

**THE IMPLEMENTATION OF THE ROAD SAFETY STRATEGY TOWARDS
REDUCING ACCIDENTS AND ROAD FATALITY ON THE N1: A CASE STUDY OF
LIMPOPO PROVINCE**

By

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DEDICATION

“In memory of my late father Mr. Maluleke Famanda Samuel as well my son Hlulo Bennton Maluleke”, this project is dedicated to both individuals mentioned above since they were eager to see all the family members to be more focused in education hence, they showed support to me during their lifetime.

DECLARATION

I, Mihloti Tyron Maluleke declare that THE IMPLEMENTATION OF THE ROAD SAFETY STRATEGY TOWARDS REDUCING ACCIDENTS AND ROAD FATALITY ON THE N1: A CASE STUDY OF LIMPOPO PROVINCE is my work and that all the sources that I have used or quoted have been indicated and acknowledged through complete references and that this work has not been submitted before for any other degree at any other institution.

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28/04/2022
Date

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ABSTRACT

This study investigated the effectiveness of the national road safety strategy towards reducing accidents and road fatalities on the N1 in the Limpopo Province. Qualitative research was conducted to determine the experiences of the traffic law enforcement officers in implementing the road safety strategy in the Limpopo Province. Primary qualitative data were collected using the semi-structured questionnaire supplemented by telephonic interviews. Two groups of participants including the traffic law enforcement officers (n=10) and managers (n=5) participated in the study. The study established the domains of effective implementation and areas of challenges with discrepancy between the expected level of strategy implementation and availability of sufficient human and fiscal resources to enhance effective strategy implementation. The factors that impeded the effective implementation of the road safety strategy towards reducing accidents and road fatalities on the N1 in the Limpopo Province included the inadequate allocation and distribution of traffic officers in areas with a high probability of accidents, delayed recruitment of sufficient traffic law enforcement officers and unavailability of required budgeted funds for procurement of state of the art physical equipment to monitor the speed and magnitude of traffic flows and real-time surveillance and capture of road safety transgressions. The findings revealed that there is a considerable need for traffic law enforcement managers to collaborate with behavioural professionals and the police to ascertain effective behavioural change mechanisms to encourage road safety compliance. However, recruitment and constant re-training of traffic law enforcement officers on best practice strategies for traffic law enforcement could be useful to ensure the effective implementation of the road safety strategy; thereby contributing towards the reduction of accidents and road fatalities on the N1 in the Limpopo Province.

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CHAPTER 1

GENERAL INTRODUCTION

1.1. Introduction and background

The background and parameters for the research study were established by the study's background (Gatrell *et al.*, 2020). It conveys the problem area of the research inquiry, especially from the general to the specific (Petchko, 2018). According to Rodica (2017), the background of the study should clearly indicate the historical background of the research problem and provide an exposition of the various aspects of the research problem, including the nature and severity of the research problem, as well as what implications the identified problem may have for those involved and affected by the research problem (Zagaris, 2015).

The safety of road users on public roads remains a priority to the Department of Transport and Community Safety (Jungu-Omara & van der Schuren, 2014). By ensuring that citizens conform to the rules and regulations governing the conduct of road users, the department has put into place, punitive measures to deter such disobedience by road users (Kyei & Masangu, 2012). Whilst these measures are deemed essential deterrents, they do not often yield their intended outcomes. As a consequence, the Road Safety Strategy was promulgated in a quest to find innovative ways to encourage good behaviour from the road users while capacitating the road traffic law enforcement officers to respond appropriately to contradictory behaviours of the road users (RTMC, 2016).

However, the extent to which road traffic law enforcement officers can effectively implement this strategy is unknown. At a time when reducing carnage and fatalities on public roads have become an issue prevalent in the public discourse (Dembovasky, 2018), the role of road traffic law enforcement officers is being greatly questioned. This situation is particularly real in the Limpopo Province where 1338 road fatalities were reported on the national road number 1 in the financial year 2018/2019 alone (LDoT, 2019). Thus, this study aims to investigate the effectiveness with which road traffic law enforcement officers in the Limpopo Province can effectively implement the Road

Safety Strategy in reducing road carnage and fatalities along with the national road number 1 between Maubane and Polokwane.

1.2. Problem statement

The problem statement describes a problematic or troubling situation that requires systematic investigation (McNabb, 2017). The problem statement, according to McNabb (2021), expresses the researcher's aim and rationale for doing the research study. According to Brondolo (2021), a well-formulated problem statement should convey what is problematic with the detected issue, its scope, nature, and context that triggered the investigation, as well as how the people involved are affected. In similar line, Hamid (2013) adds that the problem statement should include an explanation of the likely implications that will occur if the identified problem is not solved, as well as information gaps about the topic under investigation.

Road safety remains the responsibility of every road user, be they, motorists or pedestrians. This responsibility necessitates road users to obey without reservations, all rules and regulations about the utilisation of public roads (Albalate & Fageda, 2019). However, not all road users exhibit conformity to these rules and regulations to ensure safety for all on public roads (Abojaradeh *et al.* 2014). Whilst such disobedience may be attributed to the behaviours of the road users, Traffic management officials and road traffic law enforcement officers' dearth of comprehension of the Roads Safety Strategy and its effective implementation remain a challenge.

In the year 2017, post the promulgation of the Road Safety Strategy, 1338 road carnages that resulted in 768 fatalities were recorded in the Limpopo Province. Of these 768 fatalities recorded by the Department of Transport and Community safety, 430 occurred on the Maubane and Musina (LDoT, 2019), particularly on the national road number 1 between Maubane and Musina. These statistics represent an alarming increase in the number of individuals, whom most are not responsible for the cause of the road accidents, losing their lives (Lehohla, 2009).

This situation raises concerns about the efficacy of road traffic law enforcement officers' responses, particularly in finding innovative ways through such carnage and fatalities could be adequately reduced and prevented (Hoekstra & Wegman, 2011). Given the availability of the Road Safety Strategy that serves to inform road traffic law

enforcement officers and officials actions on how better to reduce carnage and fatalities in the cluster especially along with national road number 1 (Agbolahan, 2016), no empirical data is explicating the extent to which this personnel implement the strategy in their daily road traffic law enforcement activities and whether there are significant barriers that impede the strategy implementation and obtain positive intended outcomes.

Considering the prevalence with which road carnage and fatalities continue to occur in Limpopo (LDoT, 2018), especially along with the national road number 1 between Maubane and Musina, revealing insights into the latter is urgently warranted. It is assumed; therefore, in this study that should road traffic law enforcement officers have an understanding of the Road Safety Strategy and be capacitated on its effective implementation, the number of road carnage and fatalities would significantly be reduced and prevented. Thus, this study seeks to find empirical answers to the question:

“How effective is the implementation of road safety strategy in reducing accidents and road fatalities?”

1.3. Aim of the study

This study aims to investigate the implementation of the road safety strategy in reducing accidents and road fatalities.

1.4. Objectives of the study

The objective of this study is:

- To examine the best practice strategies utilised by the Limpopo Province Department of Transport and Community Safety to facilitate an understanding of the road safety strategy.
- To explore the experiences of road traffic law enforcement officers in implementing the road safety strategy in Limpopo.
- To assess the extent to which road safety strategies are implemented in reducing accidents and road fatalities.

1.5. Research questions

- What are the best practice strategies utilised by the Limpopo Province Department of Transport and Community Safety in facilitating an understanding of the road safety strategy?
- What are the experiences of road traffic law enforcement officers in the implementation of the road safety strategy?
- How effective was the implementation of road safety strategy in reducing accidents and road fatalities?

1.6. Significance of the study

The significance of this study is explained by the researcher's quest to unravel insights into the understanding of the Road Safety Strategy and the effectiveness of its implementation by the traffic management officials and road traffic law enforcement officers in Limpopo. That is to say that the findings to be accrued from this study shall be integral in enhancing the capacity of road traffic law enforcement officers to synergise their efforts in implementing the strategy effectively to reduce and prevent road fatalities between Maubane and Musina along the national road number 1. This is so because the effective implementation of the road safety strategy necessitates an understanding and acquisition of requisite skills about its contents and ease of implementation. Importantly, it is of the essence to reveal the experiences of both road traffic law enforcement officers and managers regarding the gaps and challenges to accurately capture evaluative determinants significant to determining the efficacy of its implementation.

1.7. Definition of Key Concepts

Researchers need to define concepts used in their research studies to clear confusion on the actual meaning of the concepts. The concepts that are key to this study are defined below:

1.7.1. Road Safety

A proposition of a single universally agreed-upon definition of road safety is problematic. However, Tisca *et al.* (2015) define road safety as a constellation of deliberate and systematic efforts undertaken co-jointly and collaboratively by a multi-

sector partnership structure designated with leading efforts to develop and deliver road safety strategies and plans. In this view, road safety does not solely involve measures to reduce accidents and improve the safety of road users. It includes, as Hoekstra and Wegman (2011) point out, the commensurability and effectiveness of road safety policies which are defined by Kyeni and Masangu (2012) as sets of guidelines, strategies, laws and rules that govern all road users in ensuring that they get to their distinct destination safely without any particular injury.

In the context of this study, road safety shall refer to the synergy and efficacy of planning and implementation by the road safety multi-sector partners of methods and measures intended to prevent road users from being injured or sustaining injuries consequent to the use of public roads, especially the national road number 1 in Limpopo Province.

1.7.2. Road accident

An accident denotes an unexpected event in which the action and reaction of an object or individual driver result in personal injury or damage to property. The unexpected and uncontrollable nature of an accident signifies that the event could not have been influenced or controlled (Albalate & Fageda, 2019). Thus, it may emerge as a consequence of a constellation of predictable and unpredictable traffic external factors. For Agbolahan (2016), predictable factors encompass the actions or reactions of an object or individual driver that include alcohol-induced impairment. Inadequately maintained road infrastructure (RTMC, 2019), dearth of adequate systematic enforcement (Ncube, Cheteni & Sindiyandiya, 2016) and unpredictable factors such as nature-related incidents and natural environmental landscape.

For this study, a road accident shall be regarded as the failure of the road-driver system to perform instructed operations warranted for undertaking a trip successfully without injury or loss.

1.7.3. Road fatality

The concepts of road fatality and road accidents are commonly used synonymously in common public discourse. However, these concepts are distinct, yet interrelated. With that said, road fatality refers to death on a public road as a result of a road accident

(Hakkert, 2015). This definition is supported by Verster and Fourie (2018) who indicate that a road fatality denotes a loss of human life as a result of involvement in an accident. Adebayo (2015) further adds that a road fatality is a death caused by a road accident or car crash. These definitions are pertinent to be used in the context of this study. However, it can be suggested that the concept of road fatality can also be used to describe a death occurring from injuries sustained from an automobile or vehicle collision on the road.

1.7.4. National Road Number 1

National road number 1 is a national route in South Africa that runs from Cape Town through Bloemfontein, Johannesburg, Pretoria and Polokwane to Beit-Bridge on the border with Zimbabwe. It forms the first section of the famed Cape to Cairo Road. Before 1970, the N1 designation was applied to the route from Beit-Bridge to Colesberg and then along the current N9 to George.

1.8. Limitations of the study

The study is limited to the Provincial Traffic Management Officials and Road Traffic Law Enforcement Officers attached to the Department of Transport and Community Safety only. No Municipal Traffic Management Officials and Road Traffic Law Enforcement Officers shall, for instance, be included in this study.

1.9. Outline of the Mini-Dissertation

Chapter 1

Chapter one explained the introduction and background of the research study. It provided an account of the source and background of the study, the statement of the research problem, research objective, research goals and research questions, and the ethical considerations the researcher followed to protect research participants.

Chapter 2

Chapter two dealt with appropriate literature reviewed in relation to the phenomenon under study. The reviewed literature was obtained from electronic academic databases such as Sae-publication, Sabinet, Ebschost, Google Scholar and printed records and analysed thematically to provide a foundation on which the study proceeded.

Chapter 3

The chapter three described the research design and the methodology used by the researcher in conducting the study. Research methodology included population description, sampling and sampling techniques, research approach, paradigmatic perspectives, and methods to ensure trustworthiness of the study processes and findings.

Chapter 4

Chapter four provided a description of the thematically analysed and interpreted data pertaining to the phenomenon being studied. The themes that have emerged from the analysed data the participants experiences pertaining to the implementation of the Road Safety Strategy towards reducing accidents and fatalities along the N1 and their perspectives on the effectiveness of the strategy implementation.

Chapter 5

Chapter five summarised the main findings of the study. Conclusions drawn by the researcher from the key lessons learned were explicitly addressed and recommendations were made to improve the effective implementation of the road safety strategy. The researcher has also pointed out avenues for further research in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

The safety of public road users remains a significant tenet and priority for which road safety initiatives intend to accomplish. It is essential for the prevention and reduction of road accidents and fatalities on public roads. However, the realisation of road safety remains a prerogative of road users, law enforcement officials and policy makers. Maibach and Opitz (2013) consider road safety to be a complex and complicated domain to fathom. This postulation must not, however, preclude the need for revealing insights into the nature and complexities of the implementation of road safety strategies. Such complexity and complications can be revealed through a grasp of the interactions and interlinked processes involved not only in design but also in implementing road safety strategies. In South Africa, this endeavour has never been important at a time when road accidents and fatalities continue to rise with no signs of abating.

As one of the developing countries with high public road accidents and fatalities, South Africa stands as the global capital of road carnage. With an almost 59% motorisation ratio, this country experienced 5430 public road accidents between 2009 and 2019 which resulted in 560 fatalities (RTMC,2018). If not adequately addressed, the continuing loss of human lives on public roads cannot be curbed. Importantly, it is the dearth of an integrated road safety strategy over the past decades that placed road safety at the periphery. Sadly, many human lives have been lost on public roads. However, the enactment of the National Road Safety Strategy for South Africa 2011 which preceded a declaration of the period between 2011 and 2020 a Decade of Action and Arrive Alive marked a turning point in government commitment to road safety.

But despite the availability of this strategy as an attempt to improve road safety on public roads through education and enforcement, road accidents and fatalities remain a constant reality. This situation can be attributed, as this study posits, to the paucity of empirical data on the nature and complexities of the National Road Safety Strategy implementation in the context of the N1. Included also is the dearth of empirical studies

that aim to explore from the traffic management and enforcement officials perspectives, their experiences of the constraints and opportunities that impede and foster adoption and implementation of best practices in road safety strategy as enshrined in the National Road Safety Strategy for South Africa 2011-2020.

This chapter provides a thematic literature review of road safety in the South African context with special reference to the challenges for the implementation of the National Road Safety Strategy for South Africa 2011-2020. The focus of attention is the efficacy with which the strategy is implemented in the prevention and reduction of road accidents and fatalities on the N1 in Limpopo Province. To obtain insights into the trends, issues and variations involved in the interactions and interlinked processes of implementation of the strategy, a theoretical framework on road safety shall be delved into together with a critical analysis of South African documents and other relevant literature on road safety in comparison with international (global) standards.

2.2. Theoretical framework underpinning road safety on public roads

Road safety is an abstract and conceptual concept that cannot be described, explained or predicted in a vacuum. It is a phenomenon that can be understood employing a theory or constellation of theories. Rycroft-Malone and Bucknall (2010) define a theory as an analytic structure designed to explain a set of empirical observations. There is a plethora of theories that contribute to an understanding of road safety. These theories that including causal theories, epidemiological theories, systematic theories and behavioural theories are helpful in structuring thinking and action about road safety.

According to Ovretveit (2011), the theories provide a rationale to justify decisions and explain findings. They are regarded to be crucial analytic tools for the identification of different observations and enabling understanding of assertions about underlying realities of road safety. However, it must be pointed out that the theories are distinct in their basic assumptions, conceptualisation, empirically proven, descriptiveness and prognosis of road safety (Maibach & Opitz, 2013).

In undertaking this study, the behavioural theories that include the systems theory, theory of planned behaviour and diffusion of innovation approach shall be used to

describe and explain circumstances and situations relating to road safety on public roads.

2.2.1. Systems theory

The systems approach to road safety recognises the aetiology of road accidents and fatalities as rarely an outcome of a single factor. Its underlying proposition is that problematic road users' behaviours, inadequate road infrastructure as well as automobile defects can interactively cause and result in a road traffic accident and fatality. This approach posits that road safety should shed away its traditional human blame error focus to an undertaking that recognises road fatalities as caused by an interplay of several components (Larsson, Dekker & Tingvall, 2010). These inextricably linked components include road users, vehicles being utilised on public roads and the roads being used. Essentially, the systems approach to road safety posits that for road safety interventions to yield intended results, there should be synergy between all components. Put correctly, considerable attention must be paid to the role that an interplay of road users' behaviour, roadworthiness of automobiles and quality of roads have towards causation of road accidents and fatalities. Importantly, this approach advocates for collaboration and coordination between all stakeholders involved in road safety realms.

According to Mohan *et al.* (2020), there should be joint decision making and complementary exchange of information, competence and pertinent expertise if road safety interventions are to be strengthened and enhanced for positive outcomes realisation. This proposition is empirically supported by the work of Mohan *et al.* (2020) who points out that links between all risk factors should be investigated and established if road safety interventions are to be fully visible. In order to foster the efficacy of road safety interventions, the systems approach warrants a determination of the circumstances under which road traffic law enforcement personnel function and how the social-technical system resulting from unexpected and uncontrollable relations can pose threat to achieving the efficacy of road safety interventions. In other words, this approach seeks to encourage comprehension of accidents and the definition of appropriate measures necessary for the entire system rather than considering its parts in isolation (Larsson, Dekker & Tingvall, 2010). Thus, the system

approach advocates for the strengthening of all dimensions of road safety and their holistic management, not as separate parts in silos.

2.2.2. Theory of planned behaviour

The theory of planned behaviour was developed by Ajzen in 1975. Although this theory has not been frequently utilised in understanding the attitudes and behaviour of road traffic law enforcement officers in the context of road safety interventions implementation, it is relevant in this study. This is so because the theory of planned behaviour asserts that there is an inextricable link between attitudes, behaviours and actions of individuals towards a particular situation (Fishbein & Ajzen, 2011). According to this theory, individuals are more than likely to act desirably when their attitudes, behaviours and perceived behavioural control are in harmony with the intended desirable act.

Adapted for this study, the theory of planned behaviour will be important in explaining the attitudes, behaviours and perceived behavioural control of road traffic law enforcement officers towards implementation of the national road safety strategy. Thus, it will be essential to determine whether their attitudes towards the road safety strategy implementation as viewed within their perceived behavioural control (*i.e.*, skills and competence) can translate into the adoption of best practice strategies that enhance the efficacy of implementation of the national road safety strategy.

2.2.3. Diffusion of innovations approach

The circumstances and situations explaining the implementation of the National Road Safety Strategy 2011-2020 and the efficacy thereof can be understood through the diffusion of innovations. Rogers (1995) defines diffusion of innovations as a process by which an innovation such as the road safety strategy is communicated among members of a social unit while an innovation, as Frambach (1993) denotes an idea or practice perceived as new to individuals. In this vein, a social unit upon which an idea or practice is communicated is conceptualised as a set of interrelated units such as individuals or groups that are involved in joint problem solving to accomplish a specific common goal (Rogers & Scott, 1997).

Central to the diffusion of innovations, however, is how, why and at what rate is a new idea or practice spread across individuals. As this theory postulates, a new idea or practice can be quickly adopted and implemented when it is considered better than the idea that it supersedes; is consistent with past experiences; offers ease of understanding and implementation and its results are visible to others (Minishi-Majanja & Kiplan'at, 2005). However, the adoption and implementation of an idea or practice are dependent upon how its information is accurately shared and mutually understood by all involved.

In the context of this study, diffusion innovations theory is significant in that it indicates that for the road safety strategy to be effectively implemented in preventing and reducing public road accidents and fatalities, several actions need to be undertaken. That is, traffic management and law enforcement officials have to perceive the strategy as useful in preventing and reducing public road accidents and fatalities better than initiatives that preceded its enactment. Again, these important stakeholders in the implementation of the strategy have to possess adequate understanding and knowledge of its contents and be able to follow their experience and expertise to contextualise and implement it in preventing and reducing public road accidents and fatalities on the N1 in the Limpopo Province. Importantly, their understanding and knowledge of the strategy which is crucial for its effective implementation must be mutually shared through access to accurate information on what is anticipated of them following the interactions and interlinked processes of the implementation of the strategy.

2.3. Prevalence of road accidents in South Africa's

The incidence of road traffic accidents in South Africa is frequent, but still a common occurrence due to the large road network. Public roads remain the preferred means of transport by a majority of citizens. A public road is commonly used by the general public or any section thereof or any other place to which the general public or any section thereof has access. Statistically speaking, the occurrence or number of road accidents that happen on public roads has become a major problem not just in South Africa but globally.

The World Health Organization (2018) reports that almost 3 million people die every year as a result of road accidents. In South Africa, road accidents rank as the eighth

leading cause of death. Between the years 2017 and 2018, approximate 802 people lost their lives due to road accidents on public roads, with 1 170 individuals sustaining life-threatening injuries and disabilities. Significantly, the national road safety report of 2017/2018 highlights an increase of 25% in reported road traffic accidents over weekends. Aptly put, a higher number of road traffic accidents occur between 16h00 and 23h00 on Saturdays and Sundays. Contrary to popular perceptions of truckers on daily hours on public roads as the major cause of road traffic accidents, motor cars and LDVs contributed to 46% of road traffic accidents which constitute a 20.3% increase between 2017 and 2018 (RTMC, 2018).

The variance between road users' groups involved in road traffic accidents appears to be minimal. Between 2017 and 2018, 38% of pedestrians, 33% of passengers and 26% of drivers were involved in road traffic accidents on public roads. Essentially, black African males between the age group 25 to 49 constituted a staggering 81% of road users group involved in road traffic accidents compared to both black and white African females in the same age group whose involvement in road traffic accidents was recorded at 16% (RTMC, 2018). Despite these variances among road user groups, little cross-sectional evidence exists that explains the behavioural determinant of these variances.

2.4. Aetiology of road accidents on public roads

The aetiology of road accidents and fatalities on South Africa's public roads is multifaceted. The country experiences a tremendous growth of almost 32.6% in automobile ownership in the past decade. This increase has compounded the rates of congestion on public roads. Although evidence suggests that the growth in congestion may contribute somewhat to road accidents and fatalities, evidence abounds that contradicts this proposition. For Polinsky and Shavel (2007), the causes of road accidents and fatalities can be attributed to a multiplicity of human and natural factors that encompass, inter alia, inadequately maintained road infrastructure, unroadworthy vehicles, ill-disciplined and inadequately trained road users and unforeseen weather conditions.

Whilst it is important to acknowledge the contributory nature of natural factors to road accidents and fatalities, the human factors have been found to contribute a staggering 64% towards road accidents and fatalities (RTMC, 2017). This statistical finding adds

impetus to efforts attempting to understand the extent to which human factors can be adequately investigated and relevant improvements are made to reduce road accidents and fatalities on public roads. However, revealing insights into the role that human behaviours, being a complex phenomenon, plays in causing road accidents and fatalities cannot be the sole prerogative of the road traffic law enforcement officers and management. It necessitates a societal effort and bestows unto every road user the responsibility to observe road safety regulations and act in accordance with such regulations.

2.5. Enforcement and adherence to road safety regulations

Public road usage cannot subsist without appropriate legislations and regulations that explicitly regulate the conduct and behaviour of road users. These legislations are inextricably associated with the orderly regulation that society needs to prosper. In the absence of such necessary legislation and regulations, the realisation of order in the form of enforcement and conscious adherence will not yield positive results in reducing road accidents and fatalities. That is, the existence of the regulations cannot by itself achieve the objective of making public road users safe and free from harm. Despite the essence of enforcement and compliance, there appear to be lapses that impede the objective for which road safety regulations intend to accomplish.

According to Wijnen and Stipdonk (2016), traffic law enforcement officers are invariably visible on public roads to foster road users' compliance with roads safety regulations. Roadblocks, regular inspection of vehicles and drivers for alcohols and other substances that impede driving capabilities are frequent actions that traffic law enforcement officers embark on. However, it appears that no amount of traffic law enforcement officers' visibility on public roads makes a dent in road accidents and fatalities. As Polinsky and Shavel (2007) observed, a tremendous number of road users continue to disregard compliance even in the presence of traffic law enforcement officers. The number of vehicles that are not roadworthy is a constant challenge on public roads. Further, a minimal basic understanding of road safety regulation emerges as a significant step backwards among road users. This situation necessitates a rethink of the punitive or corrective measures often resorted to by traffic law enforcement officers.

Gneezy, Meier and Rey-Biel (2011) point out that implementation of harsher and punitive fines on road users who disobey road safety regulations does not translate into curbing or eliminating such behaviours. This finding can be true hence a myriad of road users continues to exhibit dangerous behaviour on public roads despite previous citations. Although it is essential to impose fines on transgressions of road safety regulations, evidence indicates that some of the behaviours that cause road accidents and fatalities are less likely to be punished. In the South African context, the imposition of fines appears to have a significant effect on irresponsible behaviours among road users.

This observation finds support in Bicchieri and Mercier (2014) who found that increase in fines for road users who violate road safety regulations does not substantially discourage recidivism. Fines are hardly being paid. There is a rampant misrepresentation of identifying details and other pertinent information to track transgressors and make certain that fines are paid timeous. The courts are invariably being utilised to bring about a reduction in the amounts of fines imposed on irresponsible road users. The other significant challenges facing the correctional services render prosecution and incarceration of transgressors even less likely to be acted upon. Hence, it may well have reflected the growing realisation among transgressors that non-compliance has no consequences. In this vein, it can be argued that concerted efforts must be expended towards finding an appropriate behaviour-based mechanism that can tap into the societal values and norms of road users to bring about effective and lasting change in road safety.

2.6. Legislative framework for road safety

Road safety is an important matter to be left to chance. It must be based upon a broad system of rules and regulations that govern and regulate decision making and problem-solving. In the South African context, there is no paucity of progressive legislation that intends to address issues of road safety. However, the availability of these strong suites of road safety legislation does not translate into positive road safety outcomes (Du Plessis, Jansen & Siebrits, 2019). A myriad of legislations that include the National Road Traffic Act (93 of 1996), National Road Traffic Regulations (2000), South African National Road Agency Limited and National Roads Act (7 of 1998) and the Administrative Adjudication of Road Traffic Offences Act (46 of 1998) have been

enacted to transform, enforce and foster compliance to road safety interventions. However, there are serious challenges and opportunities facing road traffic law enforcement officers and other relevant stakeholders regarding the effective implementation of these rules and regulations.

2.7. Challenges and opportunities in legislative implementation

These legislations are inadequately enforced and not strict enough to prevent dangerous driving habits. This can be attributed to a dearth of empirical evidence on attempts established to reveal insights into the role that informal institutions can play to shape the behaviour of road users (Du Plessis, Jansen & Siebrits, 2019). This is significant amid evidence that a plethora of road users with questionable driving records still find their way to drive. The new demerit systems to be gazetted and considered as an ideal panacea to foster responsible driving on public roads, faces challenges from another segment of the society. Notwithstanding its positive intentions, this system is believed to have the potential to be unconstitutional as it is administratively complicated and places the adjudication powers to ascertain and declare road users' guiltiness to traffic law enforcement officers.

Despite these road users' behaviour constituting a serious threat to other road users, there are lapses in enforcement tracking systems to remove these road users on public roads. Importantly, no amount of traffic law enforcement officers' visibility on public roads can enhance adherence to traffic laws. There is a need for societal attitudinal and behavioural change. Further, policies that permit the movement of certain vehicles of heavy trucks on the public roads at specified times have yielded minimal positive outcomes in reducing road carnage. This is so because these policies are regarded to have adverse economic implications consequent to the country's heavy reliance on freight transportation.

2.8. Institutional capacity framework for road safety strategy implementation

Institutional capacity is an integral tenet of road safety strategy implementation. By institutional capacity, Khademi and Choupani (2018) refer to the ability of an institution to perform its functions, solve problems, set, and achieve objectives. Capacity is institutional or systemic and its significance to the determination of the efficacy of road safety strategy implementation deserves attention. Within the road traffic law

enforcement and management, there should be concerted efforts to increase and strengthen expertise and skilled competence. However, it remains unknown what expertise is available within the Department of Transport and Community Safety to ensure effective implementation of the National Road Safety Strategy. Further, there is a dearth of evidence on whether institutional capacity has the potential to translate into adequate, increased capacity.

A collaborative and cooperative approach is necessary. All policy processes must be capable. Rigorous monitoring, reporting, and review system are required to enhance the effectiveness of the road safety strategy. Road safety capacity is specifically devoted to road safety issue action that may help to mitigate road accidents. In this vein, the sector needs not have all the capacity in place before taking steps to ensure road safety. There is a good possibility that, within the next few decades, the local sector will be able to increase its capacity, either through its means or with assistance from the provincial government. In some instances, doing so at the provincial level may assist the local sector to increase their capacity. The national government has provided an impetus for the development of the capacity needed to implement road safety interventions. Nonetheless, institutional capacity needs are only one key consideration when assessing future road safety strategy implementation options. Other considerations when evaluating different forms of future actions include cost-effectiveness, the need to deal with behavioural impediments such as the willingness to reskill and provincial policy considerations.

Assessing capacities required for implementing different policy options does not provide by itself sufficient clues to select the most appropriate option. An assessment of current capacities is needed to determine the extent of the capacity gap between current capacity and the capacity required for specific policy options. Even if most Least Developing Countries are unlikely to have sufficient capacity to take on even the softer types of policy approaches, there is another set of countries in a “grey zone” (i.e., more economically advanced, rapidly developing countries) that may already have at least some of the capacities needed to take on certain climate actions, possibly even quantitative approaches.

However, even more economically advanced countries, developed or developing, may have specific capacity barriers that prevent them from taking ambitious forms of action.

For example, some countries with a federal structure or with a weak central government may have difficulties in reaching a national consensus about quantified national targets, if they are legally binding. Thus, more detailed capacity assessments could provide a clearer picture of the kind of future options a country can afford. This requires capacity assessment studies that can only be done in countries themselves.

As a result of self-assessments, countries may even define next steps based on their capacity level, including what kind of capacity development is needed for such further development. The capacity issue could also be part of policy discussions among governments. Countries can share information on their capabilities and decide on the best policies that are consistent with these capacities. Both developed and developing countries can share information about their capabilities. True, there is a danger in international discussions that countries use capacity constraints as a reason not to act, while in fact, they may simply be unwilling to act. Though this danger may exist, capacity constraints do shape national positions in international negotiations. Honest discussions about what countries can and cannot do, considering their respective capacities and constraints, could promote understanding and provide a non-confrontational way to consider how to move forward on climate change policies.

2.9. Impact of road safety campaigns towards road users' behavioural changes

Road safety campaigns have been a constant feature in prevention interventions intending to reduce road traffic accidents and fatalities. They are utilised to effect behavioural changes employing influencing road users to behave more responsibly on public roads. Put correctly, they constitute purposeful initiatives that aim to inform, persuade and motivate road users to alter their attitudes and behaviours using a predetermined communication channel within a specific time frame. Given the sheer number of road safety campaigns undertaken annually, the nature and extent of impact they have on road traffic accidents and fatalities reduction is unknown. According to Adamos and Nathanail (2016), only a limited fraction of these campaigns is thoroughly and formally evaluated to ascertain their impact at the grassroots. Notwithstanding the absence of credible evaluative results, there are apparent indications that road safety campaigns have the potential to yield positive intended outcomes. For instance, in 2016 the National Department of Transport found that almost 34% of public road users reported substantial risk-related behavioural changes

that resulted in enhanced compliance with road traffic rules and regulations. Similar findings were made by Mahon *et al.* (2020) who further point out that road safety information and publicity must be coupled with education. It can be deduced from these empirical findings that regular information provisions that are intertwined with education, particularly in the languages that road users comprehend can offer tangible road safety results and reduce risky behaviours on public roads.

The utilisation of mass media as an ideal communication channel has been resorted to for decades. However, the relevance, cost-effectiveness, and scope of reach for mass media have recently received criticism. According to Adamos and Nathanail (2016), the costs of running road safety campaigns through traditional channels such as television and radio are becoming exorbitant. Considering the evidential dwindling resources of the state, the utilisation of this alternative is not sustainable. According to Khademi and Choupani (2018) posit that attempts should be made to explore alternatives that can offer higher rewards with minimal expenses. Although Mahon *et al.* (2020) do not put forward a proposition of what the referred panacea is, it can be deduced that the increasing use of information and communication technologies can offer cost-effective, yet reliable means of transmitting information regularly and timeously. Despite this recognition that the use of information and communications technology may offer, there is no empirical study that dared explore the benefits that can be accrued in disseminating road safety messages to public road users.

Despite road safety campaigns offering significant benefits towards road users' behavioural and attitudinal changes, criticism abounds regarding their scope and impact. According to Adamos and Nathanail (2016), road safety campaigns tend to be small and undertaken irregularly. In most instances, as Khademi and Choupani (2018) posit they are not coupled with stringent enforcement which virtually results in no sustainable effects in terms of reducing road traffic accidents and fatalities. Essentially, the campaigns are most likely spearheaded by the national department with limited involvement and comprehension of context-specific circumstances that need to be integrated to enhance their efficacy at the grassroots level. Interestingly, this observation attests to the proposition this study makes that road safety campaigns must be context-targeted hence road users' behaviours though similar in some instances, are not invariably alike. Notwithstanding this recognition, few, if any study

has attempted especially in the context of the Limpopo Province to ascertain the processes and benefits of contextualising road safety campaigns.

2.10. The significance of evaluating the efficacy of road safety campaigns

Evaluation and monitoring of the effectiveness of road safety campaigns are inextricably interlinked and complementary processes. Essentially, evaluation serves to ascertain whether a road safety campaign is set to achieve its intended objectives whereas monitoring aims to determine the extent to which the set objectives are being accomplished in the best possible manner. Whilst these processes are essential to gauging success, their benefits cannot be accrued in the absence of standard guidelines and evaluative tools. Further, Khademi and Choupani (2018) point out that evaluation and monitoring of the efficacy of road safety campaigns are shrouded in secrecy. The statistical findings that are invariably put forth do not reflect qualitative changes. In the same vein, the findings that are often accrued from the evaluative and monitoring process tend to be politicised. This is so because of the lack of public engagement in the processes. The absence of the public voice in evaluation and monitoring processes and outcomes limits ownership and comprehension of the severity of the problem as depicted.

In the context of the Limpopo Province, reports on the evaluation results of road safety campaigns are few and far between. That is, there are limited insights available on the efficacy of road safety campaigns implemented. More specifically, it remains unknown as to which aspects of the road safety campaigns implemented do prove successful, and which have not. Consequentially, the dearth of this information renders it difficult to determine if and how the road safety campaigns, and resultant practices might be improved. For road traffic law enforcement management, this deprives them of an ideal opportunity to adapt and tailor their responses to ensure success and minimise failure in implementing road safety campaigns. Inextricably linked to this challenge is that some of the road safety campaigns are permitted to subsist with limited knowledge on their success and the latter cost the responsible agencies and stakeholder massive financial losses with no prospects of attaining dividends in the form of reduced road accidents and fatalities.

Worst still, this trend has the potential to leave unsuccessful aspects of the road safety campaigns unattended and unchallenged. This reality may keep the road traffic law enforcement sector from engaging in concerted quests that intends to eradicate traditional approaches to road safety intervention and employ new behaviour modification techniques and interventions that have yet to be proven effective. Thus, there should be determinations within the road traffic enforcement sector to reveal insights into current possible road safety interventions that integrate practices and beliefs with the potential to effectively target road users' risky behaviours and herald benefits in the reduction of road traffic accidents and fatalities.

2.11. Implications of road traffic accidents and fatalities

Road traffic accidents and fatalities have serious societal implications. They cause serious loss of human lives, have tremendous economic implications and result in huge loss of productivity. Yet, there is still a larger segment of road users that treats road safety with disdain. Globally, 1.3 million people die annually because of road traffic accidents (Larsson, Dekker & Tingvall, 2010). A further 50 million suffer non-fatal injuries but incur serious disability. At a humanistic level, road accidents and fatalities result in the loss of lives of many of whom are breadwinners or parents with lads who are left orphaned, vulnerable, and destitute. Similarly, the emotional costs of being fatally injured and being out of work permanently can have a devastating impact with many suffering from a post-traumatic stress disorder and clinical depression.

Economically, physically active individuals who should be contributing to the economy are being lost to road traffic accidents, with costs amounting to 3% of the gross domestic product (Maibach & Opitz (2013). Although there is no reliable data on the cost of road traffic accidents and fatalities on hospitalisation, observations posit that road accidents are also a public health burden. Medical and ambulance costs have risen tremendously in the past decade owing to high road traffic accidents and fatalities. Practically, the South African Road Accident Fund (RAF) is allegedly out of money consequent to the high demand for financial assistance resulting from involvements in road traffic accidents. These statistical data indicate a growing, yet underrated trend among the population. It is against the background of these statistical data that effective mechanism must be sought to inform and make it easily accessible

to the public to engender self-reflection and proactive decision making among road users.

2.12. Road safety interventions' implementation issues and lessons learnt

The implementation of the road safety strategy necessitates considerable and concerted efforts from the multi-sector partners designated with ensuring its effectiveness (Hakkert, 2015). In other words, the implementation of this strategy cannot be undertaken without a thorough understanding of its intended outcomes. Importantly, it needs to be relevant to the assigned functional responsibilities of all stakeholders having material interests in the efficacy of its implementation (Kyeni & Masangu, 2012). When road traffic law enforcement officers are busy, if not overly busy trying to find appropriate ways through which road traffic laws are observed and abided by motorists and pedestrians using the public roads, requiring them to wholly familiarise themselves with the strategic policies such as the road safety strategy on their own without proper education and training can be equated to 'putting the cart before the horse.'

Ironically, the effort by road traffic law enforcement officers to comprehend the contents of these strategic documents and put their knowledge into practice is often sabotaged by the very system wherein they work (Verster & Fourie, 2018). More than hypothetically desirable at a management level that road traffic law enforcement officers execute their responsibilities to the best of their abilities and within available resources, few efforts within and outside the Department of Transport and Community Service have been expended towards revealing insights into the extent to which road traffic law enforcement officers, as implementing agents, perceive and understand the nitty-gritty of the road safety strategy.

This situation is problematic given the predominant narrative in the public discourse that road traffic law enforcement officers are poorly trained and grossly incapacitated in terms of skills to effect change in the adverse behaviour of public road users (Agbolahan, 2016). Significantly, the neglect with which the road traffic law enforcement officers are treated particularly when coming to receiving further advanced in-service training that relates to their understanding and implementation capacities of the road safety strategy contradicts and undermines the very

interdependent and participative role they are supposed to play within the Department of Transport and Community Safety.

It is unlikely that there could be a 'one size fits all approach to implementing the road safety strategy amongst the nine provinces with their plethora of road traffic management regions (Adebayo, 2015). Thus, what is urgently needed is the identification and interpretation of experiences from the road traffic law enforcement officers' everyday work that has the potential to yield empirical information and ultimately an understanding of either personal, affective, and institutional factors that impede the effective implementation of the road safety strategy.

2.13. Pathways to best practice strategies in road safety interventions

The Road Traffic Management Corporation (2010) training manual for transport officers across the entire spectrum of the transportation management sector states that "best practice strategies must be sought at all times to effectively implement policies, guidelines and laws" about improving implementation competence within the varying modes of the transportation sector. This means that the Department of Transport and Community Safety is no exception. More importantly, the latter provision encourages the incorporation of what is and can be recognised as best practice in the wider areas of the public transportation sector, for the scaling up of safety improvements across the sector (Agbolahan, 2016).

Best practices from outside the immediate road traffic law enforcement sphere may have something to offer and could be of use to the Limpopo Province Department of Transport and Community Safety. This signifies that insights from other transportation sectors on effective implementation of safety strategies are worthy of exploration in faithfulness to encouraging the successful implementation of the road safety strategy in the Limpopo Province, especially in reducing the road accidents and fatalities on the national road number one that stretches from Maubane to Beit-Bridge. The exploration of such best practice implementation strategies, as implemented elsewhere in the public transportation sector, shall not be considered, or embarked on for the sake of adapting them to the Limpopo Province Department of Transport and Community Safety. The reasons for which they are successful and effective may be associated with their context-specific circumstances.

However, while it is important for public road transportation management to recognise that the best implementation practice strategies relating to the road safety strategy may be distinct in context (Ncube, Cheteni & Sindiyandiya, 2016), the principles and practices of successful implementation could have something to offer road traffic management authorities in the Limpopo Province Department of Transport and Community Safety contemplating on bringing best practice strategies to inform road safety strategy implementation, particularly in reducing road accidents and fatalities on the national road number 1. Thus, the demonstrated success of such implementation strategies may propose how the in-service training of road traffic law enforcement officers in the Limpopo Province Department of Transport and Community Safety are to be kept up to date, on the same level and in harmony with the expectations resulting from their assigned functional responsibilities.

2.14. Conclusion

Public roads constitute a convenient mode of travel for the majority of citizens in developing countries. With vast increases in road transportation usage and resultant vehicle congestion on public roads, road traffic accidents are greatly becoming a public health occurrence both globally and nationally. Fatalities caused by road traffic accidents remain the eighth leading cause of death with black African males between the age group of 25 to 49 becoming major victims. An increase in road traffic accidents involves motor cars with record fatalities of pedestrians and drivers occurring over weekends, with driving under the influence of alcohol being the main contributing factor. Interventions that seek to reduce road traffic accidents and fatalities are being widely implemented globally with distinct outcomes. However, little evidence exists in South Africa on the efficacy with which the national road safety strategy is understood and implemented by road traffic law enforcement officers at a grassroots level.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

This chapter aims to describe the research methodology utilised by the researcher and the justification for use of the selected research methods and techniques. Locharoenrat (2018) posits that a research inquiry must be framed within a research paradigm. That is to say that no research inquiry can be conducted in a vacuum. In this study, the researcher considers such a research paradigm to denote a precise description of how this research inquiry was undertaken including the specific approaches and techniques applied in gaining insights into the participants' experiences of the effectiveness of the National Road Safety Strategy 2011-2020 in reducing accidents and fatalities on the N1 in the Limpopo Province. Pruzan (2016), Acharyya and Bhattacharya (2020) consider research methodology as a coherent group of methods and procedures that include the design, setting, sample, data collection and analysis techniques that complement one another and that could fit to deliver data and findings that will reflect the research question and suit the researcher's purpose.

3.2. Research approach: Qualitative

The research reported in this research project is qualitative. Its prime intention was to obtain non-numerical but in-depth and thick descriptions of the experiences of traffic law enforcement officers and managers on the effectiveness of the National Road Safety Strategy 2011-2020 in reducing accidents and fatalities on the N1 in the Limpopo Province. Thus, a qualitative research approach appears ideal in this regard as it permits for gathering of descriptions and narrations from a small sample of research participants and enabled the researcher to develop an understanding of the participants' perspectives about their experiences to generate an in-depth account that presents a lively picture of the traffic law enforcement officers and managers reality and the meanings that they attach to their daily work-related activities' (Myers, 2020).

Researchers inherently have different beliefs about the world they live in and want to live in. Often referred to as worldviews, these beliefs influence how researchers conduct research inquiries. A researcher's worldview helps in deciding what to study,

how to understand the phenomenon being studied, and how to interpret the results of the research investigation (Rahi, 2017; Kivunja & Kuyini, 2017). For example, within quantitative (positivist) epistemology, it is believed that true knowledge is obtained through observation and experimentation and that reality is stable and objective and can be used to determine cause-and-effect relationships and depends on deductive logic and hypothesis testing to derive conclusions (Rahi, 2017; Kivunja & Kuyini, 2017). However, qualitative epistemology believes in deep understanding of the phenomena under study through inquiry, where experience is subjective and true knowledge is gained through deep interpretation. Thus, the qualitative philosophical position allows for multiple subjective meanings to emerge (Gunduz & Hursen, 2015). These diverse experiences and multiple meanings associated with the phenomenon under study can be accurately grasped through interaction and negotiation with research participants in their social and historical context.

3.3. Research design: Exploratory and descriptive

The researcher's decision to utilise an exploratory method will prove significant in undertaking this research inquiry. The implication behind the researcher's decision is that the researcher will be able to reveal, gain insights and increase knowledge on the experiences of the participants involved in the implementation of the National Road Safety Strategy (NRSS) that seeks to reduce accidents and fatalities on the N1 in the Limpopo Province (Mason, 2018). This will further be made possible by the researcher's decision to approach the subject of the inquiry (participants experiences) from the position of not knowing (Prusan, 2016), thereby learning the truth about the effectiveness of the National Road Safety Strategy in reducing accidents and fatalities as well as the factors that impede its effective implementation. Moreover, the complementary use of the descriptive approach will be crucial for the researcher to obtain an experiential meaning of being involved with the participants and facilitating accurate and authentic descriptions of the participants' experiences in their natural settings (workplaces) (Creswell, 2013; Ritchie *et al.*, 2013).

3.4. Study Area

The National Road number 1 (N1) is a national public road that stretches over several provincial boundaries. However, in the Limpopo Province, this national road begins at Maubane and ends at Beit-Bridge (Musina). According to the Annual Report on

road accident (2019) of the Department of Transport and Community Safety, the national road number 1 which stretches from Maubane to Beit-Bridge, as alluded to above, has experienced 430 road fatalities. This is one of the busiest national roads that links Limpopo Province with neighbouring countries like Zimbabwe (to the north) and Botswana (to the North West).

3.5. Population

Myers (2020) defines a population as a group of people that are of interest to the researcher. There are, however, two strands of population namely, the target and accessible population. A target population includes an entire set of individuals who meet the sampling criteria while an accessible population refers to the population that a researcher has access to as it is usually rare for a researcher to access the entire population (Mason, 2018).

In this study, the target population shall include all the traffic law enforcement officers and managers in the Limpopo Province. The accessible population shall, on the other hand, include those traffic law enforcement officers and managers attached to the Department of Transport and Community Safety in the Limpopo Province who shall be available and willing to voluntarily participate in the study.

3.6. Sampling

Sampling is a procedure or technique employed in this study by the researcher to systematically select an adequate subset of individuals from the pre-determined population to serve as data sources for investigation as per the objectives of this study (Sharma, 2017). The researcher utilised sampling in this regard because it is near impossible considering the costs, convenience, and time factor to include and/or involve every single one of the potential participants in the research inquiry (Etikan & Bala, 2017).

Potential participants in this study will be selected from a larger group of traffic law enforcement officers and managers known to the researcher in his professional capacity. A description of the sampling technique the researcher utilised, and sample size shall be provided below. Included will also be a specific list of selection criteria or

characteristics the research participants possessed for inclusion in this research project.

3.6.1. Selection criteria for traffic law enforcement officers

For successful inclusion into this study, an individual participant in this group had to meet the following criteria:

- Be willing to voluntarily participate in the study by giving informed consent;
- Be able to understand questions and provide responses in their own words;
- Be above the age of eighteen;
- Have more than two years of traffic law enforcement practice experience and be in permanent employment of the Department of Transport and Community Safety in the Limpopo Province.

3.6.2. Selection criteria for traffic law enforcement managers

Individual participants within this group of participants had to meet the following criteria for inclusion in this study:

- Be willing to voluntarily participate in the study by giving informed consent;
- Be able to understand questions and provide responses in their own words;
- Be above the age of eighteen;
- Have more than five years of traffic law enforcement practice experience and be in permanent employment of the Department of Transport and Community Safety in the Limpopo Province.

3.6.3. Sample size

From the larger group of participants, a sample of potential participants who met the specified criteria were selected. For reliability, the selection of the appropriate sample size was based on using a rule of thumb as recommended by Rossman and Rallis (2017). The latter indicate that sample size should be ascertained by the sort and depth of data a researcher seeks to obtain in answering the research question/s (Arnab, 2017). Given the qualitative-exploratory nature of this study, the researcher selected a sample of fifteen (15) participants. Put correctly, the sample constituted ten

(10) traffic law enforcement officers and five (5) managers within the traffic law enforcement sections.

The number of participants had to be selected was essentially small, able to be handled properly and represents a proper qualitative sample for the acquisition of in-depth, thick descriptions of their experiences about the implementation of the National Road Safety Strategy in reducing accidents and fatalities on the N1 in the Limpopo Province. That is, the logic and power of selecting a small sample lies in selecting information-rich cases for in-depth study. According to Patton (2015:264), information-rich cases are those cases from which a researcher can learn much about questions central to the purpose of the investigation. Therefore, one of the researchers' justifications for selecting the sample size was to ensure credible and reliable data collection. The set of questions the researcher aims to pose to the participants in obtaining empirical information central to this study included the following:

- How would the participants describe their involvement in the implementation of the National Road Safety Strategy 2011-2020?
- What theoretical knowledge on road safety do the participants possess?
- What perceptions regarding road safety on the N1 do the participants have?
- How effective is the National Road Safety Strategy implemented in reducing accidents and fatalities on the N1 in the Limpopo Province?

3.6.4. Sampling technique

A purposive non-probability sampling technique was utilised to select a sample of fifteen (15) participants meeting the specified selection criteria. The purposive sampling technique denotes a participant selection tool researcher utilises to make a deliberate choice of participants by the knowledge and experience they possess, which is imperative to the topic of inquiry (Ary *et al.*, 2017; Rossman & Rallis, 2017; Arnab, 2017).

3.7. Data collection

During a research investigation, information relevant to answering the research questions must be obtained from selected participants (Etikan & Bala, 2017). This information must be obtained using an empirically designed and supported instrument determined by the type of information required from participants. Thus, a semi-

structured interview schedule was utilised by the researcher as an ideal data collection instrument that is suitable for obtaining the qualitative data required. An interview schedule in this regard refers to a questionnaire consisting of a set of predetermined questions written to guide the interview process and engage the participants (Burke & Sofa, 2018).

It is undoubtedly true that semi-structured interviews have been the most utilised data collection instrument for researchers' undertaking qualitative research investigations. However, the researcher decides to utilise this data collection instrument for several reasons. First, semi-structured interviews are easy to administer in that the researcher has substantial skills and knowledge of conducting credible interviews (Myers, 2020). Second, this type of data collection instrument saves time; money and enable the researcher to obtain much data within a short space of time. Third, the researcher will be able to seek clarity on the participants' responses on the spot (Arnab, 2017).

3.7.1. Data collection procedure

The following procedure was followed by the researcher in collecting the required data:

- An information sheet containing explanations of the purpose of the study and actual benefits for participation was sent to the selected participants to obtain their informed consent to voluntarily participate in the study.
- After the participant, consent has been obtained and consent forms completed and provided to the researcher, scheduling of the interview date and place was co-jointly determined with the participants.
- The researcher, on the day of the interviews, further sought participants' verbal affirmation to participate voluntarily in the study.
- The interviews with the participants were conducted at their workplace. Before the interviews began, the audio recorders used were tested for functionality and each participant was reminded of the request for audio recording and the associated ethical considerations of confidentiality and anonymity. In addition, they were reminded that although they have given their informed consent to participate in the study, they can still withdraw it without giving any reason if necessary. All of the semi-structured questions included in the interview schedule were asked to each participant in their logical order. Importantly, the

researcher conducted the interviews in accordance with the national risk adaptation strategy to prevent the spread of Covid-19, which included adhering to social distancing, hand hygiene and wearing face masks requirements.

- Thereafter, the researcher listened to each audio-recorded interview and transcribed them into texts.
- After transcribing the texts, the transcripts were forwarded to an independent person (a colleague) for verification and determination of accuracy.
- The process of analysis began immediately after the accuracy of the transcribed texts has been determined and verified.

3.7.2. Piloting the data collection instrument

Importantly, the utilised interview schedule was initially piloted with two potential participants from each group of participants possessing similar characteristics with the intended research participants prior to the actual implementation of the data collection (Fraser *et al.*, 2018). Piloting the data collection instrument with these sample of non-participants' is essential in that the researcher is to come to grip with the practical aspects of the research including establishing access, making contacts, and contacting the interview as well as becoming alert of the researcher's interviewing skills (Orsmond & Cohn, 2015).

3.8. Data analysis

In its rawness, data has no significant meaning (Myers, 2020). Thus, for data to have a meaning in the context of a research inquiry, it must be thoroughly and systematically analysed and interpreted by a researcher. This is done to reveal insights into themes, patterns and meanings attached thereto (Neuendorf, 2017). Renz, Carrington and Badger (2018) further add that data analysis is a non-linear process of applying inductive logic to bring order, structure and meaning to the mass of collected data. Importantly, data cannot be analysed and interpreted in a vacuum. A researcher needs to identify and utilise a specific empirically supported method through which collected data can be managed, and meaning be deduced from it (Vaismoradi & Snelgrove, 2019). Thematic data analysis method proves to be suitable for the analysis of data to be collected in this regard.

3.8.1. Thematic data analysis method

As a type of qualitative analysis, the thematic analysis method significantly aids the researcher to analyse and make meaning of the collected data in several ways. That is to say, the use of thematic data analysis method helps the researcher to analyse data classifications and present themes (patterns) that relate to the collected data (Marshall & Rossman, 2016); permits the researcher to associate analysis of the frequency of a theme with one of the whole contents and make it possible for the researcher to ultimately ascertain in precise terms the relationships between concepts and compare them with the replicated data (Nowell *et al.*, 2017). Most important, the use of Tesch's eight steps of data analysis added impetus to the researcher's data analysis and interpretation efforts.

3.8.2. TESCH'S eight-steps of data analysis

Following Creswell and Creswell (2017)'s analysis and interpretation of the thematic content of the collected data, the following steps were applied:

- As the researcher carefully reads through all transcriptions, he or she takes note of any ideas that come to mind.
- One completed interview schedule is selected and the researcher reads it to try to understand the information, noting thoughts as they arise.
- After going through the transcripts, the researcher arranges similar topics in groups by forming columns labelled major topics; unique topics; and leftovers.
- In this case, the researcher abbreviates or codes the topics and places the codes next to the appropriate text segment. The researcher thereafter observes the organisation of data to check if new categories or codes emerge.
- By finding the most descriptive wording for the topics, the researcher creates categories. The aim is to reduce the total list of categories by grouping topics together that relate to each other. Lines drawn between the categories indicate the interrelationship of categories.
- The researcher determines the abbreviations of each category and arranges the codes alphabetically after that.
- The data material belonging to each category is put together in one place and analysis is then performed.

- An interpretation and the narrative report are generated based on the analysed data.

3.9. Ethical considerations

Research involving human participants should be based on a fundamental moral commitment to protect the well-being and rights of participants. The participants deserve respect and protection in all research investigations soliciting their participation (Brinkmann & Kvale, 2018). In this study, the researcher undertook practical steps to ensure that participants understood the purpose for which the research is conducted, thereby permitting them to wilfully decide to participate and/or withdraw from participating (Bailey, 2018). Thus, this section outlines the practical steps the researcher took to ensure adherence to ethical considerations involving research with human participants.

3.9.1. Informed consent

In qualitative research, the concept of informed consent and assent are often used interchangeably as if they are synonymous. However, these concepts have different connotations. Assent refers to an explicit, affirmative agreement to participate in a research project obtained from those who are not able to enter into a legal contract (Patton, 2015). Informed consent, on the other hand, is the process through which a researcher obtains and maintains the permission of an individual to participate in a research project (Brinkmann & Kvale, 2018).

In this study, the researcher obtained verbal affirmations and written permission from the participants regarding their agreement to voluntarily take part. Before seeking the participants' consent for participation in this study, the researcher gave full disclosure of the rationale of the research and the possible outcomes that the study aims to accomplish. Moreover, the participants' permission was also sought about audiotaping of the interviews and dissemination of the findings accrued from an analysis of the responses (Bailey, 2018).

3.9.2. Competence of the researcher

A researcher must possess the requisite skills and knowledge essential to undertake a research inquiry. Such skills and knowledge are significant to ensuring the selection

of a researchable topic commensurate with a researcher's level of expertise and to facilitate adequate planning and implementation of the investigation (Fleming & Zegwaard, 2018). The researcher in this regard has substantial practice experience in undertaking research investigations in the arena of traffic law enforcement. Moreover, the researcher continues to acquire, through supervision sessions and self-study sufficient training in the utilisation of distinct qualitative research methods and techniques in finding answers to the research questions involved in this study (Goodwin, Mays & Pope, 2019).

3.9.3. Anonymity and confidentiality

The assurance of anonymity and confidentiality about participants' identities and responses is significant to fostering the trustworthiness of a research inquiry (Fleming & Zegwaard, 2018). However, such an ethical consideration is imperative when conducting an inquiry into a research topic that carries with its substantial sensitivity where disclosure of such participants information may jeopardise their welfare and compromise the inquiry's credibility (Patton, 2015). Thus, the participants' anonymity and confidentiality of responses in this research project will be observed. However, no individual except for the researcher and research supervisor will have unrestricted access to the raw data. All transcripts will be secured and safely kept in a locked steel cabinet at the researcher's workplace.

3.9.4. Avoidance of harm

A research inquiry must be undertaken with careful precision posing no physical and emotional distress to participants or causing any other form of harm (Goodwin, Mays & Pope, 2019). As per this ethical consideration, no participant was nor will be subjected to any form of harm or ill-treatment.

3.9.5. Voluntary participation

Participation in this study was based on the willingness and conscious decision of the individuals whose participation and cooperation will be sought (Guest, Namey & Mitchell, 2013). In this study, no individual, though meeting the selection criteria was coerced to participate nor to remain part of the inquiry against his/her will. Additionally, no monetary incentives were promised to potential participants to lure them to take part in the study.

3.9.6. Deception of participants

In order to refrain from deceiving the participants, no information which is significant to informing participants' decision to either participate, decline to participate or withdraw from the study will be withheld. All pertinent information regarding the purpose of the study was verbally communicated to the participants with further written information provided (Goodwin, Mays & Pope, 2019). This is important in that deceiving participants often takes the form of intentionally misrepresenting facts or withholding relevant information to mislead participants into being part of the research project (Sanders, 2006:210).

3.10. Establishment of trustworthiness

Findings that emerge from a research inquiry must be adequately trusted to inform appropriate conclusions and recommendations. The need for such rigorous conclusions requires that a researcher addresses the pertinent issues of trustworthiness as it relates to qualitative research (Morse, 2015). This is so because qualitative and quantitative research approach utilises distinct measures to establish the extent to which research findings are rigorous, valid, and credible. For a qualitative researcher, the trustworthiness of a research inquiry is pursued by satisfying four criteria set by Lincoln and Guba (1985). This criterion includes establishing credibility, transferability, dependability, and confirmability of the findings.

3.10.1. Credibility

To ensure the truth-value of the findings, the researcher ascertained the extent to which the findings are sensible, adequately described the participants' perspectives and truthfully represent the subject theme being studied (Moser & Korstjens, 2017). In this study, the following provisions were followed to promote the credibility of the findings:

3.10.1.1. Emphasis on participants' honesty when collecting data

During the solicitation of potential participants' consent to participate in this study, the researcher made it clear to them that participation was voluntary. For the fifteen participants who wilfully decide to participate, the researcher I informed and emphasised unto them the essence of expressing their honest opinions. This is

significant in that there are no right or wrong answers in responding to the research questions (Lemon & Hayes, 2020). Only honest ideas, opinions and experiences regarding the subject being studied were anticipated.

3.10.1.2. Competence and experience of the researcher

The subject of this research inquiry is within the researcher's area of expertise. This is so because the researcher's competence and experience in a particular field of expertise can be drawn into conducting credible investigations that reveals trusted findings (Nowell *et al.*, 2017). In this regard, the researcher has more than ten years of practice experience working in traffic law enforcement. Importantly, the research methods to be utilised by the researcher were transparent to foster the credibility of the findings accrued.

Moreover, the researcher adhered to professional and research ethical standards. The study was also disclosed to professional peers to encourage scrutiny and critique. Participants were urged to peruse the transcripts of the audio-taped recordings at the end of the data collection phase to check and report on the accuracy of the data. They were permitted to match the words appearing in the transcripts and decided whether they meant what they are intended (Glasser & Strauss, 2017). In this manner, the researcher was able to obtain thick descriptions of the possible contextual meanings of the participants' responses.

3.10.2. Transferability

Transferability denotes deciding on the question of whether the accrued findings relate to other settings (Burke & Soffa, 2018). For the purpose of this study, the researcher made use of a personal diary throughout the period of the inquiry to make records of interview appointments, activities undertaken, ideas exchanged, and decisions made, his perceptions, feelings and interactions with participants. This is essential to maintaining an audit trail. An audit trail denotes a systematic recording and presentation of information about the material gathered and the processes embarked on in a qualitative research project (Morse, 2015). The essence of the audit trail is to increase the trustworthiness of the research findings as all research processes and decisions would be visible and verifiable by a colleague (an independent person) (Neuendorf, 2017).

3.10.3. Dependability

According to Ary *et al.* (2019) dependability relates to a determination of the consistency of the research results over time, across researchers and analysis techniques. In this study, the researcher made use of his colleagues to help peruse and remark on all facets of the inquiry including the specificity of the research design, data gathering and analysis as well as the accrued findings (Glasser & Strauss, 2017). This was done to enable them to ascertain if whether the conclusions reached could be similar to the researcher.

3.11. Conclusion

A qualitative exploratory research design was utilised to enable the capture of in-depth, thick descriptions of the experiences of fifteen purposively selected samples of law enforcement officers and managers attached to the Department of Transport and Community Safety in the Limpopo Province. A semi-structured interview schedule consisting of partially structured open-ended questions will be utilised to solicit the participants' responses regarding the effectiveness of the National Road Safety Strategy 2011-2020 in reducing accidents and fatalities on the N1 in the Limpopo Province. The data gathered was analysed using thematic data analysis guided by the use of Tesch's eight steps of data analysis.

CHAPTER 4

DATA ANALYSIS AND RESEARCH FINDINGS

4.1. Introduction

The process of data analysis entails the breakdown of a complex whole into its constituent parts (Gibbs, 2018). According to Adu (2019), data analysis is iterative and aims to clarify and refine the concepts, statements, or theories in the research, especially when there is an existing body of literature. An analysis' primary objective is to uncover hidden meaning in texts (Kuckatz, 2014). Throughout this chapter, the researcher presents the research findings and analysis report following the interpretation of the collected data. Findings concern an assessment of the implementation of the National Road Safety Strategy to decrease accidents and road fatalities on the N1, with the Limpopo Province as the case study. This chapter presents the findings derived from a self-administered semi-structured questionnaire completed by traffic law enforcement officers and managers in the Limpopo Province. The data gathered in this study were analyzed using thematic analysis methods, which is the appropriate method because it is qualitative.

4.2. Data received from traffic law enforcement officers

Table 1: Demographic information of traffic law enforcement officers N=10

Participant Number (PN)	Educational Background	Age Group	Gender	Practice Experience (years)
1	Degree	30-39	Male	10+
2	Diploma	60+	Male	10+
3	Post-Degree	40-49	Female	6-10
4	Post-Degree	50-59	Female	10+
5	Degree	50-59	Female	10+
6	Diploma	30-39	Female	1-5
7	Degree	50-59	Male	10+
8	Degree	50-59	Male	10+
9	Post-Degree	60+	Male	10+
10	Post-degree	50-59	Male	10+

The results from the demographic information of the traffic law enforcement officers interviewed indicates that there were more male participants in comparison to female. Male participants, in this regard, constituted almost sixty per cent of the participants while females made up the remaining forty per cent. Regarding chronological age, the majority of the participants were in the fifty to fifty-nine age group (50%), followed by twenty per cent of the participants in the sixty plus age group. The remainder of the participants were in the thirty to thirty-nine age group (20%) and one per cent in the forty-four to forty-nine. Forty per cent of the participants (4) in the group of interviewed traffic law enforcement officers were in possession of academic degrees; twenty per cent had diplomas (2) whereas the other forty per cent (4) had post-degree qualifications. Further, eighty per cent of the participants had been working as traffic law enforcement officers for more than ten years, with only one per cent of the other participants having between one to five and six to ten years of practice experience.

Table 2: Classification of findings

Theme	Sub-themes
1. Assigned responsibilities	<ul style="list-style-type: none"> ▪ Job-related responsibilities regarding implementation of the national road safety strategy.
2. Theoretical knowledge on road safety	<ul style="list-style-type: none"> ▪ Understanding of road safety ▪ Significance of road safety ▪ Objects of the road safety strategy ▪ Level of understanding regarding the SANRSS Strategy 2011-2020
3. Perceptions of road safety on the N1	<ul style="list-style-type: none"> ▪ Major causes of road accidents and fatalities on the N1 ▪ Essence of the SANRS Strategy on accidents and fatalities reduction ▪ Roles of stakeholders involved in implementation of the SANRSS Strategy ▪ Efficacy of stakeholder participation and awareness on SANRSS Strategy implementation

<p>4. Implementation of the road safety strategy</p>	<ul style="list-style-type: none"> ▪ Ways through which the strategy is operationalised ▪ Training provided to enhance efficacious implementation of the strategy ▪ Significance of human and financial resources in the strategy implementation ▪ Ways through which implementation efficacy is assessed ▪ Gaps in the strategy implementation process ▪ Interventions to address identified gaps
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Theme 1: Assigned responsibility of the traffic law enforcement officers

According to Sem (2019) traffic law enforcement officers have responsibilities to promote and facilitate the safety of road users on public roads. It is this responsibility that is bestowed upon traffic law enforcement officers that positions them ideally to ensure the effective implementation of the road safety strategy. In this vein, it was essential to capture their understanding of the roles assigned to them in their practice capacity. Lukumay *et al.* (2019) indicate that, without appropriate understanding of one's role, it will be greatly challenging to assess how one executes his/her responsibilities with merits and determine what measures are needed to enhance response. The participants, in this regard, showed an adequate understanding of their assigned responsibilities within the road safety management framework. Put correctly, the participants were able to clearly express their daily involvement with road users and measures they constantly undertake to promote and facilitate the safety of the road users on public roads in general.

Participant 3 mentioned that:

“Public roads are for everyone’s use and benefit. For use is simply to ensure that users respect each other while using the road which are for and belong to the public. For instance, we constantly stop and inspect vehicles that seem not to be

roadworthy. It does not end there, we are always involved in conducting roadblocks, testing automobiles, and running speed monitoring machines to ensure that all road users abide by the rules.”

Although the participant 3 can point out their duties and/or responsibilities which are in accordance with the Road Traffic Management Act (20 of 1999), these responsibilities are further explicated by the participants 7 who indicated that:

“In as much as our primary responsibility is to enforce traffic laws, we are aware that enforcement alone may not work, particularly when you are dealing with road users who sometimes gives many reasons justifying their breach of road rules. So, we constantly engage in road safety campaign and educational awareness.”

The rationale for conducting safety campaigns and educational awareness, as integral to their responsibilities, participant 9 further points out that:

“You know, road users can tell you much about road safety and rules of the road when applying for driving licenses. However, upon receipt of these permission to drive on public roads cards, they subsequently forget (sic) about what they need to do and how to behave while using public roads. Then, the purpose of the awareness and educational campaigns is really to constantly remind them of what they know, hoping it will stick with them and encourage them to conduct themselves as expected.”

The participants' expressions of the significance of ensuring synergy between enforcement of conformity to rules of the road and safety campaigns and educational awareness is in accordance with the findings made by Du Plessis, Jansen and Siebrits (2020). According to Du Plessis, Jansen and Siebrits (2020) facilitation of road safety cannot be accomplished through enforcement alone but has to be juxtaposed with awareness raising and continues information sharing with road users. Thus, to ensure that road users' behaviours are incentivised towards safe road use, there should be concerted efforts and constant action on the part of traffic law enforcement officers to constant engage with road user. These constant interactions, through road safety campaigns are crucial to address emerging concerns from road user and build collegial relationship between traffic law enforcement officers and the public road users. The benefits that can be accrued from these reciprocal interactions, as Bicchieri and Mercier (2014) posit, will deter public road users from solely adhering to road

safety rules only when there is visibility of traffic law enforcement officers. That is, public road users can be encouraged and motivated to invariably comply with road rules, not because of the visibility of the officers on the roads but because it is the right thing to do to ensure the safety of other road users.

Theme 2: Theoretical knowledge on road safety

According to RTMC (2016a) it is of the essence that those, referring to traffic law enforcement officers, bestowed with the mandate to facilitate and promote road safety are well acquainted with what road safety constitutes. This is so because without sufficient understanding of the nitty-gritties of road safety, the latter can find itself undertaken in vacuum or be left to chance owing to the dearth of adequate knowledge on how it (road safety) needs to be addressed to ensure the safety of road users. With that being said, the researcher solicited the perspectives of the participants on their interpretations and meanings they attach to road safety to ascertain their conceptual knowledge regarding road safety. On this note, that participant 1 stated that:

“Depending on how one views road safety, at its core are constellation of measures and methods that intend to prevent road users from sustaining injuries and ultimately being killed on the road.”

“For me, road safety is concerned with prevention of pedestrians’ sustenance of serious injuries.” remarked participant 8.

According to the participant 5, road safety includes as pointed out:

“The implementation of all road safety measures to curb road carnage.”

This view holds for the participant 2 who indicated that:

“Road safety is about promotion and enforcement of road safety measures and rules of the road. The main aim of road safety, as I can indicate, is simply to ensure that our public roads are safe for use all and the untimely deaths that occur on the road consequent to recklessness and disregard of road safety, wherein the lives of other innocent users are lost, is reduced and further eliminated if all abide.”

The multiple perspectives on what road safety constitutes shows an understanding among traffic law enforcement officers of the essential components that are part of road safety. Deducing from their expressions, the primary aim of road safety is to

promote safety on the road; curb reckless use and blatant transgression of road rules and ultimately achieve the safety of all road users. Nevertheless, the participants expressed distinct perspective when asked of their understanding of the South Africa's National Road Safety Strategy 2011-2020 and the objects that the strategy seeks to achieve. In this regard, it became clear that though the strategy is significant to influence and inform the traffic law enforcement officers actions on how to effectively respond to road safety measures implementation and evaluation, there had been varied perceptions of its essence. For instance, the participants 6 noted that:

“Well, the strategy is an ideal document, but documents do not do the work. It is us, the officers, who must ensure that road users adhere to road rules daily. According to me, there should be serious focus on how to capacitate officers with practice expertise on how to respond to these blatant disregards of the rules by users. I mean, a document is a document and when we do what it says, situations are different.”

Furthermore, the participant 6 added that:

“I am aware of the strategy document, but it has really failed because carnage around the national road (N1) is alarmingly high. For me, the strategy is more focused on the N1 in Gauteng and not in the Limpopo Province, so do what benefit do it have for use who work along the Maubane to Messina as part of the N1?”

The national strategy, as participants allude, has not been developed for implementation in the specific province but remains an essential strategic document that is applicable to all provinces, particularly on maintenance of road safety. The perceptions put forward by the participants 8 and 6 are both legit but detrimental to the possible effective implementation of the strategy. This is so because a dearth of understanding on how applicable the strategy is to their context may impede effective implementation and subsequent failure in synergising or coordinating their activities in accordance with the prescripts and objects of the strategy to promote road safety. The major challenges, as the researcher deduce from these participants expressions, lie in actualising and/or operationalising the strategy for ease of understanding among the traffic law enforcement officers. This inference is commensurate with Smith and Harris (2017) propositions that road safety strategic documents need to be invariably explained, in a manner they can understand and bridge the gap between what is

known and expected, to traffic law enforcement officer to ensure adequate implementation.

Theme 3: Perception of road safety on the N1

According to RTMC (2019) the national road number one is the busiest national road owing to its essence as a gateway to neighbouring countries of Zimbabwe, Zambia, and Malawi. Most migrant workers from these countries as well as goods transit through the N1 to and from these countries. Increases in road accidents and fatalities have been a significant problem faced by road users and traffic enforcement officers whose duty has been to ensure the safety of all the users of the road. When asked of the factors that contribute to the high rates of accidents and fatalities on this national road, fatigue, driving while intoxicated and over-speeding has been cited by participants as the major causes. For instance, the participant 4 stated that:

“We are all concerned about the high accidents and fatalities on this road annually when provincial statistics come out. I would say, there is no single but multiple cause to high accidents on this road. I have encountered many drivers who were behind the wheel with alcohol level far behind the limit.”

These sentiments were shared by the participant 1 who pointed out that:

“This road is a long-range road. Many of its users come as far as Gauteng heading to Zimbabwe and Zambia. These people do not rest and being hasty to reach their destinations, the speed and fail to rest even when exhaustion sets in. The consequences are that many of them fall asleep on the wheel and few seconds later, they are involved in a horrific accident that left them either dead or critically injured.”

The issues of alcohol use and fatigue among drivers have been a thorny one for traffic law enforcement officers (Alonso *et al.*, 2016). Between 2010 and 2017, 500 drivers were found to have been driving while under the influence of alcohol in the national road number 1. This problem of driving while under the influence of dependency-producing substance and fatigued has been cited by RTMC (2016b) as major causes of serious vehicle accidents on South African roads. Thus, as the participants noted, they remain problematic issues not endemic to the N1 alone. Nevertheless, a determination of how the participants consider the National Road Safety Strategy as

essential to preventing and reducing these accidents and transgressions of road safety on the national road number 1, the participant 9 remarked that:

“The strategy is as important as the availability of tools of trade. I mean, the problem with us here in South Africa is that we have very good strategies, be they on road safety but we do not complement these strategies with provisions of tools crucial to enable use [traffic law enforcement officers] to do our work.”

According to the participant 2, indicated that:

“There is no sufficient priority afforded to the national road number 1 because officers manning this road are limited in number and expected to cover a wide range of area. I mean, you cannot be at all the sections of the road from Maubane to Beit Bridge at once. There should be adequate physical resources.”

While expatiating on the essence of ensuring the availability of adequate equipment to that would ensure that the strategy works effectively in preventing and reducing fatalities on the national road, the participant 6 notes that:

“We are aware that the budget that the department has is not sufficient. But we expect that at least, they should make sure that state of the art speed monitors and moving violation recorders are made available to monitor road safety transgressors.”

According to Rojo *et al.* (2018) a plethora of state departments budgets have been slashed significantly in recent years. This is so because the government is experiencing a decline in financial resources consequent to competing interests and programs that the government needs to fund. Be that as it may, the department of transport has to explore additional funding sources in order to ensure that the much-needed equipment to promote road safety are procured and made available for use in curbing adverse road users who compromise the safety and security of other road rules abiding individuals. Essentially, Mokoena (2019) suggests that the collaboration between the traffic law enforcement officers and other state or private entities is crucial in the maintenance and facilitation of road safety. Questioned on what stakeholders are crucial to collaborate with in ensuring road safety on the N1 and what responsibilities they should assume, the participants 9 and 7 clearly captured the question and responded as follows:

“I guess, it first has to start with the road users themselves before any other stakeholder. However, I believe that there should be collaboration with other departments such as health and social development. Their role, perhaps, should be to discourage people from indulgence in alcohol and maybe the situation on our roads will improve.”

“Though it is our responsibility as traffic law enforcement officer to ensure road safety, motorists are members of the community and given the high levels of irresponsibility when coming to alcohol use in communities, social development, and health as well as emergency medical services should really collaborate with us to stamp out alcohol abuse by road users, both motorists and pedestrians alike. Behaviours really needs to change.” Remarks made by the participant 7.

To ascertain the effectiveness with which the stakeholders, as pointed out by the participants, executes their role in aiding traffic law enforcement officers curb and prevent road accidents and fatalities on the national road number one, the participant 8 remarked that:

“It is really challenging to assess the extent of their contribution because they and we work under different context with distinct reporting mechanisms implemented. However, it does suffice to say, there is lack of effective collaboration. Each department does its own things, at its own corner, so that is just how things are.”

“Look, we try to change motorists’ behaviours through our educational campaigns, but we do not know how effective this is because we are really not trained in behaviour modification. So, I guess the department of health as well as social development should be coming to the party but that is the responsibility of the management to establish collegial relations. For use, it is simply to do what we can and when we can and with what we have, that is it.” (The participant 3 remarked)

According to Mokoena (2019) inter-sectoral and department collaboration is significant for promoting behavioural changes among road users. Considering that behaviour remains a significant determinant or contributor to the scourge of road accidents and fatalities, it is important that stakeholders are identified and close working relationships established to ensure that resources are dedicated towards ensuring appropriate behavioural change among motorists, especially risky behaviours among road users that include disregard for others utilising the roads and over indulgence on alcohol

prior to or when driving to various destinations. In this way, there could be positive strides made in reducing risky behaviours among road users, thereby giving rise to lowered road accidents and fatalities on the national road number one. On this note, the participants were questioned of the level of understanding among stakeholders on the National Road Safety Strategy 2011-2020 and the participants indicated that there is sufficient knowledge, at least in general, among the South African Police Services as considered a major stakeholder that arrest should be executed, and prosecutions effected for road users who are found to show little regard for rules of the road on the national road number. This is clearly captured by the participants 4, 6 and 10 respectively who indicated that:

“We need these people [transgressors] to be arrested as and when they are found to have shown gross disrespect of the safety of fellow road users. But look, we are not everything. Sometimes are fellow police officers being without adequate resources to respond as we would have loved.” (Participant 4)

“Well, we and the police have a role to enforce compliance with road safety rules among road users. However, our hands are tied at times because the people who engage in these risky behaviours on the road that causes multiple and at times horrific loses of innocent lives are arrested and later not prosecuted even though evidence is presented before the courts. What are we to do in this instance? We impound their cars; they go get other ones and the cycle of reckless behaviours on the road continues.” (Participant 6)

“For me, I am of the opinion that traffic law enforcement visibility and proactive response are key to curb instances of non-rules abiding on the national road number one.” (Participant 10)

Theme 4: Implementation of the road safety strategy

The implementation of the road safety strategy, as Rojo *et al.* (2018) propose, is integral to focusing resources both financial and human, towards the accomplishment of the objects of the strategy. To achieve this objective, however, it has been crucial as the researcher posits, to ascertain the efficacy of its implementation by traffic law enforcement officers who have been given the mandate to ensure the strategy is put

into place. On this note, the researcher inquired into how the participants understood the strategy to be implemented. According to the participants, the strategy emphasises three-fold measures that need to be undertaken namely, enforcement, education, and engineering. According to the participants, the national road should be constantly and adequately surveyed by engineers to determine the sections of the road where there is high likelihood of accidents occurring and place not only signs but ensure that the road is altered appropriately for ease of use. Regarding education, the participants pointed out that educating road users and undertaking awareness campaigns should never cease in that the message will ultimately be heard and complied with by road users. The participant 7 indicated, in this regard, that:

“We all agree that implementing the strategy is good for proper interventions in road safety issues on the N1. For instance, the strategy emphasis education and enforcement. These is what we do every day as part of our work.”

“For the strategy to be implemented effectively, there should be informed deployment of human and financial resources because really we are understaffed and stretched beyond limit. What I mean to say is, there should be more recruitment. When last did we hire new officers? Do you know how many are near exiting the services?” (Participant 9)

The researcher found, when probing the participants on the efficacy of strategy implementation and resources needed to enhance the efficacy of implementation, that majority of the participants indicated the need for establishment and sustenance of synergy between the strategy and their operational plans. Further, the participants lamented the insufficiency of allocation of officers across the districts and limited recruitment of new officers despite the evidence of the traffic law enforcement officers being under-staffed and over-stretched, as participants pointed out. The participants 2 and 4 clearly bring forth these viewpoints by stating that:

“There should be informed deployment of adequate human and financial resources. Unfortunately, these two go hand in glove because to recruit new members [officers] we need to have enough budgets and in the absence of the latter then the situation will remain the same.” (Participant 2)

“It is obvious, according to me that there should be a significant number of traffic law enforcement officer dedicated to the N1, but officers are not sufficiently allocated

across the district and to ensure that the strategy is implemented properly, our operational plans should be aligned to what the strategy says we should do. In this way, I guess we would succeed.” (Participant 4)

About the trainings the traffic law enforcement officers received pertaining to the implementation of the National Road Safety Strategy toward reducing accidents and road fatalities on the N1, most of the participants did received training. Additional training, as the participants indicated, was received on United Nations Decade of Action Guidelines, Operation NDADZI, PAVE Strategy (Productivity, Awareness, Visibility and Education) as well as 365 days of action. These constellations of strategies aligned to the National Strategy on Road Safety 2011-2020 are meant to provide feasible and practical interventions intended to promote and facilitate road safety on all national, provincial, and local roads in the country. However, the participants pointed out that the factors that are used to assess the efficacy with which the National Strategy on Road Safety is implemented included the reduction of accidents and fatalities on the N1 and the conduciveness of this national road through solicitation of road users experiences annually by use of surveys and random interviews. Regarding the gabs that impede the effective implementation, the participants cited budget constraint and lack of staff compliments as the major sources of constraint. For instance, that participants 5 and 8 indicated that:

“There should be constant training dedicated to imparting knowledge on the objects and prescripts of the strategy. I consider this important because learning should not cease but continue to refresh and improve the officers’ further understanding. But frequent trainings required budgets.” (Participant 5)

“Look, there should be adequate staff compliments because the conditions under which we work are demanding and to ensure that the officers are more than motivated to execute their assigned responsibilities as indicated in the strategy, it is worth that staff compliments are offered. I guess, some incentive can really do magic in reinforcing effective implementation.” (Participant 8)

4.3. Empirical data received from the traffic law enforcement managers

Table 3: Biographical information of the traffic law enforcement managers

Participant	Gender	Education Background	Age Group	Experience
A	Female	Diploma	50-59	10+
B	Male	Post-Degree	50-59	6-10
C	Female	Diploma	30-39	6-10
D	Female	Diploma	30-39	6-10
E	Male	Post-Degree	40-49	10+

The data received from the traffic law enforcement managers indicated that there were more females than male managers. Aply put, female managers constituted sixty percent of the participants in comparison to forty percent of male participants. About educational background, the number of males in possession of post-degree qualification surpassed that of the female participants which is at forty percent for those with diplomas. However, there was little variance in terms of years of practice experience as many participants had been in service for almost six to ten years. In terms of the participants' chronological age, forty percent fell within the fifty to fifty-nine age group while other forty percent of the participants belonged within thirty to thirty-nine age group. Only twenty percent of the participants were within the age group of forty to forty-nine.

Theme 1: Theoretical knowledge on road safety

The responses received from the participants regarding theoretical knowledge indicated a substantial understanding among the participants on the components of road safety and its significance about the national road number 1. The data received from the participants pointed out that road traffic rules enforcement, dissemination of information and provision of training as well as deployment of human resources were cited by participants as central tenets to road safety. In the same vein, the need to prevent and eliminate upsurge of road accidents and fatalities as well as serious violations of the road safety rules were referred to as key to the significance of road safety. For instance, participant A and D put correctly by indicating that:

“The major tenets of the strategy are a combination of enforcement, education and continue re-training of the traffic law enforcement officers to ensure that road safety including measure to actualise it are comprehensively understood and put into place across the sector.” (Participant A)

“Road safety is an important part of our department’s vision and our mission is to ensure that such strategies are developed and implemented appropriately because without a strategy we are really doomed to fail in our efforts to ensure road safety.

So, the strategy really represents an important guideline that indicates where we want to go and how we intend to achieve road safety on all our roads including the N1.” (Participant D)

Theme 2: Perception of road safety on the N1

The participants expressed great concern with the number of road fatalities on the national road number one. The major cause of the accidents and carnage of this road, as the participants pointed out, included vehicle overloading, un-roadworthy vehicles, overtaking on the road shoulders and failure on the road users, especially long destined road users to utilise available places to rest prior to embarking on their long journeys, particularly those heading to the neighbouring countries. The participant A noted that:

“Our traffic law enforcement officers are doing their best to ensure the safety of the N1 road users, but the blame should at times be put on the road users themselves. I mean, they often use alternative roads which are unsafe because they suspect that they are not manned by officers. Others, unfortunately, pile up their vehicles with heavy goods, overloading the vehicle including the passengers. Well, the vehicles get to a stage where it cannot carry the load anymore. Punctures happen while speeding and without knowing it accident result and lives at times lost.”

When probed of the stakeholders with which they have established relations with to ensure the effective implementation of the strategy and what roles they play and the extent to which those roles are executed. The participants indicated that there is constant engagement with the police officers. The purpose of these engagements as the participants indicated, are to establish close working relationships about the police manning parts of the road where traffic is high and arresting those disobeying the road safety rules. About the efficacy of their collaboration, the participants indicated,

unanimously that it is working appropriately and as expected. These expressions hold for the participant D who indicated that:

“Early this year, we were in lockdown and people were not permitted to travel to and from Gauteng. Guess what, many road users were apprehended by the police using these other roads that are not frequently manned and to our amusement many of them were caught intoxicated and transporting alcohol which was banned by them. So, our collaboration is really working.”

Theme 3: Implementation of the road safety strategy

According to the participants, the road safety strategy is a strategic document that seeks to establish and outline in clear terms how road safety on public roads should be accomplished. Being a strategic document, the participants pointed out with least consensus that its implementation and the efficacy thereof depends on the ease of its understanding among traffic law enforcement officers. That is, an emphasis as the participants pointed out should be placed on providing adequate training and information on how traffic law enforcement officers can bridge the gap between understanding the objects of the strategy and ensuring its effective implementation. These expressions, as indicated by the participants, recognised the essence of understanding and continuous training as the prerequisites for effective implementation of the strategy. For instance, the participant C stated that:

“Effective implementation of the strategy should be premised on its ease of understanding among the officers, as implementing agents. So, if these officers do not understand what the strategy seeks to accomplish and how that can be done, then the strategy will be implemented haphazardly, and this will impede any effort to assess its effectiveness.”

When the researcher inquired on the nature of training and its effectiveness that is provided to traffic law enforcement officer to ensure that the strategy is adequately implemented to reduce and curb road accidents and fatalities on the national road number one, the majority of the participants indicated, in this instance, that in-service trainings are often provided depending on the results of the skills audit that is conducted six monthly and annually as well as when further training is deemed essential, considering the availability of funds. On this note, the participants alluded to the issue of availability of funding as essential to ensure continued re-training and re-

skilling of traffic law enforcement officers. With that being said, the participant B stated that:

“Learning, as they say, is a lifelong process and thus, we anticipate that our officers will continue to improve on their skills and ensure that appropriate interventions are put in place to ensure road safety. Indeed, funding is a challenge but that should not stop our officers from doing a good job. It remains an individual responsibility of the officers to continually learn, consult and ensure that the strategy is actualised. Yes, management support is need, I agree.”

Referring to the gaps associated with the implementation of the national road safety strategy, particular on the national road number one as central to this study, the participants indicated the lack of reciprocal relationship between road users and traffic law enforcement officers as the major impediment. As participant E aptly put, there should be a relationship of understanding and respect among the road users and the officers. This relationship, as the participants pointed out, should manifest itself in the road users obeying the rules of the road and complying with advice they are offered by the traffic law enforcement officers. As such, the participant E stated that:

“Road safety on the N1 should be the responding of the public and us, as road safety officials. We need to work together, but what would you do when all measures are being put in place on our side but the public that we are trying to save their lives on the road disregard our efforts? There should be compliance, really, on the part of the road users and ours will be to ensure that the roads are safe for everyone to use.”

4.4. Findings

The following are the overarching findings the researcher made regarding this study:

- There is widespread recognition among the traffic law enforcement officers and managers on the significance of the National Road Safety Strategy 2011-2020 towards reduction of accidents and road fatality on the N1.
- The extent to which the National Road Safety Strategy 2011-2020 is implemented is not satisfactory given the continued upsurge in levels of road accidents and fatalities on the N1.

- The efficacious implementation of the strategy on the N1 is impeded by the dearth of sufficient human resources pertaining to the under-staffed traffic law enforcement officers.
- The effectiveness with which the National Road Safety Strategy can be implemented calls upon the enhancement of collaboration between traffic law enforcement officers, police officers and behavioural practitioners to help design and implement appropriate behaviour change and/or modification interventions for road users in the Limpopo Province.

4.5. Conclusion

With appropriate data analysis methods such as thematic data analysis, the researcher had been able to present the research findings and analysis report which shall guide the conclusion and recommendations which will follow in the outstanding chapter. It is important to note that the findings accrued from the analysed data will play a significant role in encouraging the relevant stakeholders to implement appropriate interventions to ensure that the National Road Safety Strategy 2011-2020 is implementing satisfactorily to reduce accidents and fatalities on the N1 in the Limpopo Province.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter delineates the conclusions on this research study that assessed the implementation of the road safety strategy towards reducing accidents and road fatality on the N1: a case study of Limpopo Province. The conclusions given in this chapter are derived from a thematic analysis of the qualitative data obtained on the subject topic of this study. The primary aim of this study was to assess the effectiveness of the implementation of the road safety strategy towards reducing accidents and road fatality on the n1: a case study of Limpopo Province. The objective was thus to explore the participants knowledge on road safety; their perceptions of road safety on the N1 and the implementation of the road safety strategy.

The knowledge obtained from this study is crucial to enable the traffic law enforcement officers and managers to co-jointly ascertain appropriate ways through which to strengthen their efforts, as integral to their assigned road safety responsibilities, to ensure that the national road safety strategy is adequately implemented to reduce accidents and road fatality on the N1 in Limpopo Province. In this regard, the recommendations made in this study intend to provide plausible solutions to the challenges expressed by the traffic law enforcement officers and mangers regarding the implementation of the national road safety strategy towards reducing accidents and road fatality on the N1 in Limpopo Province. The qualitative data was gathered using face-to-face semi-structured interview supplemented by the telephonic interviews.

5.2. Conclusion

This study aimed to assess the implementation of the national road safety strategy towards reducing accidents and road fatality on the N1 in Limpopo Province. In this vein, the researcher investigated the extent to which the national road safety strategy is effectively being implemented by the traffic law enforcement officers and managers towards reducing accidents and road fatality on the N1. The researcher solicited their understanding on the significance of the national road safety strategy and perspectives on the causes of accidents and road fatality on the N1 in Limpopo Province and views

on the challenges and proposed solutions to strengthening the efficacy of the implementation of the national road safety strategy by the traffic law enforcement officers.

There is satisfactory understanding among the traffic law enforcement officers and managers regarding the objects and understanding of the importance of the national road safety strategy. This understanding has translated into adequate knowledge on how the strategy is supposed to be implemented, particularly towards reducing accidents and road fatality on the N1 in Limpopo Province. However, the effective implementation of the national road safety strategy is affected by the paucity of enough financial resources dedicated to procuring road safety equipment.

Further, the lack of sufficient traffic law enforcement officers' visibility on the N1 which is crucial to enforcing adherence to road safety regulations has been attributed to the low recruitment rate within the Department of Transport and Community Safety. On this note, the low rate of traffic law enforcement officers' recruitment and the inequitable distribution and allocation of traffic law enforcement officers along the N1 in Limpopo Provinces as well as the insufficiency of financial resources allocated to road safety equipment purchases impact adversely on the effective implementation of the national road safety strategy towards reducing accidents and road fatality.

5.3. General recommendations

This research report contains a plethora of generic solutions on how the implementation of the national road safety strategy should be executed to reduce accidents and fatality on the public road, particularly the N1 in Limpopo Province. However, the following specific recommendations are made by the researcher in respect of the subject topic of this research study which focused on assessing the effectiveness with which the national road safety strategy is implemented towards reducing accidents and road fatality on the N1 in the Limpopo Province.

5.3.1. The Department of Transport and Community Safety needs to ensure that there are appropriate budget fiscal resources for the procurement of necessary road safety equipment that will constantly monitor the traffic flow on the N1, and aid traffic law enforcement officers prevent possible road safety transgressions by road users.

5.3.2. The Department should engage in renewed recruitment of additional traffic law enforcement officers to strengthen its human capacity towards enforcing road safety compliance by road users on the n1 in Limpopo Province.

5.3.3. The weaknesses that have been identified in the inequitable allocation and distribution of traffic law enforcement officers on the N1 in Limpopo Province ought to be addressed with urgency with intent to strengthen traffic law enforcement visibility which is crucial to deter road safety transgressions by road users.

5.3.4. The inter-departmental collaborations between the traffic law enforcement officers, police and human behavioural professionals should be strengthened to devise appropriate road users' behavioural measures and mechanisms to promote road safety compliance.

5.4. Recommendations regarding future research

This research study revealed the importance of the national road safety strategy towards reducing accidents and fatality on the N1 in Limpopo Province. However, comparative research is needed to determine how the national road safety strategy is implemented in other provinces and how effective is the strategy's implementation towards reducing accidents and fatality on other national and provincial roads. Essentially, there should be a focus on how the inter-departmental collaborations is being enhanced in the development and deployment of behavioural mechanism to strengthen road safety compliance by road users. In this vein, the factors that impede the efficacy of behavioural mechanisms essential to prevent road safety transgressions should be investigated and appropriately addressed. Again, future research should quantitatively assess the adequacy of budget fiscals dedicated towards improving road safety and the extent to which the budgeted fiscals are being utilised for the intended outcomes.

5.5. Conclusion

This research study has revealed that national road safety strategy is the apex strategy that informs and guide development and deployment of mechanisms crucial to strengthen road safety compliance by road users. However, there is still much do be done by traffic law enforcement officers and managers towards achieving the effective implementation of the national road safety strategy towards reducing accidents and

road fatalities on the N1 in Limpopo Province. The sufficient deployment, allocation, and distribution of traffic law enforcement officers along the N1 is pivotal to ensuring visibility and strengthening road safety compliance by road users. However, there is a need for enhanced inter-departmental collaboration between the traffic law enforcement officers, police, and human behavioural professionals to develop and deploy appropriate measures to promote adherence to road safety and reduce road safety transgressions.

5.5.1 CONCLUSIONS BASED ON THE THEORETICAL OBJECTIVES

This section discusses conclusions deduced from the theoretical objectives that were set for the study.

5.5.2 Conclusion drawn from the review of literature based on the best practice strategies utilised to facilitate an understanding of the road safety strategy.

The current study reviewed the literature on the best practice strategies utilised to facilitate an understanding of the road strategy on the N1 road in Limpopo province. In response to the most recent literature, it was found out that generally, although there are practices and strategies for road safety strategies, the implementation of these strategies is still a challenge. For example, Lambord and Lee (2015) argued that the campaigns that were introduced by the Department Of Transport in early 2002 as a strategy to educate the public about road safety arrive alive was aiming to reduce the road accidents on the National roads, the results have been very less satisfactory since there is still a rise in the fatal rates. Waston (2007) added that the Arrive Alive campaign was also used as a strategy to communicate and spread the understanding of road safety in South Africa. However, the strategies were top-down and failed to have positive appeal to change attitudes for targeted groups and the campaign did not use an integrated approach. In addition, this study concludes that the current strategies and practices that are being used by the road and traffic department are still not effective, this is seen by the continuing increase of road accidents on the N1 in Limpopo province. Therefore, this study concludes that there is a need for more comprehensive and integrated strategies and approaches to improve the understanding of road safety in Limpopo province.

5.5.3. Conclusion drawn from results based on the experiences of road traffic law enforcement officers in implementing the road safety strategy in Limpopo.

The second objective of the study aimed at exploring the experiences of road traffic law enforcement officers in implementing the road safety strategy in Limpopo. Based on the results generated from the analysis, it is clear that most of the traffic officers undergo intensive training for road safety. In the training, they are provided with the road safety policies and strategies and the majority of the officers well understand the policies. In line with this information, most traffic officers do not enforce the road traffic rules, policies and strategies that are in place to reduce road fatalities. According to the Limpopo Transport annual report (2015), the implementation challenges of road safety strategies are affected by corruption which has led to ungraded vehicles and drivers being granted permission to be on the road. Drawn from the literature and results this study concludes that the implementation of the road safety strategy is affected by many factors, these include corruption by officials on the road and lack of understanding of the negative impact of the ignorance of road safety rules by both traffic officers and road users. Therefore, the Limpopo road traffic department needs to enforce the implementation of the road safety strategies to the traffic officers and promote ethics among their department through integrated policies and strategies that are well structured.

5.5.4 Conclusion drawn from the results based on assessing the extent of implementation of the road safety strategy in reducing accidents and road fatalities.

To reduce road accidents and deaths, the third objective examined the level of implementation of road safety strategies. In light of the study's results and the literature, it can be concluded that for traffic authorities to implement this strategy effectively, they should manage and continuously ensure integrated, effective and holistic traffic services. Managing and operating the road environment in the most efficient way is the responsibility of road traffic operators and managers. To reduce traffic deaths in Limpopo, the Department of Transport and Community Safety must rely on the recommendations in this Study. To maintain law and order on the road, engineers and technical staff should be involved, as well as the traffic police. Based on this study, the Limpopo Department of Transport and Community Safety (LDTCS) needs to commence the involvement of the experts who should include traffic police

for controlling road usage and safety, traffic police and SAPS for controlling orderly road usage and traffic safety, educationists for educating road users and improving road use behaviour in line with international standards, traffic engineers designing a new road network, incorporating safety features in the design of new roads, improvements to existing roads to minimise problems, and improvement of known hazardous locations on the road network and the courts, judiciary officers (prosecutors and magistrates) for the adjudication of traffic cases.

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Annexure A: Approval from the university



University of Limpopo

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TURFLOOP RESEARCH ETHICS COMMITTEE
ETHICS CLEARANCE CERTIFICATE

MEETING: 17 February 2021

PROJECT NUMBER: TREC/29/2021: PG

PROJECT:

Title: The implementation of the Road Safety Strategy towards reducing accidents and road fatality on the N1: A case study of Limpopo Province.
Researcher: MT Maluleke
Supervisor: Dr E Zwane
Co-Supervisor/s: N/A
School: Turfloop Graduate School of Leadership
Degree: Master of Public Administration and Management

PROF P MASOKO

CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:

- i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
- ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
- iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

Annexure B: Letter seeking for permission to conduct the study

P.O Box 2462

Malamulele

0982

15 October 2020

University of Limpopo

Research Administration and Development

Private Bag X1106

Sovenga

0727

SUBJECT: APPLICATION FOR TURFLOOP ETHICS RESEARCH COMMITTEE (TREC) CLEARANCE CERTIFICATE.

I am Mr Maluleke Mihloti Tyron, student number 200522676 and currently registered for Master's Degree in Public Administration and Management at the University of Limpopo. This application serves as for a TREC clearance certificate to conduct a research study. My proposal has served at the Faculty Higher Degrees committee and was approved. Permission from the institution where the research study will be conducted was also authorised by the head of the department. The research study is titled: **“The implementation of Road Safety Strategy towards reducing road fatality on the N1: A case study of Limpopo”**.

Kind regards

Mr Maluleke M.T

Masters Candidate: University of Limpopo

Signature _____

Date: _____

Masters Candidate: University of Limpopo

Cell no. 082 707 7902/email: maluleket@dtcs.limpopo.gov.za

Annexure C Approval letter from the Department of Transport: Limpopo

Ref: 200522676
Enq: Maluleke MT
Tel: 082 707 7902

P.O Box 2462
Malamulele
0982
25 August 2020

Department of Transport
Private Bag X 9491
Polokwane
0700

Approved
[Signature]
28/8/2020

The HoD: Department of Transport and Community Safety

REQUEST FOR PERMISSION TO CONDUCT RESEARCH STUDY IN THE DEPARTMENT OF TRANSPORT & COMMUNITY SAFETY.

1. The above matter refers.
2. Kindly be informed that I Maluleke Mihloti Tyron employed by the Department of Transport & Community Safety as a Control Provincial Inspector and stationed at Waterberg District has registered with the University of Limpopo on Master's Degree in Public Administration and Management. The institution requires me to submit a mini - dissertation as part of the qualification.
3. I therefore request permission to conduct a study within the Department of Transport and Community Safety in fulfilment of my qualification.
4. The research is titled: **"The implementation of the Road Safety Strategy towards reducing road fatality on the N1: A case study of Limpopo Province"**.
5. While the aim of this study is to investigate the efficacy of the road safety strategy in reducing accidents and road fatalities on the N1 between Maubane and Musina with the objectives of examining the best practice strategies utilised by the Limpopo Province: Department of Transport and Community Safety to facilitate an understanding of the road safety strategy, exploring the experiences of road traffic law enforcement officers in

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implementing the road safety strategy in Limpopo as well as assessing the extent to which road safety strategies are being implemented in reducing accidents and road fatalities within the Province.

6. The study will be conducted in outmost respect to both the organization and my colleagues and the information that I will receive will be protected in line with the ethical consideration for research practices.
7. Attached herewith is a copy of letter from the University of Limpopo for your attention and further processing.
8. Hoping that my request will be granted.

Regards

Mr. Maluleke M.T 

Date: 25/08/2020

Annexure D: Data collection instruments for law enforcement officers

University of Limpopo

Turfloop Graduate School of Leadership (TGSL)

INTERVIEW QUESTIONNAIRE WITH TRAFFIC LAW ENFORCEMENT OFFICERS

Dear Participant

This study titled *“The implementation of the road safety strategy towards reducing accidents and road fatality on the N1: A case study of Limpopo Province”* seeks to assess the nature and extent of the efficacy of the implementation of the road safety strategy by road traffic law enforcement officers in the Limpopo Province. You have been selected as a participant in this study because of your involvement in the implementation of the strategy as part of your daily responsibilities.

Please be informed that your participation in this study is voluntary. Your responses to the questions entailed in this questionnaire will be treated with confidentiality. No information shall be used to link you and your response except in the analysis of the data where only codes relating to your responses will be used. The questions entailed in this questionnaire will take between 20 and 30 minutes to complete. You are requested to answer all questions and remember there are no wrong or right answers.

Thanking you for your cooperation.

INSTRUCTIONS:

Please feel free to answer all questions contained in this questionnaire. There are no right and wrong answers. We are only interested in your honest opinions. In answering the questions, please **encircle** the correct response where appropriate and substantiate your answers where requested.

SECTION A: DEMOGRAPHIC INFORMATION

1. Gender: Male/Female

2. Educational Background: Grade 12/Diploma/Degree/Post-Degree
3. Age group: 20-29/30-39/40-49/50-59/60+
4. Occupational group: Enforcement Officer/Supervisor/Middle Manager/Senior Manager
5. Experience (Number of years in current position): 1-5/6-10/10+
6. Please explain briefly what your responsibilities involve.

SECTION B: THEORETICAL KNOWLEDGE ON ROAD SAFETY

7. What do you understand by the concept road safety?
8. In your opinion, what explains the significance of road safety?
9. What objects would you say a road safety strategy seeks to achieve?
10. What is your level of understanding regarding the South African National Road Safety Strategy 2011-2020?

SECTION C: PERCEPTION OF ROAD SAFETY ON THE N1

11. What would you consider the major cause of road accidents and fatalities on the N1?
12. How would you describe the priority given on road safety on the N1?
13. In your opinion, do you consider the National Road safety strategy as important to preventing and reducing road accidents and fatalities on the N1? Explain briefly.
14. According to you, which stakeholders are important to ensuring road safety on the N1?
15. What responsibilities would you say each stakeholder involved plays?
16. What is the effectiveness of their involvement in ensuring road safety on the N1? Please explain.
17. In your opinion, what is the level of understanding among the stakeholders on the National Road Safety Strategy 2011-2020?

SECTION D: IMPLEMENTATION OF THE ROAD SAFETY STRATEGY

- 18. In your opinion, how is the National Road Safety Strategy 2011-2020 intended to be implemented?
- 19. Please explain the responsibilities you are tasked with in implementing the National Road Safety Strategy 2011-2020?
- 20. What information or training have you been provided with in ensuring the effective implementation of the National Road Safety 2011-2020?
- 21. In your own opinion, would you consider the resources (human and financial) dedicated to ensuring the effective implementation of the strategy sufficient? Please explain further.
- 22. Please explain the determining factors used to assess the effective implementation of the road safety strategy?
- 23. What gaps are there in the implementation process of the road safety strategy?
- 24. Please explain in your own words the way in which the gaps identified above are being addressed in ensuring the successful implementation of the road safety strategy?

Thank you for your time and participation in this study. Should you have any further comments on the questions entailed in this questionnaire, please feel free to share them below.

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Annexure E: Data collection instrument for traffic law enforcement managers

University of Limpopo
Turfloop Graduate School of Leadership (TGSL)

INTERVIEW SCHEDULE WITH ROAD TRAFFIC LAW ENFORCEMENT MANAGERS

INSTRUCTIONS: Please respond to all questions entailed in this questionnaire. Your responses shall be treated with adequate confidentiality and privacy. No information will be used to link you with your responses. Remember that there are no wrong or right answers. The researcher is only interested in your truthful and honest opinions.

SECTION A: BIOGRAPHICAL DATA

1. Gender

Male	Female
------	--------

2. Educational background

Grade 12	Diploma	Degree	Post-Degree
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3. Age group

20-29	30-39	40-49	50-59	60+
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4. Practice experience

1-5	6-10	10+
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SECTION B: IMPLEMENTATION OF ROAD SAFETY STRATEGY

- 5. What priority is being given by your organisation on the implementation of the National Road Safety Strategy?
- 6. What measures have been undertaken by your organisation to promote the effective implementation of the road safety strategy?
- 7. In your opinion, what is the level of contentment in your organisation regarding the adequate implementation of the National Road Safety Strategy?
- 8. What mechanisms are being utilised in your organisation to determine the effective implementation of the road safety strategy?
- 9. According to you, what would you attribute to be major impediments or successes in ensuring the effective implementation of the road safety strategy?
- 10. What, in your opinion, should be done by stakeholders involved in the implementation of the strategy to improve its efficacy in reducing road accidents and fatalities on the N1?

Thank you for your time and participation in this study. Should you have further comments on the questions contained in this interview schedule, please feel free to share them below.


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Annexure F: PROOF READING/EDITING/COPY WRITING CERTIFICATE

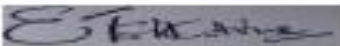


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P.O Box 632 Sibasa, 0970


Proof reading | Editing | Copy writing

This serves to confirm that I, Dr. ET Sikitime, attached to on Point language solutions have proofread a mini dissertation titled: **THE IMPLEMENTATION OF THE ROAD SAFETY STRATEGY TOWARDS REDUCING ACCIDENTS AND ROAD FATALITY ON THE N1: A CASE STUDY OF LIMPOPO PROVINCE**

By
MIHLOTI TYRON MALULEKE
(200522676)


Editorial work focused mainly on technical precision and common errors relating to syntax, diction, word order and formulation of ideas. Corrections and suggestions were made for the candidate to effect before submission.

Date: 11/11/21



Emmanuel Thifhelimbilo Sikitime
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