

A Study To Investigate The Reasons Why Fatal Road Accidents And Injuries Are Not Reduce In The Gauteng Province

SolaniMtombothi, Azwihangwisi Negota, Duxita Mistry

*Gauteng Department of Community Safety
Street Address: 64 Prichard Street, Johannesburg, 2000
Corresponding Author: Solani Mtombothi*

ABSTRACT: Road Traffic Crashes is a global problem; it is also a leading cause of injuries and death to every South African citizen residing or traveling abroad. Vehicles made travel easy and supports socio-economic development in many countries. An alarming number of road users (driver, passenger, pedestrians and cyclists) in South Africa and particularly Gauteng perish on the road due to accidents. Each year, these vehicles are involved in crashes that are responsible for millions of deaths and injuries. Each year, 1.25 million people are killed on roadways around the world and each day, an estimated 3,400 people are killed globally in road traffic crashes. Road traffic injuries are estimated to be the eighth leading cause of death globally and the current trends show that by 2030, road traffic injuries will become the seventh leading cause of death globally. Road traffic injuries place a huge economic burden on low and middle-income countries, therefore, motor vehicle crashes are a public health concern. Despite being a global and national problem, some of these injuries and deaths can be preventable since the majority of road fatalities and injuries are not accidents but human error or caused by human factors. Law enforcement and integrity plays a major role in ensuring adherence to traffic laws.

KEYWORDS: Fatal road accidents, road traffic injuries, law enforcement and integrity

Date of Submission: 04-07-2018

Date of acceptance: 19-07-2018

I. INTRODUCTION

Statistics on road traffic fatal accidents and injuries indicated that road users are daily put at risk due to a variety of factors such as improper driving, speeding, drunken driving and unbecoming pedestrian behaviour (Peters, 2016). The International Transport Forum (ITF) in 2012 mentioned that road traffic accidents are the leading cause of death in South Africa. Approximately 14,000 South Africans die in motor vehicle crashes annually, with as many as 150,000 sustaining serious injuries (Watson, 2016; Peters, 2016; RAF, 2016). Furthermore, South Africa recorded an alarming 4 500 crashes and 5 500 fatalities only in the period between April and August 2015 (Sefularo, 2015 & Eyewitness News, 2016). Another 1 387 crashes and 1 755 fatalities were recorded between the 1 December 2015 and 11 January 2016. This represents an increase of 2% as compared to the preceding period of 1 December 2014 to 11 January 2015 (Bateman, 2016). The Road Traffic Management Corporation (RTMC) also asserted that Gauteng had the highest number of road traffic offenses and fatal accidents as compared to other provinces (RTMC, 2012). For example, in 2015 and 2016 respectively, Gauteng registered 2 171 and 2 385 road fatal accidents followed by Kwazulu-Natal with 2 075 and 2 367, which is indeed a major concern (RTMC, 2016).

Apart from an increase in the death toll on the roads, fatal road accidents also affect the South African economy adversely. For instance, the ITF (2015) estimated the economic cost of road crashes in South Africa at R307 billion annually, while other commentators argue that road accidents cost the economy more than R3 billion each year on injury settlement and medical expenses, amongst others (Maswanganyi, 2013). The Road Accident Fund (RAF, 2015) also confirmed that it pays over R4 billion a year on claims compensation, damages and rehabilitation. In addition, the ITF in 2013 rated South Africa as the worst country in terms of recorded number of road fatalities. The current situation is an indication that South African road users are at risk. It was imperative to unpack and explore the reasons behind increasing road traffic fatalities and injuries.

II. LITERATURE REVIEW

There are interventions by various states and international organisations with the aim to reduce road fatal accidents and injuries. The following are the interventions by the United Nations (UN) organisations and the South Africa government. The study also identified factors that contributed to the increase of road fatal accidents and injuries.

2.1 Global road safety interventions

2.1.1 The United Nations Organisation's (UN) Decade of Action

The UN member states declared the period 2011 to 2020 as the Decade of Action for Road Safety. The aim was to stabilise and reduce the increasing trend in road traffic fatalities and save 5 million lives by 2020. These road safety initiatives culminated in the development of a Global Plan of Action in order to guide countries so that their actions support the overarching target. Within the legal constructs of national and local governments, countries were encouraged to implement activities according to five pillars, namely, Road safety management, Safer roads and mobility, Safer vehicle, Safer road user and Post-crash response/care (WHO, 2011).

2.1.2 National Interventions: The South African National Road Safety Strategy

The South African Department of Transport has developed a National Road Safety Strategy (NRSS) in line with the UN Decade of Action. This strategy focuses on better utilisation of human and financial resources across the three spheres of government (namely national, provincial and local governments) in order to address road deaths. The NRSS adopted the five pillars of the Decade of Action. Some of the NRSS actions is to:

- Ensure funding is sufficient for implementation by dedicating 10% of infrastructure spending to road safety and partnering with the private sector.
- Ensure that road safety education forms part of the life skills curriculum at schools.
- Develop a system (like a standardised learner driver training programme) that produces responsible drivers in order to contribute to the safety of all road users.
- The South African Police Service (SAPS) Division: Visible Policing has developed a 10-year Road Crime Crash Combating Strategy for the Make Roads Safe Campaign. (Department of Transport, 2011).

2.1.3 Provincial Interventions

The Gauteng Road Safety Strategy (GRSS) of 2010 to 2014 and the Gauteng Safety Strategy (GSS) of 2015 to 2019

The GRSS (2010-2014) was intended to reduce road traffic fatalities by 50% and injuries in the province by focusing on Engineering (i.e. improved road conditions), Enforcement (i.e. improved road traffic law enforcement), Education (i.e. provision of road safety education in order to improve knowledge and skills of road users), and Emergency services (i.e. enhancing post-crash management through improved emergency services management in order to save lives) (DCS, 2006).

The Gauteng Safety Strategy (2015-2019) is premised on eight pillars, three of which are dedicated towards improving road safety in the province, namely: Pillar 4: A safer road environment, Pillar 5: Pedestrian safety, and Pillar 6: Traffic Law Enforcement (DCS, 2015). <http://www.gauteng.gov.za/...safety/.../Gauteng%20Road%20Safety%20Strategy-cd.pdf>.

2.2 Factors that contributed to the increase of road fatal accidents

Research has indicated that the majority of road fatal crashes and injuries are caused by human error or human factors (WHO, 2016). RTMC indicated that human factors contributed 79.6% in 2015 and 89.1% in 2016, vehicle factor was 7.8% in 2015 and 10.1% in 2016 and road factor recorded 12.7% and 0.8% in 2016 (RTMC, 2016). The following factors were identified as the reason why these accidents do not decrease:

2.2.1 Road users not abiding by the law

Apart from the National Road Safety Act and regulations that require adherence to road safety rules by all road users, road users' transgression increased rapidly since 1994 and has resulted in many deaths and

injuries. Reckless and negligence driving, jaywalking, drinking and walking and disruptive passengers have caused road fatal accidents and injuries. These road users' behavior has poses questions on the level of enforcement in the country if road users do not feel obliged to abide by the rules of the road.

2.2.2 The lack of proper driver training in South Africa

The study revealed that it is easy to obtain a driver's license in South Africa; there is no compulsory formal driver training is required (www.drivers.com/article/409). Most drivers in SA obtained their driver's license without being able to drive properly or without acquiring skills. The common practice of driving with the 'L' sign is normal on SA roads. In developed countries in the European Union, Canada (Quebec), particularly Australia (New South Wales – NSW), a driving course is mandatory in order to obtain a driver's license (Société de l'assurance automobile du Québec. 2012: <https://saaq.gouv.qc.ca>).

According to Driving Lessons Academy and Learn Safe Academy (2014), it is important that learner drivers receive proper professional driving lessons. Furthermore, professional driving schools do not only teach learner drivers the rules of the road, they also help to lay the foundation of good driver behavior and by doing that, roads will be safe and fatal road accidents will decrease.

2.2.3 The lack of mandatory road safety education in secondary schools

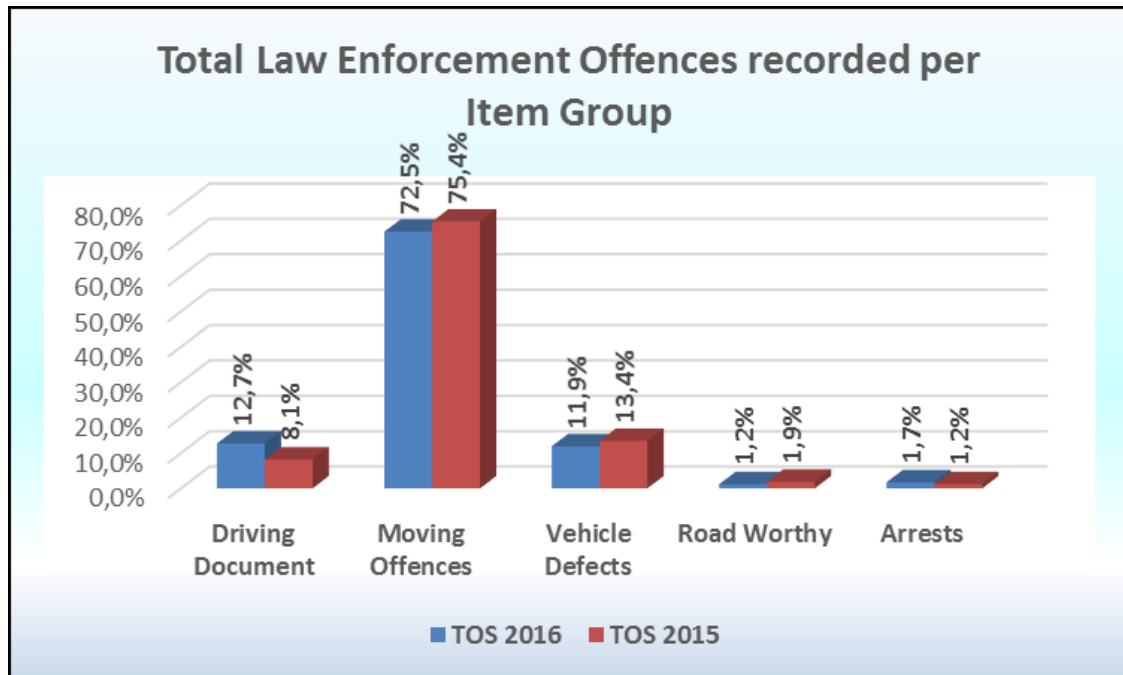
In South Africa, road safety education in secondary schools is currently not mandatory at all secondary schools and this is regarded as a limitation in the education system and inconsistent with international best practice. In developed countries such as the USA, Britain and Australia road safety education is mandatory and is taught in public secondary schools within the key learning area of health, languages and science. The aim of these programmes is to develop road safety knowledge, values, attitudes and behaviour to enable all students to be safer road users (www.curriculumsupport.education.nsw.gov.au).

Road safety education plays an important role in shaping the attitudes and behaviours of children and young people, ensuring that they become responsible drivers, passengers, pedestrians and cyclists (www.roadsafetyeducation.vic.gov) & Mayhew and Simpson. 2002).

2.2.4 The ineffective traffic law enforcement

A country can have the best rules of the road, but if these are not enforced effectively, there will be an increase in fatal road accidents and injuries (<https://arrivealive.co.za/Road-Safety>). Law enforcement is the area of activity aimed at controlling road user behaviour by preventative, persuasive and punitive measures in order to affect the safe and efficient movement of traffic. RTMC has reported a high number of offences during the period 2015 and 2016.

Graph 1. Total Law Enforcement Offences recorded per Item Group TOS 2016 vs TOS 2015 Comparison



RTMC Traffic Offence Survey 2015 & 2016

The graphs above illustrate that the Moving Offences recorded far exceeds other offence groups with overloading offences being the major contributor. The number of arrests made in 2015 is 1.2% and 1.7% in 2016. Gauteng province contributed 55.5% (4 449 588) of offences in 2016 with only 25 372 arrests.

To cite an example, in Virginia and United States of America, reckless driving is a serious charge and is punishable as a Class 1 Misdemeanor. Class 1 misdemeanors or linked to criminal activity and punishable by a maximum penalty of up to 12 months in jail and a fine of \$2,500.00 or even suspension of driver’s license (Dischley. 2016&Carpenter. 2005). In South Africa, offences that are criminal under the 2008 Administrative Adjudication of Road Traffic Offences (AARTO) regulations are driving under the influence alcohol or drugs, reckless driving, and exceeding the speed limit by 40km/h or more (www.aarto.gov.za).

It has also been established that traffic law enforcement is hamstrung by rampant and systemic corruption on the part of unscrupulous law enforcement officers. It is argued that this manifests into low levels of respect for road traffic rules (<https://arrivealive.co.za/Corruption-Traffic-Enforcement-and-Road-Safety>), hence an increase in road fatalities.

III. RESEARCH METHODOLOGY

The study made use of qualitative research methods in an attempt to respond to the objectives of the study. These research methods were preferred because it offered unique insight into the personal perspectives of the respondents and also offered greater depth and methodological flexibility than quantitative research methods such as structured questionnaires (Stewart, Gill, Chadwick & Treasure, 2008). The study utilised secondary data as well as primary data in order to address research questions. Data was collected through semi-structured interviews as well as focus group interviews with pre-selected respondents.

The researcher analysed relevant secondary data or information on the key variables of the study in an attempt to respond to the research questions. Primary data was collected by means of semi-structured interviews and focus group interviews with pre-selected respondents.

3.3.2 Focus group Interviews

Focus group interviews enabled the researcher to explore and examine what the respondents think; how they think as well as why they think the way they do about the issues covered by the study. Furthermore, this data collection technique enabled the researcher to discover the importance of issues raised with respondents without pressurising them into making decisions or reaching a consensus (Kitzinger, 2005).

3.4 Sampling strategy

The researcher employed purposeful sampling for semi-structured as well as focus group interviews. This sampling strategy involved identifying and selecting individuals or groups of individuals that were especially knowledgeable about or experienced with a phenomenon of interest (Cresswell & Clark, 2011). In addition to knowledge and experience, the researcher was mindful of ensuring availability and willingness of respondents to participate in the study as well as their ability to communicate experiences and opinions in an articulate manner (Bernard, 2002).

The researcher conducted semi-structured interviews with respondents from the following categories of organisations / institutions:

(a) Institutions of higher learning and research organisations: Tshwane University of Technology (TUT): Traffic Management Department, the Council for Scientific and Industrial Research (CSIR): Built and Transport Systems Division.

(b) National government organisations dealing with road safety issues: The Road Traffic Management Corporation (RTMC)

(c) Minibus taxi operators and motorists: in the five main municipalities, namely, Tshwane Metropolitan Municipality, Ekurhuleni Metropolitan Municipality, Johannesburg Metropolitan Municipality, Sedibeng District Municipality and West Rand District Municipality, however, the researcher reached a saturated stage and decided to halt the interviews in Sedibeng District Municipality and Mogale City Local Municipality, City of Johannesburg. Each focus group consisted of five to eight respondents.

3.5. Qualitative data analysis

The researcher used thematic analysis to make sense of the qualitative data collected. This method of data analysis emphasises pinpointing, examining, and recording patterns (or "themes") within data. Themes are patterns across data sets that are important to the description of a phenomenon and are associated with a specific research question (Wikipedia, no date). Thematic analysis is performed through the process of coding in six phases to create established, meaningful patterns. These phases are familiarisation with data, generating initial codes, searching for themes among codes, reviewing themes, defining and naming themes, and producing a research report (Braun & Clarke, 2006).

3.6 Ethical considerations

The proposed research project was implemented in accordance with accepted ethical guidelines subsuming anonymity, confidentiality and dignity of participants which will be protected where necessary. No direct attempts were made to implicate or incriminate any participant. Participants will also be informed about the purpose and nature of the study, in addition to the intentions of the researcher with the information.

IV. FINDINGS OF THE STUDY

The following section detailed the results of data obtained from in-depth and focus groups interviews with the aim of soliciting opinions and knowledge from respondents to ascertain reasons behind an increase in road traffic fatalities and injuries despite current government interventions. The findings were as follows:

4.1 Road user behaviour

Non-adherence of road traffic laws and total disregard for road traffic rules by the majority of road users.

Pedestrian behaviour: pedestrians being the most vulnerable category of road users, they do not adhere to road traffic rules. Most pedestrians disregard traffic lights, jay-walking, drink and walk amongst others and this increase to road fatalities and injuries. Motorists also shared their frustrations about pedestrian behaviour of not using side-walk.

Driver behaviour: Just like pedestrians, this study found that disregard for the law on the part of motorists and taxi drivers, is mainly to blame for an increase in road fatalities and injuries. There is a general tendency among taxi drivers to disobey rules of road, the researcher found that there is increasing frustration by other road users about the unbecoming behaviour of taxi drivers on the road which could be blamed for increasing road fatalities, yet there is a concern that taxi drivers act with impunity.

The key points of concern of non-adherence to traffic rules on the part of motorists are moving violations (such as texting or phoning and dreading while driving), reckless and negligent, speeding (exceeding speed limit) and drunken driving remains one of the primary causes of road fatalities in the province.

4.2 Inadequate driver training

Respondents have mentioned that an increase in road fatalities could be attributed to limited driver training in South Africa. Respondents from the CSIR and RTMC are of the view that limited driver training could be ascribed to a lack of professionalism in driving schools. The study found that currently the regulation of driving schools is inadequate, if any, at all. Furthermore, it is not clear whether these institutions adhere to international standards or best practices in preparing learner drivers for the road. It was further alleged by one of the respondents that driving schools are also involved in corruption pertaining to the issuing of driver's licenses.

4.3 Integrity of traffic police officials

Respondents to the study blamed corruption on the part of law enforcement officers as one of the factors aggravating an increase in road fatalities. It was found that some traffic police officers on the road and at the testing stations take bribes from motorists. This therefore:

- makes it possible for inexperienced and unqualified drivers to be on the roads
- allows un-roadworthy vehicles to be on the road, and
- makes it possible for motorists to disobey road traffic rules because when caught, they could buy their way out of trouble by bribing the officers. This results in perpetuating unlawful driver behaviour which eventually leads to road traffic accidents, injuries or even fatalities.

Thus, corruption encourages further lawlessness among different categories of road users, to the detriment of road safety.

4.4 Inadequate traffic law enforcement

This study gathered that an increase in road fatalities could also be attributed to inadequate traffic law enforcement. The key issue raised by the expert from TUT is that the police are not entirely visible on the streets, especially during peak hours and during the night. During engagements with motorists, the research found that limited police visibility creates an environment for lawlessness on the roads, which might further contribute to road accidents.

There was also a sense among respondents that traffic enforcement tends to focus mainly on the motorists, while less attention, if any, is paid to pedestrians. The same respondent indicates that pedestrians break the law in front of the traffic police and nothing is done about this.

4.5 Inadequate spatial planning

Some settlements, lack proper infrastructure such as side-walks (foot paths) for pedestrians and dedicated lanes for cyclists, the narrow roads as well as lack of or dysfunctional street lights contribute to road fatalities. This poor planning is still occurring in the new developments, which will imply that more fatal accidents and injuries will occur.

4.6 Introduction of Road Safety Education in public secondary schools

Most respondents have alluded that countries such as the USA, Australia and UK have incorporated Road Safety Education in the curriculum of public secondary schools to bolster road safety knowledge and skills as well as to shape attitudes and behaviour of students from a tender age to be responsible road users. However, the current study found that the Gauteng Department of Education is yet to roll out RSE in the curriculum of public secondary school.

V. RECOMMENDATIONS

The study presents the following recommendations in order to bolster interventions aimed at the process of accident reduction and injuries.

5.1 Comprehensive traffic law enforcement

The study found that pedestrians record the highest number of fatalities and injuries because of non-adherence to road traffic rules and traffic law enforcement focuses primarily on the motorist. It is recommended that traffic law enforcement should also focus on ensuring pedestrians comply through the issuing of spot fines and or effecting arrests.

5.2 Professionalising driving schools

The study established that driving schools produce drivers with inadequate driving skills and knowledge due to lack of norms and standards guiding these institutions. It is recommended that government should put in place measures to professionalise these institutions through the creation of a standards generating body to hold them accountable as well as to bolster quality assurance.

5.3 Dealing with traffic law enforcement corruption

This study and other studies found that law enforcement corruption is rife and as such perpetuates lawlessness on our roads, hence the increase in road accidents and fatalities. In line with the findings and recommendations of the study on Measuring Police Integrity conducted by the Department of Community Safety in 2016, there is a need to professionalise policing in South Africa in order to effectively address issues of integrity as well as on-going training and development of members in this sector.

5.4 Development of mechanisms to deal with repeated road traffic offenders

This study found that there is general lawlessness among motorists and that they are acting with impunity. In order to curb this undesirable behaviour there is a need to develop mechanisms to deal with drivers who are repeatedly found guilty of breaking road traffic rules. This mechanism should include re-testing of perpetrators, among others.

5.5 Bolstering measures to deal with drunken driving suspects

The study noted that although drunken driving arrests seem to be high, there is still a challenge with the conviction of suspects due to backlogs at the Department of Health's laboratories to test the blood samples of the suspects. This study recommends that law enforcement agencies should conclude memoranda of agreement with private laboratories to expedite the testing of blood samples thus facilitating the finalisation of drunken driving cases.

5.6 Intensifying coordination among traffic law enforcement agencies

There is a need to intensify efforts to improve traffic law enforcement coordination in line with the relevant pillars of the Gauteng Safety Strategy (GSS) as well as to pitch these efforts at the level of the Gauteng Law Enforcement Agencies Forum (GLEAF).

5.7. Adopting road traffic intelligence-led deployment of traffic officers

This study confirmed that most road traffic fatalities take place from Thursday at 8pm to Monday morning at 6am yet deployment of traffic officers in agencies such as Gauteng Traffic Police (GTP) is currently not able to respond to this reality through deployment due to labour relations or condition of service issues. This study recommends the GTP should consider revising shifts to ensure that officer's deployment is aligned to critical days and times in a week in order to improve responsible driver behaviour and reduce fatalities.

5.8 Implementation of Road Safety Education in public secondary schools.

This study found that in countries where Road Safety Education (RSE) has been formally incorporated in the curriculum of secondary schools, there is a significant improvement in road user knowledge, skills, attitudes and behaviour. This in turn has produced safer road users which ultimately resulted in safer roads as well as a significant reduction in road fatalities.

The current study also confirmed the findings of the Road Safety Education study finalised by the DCS in March 2016, wherein it was discovered that RSE is not yet formally incorporated in the curriculum in public secondary schools in the province. That been said, this study also recommended that the Gauteng Department of Education should explore modalities to incorporate RSE in the curriculum of public secondary schools in line with international best practice.

REFERENCES

- [1]. Braun, V & Clarke, V. 2006. *Using thematic analysis in psychology*. *Qualitative Research in Psychology*, 3 (2). P 77-101:<http://dx.doi.org/10.1191/> [Accessed 4 July 2016].
- [2]. Creswell, J.W & Clark, V. L. 2011. *Designing and conducting mixed method research, 2nd ed.* Thousand Oaks, CA: Sage.
- [3]. Department of Community Safety (DCS). 2015. The Gauteng Safety Strategy (GSS) 2015-2019. 2015. <http://gautsafety-intranet.gpg.gov.za> [Accessed 4 July 2016]
- [4]. (DSC). 2012. *The assessment of road safety measures and strategies put in place to address accidents and fatalities within Gauteng. Integrated Road Safety Report: Johannesburg*
- [5]. DCS. 2006. The Gauteng Road Safety Strategy (GRSS). <http://gautsafety-intranet.gpg.gov.za/Pages/default.aspx>.
- [6]. Dischley, D. J. Reckless Driving, the Law Office of David J. Dischley https://en.wikipedia.org/wiki/Reckless_driving [Accessed 7 July 2016]
- [7]. Driving lessons. 2014. The Importance of Attending Driving School.: storify.com/drivinglessons [Accessed 7 July 2016].
- [8]. Jernigan, D. 2002. *Global ramification of European alcohol policies*. Volume 97, Issue 6, pages 615–617. <https://wwwnc.cdc.gov/eid/> [Accessed 8 August 2016]
- [9]. Kitzinger, J. 2005. *Focus group research: using group dynamics to explore perceptions, experiences and understanding*. P56-70. Open University Press.
- [10]. Learn safe driving academy. *The Importance of Going to a Driving School.*: www.safedriveacademy.com [Accessed 7 April 2016].
- [11]. Louise, k. Barriball, J. & While, A. 2006. *Collecting data using a semi-structured interview: a discussion paper*. London, England.
- [12]. Mayhew, D. R. & Simpson, H. M. 2002. *The safety value of driver education and training*. Canada. Traffic Injury Research Foundation.
- [13]. Online Business Dictionary. No date. www.businessdictionary.com [Accessed 11 April 2016]
- [14]. Pelzer, K. 2008. *Human Science Research Council Review, Volume 6. No 4, November, 2008*.
- [15]. Peters, D. 2016. *Peters urges responsible road behavior*. SABC News, 03 January 2016: <http://www.sabc.co.za/news/a> [Accessed 10 August 2016]
- [16]. Road Accident Fund. 2015. Annual Report 2014/15. [Http://www.raf.co.za](http://www.raf.co.za). [Accessed 18 May 2016]
- [17]. Road Traffic Management Corporation (RTMC). 2010. Traffic Offence survey report. www.rtmc.co.za. Traffic offence/Survey Report/ final [Accessed: 11 May 2016].
- [18]. Road Traffic Management Corporation (RTMC). 2016. Road traffic report calendar 2015 and 2016. <http://www.rtmc.co.za/images/docs/Calender/Calendar2016/Calendar%202016%20report.pdf>
- [19]. Sefularo, M. 2016. *Shocking SA road death stats*. Eyewitness News 11 September. <http://ewn.co.za> [Accessed 17 May 2016]
- [20]. Société de l'assurance automobile du Québec. 2012. *Road safety education programme, for new generation of drivers*. Published by the Direction des communications Société de l'assurance automobile du Québec: <https://saaq.gouv.qc.ca> [Accessed 7 July/2016].
- [21]. Stewart, P. Gill, K. Treasure, E. & Chadwick, B. 2008. Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal* 204, 291 – 295. <http://www.nature.com/bdj/journal/v204/n6/full/0908192.html> [Accessed 9 July 2016]
- [22]. The Free Dictionary, 12th Edition. 2014. HarperCollins Publishers: www.freeditonary.com
- [23]. [Accessed 10 August 2016]
- [24]. The International Transport Forum (ITF). 2013. Road Safety Annual Report of 2013: <http://www.itf.org> [Accessed 8 July 2016]
- [25]. Wikipedia. 2016. Reckless driving. The free encyclopedia: https://en.wikipedia.org/wiki/Reckless_driving [Accessed 20 May 2016]
- [26]. World Health Organisation (WHO). 2004. *World report on road traffic injury prevention*. Geneva. WHO Library Cataloguing-in-Publication Data: <http://www.who.int/violence/injury/prevention> [accessed 9 July 2016]
- [27]. World Health Organisation (WHO). 2011. *Decade of action for road safety 2011-2020. Saving millions of lives*: www.who.int/roadsafety/decade_of_action [accessed 19 May 2016].
- [28]. WHO. 2015. *Global status report on road safety 2015*: <http://www.unece.org/un-sgs-special-envoy-for-road-safety/news/global-status-report-on-road-safety-2015.html> [accessed 19 May 2016]
- [29]. WHO. 2016. Road traffic injuries 2016: <http://www.who.int/mediacentre/factsheets/fs358/en/> [accessed 19 May 2016]