a training, awareness, and skills development institutions. More than half of the operators indicated that their drivers have not participated in initiatives such as the "driver of the year competition."

Driver training and awareness should include medical testing and a third of the participating operators indicated that their drivers have not had medical examinations or eye tests within more than the past year. However 32% of operators indicated that they manage driver wellness in their companies through toolbox talks on a monthly basis. Toolbox talks include a series of training, health and root cause analysis communications to company employees including drivers, supervisors and managers. Other wellness initiatives include awareness of medical conditions (9%), yearly health assessments (18%) a dedicated HIV AIDS clinic (9%) and general driver wellness programmes (9%). According to 86% of participants, their companies do have a policy in place regarding driving hours.

4.3. Conclusion

Although some companies require and encourage their drivers to continue their driver training through refresher training, this is not necessarily the norm. The requirements for obtaining a PrDP can be questioned as it seems that there are is no compulsory further training and testing of the driver. A number of initiatives exist to improve heavy vehicle driver education, training and skills development but is not compulsory and only larger companies seem to have the means to teach drivers within a driver academy set up by the company.

5. RECOMMENDATIONS AND FUTURE CONSIDERATIONS

Heavy vehicle driver training, education and skills development should have a systematized and institutionalized training for heavy vehicle drivers, including minimum standards for hours of training and driving practice, that can help prepare drivers for their jobs, reducing errors and poor driving judgment. Operation of a heavy vehicle should be treated as a profession, regulated with a separate license and incorporating higher levels of expectations and consequences as compared to passenger vehicles. Acquiring a license should involve extensive training and testing, both in classroom and in-vehicle, and covering conceptual ideas and hands-on experience.

The process for the hiring of the drivers should undergo include an intensive interview covering his knowledge and driving experience about driving and an on-

road driving test to actually see the skill and techniques of the driver in different situations. The Heavy vehicle drivers should be tested on an annual basis and have the driver licences renewed. If a heavy vehicle driver has been involved in a crash or has traffic violations his/her driver's licence should be suspended for a period of one year.

The process for obtaining a PrDP should be stricter. The age, and experience and health of heavy vehicle drivers should be one three of the factors that are considered along with driver health. Medical doctors should be appointed by the Government to actually conduct medical tests of the applicants and then issue the medical certificates. The drivers should be medically fit in order to drive a heavy vehicle and the licence of the drivers should be suspended if the drivers are involved in an accident or and were the cause of the crash.

Lastly, Further Education and Training (FET) Colleges that specialise in the driver training so as to have better drivers . This should be an accredited qualification offered by an accreditation body. Formalising driver training for heavy vehicle drivers will likely lower the rate of crashes; improve driver management and driver management practices in South Africa.

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