

The Prevention of pedestrian fatalities in Polokwane Policing Area, Limpopo Province

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Abstract

The main objective of this article was to explore measures to prevent pedestrian fatalities in the Polokwane Policing Area (PPA), Limpopo Province. The inability of both pedestrians and motorists to understand and interpret the rules of the road is a major problem in the Polokwane Policing Area. The quantitative research method was used to conduct the study. Data were gathered by distributing questionnaires to respondents in the Polokwane Policing Area. This study sample consisted of 58 municipal police officials, 105 community members, 10 traditional leaders, 10 non-governmental organisations, and 19 businesses. The total size of the sample was 202. 69.2% of the respondents indicated that PPA experiences challenges in preventing pedestrian fatalities. Most of the participants (72.8%) indicated that road designs do not accommodate pedestrians in the PPA. Most of the participants (80.8%) stated that road users do not obey the rules of the road. This study recommends that law enforcement agencies in the PPA should work with other major stakeholders to counteract pedestrian fatalities by means of road safety campaigns, visibility of law enforcement officials, building roads that accommodate pedestrians, and encouraging road users to adhere to the rules of the road.

Keywords: Pedestrians, Road Fatalities, road users, law enforcement agencies and Polokwane Policing Area.

Introduction

In South Africa, estimates reveal that pedestrian fatalities and road traffic collisions in general, remain a serious problem (Arrive Alive, 2005; Matzopoulos, 2004). According to the Non-Governmental Organisation (NGO) Arrive Alive, 2005, the major victims of road traffic accidents in 2014 were pedestrians and it is difficult for road traffic authorities to overcome this problem since some pedestrians do not understand the rules of the road and there are factors that have a direct impact on pedestrians in terms of road traffic accidents. The establishment of municipal policing in South Africa was introduced with the view to address these kinds of problems at local levels where many accidents happen daily (Rauch, Shaw & Louw, 2001:14). It is of great importance to ensure visible policing on the road, especially on weekends when most accidents happen. Laws exist; they simply need to be enforced adequately, ensuring that law enforcement officials are trained sufficiently and have the necessary skills to deal with pedestrian fatalities. It is also not the responsibility of municipal police officials alone to ensure road safety for all pedestrians. All road users have

obligations to ensure that they follow the rules of the road. Pedestrian safety remains one of the most important challenges for road safety authorities in South Africa. The history and segregated development within South Africa further necessitate that we do much more for the safety of our pedestrians, (Norman, Matzopoulos, Groenewald & Bradshaw, 2007). With a multidisciplinary approach and implementation of global best practices, it is possible to significantly decrease pedestrian fatalities and make our roads safer for all road users. Driver and pedestrian compliance with laws is critical to pedestrian safety. This compliance refers specifically to legal vehicle speed limits, drinking-and-driving regulations, red-light signal compliance, and pedestrian traffic control signals, (Norman, Matzopoulos, Groenewald & Bradshaw 2007). This research set out to achieve the following three objectives: to explore the reasons that contribute to the high rate of pedestrian fatalities in the PPA, to determine whether road design accommodates pedestrians and lastly, to investigate whether road users obey the rules of the road.

Factors contributing to pedestrian fatalities

Human factors

The death of pedestrians is one of the problems the authorities in the Limpopo province are facing, especially in the PPA, and it is a challenge for which the Department of Transport and other stakeholders must devise solutions. It is important for all stakeholders to participate in ensuring road safety for all road users, especially pedestrians. Junju-Omara and Van der Schuren (2006:454) stated that human factors are the main causes of road fatalities in South Africa. Other aspects of human behaviour which influence the road safety risk are jaywalking, age, gender, and the violation of traffic rules and regulations. Road users who use the road while intoxicated put other road users at risk of being involved in road traffic accidents. Pedestrians are at risk because most of them in Polokwane policing area use walking as a means of transport from and to work and as a result their lives are always at risk since most pedestrians are killed on the road. The Department of Transport (2012) stated that human factors in rural and urban areas in South Africa contributed a total of 738 fatalities in 2003, whereby urban areas constituted 133 and rural areas 605. Since most people in rural areas use walking as a means of transport, it is the reason why most pedestrians are at risk of being involved in road accidents which can lead to death.

In South Africa, similar high figures were recorded in 2003; the MRC-UNISA National Injury Mortality Surveillance System (NIMSS) revealed that pedestrians accounted for the largest percentage (39.5%) of traffic-related deaths (Matzopoulos, 2004). The most important action pedestrians should take is to wear reflective clothes, especially during the night, because it helps motorists to see pedestrians crossing the road. Hit-and-run collisions, in which the driver involved in the collision leaves the scene before the arrival of law enforcement officials, are a unique type of traffic violation. While many traffic violations, such as red light running or speeding increase the risk for or the damage from a collision, hit-and-run is a post-collision violation. Put in another way, the driver's decision is a question of damage control rather than damage prevention.

To reduce hit-and-run violations, state must impose legal sanctions to deter drivers from leaving the scene prematurely (Grembek & Griswold, s.a.:3). The severity of the punishment is estimated using the maximum prison sentences for drivers guilty of hit-and-run. A comparison of the hit-and-run rates with the maximum length of prison sentence reveals whether an association exists between the severity of the legal sanctions and hit-and-run rates. Hit-and-run is a post-collision response in which the driver must decide between suffering the consequences of staying or risking the consequences of fleeing. Therefore, it would also be beneficial to evaluate the association between the additional consequence caused by fleeing, approximated by the difference between being guilty of a fatal collision, and being guilty of a hit-and-run. Since there are differences in the punishment level for a hit-and-run by level of injury severity, an additional method to evaluate the impact of the severity of punishment of a hit-and run is to examine whether the level of injury to the victim is a factor in the driver's decision to flee (Grembek & Griswold, S.a.:4).

Case study of reckless and negligent driving from department of Justice [1] In the case of *Ndlanzani v The State* (318/13) [2014] ZASCA 31, the appellant was charged in the regional court in Johannesburg on multiple charges, including one count of murder, read with the provisions of s51(2) of the Criminal Law Amendment Act, 105 of 1997, reckless or negligent driving of a motor vehicle, failure to stop his vehicle after an accident, failure to ascertain the nature of the injury sustained by any person(s) and failure to render such assistance to the injured person(s), as he was capable of rendering. [2] The appellant was convicted on all the counts and sentenced as follows: (a) Ad Count 1 (murder) – 15years" imprisonment; (b) Ad Count 2 (negligent driving) – 12months" imprisonment; (c) Ad Count 3 (failure to stop the vehicle after a collision); 16 (d) Ad Count 4 (failure to ascertain the nature and extent of the injuries sustained by a person after the collision); and (e) Ad Count 5 (failure to render assistance to an injured person after the collision). (See www.justice.gov.za).

Vehicle factors

Mohan (2002:79) described the relationship between motorisation and pedestrian fatalities, where the proportion of pedestrians killed in traffic collisions is much higher in less motorised countries. Vehicle factors contribute to pedestrian fatalities in South Africa because some vehicles are not in a roadworthy condition. It is important for law enforcement officials to be serious when dealing with vehicles which are not in a good condition and penalties should be imposed to those drivers as they put other road users at risk. Mohan (2002:82) stated that with little public transport and infrastructure for pedestrians, it can be surmised that the primary contributing factor to pedestrian injury is increased exposure to traffic.

Environmental factors

Weather conditions play an important role in road accidents, as well as on their impact, due to slippery roads, poor visibility, and other adverse weather circumstances. Radun and Radun (2006) provided an additional explanation for the summer peak of road accidents. Their study showed that falling asleep while driving is more prevalent during summer months. The authors explained that in relation to different driving and lifestyle habits between seasons, including sleep quality, during the summertime many drivers are engaged in unusual activities on the day or night before the accident,

such as partying, alcohol consumption, long drives, and outdoor activities. Pedestrian facilities may be an important influencing factor on pedestrian fatalities, such as street infrastructure furniture (e.g. traffic control devices) and infrastructure such as curb ramps, grade passes, crosswalks, traffic calming devices, and centre refuge islands, Radun and Radun (2006). The other problem in South Africa is road infrastructure, and it is important for the DoT to do something in terms of upgrading or building new roads that can accommodate pedestrians; for example, in the PPA there are many vehicles travelling to Moria over weekends and that on its own increases the dangers of pedestrian fatalities since that road does not accommodate pedestrians because there are no streetlights and low visibility by municipal police officials.

There should be a serious intervention to ensure that pedestrians using that road are safe because there are children crossing the road to and from school and playing soccer next to the road, as well as people who cross the road while intoxicated. In the area next to Polokwane called Mohodi-GaManthata which the researcher studied together with the area called Mentz, next to Moria the conditions of the roads are not conducive for pedestrians; for example, there are no streetlights and those areas are busy every day with most of the road traffic accidents occurring in the evening. Other aspects of the environment are traffic lights, it is also important for municipal police to identify hotspots for accidents and to develop countermeasures to resolve those problems. Most of the roads are not properly marked and have two lanes with no yellow line for pedestrians to use. In these areas the road dividing the community into two does not have streetlights and pedestrian bridge, therefore it is of paramount importance for the agency under the Department of Transport, which is Sanral (South African National Roads Agency Limited), to identify hotspot areas in Polokwane policing area and improve the conditions of the roads so that it could be safer for all road users.

Visibility of municipal police officials on the road

It is important for law enforcement officials to be on the road to deal with the problem of pedestrian fatalities. According to the findings of the National Roads and Motorists Association of New South Wales (NRMA, 2012), the following should be done: High visibility policing should be the principal road safety enforcement strategy employed by the government. High visibility policing must be accompanied by high profile education and awareness campaigns. Enforcement cameras cannot encourage people to wear seat belts and neither can education alone, but high-visibility policing will. By looking at the findings of the NRMA, it is important for law enforcement agencies to increase the visibility of traffic officials on the roads and emphasise the importance of education and campaigns on road safety. Many research findings support the visibility of traffic officials because whenever they are on the road, there is proper traffic flow and road users adhere to traffic rules. Communities and road users should work closely with law enforcement officials to curb pedestrian fatalities. There should be no gap between traffic officials and road users; they should work closely together to achieve road safety.

Road users' impairment, and medians and crossing islands

National road traffic Act, 1996 (Act no.93 of 1996) provides that anywhere you are driving within the Republic of South Africa, these laws are extremely important to be obeyed. These laws are in place to help protect the community and to make sure that drunk drivers are reprimanded. The legal blood alcohol limit in South Africa is less than 0.05 gram per 100 millilitres and the legal breath alcohol limit in South Africa is less than 0.24 milligram in 1 000 millilitres of breath. Constitution of South Africa 1996 the legal implication of Road Traffic Act (RTA) has been in effect since March 1998. According to this Act, on a public road no person shall: drive a vehicle or Occupy the driver's seat of a motor vehicle, the engine of which is running, while under the influence of intoxicating liquor or a drug having a narcotic effect. If in any prosecution for a contravention of the provisions of subsection (2), it is proved that the concentration of alcohol in any specimen of blood taken from any part of the body of the person concerned was not less than 0.05 grams per 100 millilitres at any time within two hours after the alleged offence, it shall be presumed, until the contrary is proved, that such concentration was not less than 0.05 grams per 100 millilitres of blood at the time of the alleged offence.

Walking and Driving While Intoxicated (WWI and DWI) on the road put pedestrians at risk of being hit by motorists, therefore it is important for pedestrians to ensure that they follow the rules of the road and if not, traffic law enforcement should do their work by giving them penalties. In this case, those who drink in public should be arrested and if their behaviour does not change, should be sent for rehabilitation. A new law should be passed to make it an offence for pedestrians to be on public roads under the influence of alcohol and road users should be encouraged to always follow the rules of the road. U.S. Department of Transportation: Federal Highway Administration (FHWA), 2008) stated that there are several types of medians and pedestrian crossing islands and if designed and applied appropriately, they improve the safety of both pedestrians and vehicles in the following ways: They may reduce pedestrian collisions by 46% and motor vehicle collisions by up to 39%. They may decrease delays (by greater than 30%) for motorists. They allow pedestrians a safe place to stop at the mid-point of the roadway before crossing the remaining distance. They enhance the visibility of pedestrian crossings, particularly at crossing points without signals. They can reduce the speed of vehicles approaching pedestrian crossings. They can be used for access management of vehicles (allowing only right-in/right-out turning movements). They provide space for supplemental signage on multi-lane roadways, (U.S. Department of Transportation: Federal Highway Administration (FHWA), 2008).

The importance of public-private partnerships (PPP)

It is important for the DoT or municipalities that have the powers or mandates to ensure road safety to do so while they are in partnerships because it is not easy for municipalities to carry out these massive duties on their own. The issue of financial constraints is a burden in most municipalities, and it is therefore important to establish

partnerships with the private sector to ensure road safety. Jonckie (2009:1) stated that the Minister of Transport has emphasised the importance of partnerships to address road safety in South Africa. Private companies have expertise in technology that could assist road safety authorities in addressing threats to road safety and we need to use this expertise in the drive towards safer roads. One of these road safety threats where the private sector can play an important role be addressing the dangers of overloading. Overloading is a cause of frustration for many law enforcers who witness how many unsafely overloaded vehicles on the roads threaten other road users and contribute to the deterioration of the roads. Some companies use trucks which are not roadworthy and as a result they end up being involved in road traffic accidents. The researcher has witnessed horrific accidents, including one where a child was hit by truck while crossing the road. Also, in rural areas most of the trucks are involved in road traffic fatalities. Some of them travel at high speeds while their brakes do not function properly. It is important for Department of Transport and its agencies to come-up with a way in which the private sector could play a role in preventing pedestrian fatalities in the province especially in Polokwane policing area because if the private sector could come on board many challenges could be resolved, road safety is a collective responsibility, one death is too many therefore it is of paramount importance for all stakeholders in road safety to play their part and prevent pedestrian fatalities in Polokwane policing area.

Physical research context/setting analysis

Polokwane policing area is experiencing a high number of pedestrian fatalities. The City has got University of Limpopo, Tshwane University of Technology, University of South Africa and TVET (Technical Vocational Education and Training) colleges. The city is under the Polokwane Municipality under Capricorn district municipality in Limpopo Province. The area is the capital city of the province and more people migrate to the town to seek for employment opportunities and a result there is a lot of movement in the area. Walking is a means of moving from one point to another and this simple task might be a risky task as they might be struck by vehicle. Everyone is a pedestrian and to exercise this simple task of walking might put you at risk as there are many road users who do not adhere to the rules of the road.



Map of Polokwane Source: Google Maps, 2019

Research problem analysis

Pedestrian fatalities are a major problem in Polokwane Policing Area as more and more people are dying on the road and the inability of road users to understand and interpret the rules of the road is a major obstacle in preventing pedestrian fatalities in Polokwane Policing Area. There are major contributory factors to road traffic accidents in Polokwane Policing Area which include speeding, alcohol, and drugs, Hit, and run and unroadworthy vehicles. There is a lot of confusion on the road between pedestrians and drivers, in most cases drivers do not give way to pedestrian and pedestrians they cross the road wherever they want which put them at risk of being hit by motorists (Jaywalking). This problem is easily widespread on intersection where drivers and pedestrians are not able to apply the rules of the road, where there are no traffic lights is worse. Lack of visibility of law enforcement officials makes things difficult for all road users especially those who are disabled and pedestrians at large.

Research knowledge gap analysis

Polokwane policing area with the high number of pedestrian fatalities, it is important for Department of Transport as well as their agencies to work together to ensure that road users are safe whenever they are on the road. Road safety campaigns should be developed to deal with the mindset of road users as many road users are not following the rules of the road and as a result it put all road users at risk of being hit or involved in road traffic accidents. Media should be at the forefront championing the issue of road safety, for example TV (Television) and radio could be used to deliver the message of road safety. Road safety programs should be aired 365 days on all relevant media platforms to ensure that the problem of pedestrian fatalities is curbed.

Research conceptualisation (Research problem statement)

The inability of both pedestrians and motorists to understand and interpret the rules of the road is a major problem in Polokwane Policing Area. It is of paramount importance for law enforcement agencies to come up with measures which could help road users to adhere to road traffic rules. Many road users in the area are not adhering to the rules of the road and that is the reason contributing to high number fatalities as stated in Matzopoulos, 2004 & Arrive Alive 2015. Negligent and reckless driving put pedestrians at risk of being hit by motorists and there are pedestrians who are not adhering to the rules of the road and they put other road users at risk. For example, jaywalking put motorists at risk of being involved in road traffic accidents as pedestrians cross the road where they are not expected to cross the road, even where pedestrian bridges are erected, they do not use them, they cross the road on freeways and according to road traffic is not allowed based on the speed at which the drivers are travelling at. Both pedestrians and motorists need to work hand in hand with law enforcement officials to prevent road traffic accidents from happening in the Polokwane Policing Area. Most of the people in the area use walking as a means of travelling from point A to point B and this task it put them at risk of being hit by

motorists due to negligent and reckless behaviour on the road.

Research strategy, design, procedure, and methods

The researcher used quantitative research method to conduct the study. The study population consisted of 58 Municipal police officials, 105 Community members, 10 Community leaders, 10 Non-Governmental Organisations and 19 businesses. Questionnaires were used to solicit information from respondents. Microsoft-excel spread-sheet was used to analyse data collected from respondents. Frequency tables, charts, and graphs were prepared and analysed.

Empirical research results and discussion

Most of the respondents (69.2%) (Municipal police officials, community leaders, community members, businesses, and NGOs) admitted that the PPA experiences challenges in preventing pedestrian fatalities, while 6.8% were uncertain about the challenges in the PPA, and 24% of the respondents disagreed to strongly disagree that the PPA experienced challenges in preventing pedestrian fatalities. The majority of the respondents indicated that the area is experiencing challenges in preventing pedestrian fatalities and their views are supported by the National Roads and Motorists Association of New South Wales (2012), which states that high-visibility policing should be the principal road safety enforcement strategy employed by the government, high-visibility policing must be accompanied by high profile education and awareness campaigns, and that enforcement cameras cannot encourage people to wear seatbelts and neither can education alone, but high-visibility policing will. It is therefore important to address this problem through the Theory of Planned Behaviour (TPB) and educate road users about the importance of road safety. Driving while intoxicated, walking while intoxicated, speeding, lack of resources, enforcement, and other challenges need to be addressed to counteract pedestrian fatalities in the PPA. Most of the respondents (72.8%) indicated that road designs do not accommodate pedestrians in the PPA. These findings mean that the respondents are aware of the conditions of the roads in the PPA but still they encounter this problem. It is a major problem for pedestrians because the design of the roads does not accommodate pedestrians and it creates confusion between motorists and pedestrians. In support of a well-designed road network, the United States Department of Transportation (2008) states that there are several types of medians and pedestrian crossing islands, which, if designed and applied appropriately, can improve the safety of both pedestrians and motorists in the following ways: they may reduce pedestrian collisions by 46% and motor vehicle collisions by up to 39%; they may decrease delays (by greater than 30%) for motorists; they allow pedestrians a safe place to stop at the mid-point of the roadway before crossing the remaining distance; they enhance the visibility of pedestrian crossings, particularly at crossing points without signals; they can reduce the speed of vehicles approaching pedestrian crossings; they can be used for access management of vehicles (allowing only right-in/right-out turning movements); and they provide space for supplemental signage on multi-lane roadways. Road traffic accidents are a collective responsibility, and more partnerships are needed to improve the quality of roads in the PPA to prevent pedestrian fatalities. Very few (0.9%) of the respondents indicated a "don't know" response to the questions, which

means they are not aware of the impact of road design on road safety, while 26.3% of the respondents disagreed to strongly disagreed with the statement above, which means that they are not satisfied with the types of roads in the area and that more should be done by local government to improve road infrastructure in the area by building roads that accommodate all road users and installing streetlights to ensure the visibility of pedestrians in the evening as most of the accidents happen at night. Most of the respondents (80.8%) stated that road users do not obey the rules of the road. This result is supported by Matzopoulos (2004) and Arrive Alive (2015) as they indicate that many road users in South Africa do not adhere to the rules of the road, which contributes to the high number of fatalities. The Theory of Planned Behaviour and Partnership Theory of Crime Prevention are particularly important in this case to help road users adhere to the rules of the road. Evans and Norman (1998) applied the Theory of Planned Behaviour to the prediction of pedestrians' road crossing intentions in scenarios of three potentially dangerous road crossing pedestrians' attitudes towards traffic violations and self-rating of violations, errors, and lapses were measured based on the TPB. Díaz (2002) also used the TPB to evaluate the effects of age, gender, and conformity tendency on Chinese pedestrians' intentions to cross the road in potentially dangerous situations. Xu, Li and Zhang (2013) predicted the intention of pedestrian' illegal road-crossing with an extended version of the TPB. The partnership theory of crime prevention encourages the police to work with communities in combating crime and to ensure that people adhere to the laws of the road to have a successful partnership in road safety. Of the respondents, 4.2% were uncertain about whether road users do not obey the rules of the road and 15% disagreed to strongly disagreed with the statement. It means most of them did not see any problem in relation to the high number of road traffic accidents, especially to those vulnerable road users such as pedestrians in the PPA. More should be done in terms of fostering partnerships with communities to tackle the problem of lawlessness and to encourage road users to always obey the rules of the road and share the road responsibly.

Conclusions

The safe use of the road by pedestrians is a challenging task in the PPA as most of them are at risk of being hit by motorists. The number of pedestrians who are killed on the road is increasing in the PPA, nationwide, and globally because most pedestrians do not follow the rules of the road. Motorists also put pedestrians at risk of being hit on the road because according to the findings of the study motorists do not follow the speed limits on the road and they do not understand the rules of the road and are unable to interpret them. Pedestrians and other road users do not understand the rules of the road and there are also other factors which disadvantage them, such as alcohol, education, and road design. Municipal police officials should ensure that they increase their visibility on the road and execute their mandates in a professional manner to ensure consistency in terms of enforcing the law; as a result, they will be able to deal effectively with the problem of pedestrian fatalities. They should also strengthen their relationships with all stakeholders for road safety since road safety is a collective responsibility because one death is too many. Road

collisions are preventable.

Recommendations

Road safety education

To be able to counteract the high number of pedestrian fatalities in Polokwane policing area, Department of transport and education need to work together to formulate road safety curriculum from grade R to 12 to educate learners from younger age about the importance of road safety. Schools are in an ideal position to deliver road safety education and to promote and maintain the health of children and young people. Changing behaviour need commitment from everyone who uses the road, firstly by respecting one another on the road to avoid road rage which causes many road traffic accidents and by respecting one another means that our conduct will be promoting road safety without influence of law enforcement officials, it is upon us as road users to change our behaviour and this can be done by ensuring that our people are more educated as Nelson Mandela said “ Education is the most powerful weapon which you can use to change the world”.

Road design

There is a need for road infrastructure improvements in Polokwane policing area which include the separation of different types of traffic, better road markings and road signs (with the use of road humps, rumble strips and roundabouts) and also the installation of traffic lights and streetlights at intersections especially at hotspots areas

Enforcement

Establish and enforce laws at national, provincial, and local level to create a meaningful deterrent threat to road users. To achieve this, the primary focus should be on increasing visibility of law enforcement officials on the road especially on weekends where many road users are dying on the road as a result of not following the rules of the road and to ensure efficient administration of punishment which can further enhance deterrent effect because in most cases corrupt officials cancel infringements in the system and those corrupt officials in the law enforcement agencies must be removed to ensure that road users are served by officials who are ethical and law abiding officials. Enforcement interventions should focus on traffic measures that promote road user's adherence to traffic regulations such as regulating driver behaviour and the monitoring of pedestrian behaviour to counteract pedestrian fatalities. Road safety is a collective responsibility and law enforcement agencies need to work together to prevent pedestrian fatalities.

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