EVALUATING THE EFFECTIVENESS OF THE COMMUNICATION STRATEGY USED BY THE ROAD TRANSPORT AND SAFETY AGENCY (RTSA) IN PROMOTING ROAD SAFETY IN LUSAKA URBAN

BY

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DECLARATION

I **Getrude Siatwiko**, do hereby declare that this work is my original work achieved through personal reading and research. This work has never been submitted to the University of Zambia or any other Universities. All sources of data used and literature on related works previously done by others, used in the production of this dissertation have been dully acknowledged. If any omission has been made, it is not by choice but by error.

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APPROVAL

This Dissertation by Getrude Siatwiko is approved as a fulfilment of the requirements for the award of the Degree of Master of Corporate Communication.

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Chairperson
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Supervisor

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ABSTRACT

The purpose of the study was to evaluate the effectiveness of the communication strategy used by the Road Transport and Safety Agency (RTSA) in promoting road safety in Lusaka Urban.

The study targeted road users around Misisi and John Lanig area on Kafue road of the Great North Road as the area was reported to have a lots of road traffic accident. The study focused mainly on pedestrians, cyclists, passengers and motorists because these are mainly the road users found on that stretch although according to the findings, pedestrians are more prone to road traffic accidents because the road has six (6) lanes which makes it difficult for them to cross the road.

A descriptive approach was adopted in this study which was nested on the concurrent mixed methods approach. The collection of data used were interviews and questionnaires (quantitative and qualitative) and the data collected was analysed using SPSS (version 25) and NVivo 10.

This study established that the communication strategy is not effective because the channel used are not properly segmented and that there are few programmes in the community on road safety. The study established that most of the messages which are communicated to road users boarders more on motorist's safety neglected the other road users and the messages do not border much on behavioural change. The study recommended that there is need for the Government through the Ministry of Transport and Logistics and the RTSA to come up with deliberate community road safety programmes targeted at behavioral change for all road users. More effort is needed to ensure that road safety programmes reach the local communities to increase the awareness levels. The study also recommended that road safety messages needs to be segmented according to the road users for communication to attain its desired results and that there is also need for RTSA to also regularly conduct a needs assessment regarding road safety measures and challenges which they face.

Keywords: Road Safety, Communication Strategy, Awareness, Messages, Communication channels

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DEDICATION

I dedicate this Dissertation to my sons Innocencio and Komana for their patience as I undertook this study. Many are the times I dedicated my time to this study and had limited time to be with them.

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LIST OF ACRONYMS AND ABBREVIATIONS

CEO	Chief Executive Officer
AKAP	Awareness, Knowledge, Attitude and Practices/Perceptions
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
LCC	Lusaka City Council
IPC	Inter-Personal Communication
MCL	Ministry of Communications and Logistics
NGO	Non-Governmental Organization
PAPECA	Passenger, Pedestrian and Cyclist Association of Zambia
PRCA	Participatory Rural Communication Appraisal
RDA	Road Development Agency
RTA	Road Traffic Accident
RTSA	Road Transport and Safety Agency
SPSS	Statistical Package for Social Scientists
TV	Television
WHO	World Health Organisation

CHAPTER 1
INTRODUCTION

1.0 Introduction

Road traffic accidents (RTAs) increasingly account for a large share of the global death burden. The World Health Organization (2020) estimates that road traffic accidents mortality increased to 46 percent since 1990 and accounts for 20 to 50 million injuries every day and results into more than 1.3 million deaths annually. In Zambia, RTAs are ranked as the third highest cause of death after HIV/AIDS and malaria and the eighth leading cause of death for all age groups worldwide, especially people between 5 to 29 years (Moonga and Hangoma, 2021).

Countries have established road safety authorities to implement measures aimed at reducing RTAs and the burden they come with on the economy and individuals. In Zambia, the institution mandated to look at road safety issues is the Road Transport and Safety Agency (RTSA). The loss to the country arising from these road traffic crashes and fatalities is estimated to be in excess of ZMK4.0 million or slightly more than 5 percent of the national Gross Domestic Product (GDP), RTSA Accident Statistics Report, 2020.

The Road Transport and Safety Agency was established under Section 3 of the Road Traffic Act No.11 of 2002 which was enacted by the Parliament of Zambia on 31st December, 2002. It has been mandated among others, to implement the policies on road transport, traffic management, road safety, and to collect revenue on behalf of government. According to the Road Traffic Act No. 11 of 2002, the functions of RTSA includes registering motor vehicles, issuing license and permits, pay out such percentages of monies into the Road Fund in respect of fees for licenses, permits and concessions granted and registration fees, conduct road safety education and through publicity campaigns undertake and assist in the dissemination of information on road safety and coordinate Road Safety programmes for the benefit of the community.

The other functions are to approve road safety programmes undertaken by any person or institution, to formulate and develop programmes designed to promote

road safety in conjunction with local authorities and to make contributions to the cost of road safety programmes undertaken by other authorities or bodies.

This study focused on the function of road safety education and awareness, the effectiveness of road safety messages disseminated in Lusaka Urban.

Road safety communication activities are important for influencing behavior of road users (WHO, 2016). Effective communication is vital in raising awareness, engaging the public and sensitising them on road safety to reduce the number of road traffic accidents faced by the country (Schatz, 2008). It is through communication that road safety messages are disseminated. In 2016, RTSA formulated a communication strategy to serve as a guide in the dissemination of road safety messages to members of the public. Despite the RTSA having a communication strategy, Zambia is still grappling with high number of road traffic accidents which are inclusive of fatalities. In 2017 alone, the country had 1, 989 fatalities and most of these accidents happened along the line of rail (Annual Road Traffic Crashes Report, 2017).

This study evaluated the effectiveness of the RTSA Communication Strategy in promoting road safety issues in Zambia. It specifically looked at the effectiveness of the road safety messages disseminated in Lusaka district on the Great North Road, along Kafue road of Misisi and John Laing areas as the area was reported to have a lot road traffic accident.

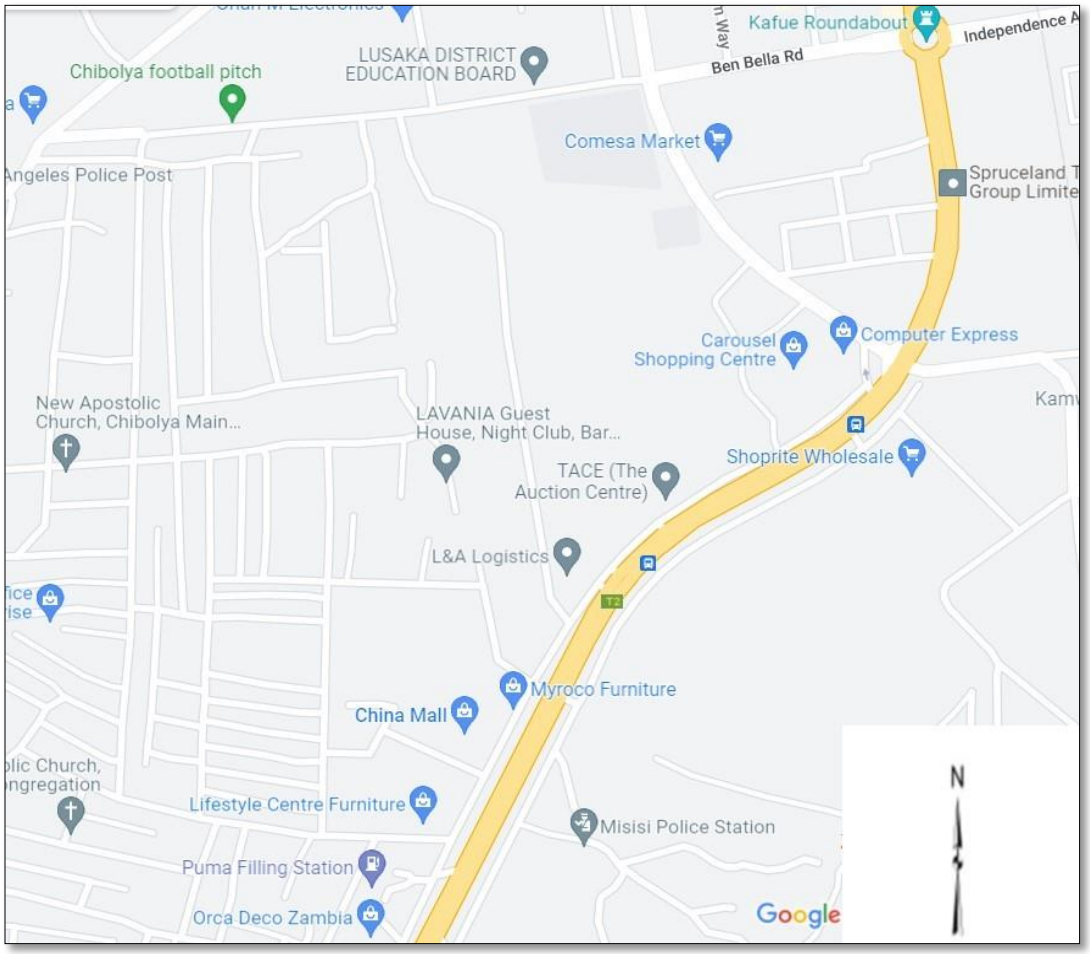
1.1 Background to the study

Road traffic injuries and fatalities are a global public health problem and development problem, especially in Zambia and Lusaka Urban in particular. Most of the affected belong to the most vulnerable populations in society such as pedestrians, cyclists, unsecured passengers, and children below the age of 16 years (Fisa et al 2019).

The study targeted road users around Misisi area of the Great North Road. According to ZAMSTATS social statistics report, 2020, the study site has a population of approximately 10,000 and records about 300 to 350 road traffic crashes annually. (RTSA Accident Report, 2017-2021). The study focused on

pedestrians, cyclists, passengers and motorists because these are mainly the road users found on that stretch although pedestrians are more prone to road traffic accidents because the road has six (6) lanes which makes it difficult for them to cross. An overhead footbridge was constructed along the stretch to mitigate the number of road traffic accidents but most pedestrians do not use it for various reasons and one of the reasons is that it is alleged that there is too much theft which happens when one uses the bridge.

Map of the road stretch from Kafue round about



Source: (Google Maps, 2022)

There is need for intensive road safety sensitisation on that stretch for example pedestrians can be sensitised on crossing safety, importance of using an overhead foot bridge and the dangers of jaywalking. Motorists can also be educated on the importance of looking out for other road users as they drive.

One of RTSA's primary duties is to conduct road safety education by way of publicity campaigns and also undertaking and assisting in the dissemination of information on Road Safety for the benefit of the community. The Agency has an Education and Publicity Unit and Public Relations Department whose roles are to conduct road safety activities through various platforms. The Education and Publicity Unit is headed by the Principal Education and Publicity Officer and below are Regional Education Officers and Education Officers. The Public Relations department comprises of the Head – Public Relations who oversees the entire department and is deputised by the Public Relations Manager and under the Public Relations Manager, there is an Information Officer who supervises the Call Centre Agents. RTSA has a call centre which operates 24 hours. The Agency uses various communication channels to reach out to road users, some of the channels used include print (newspapers, brochures, newsletters and posters), electronic media (radio and television), social media and one to one sensitization at schools, workplaces also called workplace orientations, bus stations and taxi ranks and annual events such as Zambia International Trade Fair (ZITF). The Agency also takes advantages of various platforms to disseminate road safety messages (RTSA Status Report, 2020). The messages are tailored according to the specific road users. For example, there are messages for pedestrians, cyclists, passengers, motorists and non-motorized transport. These messages are also translated in local languages and the target groups include the elderly, youth and children both in rural and urban areas. Further, the Agency in 2014 collaborated with the Ministry of General Education through the Curriculum Development Centre and incorporated road safety in schools. Road safety has been taught in schools from Early Child Education to Grade 12. Road safety materials used for the curriculum were developed and translated in seven major languages. This has been identified as one of the most effective ways of communicating road safety messages (RTSA Strategic Plan, 2019 to 2021)

The Agency also recognised the important role that traditional leaders play in the fight against road traffic accidents. To this effect, RTSA takes advantage of traditional ceremonies by educating people on road safety issues. The Agency through the Ministry of Chiefs and Traditional Affairs engaged traditional leaders to put road safety as part of the agenda in their respective chiefdoms. Further,

RTSA visited selected chiefdoms around the country and intends to train headmen who will in turn be road safety patrons and will look at road safety issues in chiefdoms (RTSA Annual Report, 2019).

Despite RTSA having these interventions and a communication strategy which guides on how to disseminate road safety messages, road traffic crashes and fatalities are still on the increase. According to the RTSA Annual Report (2019), the whole Lusaka province generally records about 16,000 to 17,000 RTAs annually but the stretch around the Misisi area of the Great North Road alone records 300 to 350 RTAs annually. In 2021 alone, the stretch recorded 321 RTAs, this increased by 4 percent from 2020 were it recorded 309. It is therefore, appears that despite RTSA's communication efforts, road users behaviour has not changed. This raises questions regarding the effectiveness of the channels and messages RTSA uses.

Furthermore, it seems that for RTSA to effectively perform this particular function, it needs a well-developed, functional and well-implemented communication strategy on road safety matters. However, it is not known whether or not the Agency's communication strategy has or is achieving its intended purpose. It is for this reason that this study sought to evaluate the communication strategy which the RTSA uses to promote road safety in Lusaka Urban.

1.1.1 RTSA's Communication Strategy

The 2016 RTSA's Communication Strategy was developed to enhance and maintain road safety awareness among all road users in Zambia to a level where there will be a significant reduction of road crashes as well as an increased level of understanding of road safety issues. The strategy also identifies different publics and their communication needs as well as the best channels to communicate with them.

1.1.1.1 Goal of the Communication Strategy

According to (Munthari 2011, p. 236), a communication strategy is a tool used to enhance communication through implementation of its action plan. Communication Strategy was developed in line with RTSA's mission statement which is to deliver a safe, efficient, client focused and inclusive road transport

system which supports socio-economic development. This can be done by having effective communication.

1.1.1.2 Major issues of the strategy

- To raise stakeholder awareness levels with regards to interventions and programmes being carried out by RTSA and other players in the transport sector;
- To change stakeholder dispositions that are not able to recognise and exploit the opportunities and services offered by RTSA that are inherent in the Transport policy and corporate strategy; and
- To strengthen communication systems among various stakeholders, their publics and road users.

1.1.1.3 The Strategic Outcomes

RTSA (2017, P.10) points out that the strategic outcomes of the strategy include the following:

- To raise stakeholder awareness levels with regards to interventions and programmes being carried out by RTSA and other players in the transport sector;
- To change stakeholder dispositions that are not able to recognise and exploit the opportunities and services offered by RTSA that are inherent in the Transport policy and corporate strategy; and
- To strengthen communication systems among various stakeholders, their publics and road users.

1.1.1.4 Implementation of the Communication Strategy

The RTSA Communication Strategy was created for awareness; the strategy addresses two levels. Level one focuses on strengthening communication within RTSA and level two addresses RTSA's communication with outside publics. This Communication Strategy is designed as a tool that RTSA will utilise to improve the road safety profile in Zambia. According to RTSA Communication strategy, 2016, the following have been identified as the key players in the road Transport sector in Zambia;

i. RTSA;

ii. Ministry of Transport and Logistics;

iii. All government Ministries under the Road Safety Memorandum of Understandings;

iv. Driving schools;

v. Road Transporters;

vi. The community;

vii. Road users;

viii. Non-Governmental Organisations;

ix. Faith Based Organisations; and

x. Road Sector Agencies

1.2 Statement of the Problem

According Butler I (1997), communication play an important role in influencing road user behaviour. Influencing road users' behaviour through enforcement alone has its limits, road users needs to be regularly informed on good road safety practice. In Zambia, RTCs are ranked as the third highest cause of death after HIV/AIDS and malaria especially people between 5 – 29 years (WHO, Report, 2019). In a normal situation, road traffic accidents are not supposed to be among the main causes of death in a country. In developed countries such as Sweden, road traffic accidents are among the least cause of death. According to the latest Swedish Care Data report, 221 persons lost their lives in 2019 compared to 2018 where 324 lives in road traffic crashes. However, the case is different for Zambia which seems to have extremely high numbers of death. According to the RTSA Status Report 2020, the country recorded 28,484 road traffic accidents in the year 2020 and predominately Lusaka province ranked top with 15,871 of which 415 were fatalities.

The RTSA communication strategy was formulated in 2016 and there was a slight decrease in the number of road traffic crashes, although Lusaka still has the highest

statistics. In 2015, the country recorded 33,672 road traffic crashes, 32,350 in 2016, in 2017, 30,163, 30,652 in 2018, in 2019, 30,648 and, 28,484 in 2020. Despite having this slight decrease in the number of road traffic crashes, Lusaka Province has been topping with the number of road traffic accidents recorded from 2015 (RTSA Status Report, 2020). This is despite the measures that the Agency has put in place to reduce road traffic accidents. For example, the Agency in collaboration with Zambia Police conducted intensified road patrols in Lusaka. The Agency also mounted speed traps in various location in a quest to reduce the number of road traffic accident.

The problem of road traffic accidents in Lusaka has ripple effects on the livelihoods of residents and the economy. Due to an increase in motor vehicle ownership, road traffic accidents are increasing, as is traffic volume. The road users that are prone to or at high risk of road traffic accidents include those from Misisi area as they are exposed when crossing Kafue road due to their proximity to the highway (Fisa et al, 2019).

Overall, pedestrians and cyclists are the most vulnerable people in road traffic accidents. The road users on the stretch around Misisi area of the Great North Road have to cross one of the busiest roads from one end of their residential areas to the other end of commercial district areas on a daily basis. In 2020, RTSA in collaboration with local authorities conducted road audits on this stretch to examine what needs to be done in terms of road furniture (RTSA Status Report, 2020). The local authorities in liaison with RTSA revised the speed limits from 60 kilometres per hour to 40 kilometres per hour in some places. Despite all these interventions, RTAs in Lusaka still remain high.

Some studies, including (Betsy, 2009) and (Heidi, 2006) have identified lack of awareness, knowledge and attitude of road users as the main problems associated to road traffic accidents. It has been argued that countries with clear communication messages regarding traffic guideline experience low cases of road traffic accidents, Peden et al (2016). This, therefore, implies that good communication is likely to result in increased knowledge and awareness, and thereby change residents' attitudes towards good road safety practices. This follows that the level of awareness, knowledge, attitude and practices/perception

(AKAP) of these residents on the road safety issues may be some of the major determinants of the rate of road traffic accidents in these localities. On the other hand, the awareness, knowledge, attitude and practices/perception of the motorists who use the highways and roads in these localities are also a major determinant on the rate of road traffic accidents.

Thus, this study tries to evaluate the RTSA communication strategy, this is based on the assumption that an effective communication strategy would assist RTSA to effectively communicate road safety messages to road users so as to reduce the number of road traffic crashes and fatalities in Lusaka Urban. An effective communication strategy will also provide clear a consolidated communication system for various stakeholders and improve on information sharing with identified stakeholders, (Mefalopous and Kamlongera, 2004)

1.3 Research objectives

1.3.1 Main Objective

The overall objective of the research is to evaluate the effectiveness of the communication strategy used by RTSA in promoting road safety in Lusaka Urban around the Misisi Area of the Great North Road.

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

i. To establish the channels and effectiveness of the channels used by RTSA to communicate road safety messages around the Misisi area of the Great North Road.
ii. To evaluate the quality of messages used by RTSA to educate road users around the Misisi area of the Great North Road about road safety.
iii. To assess the levels of awareness of road users around the Misisi area of the Great North Road about road safety.

1.4 Research questions

The study sought to answer the following research questions:

i. How effective are the channels used by RTSA to communicate road safety messages to road users around the Misisi area of the Great North Road?

ii. What is the quality of messages used by RTSA educate road users around the Misisi area of the Great North Road about road safety?

iii. What are the levels of awareness of road users around the Misisi area of the Great North Road about road safety?

1.5 Significance of the study

Empirical evidence from the study is key in refining crating awareness on road safety and to influence behaviour change among road users to reduce road fatalities. RTAs overstretch health systems through road traffic injuries (RTIs), large economic costs in terms of lost productivity and survivors of trauma go on to bear large health costs (Moonga and Hangoma 2021, p. 05). This being the case, the findings of this study may help policy makers and the management at RTSA focus their attention towards a good Communication Strategy and these are officials from the line Ministry which is Ministry of Transport and Logistics, RTSA Board and Management, Public Relations Department and Education and Publicity Unit.

Additionally, strategies on how best to disseminate road safety messages to the public may be established. It is also anticipated that the information that was generated as a result of this study will facilitate the planning and implementation of a strategy that will help improve the road safety profile of the country. In addition, this study may serve as baseline information on which the performance of the RTSA's communication strategy may be benchmarked against in future evaluations.

1.6 Delimitation

The study targeted and restricted to sampling from among three major selected audiences, namely, pedestrians from at-risk residential areas, cyclists, passengers and motorists on a risky highway and RTSA which is an Agency responsible for communicating road safety messages.

The study was carried out along around the Misisi area of the Great North. It targeted cyclists, passengers, pedestrians and drivers because according to the Road Traffic Crashes Statistics 2020 from RTSA, it was revealed that accidents are high in Lusaka and in particular in residential areas with close proximity to busy highways and roads.

1.7 Limitations of the study

The possible limitations to this study were fear by the members of the public to answer the questions. Most people at times fear to give out information because they feel it might be used inappropriately even when the researcher assures them that the information is for academic purposes only.

1.8 Format of the study

Chapter One: This chapter consists of the background to the study, the problem statement, aims and objectives of the study. The research questions and significance of the study are also included in this chapter.

Chapter Two: Chapter two (2) contains a review of the literature relating to communication strategies with particular reference to the information included in this study, conceptual and theoretical framework.

Chapter Three: This chapter includes the research methodology, research strategy and design, target population and sample, research instruments, administration of the questionnaire, collection of questionnaire and data analysis, reliability and validity of these instruments. This chapter also includes limitations of the study elimination of bias and ethical considerations. These and techniques used to make the study more objective are discussed.

Chapter Four: Chapter four presents the findings obtained from the data collected and a discussion of findings in line with this study is given.

Chapter Five: This chapter contains the conclusions of the study and makes recommendations based on the findings of the study.

1.9 Summary

The study focused on an evaluation of the communication strategy used by RTSA promoting Road Safety in Zambia: A Case Study of Lusaka Urban District.

This chapter provided an introduction and background to the present study. The chapter clarified what communication strategy as a concept, really was. It was also in this chapter that the statement of the problem was highlighted including the objectives to be achieved at the end of the study. Based on the objectives of this study, the research questions attempted to focus on the aims and objectives of the communication strategy used at RTSA. The importance of this study was also highlighted in this chapter.

As no research goes without delimitations and limitations, this chapter discussed the restrictions, which affected the research. In this chapter, operational terms and acronyms have been defined for better understanding of the study. The next chapter will review literature relevant to the study in an attempt to establish what other scholars and writers have written about communication strategy in corporate institutions.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This section is aimed at critically discussing similar and relevant studies to the study objective. This section will be guided by the following themes. The literature reviewed provided was based on well-founded perspectives of communication strategies on previous research on road safety.

2.1 Strategies for Disseminating Road Safety Information

A communication strategy is defined as a guide that helps a company or organisation to transform its product or service into a brand by meeting communication objectives to accomplish business objectives (Campbell et al 2008). It provides a plan through which an organisations can achieve the communication objectives. It constitutes different elements such as setting the goals of communicating, selecting a target market, and then formulating a plan. A communication strategy empowers an organisations to have a scheme of planning for sharing information effectively.

Improving road user behavior is fundamental to reducing road traffic injuries and fatalities. It is one of RTSA strategic objectives for 2019 to 2025. In order for this strategic objective to be achieved, there is need for effective communication between the RTSA and different road users. Road user behavior can be improved by road safety education coupled with enforcement and engineering (Polous, 2004). Global efforts to increase information sharing regarding safe road usage in middle-income countries in the past decade include the Bloomberg Philanthropic Global Road Safety Program (BP-GRSP). Between 2009 and 2014, the BP-GRSP generated more than 30 mass media campaigns in nine countries (Brazil, Cambodia, China, India, Kenya, Mexico, Russian Federation, Turkey and Vietnam). Recognising the integrated nature of road safety, these campaigns where conducted through different communication channels such as, providing lessons in schools, airing road safety programs on radio and TV, distribution of posters and flyers as well as the engagement of communities through sensitization programs

on safe road usage and information sharing (WHO, 2009). All these efforts by the BP-GRSP were aimed at enhancing the effective dissemination of road safety information to the public and reduce road traffic accidents and fatalities as a long-term impact.

In some developed countries for example Sweden, the public has been fully engaged in road safety awareness campaigns, (Dekker et al, 2020). This would help to better understand the needs of those who would be affected to allow those responsible to design appropriate advertisement campaigns to communicate the latest safety plans to the public and therefore improve the levels of road safety awareness. These plans can be sent to the newspapers, radio, television stations, posting signs along the corridor, creating a toll-free telephone hotline and putting up a project web site to allow interested parties to report bad drivers, over loaded vehicles or accidents, thus aiding in road safety awareness, (Goodrum and Yinggang, 2009).

In many African countries, road safety education is done through campaigns, which are conducted regularly. According to the Development Bank (AfDB), 2011 status report indicated that in about half of the countries the campaigns are designed on identified problems based on traffic accidents. The mass media used in road safety campaigns in their order of frequency are radio, TV, flyers, posters and drama (Morris, 2006). However, in most African countries road safety campaigns are not conducted in coordination with enforcement for more effective outcomes (African Development Bank, Status Repot, 2011). The issues addressed in road safety campaigns in a number of countries include, over speeding, helmet use, pedestrian road use, drink driving, seatbelt use and child restraint.

In Uganda, the Traffic and Road Safety Act was enacted in 1998, to prescribe action to be undertaken with regard to road traffic offences and road safety. Also, through the recommendation of the World Health Organization (WHO) and the World Bank, the National Road Safety Council (NRSC) was established to induce a more positive attitude to road safety through lectures, demonstrations and campaigns (Derek et al, 2012). Different campaigns were also launched to promote road safety awareness, for instance, Uganda Red Cross Kabaale launched a road safety campaign intended to sensitize the primary school pupils on traffic

regulations. Circulation of road safety message stickers to the community with the aim of raising awareness with drivers as to the number of crashes particularly as a result of speed, drink driving and seatbelt compliance (ibid).

According to the Africa Development Bank (AfDB, 2011), the awareness of road safety is a fundamental requirement towards sustainable safety. This can be done through teaching of children in schools by integrating road safety in curriculums of different subjects and public campaigns of various forms using different media. However, it requires comprehensive and continuous interventions to reach the population particularly those who frequently use the road environment in one way or the other. The effort of African countries towards creating road safety awareness and road safety education are encouraging. In many countries, road safety is integrated in the school curriculum with different subjects.

According to RTSA 2019 -2021 Strategic Plan, in Zambia, RTSA has a responsibility to contribute towards inculcating in a structured manner, a responsible disciplined cadre of road users and thus enhance road safety on the roads. Among the various target groups, schools (school children) are fertile grounds through which a road safety culture can be grown and nurtured. It was in this view of the latter that the Government of the Republic of Zambia incorporated road safety in the curriculum in 2014 and it has been taught in schools as cross cutting issues from 2014 up to date. After being incorporated, the RTSA in collaboration with the Ministry of General Education under Curriculum Development Center developed road safety education books in English which were also translated in 7 Zambian major languages. These books are being used in schools countrywide, (RTSA, Annual Report, 2019).

With the opening of new corridors such as the Link Zambia 8,000 road projects, RTSA in collaboration with the World Bank decided to come up with a plan of conducting surveys to ascertain the depth of understanding matters of road safety in most rural communities. The rationale of the surveys was to create a basis for road safety education programs in these rural communities and consequently reduce road traffic accidents on the rural highways. The Agency also recognized the important role that traditional leaders play in the fight against road accidents. To this effect a road safety education and publicity was drawn up to roll out road

safety in various chiefdoms across the country. According to RTSA Annual Report 2018, the RTSA in collaboration with Ministry of Chiefs and Traditional Affairs visited chiefdoms in seven (7) provinces on the possibilities of training rural their subjects which will be rural road safety patrons to oversee all the road safety related problems. Further, RTSA has been conducting road safety education campaigns at various traditional ceremonies. It takes advantage of the ceremonies to disseminate road safety information which is also done in local languages.

The Agency also sensitised bus drivers at various bus stations throughout the country. Road safety materials are also disseminated to them during these sanitations. All the above undertakings are part of RTSA's Communication Strategy under the implementation plan.

2.2 Limitations of the Communication Channels

Communication is an essential element of a global road safety policy, in that it aims to inform, alert, educate, convince, and ultimately alter people's attitudes and behavior. The resources employed and the channels of communication used differ from country to country, depending on the topic addressed, the national culture and the goals to be achieved. Communication cannot be an end in itself, however, it can only be the complement of other measures. It must have a time frame within which the objectives set have to be achieved. However, different forms of communication strategies in road safety education come with different strengths and weaknesses. This section will focus on highlighting some of the shortcomings of some different strategies used in road safety information dissemination.

In Ghana, television spots were broadcasted in English and Akan once a month for nine months between 2002 and 2003. The target was commercial drivers, seen as dangerous drivers (speeding and under the influence of alcohol) (Morris, 2006). Assessment of this intervention highlighted the need to turn to other channels of dissemination such as radio and leaflets to reach more people, as not all people had access to television. Although the messages were received and appeared simple, the use of other languages was reported as necessary. It was also mentioned that parallel activities should be implemented (a greater police presence and regulations on alcohol to raise awareness more effectively).

According to research conducted in 2018 by the Bureau for Transport Statistics (BTS) in Ghana, the Agency highlighted some of the significant limitations of using radio, TV and print media as a way of disseminating road safety information to the public are as follows; firstly, in as much as radio is a very cheap method of communication, it was discovered that using radio as a communication strategy had its weaknesses, in that it is less persuasive, for example, because it cannot show actions such as buckling up a seat belt, in addition it less powerful than television or print adverts in showing consequences such as physical damage, pain, sadness, desperation (Patrick, 2010). Using radio means, the messages to be disseminated need to be extremely simple and direct because there is no visual aid. The use of television as a communication strategy is a very important way of disseminating information. Despite it being powerful, one of its weaknesses is that it is very expensive to produce and air, and rarely will the budget allow for target and strategic dissemination (ibid). Another limitation of television as a way of disseminating road safety information is that the target population (drivers) watch television when they are not driving and many hours can pass between the moments, they see the advert and when they decide to adopt certain behavior. Additionally, television adverts can only be effective when well produced but not so effective when poorly produced. Print media is one of the vital ways to get information to the general public, however, it has its own setbacks, firstly, print media can only be understood by a literate audience, it has been reported also that, outdoor advertising may not give drivers enough time to fully grasp the message (images and words) on a billboard or snickers on any other public infrastructure. It was also noted that newspapers and magazines reach specific segments of the population, hence, making other groups of society not able to get the information on road safety. Finally, one other key weakness of print media as a form of communication strategy is that disseminating print campaigns through billboards, newspapers and magazines is expensive in relation to the number of people reached.

In Zambia, RTSA has been using a toll-free line where the general public report any traffic related problems, however, it has been discovered that the toll-free line goes unanswered in many circumstances as reported by many people who had traffic related problems (RTSA Annual Report, 2018).

2.3 Factors Attributed to the High Rate of Road Traffic Accidents

Road Traffic Injuries (RTIs) are the eighth cause of death in the world and there has been a 46 percent increase since the 1990s (WHO, 2015). Recent WHO analyses estimate that RTIs could become the fifth cause of death in the world by 2030 with high levels of inequality in situations, between and within, LMIC (Low- and Middle-Income Countries (WHO, 2015). Added to this burden are the millions of people suffering long-term from their injuries or disabilities.

The highest number of deaths occurs on the African continent i.e., rate of 26.6 deaths per 100,000 inhabitants. A recent study found that the rate could be closer to 65 deaths per 100,000 inhabitants (WHO, 2015). Furthermore, young Africans are the most likely victims with road traffic accidents being the first cause of mortality among 15 to 29 years old (WHO, 2004). Economically, the average annual socioeconomic cost of road traffic crashes represents one percent of Gross National Product GNP in low-income countries (WHO, 2004).

The Decade of Action for Road Safety 2011-2020, developed by WHO and the World Bank, provides an overall framework for road safety activities, based on five pillars, which are; better management of road safety, better road safety, better safety of vehicles, better for road users and improving in trauma and recovery management.

Although the Decade of Action for Road Safety has been underway for eight (8) years, the number of accidents and deaths remained high and there was no significant improvement. Half- way through the decade, mortality rates stagnated worldwide, with that mentioned, the literature seeks to review some of the reasons behind the sustained increase in road traffic accidents globally.

In the developing countries, particularly the African region like Tanzania are the hardest hit by accident deaths at (24.1 per 100,000 population) with the European region being the lowest hit at (10.3 per 100,000). Recent reports and studies indicate that among other factors, human factors dominating at approximately 76.4 percent of all causes of road accidents (SUMMATRA, 2007). The human factors include impatience, stress, reckless driving, and ignoring traffic signs such as

pedestrian crossing, wrong overtaking and parking, driving while in stress, obstructing other drivers (Buguley and Jacobs, 2017).

Since road traffic accidents are a serious problem for most countries especially in Africa, the question is, why is the number of accidents increasing despite improvements in the provision of road safety information and technology as well as extensive training of the different road users on road safety measures? After an individual road traffic accident, there is a concern to find out what the cause was and who was to blame. The high increase in the number of RTA is mainly attributed to bad behavior among different road users. Sometimes people blame alcohol, speed, bad weather, poor road surface conditions, inadequate traffic signs, vehicle defects and so on (Sewanyana and Niyitegek, 2010).

According to research work by Sabey in 1975, the accident process can be divided into three categories; vehicle, road environment and road users, and road users make the greatest contribution to road accidents. He attempted to identify the main contributory factors responsible for 2,130 accidents which were investigated in detail. Evidence was obtained by observations of roads, vehicles and road users by interviews, and by assessing errors which were made by the road users, by examining defects in vehicles and by noting adverse features of vehicle and road. The research team formed certain opinions. They categorized these contributory factors into 3 areas (road environment, road user and vehicle) some accidents being caused by a single factor, some caused by multiple factors. The results showed that 8.5 percent of the causes could be assigned to vehicles, 28 percent to the road environment, 95 percent to the road users; these add up to more than 100 percent because many accidents were considered to be the result of more than contributory factor. According to WHO (2015), only 28 countries (majority of which are in the Scandinavian region and make up 7 percent of the world's population) have comprehensive road safety laws which cover five key risk factors namely; drinking and driving, speeding and use of motorcycle helmets, seatbelts and child restraints. Many countries in the world are still faced with the problem of drivers with destructive habits on the road such as texting, driving with fatigue, drunken driving and many others which have led to an increase in RTA. Most poor countries also grapple with poor enforcement of even the little road Traffic rules they have and this has led to many countries facing a problem of high RTA rates.

Herbst (2002) writes that over 95 percent of road accidents are as a result of some negligent behavior combined with the other common factors. The first one is that drivers usually try to blame poor road conditions, secondly, they blame failure or mechanical faults of the vehicle and lastly, they tend to blame other drivers for accidents that they themselves have caused. He concludes that the main reason why there is a raise in RTA is because of reckless behavior of drivers, most accidents occur because of excessive speed or bad driver behavior actions that are not reported to relevant authorities and hence no action is taken.

Another study conducted by Morris (2006) found that among the major causes of RTA in Zambia, over-speeding was one of the major causes. In the same study, some respondents public service vehicle (PSV) drivers reported that they were forced to over speed in order to make cashing for that day failure to which they would be underpaid by their employers. Given the state of affairs, it can be said that some of the behaviour displayed by the PSV drivers is not because they are reckless but could be the result of them working under pressure to meet their employer's demands. Some PSV drivers also stated that they sometimes over speed because of pressure from customers. This revelation indicated that, the general public as well had bad attitudes towards road safety. A similar study conducted in Zimbabwe, found that despite over speeding being a violation of traffic laws, drivers driving for long distances over sped because over speeding was used as a criterion for employment while for those driving locally, it was for the purposes of maximizing profits (Muvurungi, 2012). This implied that drivers have a positive perception on the benefits of speed. However, the chances of crash occurrence and severity of the crash are directly related to the increase in average speed, which simply put means that the higher the speed the higher the risk of RTA (Fourie et al, 2009).

Furthermore, driver fatigue can also be a factor contributing to the increase in RTA. According to TAC (2016), long distance driving is suspected to be the primary cause of 20 percent of RTA. It is believed that most fatigue related accidents occur during normal sleeping hours i.e. 22:00-05:00hours. Fourier et al (2009), also reported that driver fatigue in many developing countries is very common as there is heavy reliance on motorized road transport. Fatigue comes as a result of drivers working long hours and traveling long distances. A study in South Africa showed

that about 24 percent of accidents involving commercial vehicles were associated with sleeping while driving. In addition, the Research and Innovative Technology Administration (RITA) and Bureau of Transport Statistics (BTS) conducted a study in Africa and found that drivers cited economic pressure and high cost of living as a factor pushing them to drive long hours resulting in exhaustion (Giannopoulos, 2004).

The literature reviewed overally showed that most of the communication channels used are relatively the same, for example, the 30 mass campaigns which were generated by BP-GRSP in nine countries (Brazil, Cambodia, China, India, Kenya, Mexico, Russian Federation, Turkey and Vietnam) used almost the same channels. However, road safety messages and channels of communication may differ from country to country depending on the national culture and the goals to be achieved. Different forms of communication strategies in road safety education come with different strengths and weaknesses and the target audience needs to be properly segmented and hence they maybe gap in the channels which are mostly used to communicate road safety information.

2.4. Conceptual and Operational Definitions

A conceptual definition is the definition of a concept by a set of other concepts. Verbal communication among human beings would be impossible without the existence of words expressing concepts. Therefore, the main function of concepts is to facilitate communication among human beings and to aid in the classification of the elements of reality and their generalizations (Thomson and Tolmie, 1996). An operational definition is used to define something (considered as a process or set of quantity of something.

The conceptual and operational terms defined in this chapter include communication, communication channels and communication strategy, being the key concepts utilised in this research.

2.4.1 Communication

According to Mefalopulos (2008:3), communication refers to the process of transmitting and receiving information, and the related methods, techniques and

media to achieve it. In this study, communication refers to the use of different types and media in the context of development, and sharing of information and experience to accelerate (Choudhury, 2011:2) the behavioural and social change towards road safety practices. Barelson and Steven (1964, p. 321) also define communication as the transmission of information, ideas, emotions, and skills by the use of symbols, words, pictures, figures and graphs. Hence from the above definitions, it is very clear that communication is simply the transmission of information from the sender to the receiver with the aim of influencing thought and action. It is done to inform so that the receiver can be aware or can take action. This research used the conceptual framework to establish the relationship between independent variables and road safety issues. Demographic factors influence road safety. People with higher education are more aware about consequences of the effects road traffic accidents. Effective communication strategies have a positive influence on awareness and knowledge of people towards road safety. Despite this, lack of knowledge and awareness contributes to increased road traffic accidents.

2.4.2 Strategy

According to Mefalopulos and Kamlongera (2004, p. 8), a strategy is a systematic, well planned series of actions, combining different methods, techniques and tools to achieve an intended change or objective utilizing the available resources within a specific time frame. A good strategy guarantees a good achievement. The strategy is an important document because it commits organisations or individuals to improve on how they communicate and also to adopt a common approach to communication right across the board (www.cavancoco.ie/cavanweb, accessed on 21.09.2012). It covers both information and communication. This study maintained this same definition of the strategy.

2.4.3 Communication Channels

According to Rodgers (1983), a communication channel is the means by which messages get from one individual to another. Rodgers has identified two major categories of communication channels, namely, mass media and interpersonal channels. Mass media channels are defined as all those means of transmitting

messages that involve a mass medium, such as radio, television or newspapers, which enable a source of one or a few individuals to reach an audience of many.

Interpersonal channels have been defined as those which involve a face-to-face exchange of information between two or more individuals. This describes participants who are dependent upon one another, that is, sender and receiver that engage with one another so as to gain information about each other for effective interaction. This is through verbal channels that rely on words as in written or spoken communication, or non-verbal channels that include facial expressions, controlled body movements, and sound. Interpersonal channels are considered to be effective in persuading an individual to adopt a new idea. Utilisation of mass media strategies, as far as they aim at social and behaviour change, are mainly effective in the field of awareness raising. According to (Servaes, 2008), the mass media approach is concerned with the process of diffusion and adoption of innovations in a more systematic and planned way. There are five phases in the diffusion process: awareness, interest, evaluation, trial and adoption. The role of the mass media is concentrated on the first stage of the process, whereas 'personal sources are most important at the evaluation stage in the adoption processes. The multi-channel communication campaigns are seen as an effective strategy in the arsenal of development communication mechanisms, as they spur action in areas of high development priority (Servaes, 2008). RTSA' communication strategy seems to be utilizing this approach as it appears to use multi-channel communication approach.

2.4.4 Communication Strategy

Communication strategy is defined as a well-planned series of actions aimed at achieving certain objectives through the use of communication methods, techniques and approaches. In the strategy, communication objectives directly address issues such as awareness, knowledge, attitude, practice, behaviour and participation (Mefalopous and Kamlongera, 2004). This concept was the focus of this study as it was intended to study the aspects of RTSA's Communication Strategy on road safety.

2.4.5 Interpersonal Communication

Reardon and Rogers (1988, p. 543) define interpersonal communication as face-to-face interaction between two or a few people with opportunities for feedback. It involves two or more people communicating and responding to each other.

2.4.6 Group Communication

James (2001, p. 976) looks at Group communication as interaction within a small group of people. This communication allows individuals to communicate with each other freely and openly, while maintaining their relationships. Group communication herein is used to refer to an interaction within a small group of people to allow individuals to communicate with each other freely and opening whilst maintaining their relations (James 2001, p.976).

2.4.7 Organisational Communication

James (2001, p. 976) looks at Group communication as interaction within a small group of people. This communication allows individuals to communicate with each other freely and openly, while maintaining their relationships.

2.4.8 Organisational Communication

William (1998, p. 326) defines organisational communication as the exchange of messages within and between organisations and their environments to stimulate meaning. It's a day to day communication within an organisational or between organisations for a common purpose.

2.4.9. Social Change

According to Appelbaum (1970, p. 1,786) social change is defined as any significant alteration over time in behavioral patterns and culture, values and norms. These alterations mainly yield profound social consequences in society.

2.4.10 Road Safety

Road Safety refers to methods and measures for reducing the risk of a person using the road network being killed or seriously injured (WHO, 2019).

2.5 THEORETICAL AND CONCEPTUAL FRAMEWORK

The theoretical framework in this study utilised the theory on design of a communication strategy by (Mefalopous and Kamlongera, 2004). In this framework, they have argued that in communication design strategy, communication objectives directly address awareness, knowledge, attitude, practice, behaviour and participation as the main stages of the process of effecting positive behaviour change through communication. This study is premised on assessing RTSA's communication strategy in effecting behaviour change on road safety by sampling road users and assessing RTSA's strategy in relation to the awareness, knowledge, attitudes and practices/behaviour (AKAP) of the road users.

2.5.1 Theoretical Framework

Two theories were used to help in the in-depth understanding of the topic and how they applied to the study. The study was guided by Rogers (1962)'s diffusion of innovations theory and social cognitive theory developed by Albert Bandura in 1960.

These theories were used as they complement each other and both discuss social interaction as a source of the new behavioral pattern or new knowledge. These theories can be applied to the road safety practices simultaneously for example, while developing certain positive behavior in road users according to the principles of the Social Cognitive Theory, it is necessary to effectively communicate the advantages of different safety practices methods, including new ones, according to the diffusion of innovations since both theories are based on the idea of social diffusion.

Diffusion of innovations theory was found to be appropriate for this study as one of RTSA communication strategy's objective aims at changing the behaviour of road users which will in turn reduce the number of road traffic accidents in the country (Road Traffic Accident Report, 2020). The diffusion of innovation is appropriate as it would help the road users adopt new ideas which would lead to change of behaviour hence road traffic accidents would be reduced.

On the other hand, social cognitive theory was also appropriate for this study because it explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies (Bandura, 1992, pp. 175-208).

The theory is relevant as it would assist RTSA to come up with road safety messages which may encompasses the practical part on how to use the road appropriately and other road users upon seeing what others are doing may emulate which may lead to reduction of road traffic accidents. An example is the tendency of bus drivers parking in the middle of the road, it has been a trend for some time now, social cognitive theory is appropriate for this study as it may assist how to disseminate road safety messages to the right audience as they would understand the behavior of different road users.

2.5.1.1 The Diffusion of Innovations Theory

For more than a century, diffusion theory has provided a wellspring of ideas, concepts, measures, and examples of application in the dissemination and implementation of innovations (Dearing, 2008). It has served a variety of applied fields in which science seeks to solve human problems in the application of technologies and practices arising from science. Diffusion of innovations theory has also become a repository for the collection of concepts from various social sciences concerned with the transfer of knowledge and of experiences from the application of technology and the spread of these in populations. The evolution of diffusion theory marks the emergency of various theoretical explanations for social behavior and various sub-disciplines of practice in communication, marketing and education.

This theory was appropriate because the modes of communication has become diverse over the time. According to RTSA's communication strategy (2016), some of the media used to communicate road safety information includes newspapers, posters, TV and radio. Innovative ways as well such as Facebook and WhatsApp were some of the tools that were included to be used to disseminate road safety information to road users.

Diffusion of innovation theory was appropriate for this study because one of the objective of RTSA's communication Strategy is for road users to have a change of behavior on road safety issues. The change of behaviour can only occur when road users, stakeholders and members of the public use the correct channel to communicate road safety messages.

Rogers E (2003) five (5) steps on diffusion of innovation are knowledge, persuasion, decision, implementation and confirmation.

Diffusion of Innovations theory is specifically appropriate for investigating the adoption of technology in different fields of social learning and introduction of new ideas and technologies. Rogers defines diffusion as "the process in which an innovation is communicated thorough certain channels over time among the members of a social system" (Rogers, 2003, pp. 568- 723). As expressed in this definition, innovation, communication channels, time, and social system are the four key components of the diffusion of innovations.

Four main elements in the Diffusion of Innovations:

Innovation

The footbridge along Misisi area is an innovation on road furniture, under the diffusion of innovation, the road users needed to be sensitized on the benefits of using the foot bridge so that road traffic accidents involving pedestrians can be reduced. By making the road users diffuse this innovation, more messages on the benefits of using the footbridge would have easily been passed from one person to another hence the idea of using the bridge could have been adopted by a lot of road users (pedestrian), (Rogers E, 2003, p. 12).

Rogers offered the following description of an innovation: "An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers E, 2003, p. 12). An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them. The newness characteristic of an adoption is more related to the three steps (knowledge, persuasion, and decision).

Communication channels

This theory was appropriate for this study as RTSA could come up with innovative ways of communicating road safety messages to people along the Misisi and John Laing area, for example through training the leaders of various community groups in the area so that they in turn can impart the knowledge to others. Since pedestrians had a higher percentage of people who were involved in road traffic accidents along this stretch, posters on what was required of them could have be put in strategic points and translated in local language for example chinyanja. The posters could have depicted for example a picture of the side of the road a pedestrian should use as they are walking on the road. When messages are reached out to the right audience and other people are persuaded to do what is right there is a possibility that others would emulate, (Rogers, 2003, pp. 568- 723).

Unlike only using media programmes to reach out to them. On- spot good road user behaviour for example could have been conducted where every month one driver especially a public service vehicle for example a bus driver would have been rewarded for good road user behaviour such as observing the speed limit. It might be difficult for bad drivers for example public service vehicles to adopt the idea that they need to stop and pick passengers at designated bus stops rather than stopping anywhere on the road and cause obstruction but once the message on the benefits of stopping where there is bus stop is diffused others might follow suit.

Communication is a process in which participants create and share information with one another in order to reach a mutual understanding" Rogers (2003, p. 67), This communication occurs through channels between sources. Rogers states that "a source is an individual or an institution that originates a message. A channel is the means by which a message gets from the source to the receiver". Rogers states that diffusion is a specific kind of communication and includes these communication elements: an innovation, two individuals or other units of adoption, and a communication channel. Mass media and interpersonal communication are two communication channels. While mass media channels include a mass medium such as TV, radio, or newspaper, interpersonal channels consist of a two-way communication between two or more individuals. On the other hand, "diffusion is a very social process that involves interpersonal communication relationships"

(Rogers, 2003, p. 19). In interpersonal channels, the communication may have a characteristic of homophile, that is, "the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, socioeconomic status, and the like," but the diffusion of innovations requires at least some degree of heterophily, which is "the degree to which two or more individuals who interact are different in certain attributes.

Time

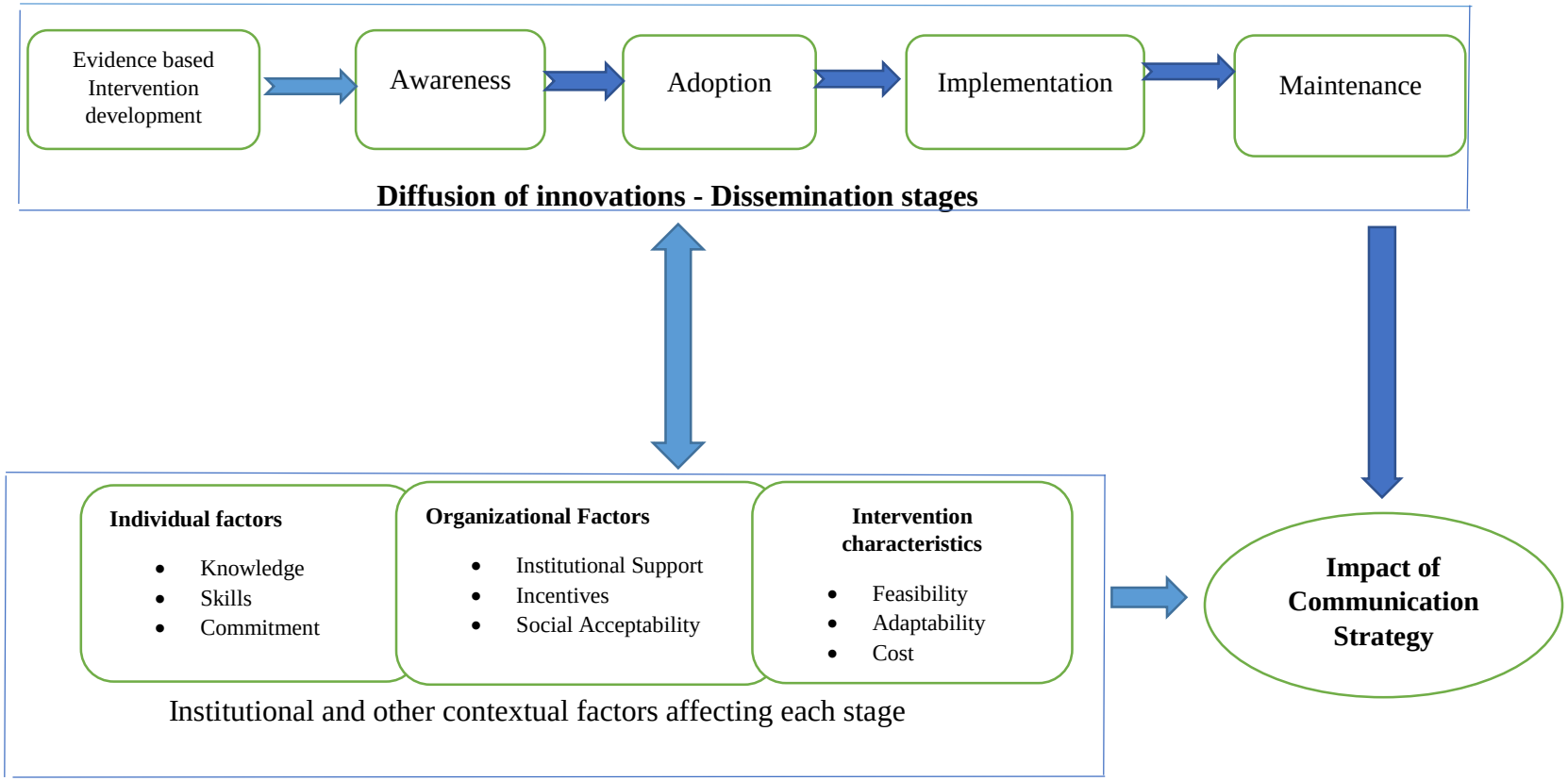
Time is also an important factor, when planning road safety sensitisations, RTSA needs to put a time frame, if certain information is not diffused by members of the public during a certain period of time. There could be that the communication channels used were not effective. Right messages should be tailored to the right audience Mefalopulos (2008:3). Change of behaviour should be noticed with time for example more pedestrians should be seen using the footbridge and in turn a reduction in road traffic accident on that stretch should to be recorded in a given time frame. According to Rogers (2003, p. 34), the time aspect is ignored in most behavioural research. He argues that including the time dimension in diffusion research illustrates one of its strengths. The diffusion process, adopter categorisation, and rate of adoptions all include a time dimension.

Social System

The use of the community themselves in disseminating road safety information is very important. The Agency can train focal points in communities who in turn can train the people along that stretch. People work well together to solve common problems which affect them. Rogers (2003, p. 34) defined the social system as "a set of interrelated units engaged in joint problem solving to accomplish a common goal". Since diffusion of innovations takes place in the social system, it is influenced by the social structure of the social system. For Rogers (2003, p. 34), structure is "the patterned arrangements of the units in a system." He further claimed that the nature of the social system affects individuals' innovativeness, which is the main criterion for categorizing adopters.

2.5.1.2 The Conceptual Framework on Information Dissemination.

Figure 1: Conceptual Framework



Source: E.M. Rogers (1995: 4).

The conceptual framework above shows the interconnectedness of the factors that may affect the overall impact of any communication strategy. The first column shows the stages that are significant to follow in order to achieve the desired level of results on an information gathering and dissemination intervention. The second column below on the diagram highlights some significant factors that might affect the overall effectiveness of an information gathering and dissemination program. And these are the institutional and contextual factors. When these factors are at play, they affect the overall effectiveness of any information communication strategy either in a positive or negative way.

In relations to the study, the diffusion of innovation was appropriate because according to the study findings, RTSA uses a number of platforms to reach out to the public. Apart from the traditional media which mostly is appropriate for people who have no access to the internet, the Agency uses new media such as twitter, website and other Phone Applications to target other publics (those who may have access to the internet). Using these platforms, the public are persuaded to use the road correctly and also inform them about the dangers of not following the road traffic rules and regulations.

2.5.1.3 Social Cognitive Theory

The social cognitive theory explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies (Bandura A, 1992, pp. 175-208). Evaluating behavioral change depends on the factor's environment, people and behaviour. The theory is relevant for designing both educational, capacity building and behavioral programs. This theory explains how people acquire and maintain certain behavioral patterns.

The theory can also be used for providing the basis for intervention strategies. Bandura (1992, p. 61) further argues that each factor affects each of the others. For example, in congruence with the principles of self-efficacy, an individual's thoughts affect their behaviour and an individual's characteristics elicit certain responses from the social environment. Likewise, an individual's environment affects the development of personal characteristics as well as the person's behavior, and an individual's behaviour may change their environment as well as the way the individual think or feel. Social cognitive theory focuses on the reciprocal

interactions between these factors, which are hypothesized to determine behavioral change.

In relations to this study for example, social cognitive theory was applied because communications campaigns which are wholistically planned with different strategies and use of media to inform or increase awareness can influence or change the behaviour of road users on matters of road safety. According to (Fisa et al 2019), some road users would respond according to the campaigns based on their self-efficacy, goal and result expectancy which are in the social cognitive framework. It is strongly believed that that road users and the general public will imbibe safety practices that help them avoid road traffic crash if they are properly given the right information, Crawford and Okibo (2014).

There are variables that could determine the success or failure of communication to people. There are circumstances when the audience feign resistance to behavioral messages that are targeted at them be they directly or indirectly. It is because of this that appropriate means have to be adopted when the attitude of people has been well understood (Crawford and Okibo, 2014).

In conclusion, these theories were used because they can also be appropriate for developing efficient communication strategies and interventions that can be adopted widely. The principles of the Social Cognitive Theory can be used to provide meaningful reinforces for individuals for example controlling negative road safety behaviors. In addition, the principles of the Diffusion of Innovations Theory can be used to make the road users early adopters of new effective practices and ideas in order to improve road safety significantly. Thus, these theories can also be used to explain road user's behaviors when alternative ways of strategies of promoting road safety are proposed to them.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Overview

The methodology section is one of the most important components of the research process. It outlines the methods, techniques and procedures that were undertaken in order to effectively implement the plan of this study.

3.1 Research design

A research design refers to the overall strategy to integrate different components of a study into a coherent and logical way, thereby, ensuring that the research problem has been addressed (Johnson & Christensen, 2004). It constitutes the outline for the collection, measurement, and analysis of data. There are a number of research designs, which include, experiments, longitudinal design, cross-sectional design, surveys as well as case study.

In this study, the research design adopted was the descriptive survey method. Descriptive survey research uses surveys to gather data about varying subjects, (Glass & Hopkins, 1984). The choice of the research design was being influenced by the nature of the research problem because the researcher sought to describe accurately and precisely the effectiveness of the communication strategies used by the RTSA to mitigate the number of road traffic accidents in Lusaka Urban. As Babbie (2013) postulates that survey research is probably the best method available to the social researcher who is interested in collecting original data for describing a population too large to observe directly. Due to the large sample frame, a descriptive survey was found to be the most appropriate method. The descriptive survey design was preferred as it adopted both quantitative and qualitative approaches to research. This approach meant that the study was a mixed method that used both qualitative and quantitative methods to solicit information from the study participants (Myers, 2009). Mixed methods designs are of different types depending on the purpose of choice. In this study, the convergent parallel design was used. Typically, this was a one phase design in which qualitative and

quantitative data was collected at the same time/ in a single phase (Creswell, 2008). The reason for selecting mixed method approach was to best develop a more complete understanding of the research problem by obtaining different but complementary data. Both qualitative and quantitative data was collected at the same time.

The study used mixed method approach, this is because it is usually the best at it allows one to identify aspects of a phenomenon more accurately by approaching it from different vantage points using different methods and techniques (Creswell, 2008). Hence, the need to use the mixed method approach in order to use multiple forms of data drawing on possibilities of statistical and text analysis. As Babbie (2013) argues that, "usually, the best study design uses more than one research method, taking advantage of their different strengths" (p.115).

3.2 Target population

The study selected Lusaka Urban as the study site. Lusaka was chosen because it records high numbers of road traffic fatalities compared to other provinces (RTSA Road Traffic Accident Reports 2018, 2019 and 2020). The specific study site was around the Misisi area of the Great North Road. According to ZAMSTATS Social Statistics report (2020) the study site is one of the most densely populated areas in Lusaka, with a human population of 160,000. The site was also chosen because of its proximity to the major road and the number of road traffic accidents the country has been recording along that stretch. Apparently, the site records about 300 to 350 road traffic accident per year, (Annual Road Traffic Crash Report, 2020). The study targeted motorists and vulnerable road users such as pedestrians, motorists and cyclists.

3.3 Sample and sampling procedure

3.3.1 Sample size

According to Brink *et al*. (2012), a sample is a part or fraction of a whole or a subset of a larger set selected by a researcher to participate in a research study. Since this is a mixed method approach, the study was guided by the guidelines that exist for qualitative and quantitative methods. For the quantitative phase, the

minimum sample size was estimated using the formula adopted from Charan & Biswas (2013) below;

$$n = \frac{z^2\, p(1-p)}{d^2}$$

Where;

- d is the desired margin error
- p is the (assumed/estimated) proportion of the employees' population.
- z is the standard normal deviate

Since there is no similar study and taking into account the researcher's capacity, the study estimated a 5% proportion. Considering: 95% (Z = 1.96) confidence interval, and 5% margin error. Therefore,

Taking into account the researcher's capacity, the study estimated a 10% proportion. Considering: 95% (Z = 1.96) confidence interval, and 5% margin error. Therefore,

$$\frac{1.96^2 \times 0.05(1-0.10)}{0.05^2} = 69.1488$$

Hence the desired sample size for quantitative phase of this study was 70. However, due to non-response and unanswered questionnaires, the ultimate sample size was 50.

For the qualitative phase, participants were drawn from the RTSA Public Relations department which included, the Public Relations Manager, Information Officer and a Customer Care and from the Education and Publicity Units, it included two Education Officers. The required number of participants depended on when saturation was reached. Saturation occurs when adding more participants to the study does not result in obtaining additional perspectives or information. Glaser and Strauss (1967) recommend the concept of saturation for achieving an appropriate sample size in qualitative studies. This recommendation helped the researcher to estimate how many participants were needed for the qualitative component of the study. Sandelowski (1995) agrees that determining sample size in qualitative research is ultimately a matter of judgment and experience on the part of the researcher and the researcher need to evaluate the quality of the information

collected in light of the uses it will be put. In this study, 6 participants were recruited for the qualitative phase.

3.3.2 Sampling procedure

Since the study employed both qualitative and quantitative approaches, the sampling techniques were also drawn from the two respective research approaches.

3.3.3 Sampling for Quantitative research

Sampling refers to the researcher's process of selecting the sample from a population in order to obtain information regarding a phenomenon in a way that represents the population of interest (Brink et al, 2012).

The type of sampling adopted for this study was non-probability sampling where some units have zero chance of being included in the sample. The sampling methods that were used in this study included convenient and purposive non-probability sampling techniques.

Participants for the questionnaire were selected through convenient sampling technique. The researcher picked pedestrians, passengers, motorists, cyclists from accident prone areas, as well as residents and Misisi area who were available and willing to participate in the study to make up the sample. This method was adopted for this study in order to enhance efficiency in data collection since it is not easy to use random sampling in this situation and most people are always busy with their daily work schedules. This procedure is supported by Cohen et al (2007) who argues that convenient sampling involves choosing the nearest individuals (participants) or those who happen to be available to serve as participants and continuing that process until the required sample size has been obtained.

3.3.4 Sampling for Qualitative Research

Selection for interview participants was done through purposive sampling. For interviews, participants were drawn from RTSA. With purposeful sampling, the aim is not to generalize findings to a larger population, but to select participants who will allow the researcher to understand the phenomenon in depth (Mayan, 2009). Therefore, the number of cases is less important with this approach than

what the selected cases contribute to the understanding of the topic at hand (Stake, 1995). To come up with the participants, the study applied purposive sampling to select the participants who are knowledgeable about the subject matter. This was arrived at in line with Kombo and Tromp (2006) who argued that purposive sampling allows a researcher to use common sense and best judgment in selecting the right habitations and meeting the right number of the correct people believed to be reliable for the purpose of the study. Therefore, officers from RTSA were believed to be the right and correct people for the qualitative component of this study. The researcher strongly believes that these people provided in-depth and detailed information about the phenomenon under study.

According to Neuman (2003), purposive sampling does empower the researcher the right to select cases with a specific purpose in mind, namely to get information on the basis of their informativeness. Patton (1990) further claims that purposively selected informants are preferred for the reason that they are likely to be more conversant or well-informed about the phenomenon the researcher is investigating, than random sampling were respondents selected may not be well-informed about the phenomenon. Hence, the researcher adopted purposive sampling technique when selecting the officers from RTSA because participants selected through this method can provide in-depth and detailed information about the phenomenon under investigation.

It should be noted that these are extremely risky sampling methods because they do not permit any control over the representativeness of a sample. However, on the other hand, Babbie (2013) argues that convenient sampling is justified if the researcher wants to study the characteristics of people passing the sampling point at specified times or if less-risky sampling methods are not feasible. Hence, this study used convenient and purposive sampling following what Babbie (2013) suggested.

3.4. Type of data

The study used both primary and secondary data. Primary data is information collected through original first –hand research for example surveys or focus group discussions. Secondary data is data collected by someone earlier for books journals articles (Ajay, 2007**)**

3.4.1 Primary data

The primary data is essentially raw data that was collected in response to the objectives of the research study. It included data that was collected in the field from the research participants and these included an interview with the personnel from RTSA Public Relations Department and through a survey which targeted road users along Kafue road, near Misisi and John Laing areas. The data was collected from the target population using the data collection tools and eventually analyzed and interpreted to form the basis of the findings of the research study. Primary data was collected through the use of questionnaires and interviews.

3.4.2 Secondary data

Secondary data was vital in this research as it aided the researcher to better understand the topic of research so as to make meaningful progress on the findings of the research study. It was obtained from various sources such as publications, books, newspaper cuttings and recorded audio and video relating to the topic under research. Internet also played an important role in providing data for the research.

3.5 Data collection tools and procedures

3.5.1 Data collection tools

In order to enhance the validity of the study, data was collected using a mixed approach of qualitative and quantitative methods, Creswell and Plano Clark (2011). For quantitative data collection, the study targeted motorists, cyclists and pedestrians with specifics semi-structured questionnaires for each sample category. The data was collected using a questionnaire and through interviews. These methods were adequate in facilitating the collection of the needed data to answer the research questions. As Patton (1990) stated that combinations of interviewing, observation, document analysis and questionnaire are anticipated in social science field because studies that use a single method are prone to errors linked to that particular method than studies that use multiple methods.

The questionnaire on the other hand was preferred as it enabled the collection of large amounts of information in the shortest possible time, and was easier for the target respondents to understand as they are literate. The questionnaire also helped

to eliminate uncomfortableness and build confidence among research participants. Furthermore, it offers greater anonymity, as there is no face-to-face interaction between the respondent and the researcher. Additionally, it is the best tool for the quantitative component of the study and it helps to increase the likelihood of obtaining accurate data (Babbie, 2013). The questionnaire is attached as Appendix I.

Self- administered questionnaire was used, questionnaires are a form of interviews but are much less time consuming and looking at the budgetary as well as time constraints of the study, the questionnaire appeared to be the most ideal collection tool in this research as it is cost effective. In a nutshell, the questionnaire ensured privacy and maximization of time and cost during the research process.

For qualitative research, in-depth interviews, using an interview guide, were used in order to gain more insight and understanding of the research study, one-to-one interviews were also used on participants from RTSA. Face to face, interview guides were used to ensure consistence in the collection of data and to probe for deeper information and opinions from the participants. This was so in order to yield an enriched, elaborated understanding of the problem and to seek enhancement, illustration and clarification of the results from the study. The interview guide is attached as Appendix II.

3.5.2 Data collection procedures

The researcher travelled to the field site to collect primary data from the study participants. Data was collected for a period of three (3) weeks. This is a mixed method research and data was collected using a concurrent triangulation strategy where data from the interviews was collected parallel to the questionnaire. This method was used to strengthen the findings of the study and to explain the lack of convergence of the results.

For quantitative data collection procedures, the researcher administered the questionnaire by hand. Babbie (2013) informs us that, there are actually three main methods of administering questionnaires to a sample of respondents, these are: self-administered questionnaires, in which respondents are asked to complete the questionnaire themselves; surveys administered by interviewers in face-to-face

encounters; and surveys conducted by telephone. This study adopted the self-administered questionnaires, in which respondents were asked to complete the questionnaire themselves. Thus, participants in this study were required to read and complete the questionnaire for themselves.

For qualitative data collection procedures, the researcher conversed in person, using an interview guide. The interviews were conducted face to face. The interviews were recorded with prior consent from the interviewees. In addition to the recording, notes were made in a note book during the interview. An interview guide was used and followed. However, in some circumstances, follow up questions were asked in order to probe some interviewees for clarifications, as well as to gain more insights from them.

3.5.3 Data Analysis

According to Johnson and Christensen (2004), data analysis refers to the process of creating value from the raw data. Since this study used mixed-method approaches, it was analyzed by using quantitative and qualitative data analysis techniques involved analyzing both quantifiable and text data.

For quantitative data, the Statistical Package for the Social Sciences (SPSS) version 25 was used as the statistical software for data analysis. Given the fact that quantitative data is usually large, the use of computer software was necessary to help with the process of data analysis. To better understand the characteristics of each variable, descriptive statistics including frequencies and percentages was calculated for each item in the questionnaire. To aid the interpretation of data, data was summarized and organized in frequency tables and bar charts.

For the qualitative research approach, data was analyzed using thematic analysis. According to Gibbs (2007), thematic analysis is a form of qualitative analysis that involves recording or identifying passages of text or images that are linked by a common theme or idea allowing you to index the text into categories and therefore establish a framework of thematic ideas about it. Braun and Clarke (2006) define thematic analysis as “a method for identifying, analyzing and reporting patterns within data” (p. 79).

Thematic analysis is a widely used method of analysis in qualitative research. Thematic analysis was preferred because it gives one a lot of flexibility in interpreting the data, and allows to approach large data sets more easily by sorting them into broad themes. Through this flexibility, thematic analysis allows for a rich, detailed, and complex descriptions of the data. Hence, the researcher used thematic analysis to take advantage of its flexibility. Therefore, it emphasized pin-pointing, examining, and recording patterns (or themes) within the data. The study adopted the deductive approach to thematic analysis. This involved coming to the data with some preconceived themes the researcher expected to find reflected there, based on existing knowledge.

The analysis of data was done using Nvivo 10. Nvivo is a qualitative data analysis software. This software was preferred because it can analyze text, audio, video, and image data among others. The interview recordings from the voice recorder and the notes that were made from the notebook served as raw data to be analyzed using Nvivo 10. The objectives of the study presented in 1.3 of this study will form a framework on which to analyze the data.

The analytic process was as follows:

i. The notes made from the notebook were typed in MS Word and served as a word document.
ii. Thereafter, the interview recordings from the voice recorder and the word document from the notes made from the notebook were imported into Nvivo 10.
iii. Guided by the study objectives, the researcher then created nodes (themes) in Nvivo 10.

Thus, the analysis which followed, was organized around themes predicted in advance.

3.5.4 Research design matrix

Table 1: Research design matrix

RESEARCH QUESTIONS	OBJECTIVES	DATA COLLECTION METHODS	DATA ANALYSIS
What are the channels and the effectiveness of the channels used by RTSA to communicate road safety messages to road users around the Misisi area of the Great North Road.	To establish channels and the effectiveness of the channels used by RTSA to communicate road safety messages around the Misisi area of the Great North Road	Desk Research, Structured survey questionnaire, Interviews	Statistical package for social science and Excel, NVIVO
What is the quality of messages is used by RTSA educate road users around the Misisi area of the Great North Road about road safety.	To evaluate the quality of messages used by RTSA to educate road users around the Misisi area of the Great North Road about road safety.	Structured survey, questionnaire, Interviews	Statistical package for social science and Excel, NVivo
What are the levels of awareness of road users around the Misisi area of the Great North Road about road safety	To assess the levels of awareness of road users around the Misisi area of the Great North Road about road safety	Desk Research, Structured survey, questionnaire, Interviews review	Statistical package for social science and Excel, Nvivo

3.5 Ethical considerations

This research study acknowledged certain social science research ethics so as to guard the future research endeavors in light of the topic ‘evaluating the RTSA’s communication strategy to promote road safety in Lusaka Urban’. The social science research ethics which the researcher upheld are the principles of

truthfulness, rationality and objectivity during the process of the research study Harmond (1997).

Ethics were upheld from the initial stage of recruiting research participants. In recruiting research participants, the researcher endeavored to ensure that there is voluntary participation of potential participants of the research study. Therefore, the researcher attempted to make sure the topic and the purpose were explained to the research participants so as to enhance voluntarism in light of participation.

The ethics of attempting to reduce harming the research participants either physically or emotionally were also held in higher esteem. Harming of participants was avoided through ensuring that their privacy, anonymity and confidentiality are not revealed to anyone without their authorization. This facilitated confidence in future researches and hence protecting the research venture as a whole. As part of upholding ethical considerations in this research, the researcher also respected any potential vulnerable populations as well as their special needs. The researcher did not plagiarize or doctor any data findings during data analysis and interpretation after the data collection was complete.

Finally, permission to conduct research was sought from Humanities and Social Sciences Research Ethics Committee (HSSREC) before embarking on data collection. Further, permission was sought from the relevant authorities such RTSA before collecting data.

CHAPTER 4

PRESENTATION OF FINDINGS

4.0 Introduction

The section presents the results from the analysis of data collected from the field. Road users from accident prone areas in Lusaka Urban, stakeholders and officers from RTSA provided information for this study. Officers from RTSA were the key informants for this study. The analysis of the data was guided by the study objectives. Semi-structured questionnaires were administered to the participants around the Misisi area of the Great North Road. Sixty (60) questionnaires were administered and fifty (50) were returned which resulted in 83 percent response rate. Six (6) one-one interviews were held with the officers from RTSA.

4.1 Background information of respondents

Table 2 shows the information regarding the background characteristics of the respondents for the questionnaire. There were 50 people comprising of pedestrians, motorists, cyclists conveniently selected from accident prone areas in Lusaka Urban to participate in this study.

Table 2: Frequency and percentages of the characteristics of the respondents (n=50)

Background characteristics	Frequency	Percent (%)
Sex		
Male	35	64
Female	18	36
Age group		
20-29 years	4	8
30-39 years	18	36
40-49 years	10	20
50-59 years	16	32
60 years and above	2	4
Education level		
Primary education	10	20
Secondary education	24	48
Tertiary/higher education	16	32
Total	**50**	**100**

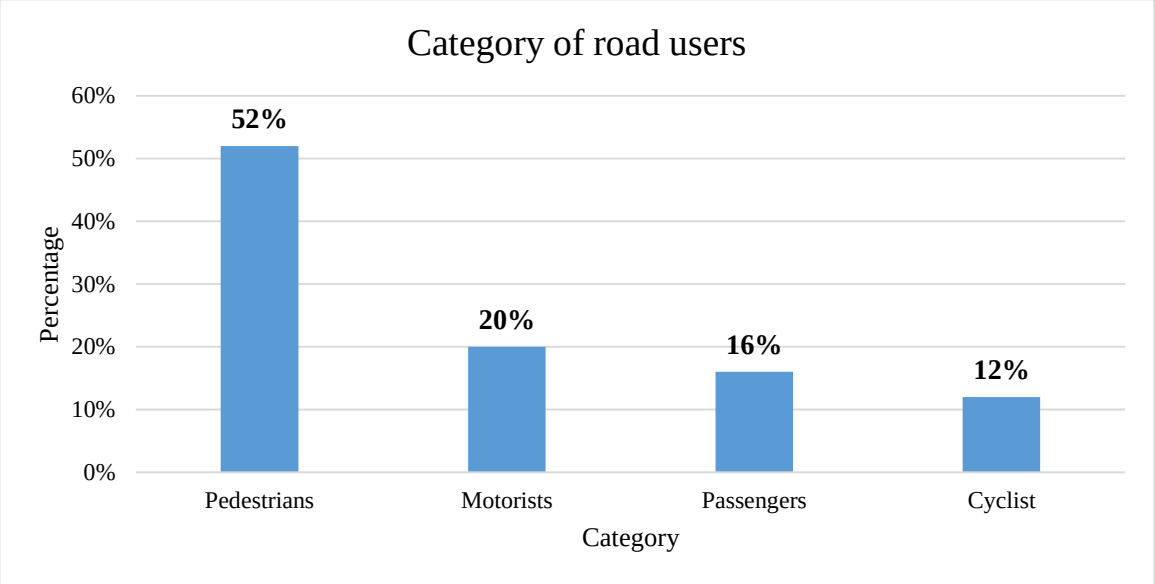
The results show that the majority (64%) of the participants were males, while the females were represented by 36%. In terms of age, most of the respondents fell in the age 30-39 years (36%), 50-59 years (32%) and 40-49 years. Further analysis indicated that almost half of the study participants had secondary education (48%), while the rest had higher education (32%) and primary education (20%).

Table 3: Messages communicated to and the channels used

SN	Messages	Themes	Channel
1	Pedestrian Safety	i) Visibility on the road ii) Crossing Safety iii) Side of the road to use while walking iv)Jaywalking	ZNBC RADIO 2 and 4, Zambia Daily mail, Millennium, ASKRTSA , ZNBC TV1 and ZNBC TV2, Diamond TV, Posters
2	Cyclist's Safety	i) Side of the road to cycle from ii) Visibility on the road iii) fitness of the cycle	ZNBC RADIO 2 and 4, Zambia Daily mail, Millennium, ASKRTSA , ZNBC TV1 and ZNBC TV2, Diamond TV, Posters
3	Passenger Safety	-i) Buckling up ii)securing children iii)dangers of distracting the driver	ZNBC RADIO 2 and 4, Zambia Daily mail, Millennium, ASKRTSA , ZNBC TV1 and ZNBC TV2, Diamond TV, Posters, Komboni Radio, Muvi TV
4	Motorists Safety	i) Drink driving ii) Seatbelt use iii) Mobile use iV) Drink driving	ZNBC RADIO 2 and 4, Zambia Daily mail, Millennium, ASKRTSA , ZNBC TV1 and ZNBC TV2, Diamond TV, Posters, Komboni Radio, Muvi TV

Table 3 above presents road safety messages RTSA uses to educate road users and the medium of communication used to disseminate these messages. Messages on road safety ranged from pedestrian Safety, cyclist's safety, and passenger safety to motorists safety.

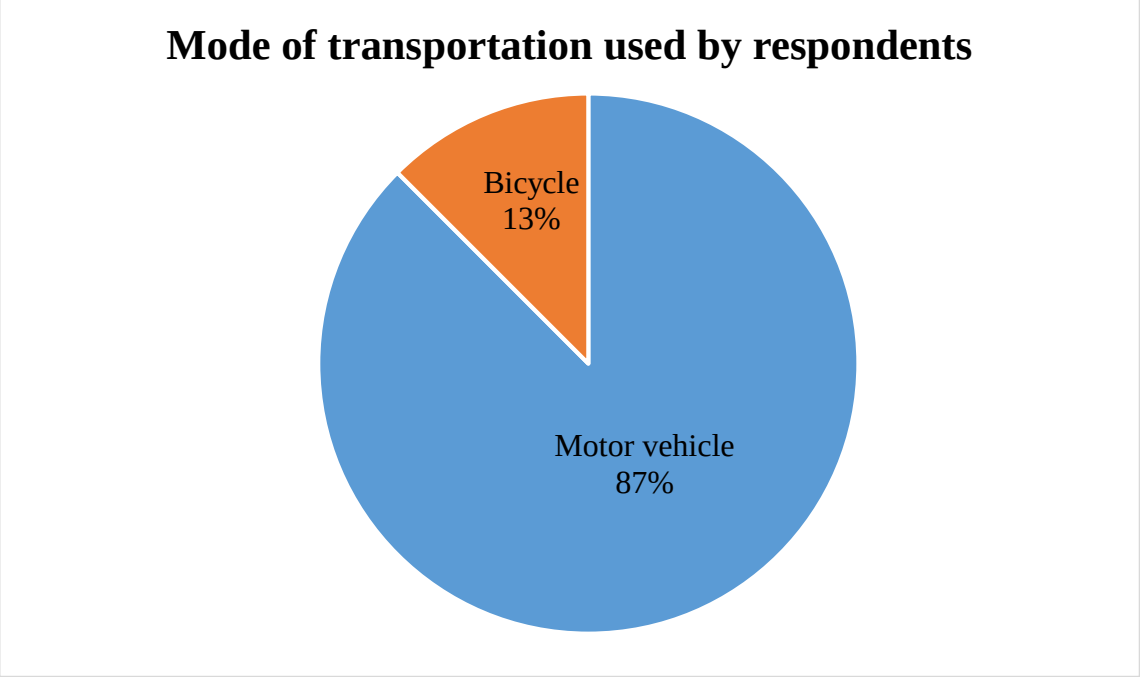
Figure 2: Percent distribution of respondents according to category of road users



The results as indicated *in Figure 2* above shows that more than half of the study participants were pedestrians (52%), while the rest were motorists (20%), passengers (16%) and cyclists (12%).

Percent distribution of residents according to mode of transportation used

Figure 3: Mode of transportation used by residents



In this study, participants were asked to indicate their mode of transportation. The results show that a large proportion of the sampled population use motor vehicles

as their mode of transportation (87%). Further analysis indicated that 13% use bicycles as their mode of transportation.

4.2 Results related to specific objectives

4.2.1 The channels and effectiveness used by RTSA to communicate road safety messages

The first objective of the study sought to establish the channels and effectiveness of the channels used by RTSA to communicate road safety messages around the Misisi area of the Great North Road. This section of the study presented the finding related to objective one.

Table 4: Types of communication channels used to receive road safety information

	n=50	
Type of channel	**Frequency**	**Percent (%)**
Television	22	44
Radio	32	64
Print media	10	20
Social media	18	36
Posters	8	16

Messages about road safety come to people through various channels. The study required participants to indicate how they received messages on road safety. The results showed that the majority indicated to have received messages on road safety through radio (64%). This was followed by television (44%) and social media (36%). While others received information and messages on road safety through print media (20%) and posters (16%).

Percent distribution according to communication channels

Figure 4: Communication channels through which road users receive road safety messages

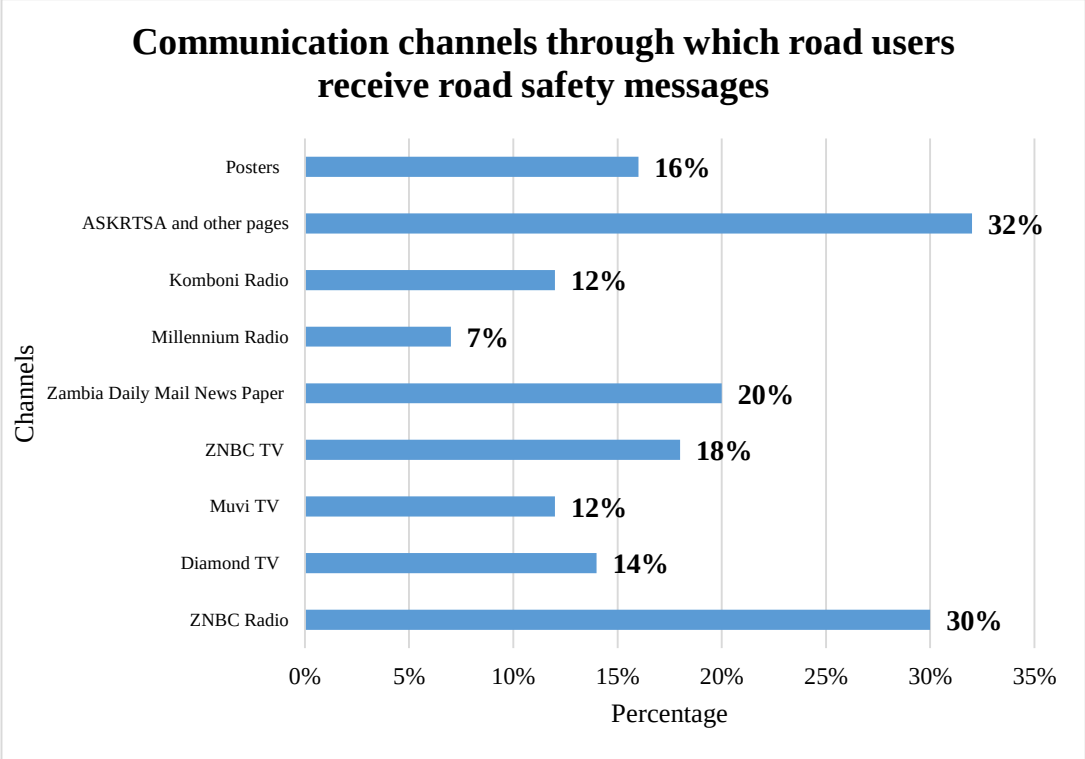
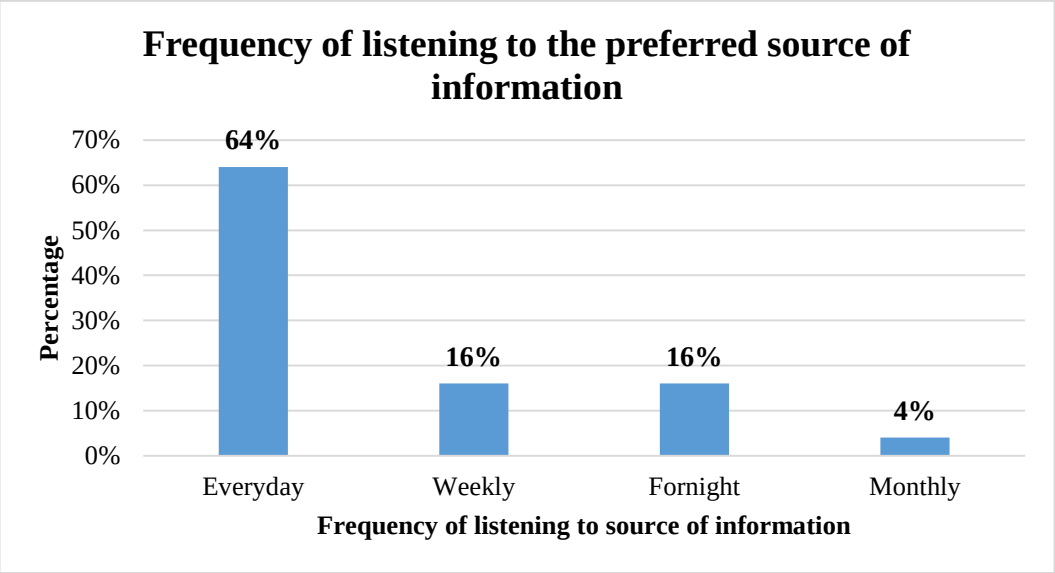


Figure 5

The results showed that respondents receive road safety messages though ASKRTSA (32%), ZNBC Radio 2 (30%), Zambia Daily Newspaper (20%), ZNBC TV1 (18%), Posters (16%), Diamond TV (14%) and Komboni Radio (12%).

Figure 6: Frequency of listening to the preferred source of information



A further question in the questionnaire was posed to find out from the participants how often they listen to their preferred source of information. The results are presented in *the figure* above. The findings indicated that the majority of the respondents listen to their preferred source of information every day (64%). Those that listen to their preferred source of information a fortnight (16%), weekly (16%) and monthly (4%).

During interviews, the researcher observed that road safety messages are delivered through various channels and the beneficiaries are getting this information though more needs to be done. This was echoed during one-to-one interviews with a key informant from RTSA who narrated that:

> "*Basically, I would rather say that these messages are disseminated through various channels and I believe that the beneficiaries to some extent are getting these messages, but we need to do more so that we reach out to everyone like those who do not listen to the radio regularly (*M Mambwe 2020, pers. com., 14 October)

Officers from RTSA acknowledged that among the channels through which road users receive road safety messages included electronic, print and social media platforms, as well as during road shows, schools, information kiosks. When asked

about which medium has been very effective in reaching out to the people, the officers informed the researcher that it was radio.

Furthermore, during one-to-one interviews with another official from RTSA, the researcher was informed that mostly radio is supposed to be one of the effective channel of disseminating road safety messages but according to the study findings it is relative effective because it does not carter for each segment of the population especially those who are vulnerable and always found on the road. This came to light during the interview when the officer commented that:

> *"…, yes, it can be the correct channel and it is effective but the effectiveness I may just call it relative, is in the sense that when you look at the timing at what the country is passing through, the question is, when one is speaking on the radio how many people will be there to listen because you may find that most of the time people are busy working. I may give an example, just here in Lusaka the majority of people who sale salaula (second hand clothes) do you think they have a radio to listen to, but these are also vulnerable and they are always found on the road"* (D Maimbo 2020, pers. Comm., 17 October)

This means that the communication channels that the RTSA uses to disseminate road safety messages are the correct channels but in terms of effectiveness, they are not highly effective as they do not reach to all road users. This shows that there is more that needs to be done in order to reach out all road users.

Another participant also added on to say that:

"…, I would say that these communication channels are effective but needs room to accommodate other mode of communication" (J Banda 2020, pers. comm., 20 October).

While others were of the view that these communication channels are very effective and exceptionally excellent because a wide audience is reached out to.

It is evident from the respondent's narratives that there are several channels through which RTSA uses to disseminate road safety messages, with radio being

the most used channel among them all. The findings also indicated that these channels relative effective as they do not reach out to all road users such as marketeers and other people who do not usually listen to the radio. Further, it is clear that to some extent road users are getting the messages though more needs to be done in order to ensure that these channels are effective by reaching out to everyone affected by road carnage.

In disseminating road safety messages, it is very important that the information is tailored to specific individuals because there are different road users and these require specific road safety messages. When asked whether the audience are segmented, the key informant told the researcher that:

> *"Yes, in Zambia, what I know is that most road users are motorists, cyclists and pedestrians and passengers, for all these, there are specific messages that are designed for each particular category of road users, for example when the Agency conducts some sensitizations at bus stations and taxi ranks, the messages and languages used are those tailored mostly for drivers and they are tailored in a way that these caliber of road users would fully understand. The Agency uses various platforms to reach out to these road users for example during traditional ceremonies for instance N'cwala traditional ceremony, cyclist's messages are mainly disseminated because in Eastern Province, a large population uses bicycles as a mode of transport."* (A Zulu 2020, pers. comm., 3 October)

This shows that road safety messages target various groups of people in that there are specific messages for specific road users. This clearly indicates that road safety messages account for different demographic populations. These are being reached out through various mediums and methods including sensitization in bus stations, communities, schools, traditional ceremonies among others.

The overall effectiveness of RTSA' communication strategy may only be seen through change of behaviour of the beneficiaries of road safety messages. The study findings showed that there is low adherence regarding issues of road safety. Road users particularly pedestrians are not very conscious when they are moving on the road, sometimes motorists have to stop and wait for the them to move out

from the road. This came to light during one-to-one interviews with one key informant who commented that:

> *"We have seen that in Lusaka and other towns, road users move on the road even when it has walkways. Pedestrians are supposed to use the right side of the road facing on-coming vehicles instead pedestrian move on any side as they see it fit".* (P Mwanza 2020, pers. comm., 22 October).

This shows that to some extent road users are not fully adhering to the road safety messages communicated to them through various channels. This indicates that the communication strategy in general and communication channels in particular are not as effective as they should be because road users' behavior has not changed much.

Table 5: Preferred channels through which road users want to receive information on road safety

	n=50	
Source of information	**Frequency**	**Percent (%)**
Television	10	20
Radio	20	40
Newspapers	14	28
Posters	12	24
Internet	16	32
Social network sites	8	16

Having knowledge of the various sources of information that people in neighborhoods prefer is of paramount importance to the successful effectiveness of promoting road safety through proper dissemination of results. In this study, participants were required to indicate their preferred source of information. Their responses are presented in *Table 3*, and the results revealed that radio (40%) was the most preferred source of information, this was followed by internet (32%), newspapers (28%), posters (24%) and television (20%). Only 16% indicated to prefer social network sites.

4.2.2 Quality of messages used by RTSA educate road users around the Misisi area of the Great North Road about road safety

This study was designed to evaluate the quality of messages communicated to Lusaka road users around the Misisi area of the Great North Road about road safety.

This section of the study presents information on this aspect.

Table 6: Type of messages received on road safety

n=50		
Type of information	**Frequency**	**Percent (%)**
Drink driving	18	36
Seatbelt use	16	32
Mobile phone use	24	56
Over speeding	26	52
Jay walking	8	16

RTSA uses various messages on road that are communicated to the public. In this study, respondents were required to indicate the quality of information that they have received on road safety. Their responses are presented in *Table 6* above, what emerged from the results is that the majority of the respondents indicated that they received information on mobile phone use (56%) and over speeding (52%). The rest indicated that they received information on drink driving (36%), seatbelts (32%) and jay walking (16%). Most of this information targeted motorists and not much on pedestrians.

An open-ended follow up question was raised in the questionnaire to find out from the road users' own expression on what type of messages they received from RTSA or any other organization regarding road safety and if the information was helpful or had a lot of helpful tips on road safety. It was found that respondents received road safety messages at some point and the information was not very detailed. One participant expressed that

"not to use cell phones while driving and not to speed, was some of the information I received about road safety".

The findings from the interviews also revealed that most of the road safety messages communicated to the road users' boarders more on motorists' safety hence there is more to be done for other road users.

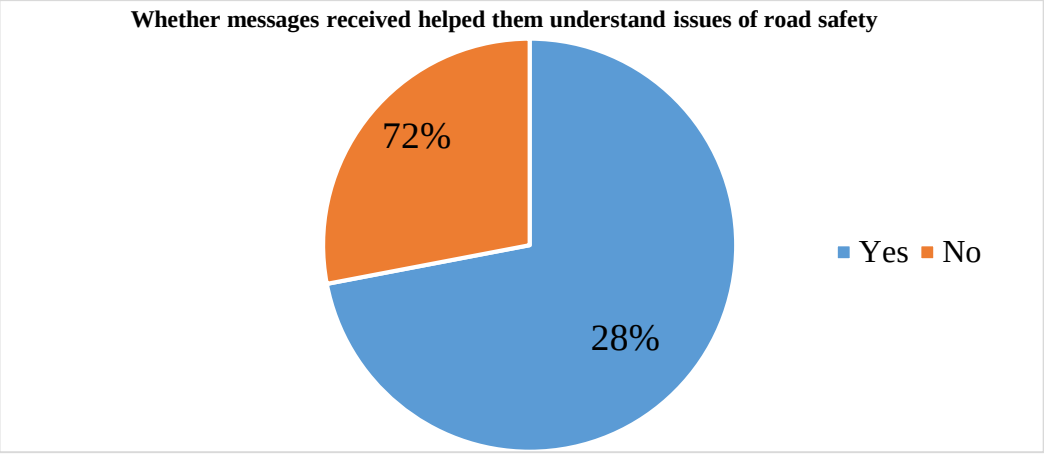
However, during one-to-one interview with one key informant from RTSA, the researcher said some of the road safety messages that is passed on to the beneficiaries included for pedestrians because they are the most ones who are vulnerable followed by cyclists. The participant said that:

> "*yes, in most cases road users are sensitized on the dangers of walking on the road while intoxicating with liquor and other substances, how to cross the road safely and how to be visible on the road and the side of the road to use".* (N Mulenga 2020, per. comm., 14 October)

This clearly shows that various road safety messages have been designed and disseminated to the various specific road users including pedestrians who are mainly vulnerable on the road especially when crossing the road. Some of the information included, how to cross the road, to be visible and the side of the road to use while walking. With this information, road users are expected to be aware of road safety whenever they are walking by road or crossing. The results suggest that the quality of messages used by RTSA to educate road users about road safety is not as effective as they are supposed to be as they are concentrated more on motorists according to the interview responses.

Whether messages road users received helped them understand issues of road safety

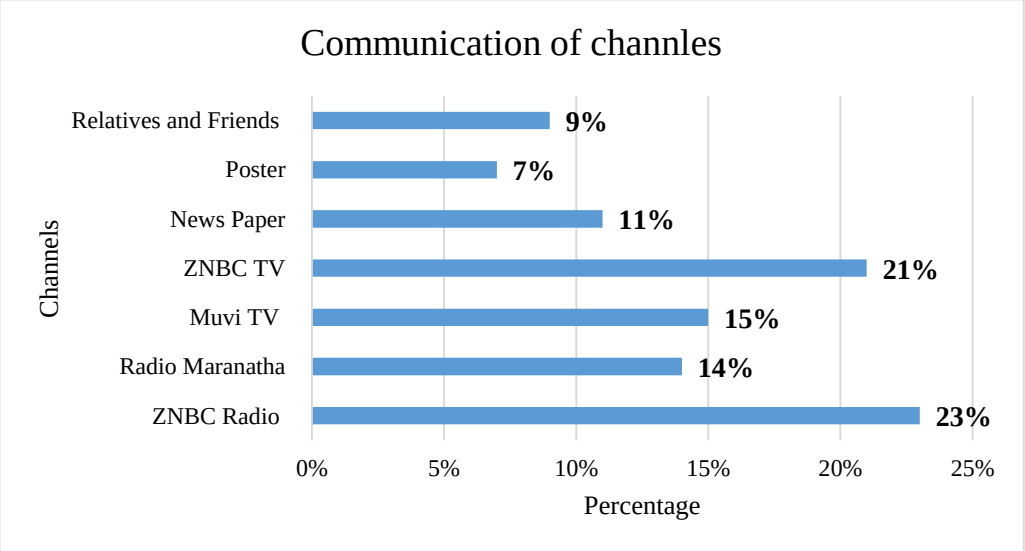
Figure 7: Whether information residents received helped them understand issues of road safety



The study also required road users to indicate whether the messages they received helped them understand issues of road safety. Their responses are presented in *Figure 6* above. The results as shown in *Figure 6* revealed that a large proportion (72%) of the road users indicated that the messages they received did not help them to understand issues of road safety. However, on the other hand, some residents reported that the information they received helped them understand issues of road safety (28%)

Communication channels used to receive messages

Figure 8: Provider of information on road safety

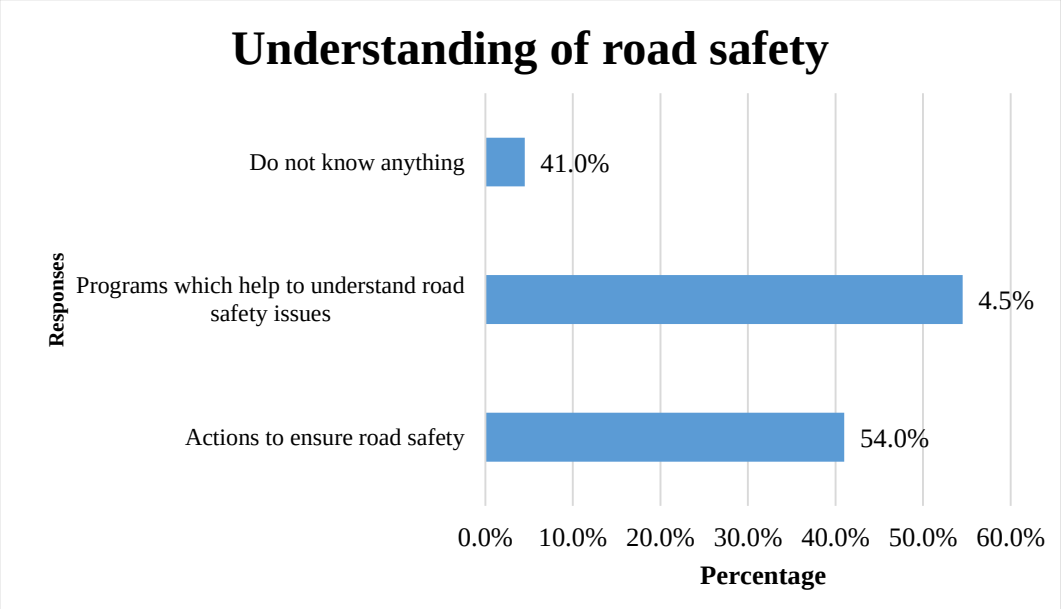


The sampled participants were further asked to indicate who gave them the information. Most of them reported that they got information on road safety through ZNBC Radio (23%), followed by ZNBC TV 1 (21%). The rest indicated that they got the information on road safety through Muvi TV (15%), Radio Millennium (14%), newspaper (11%), and relative and friends (9%).

4.2.3 Levels of awareness of road users around the Misisi area of the Great North Road about road safety

Percent distribution of respondents according to their understanding of road safety

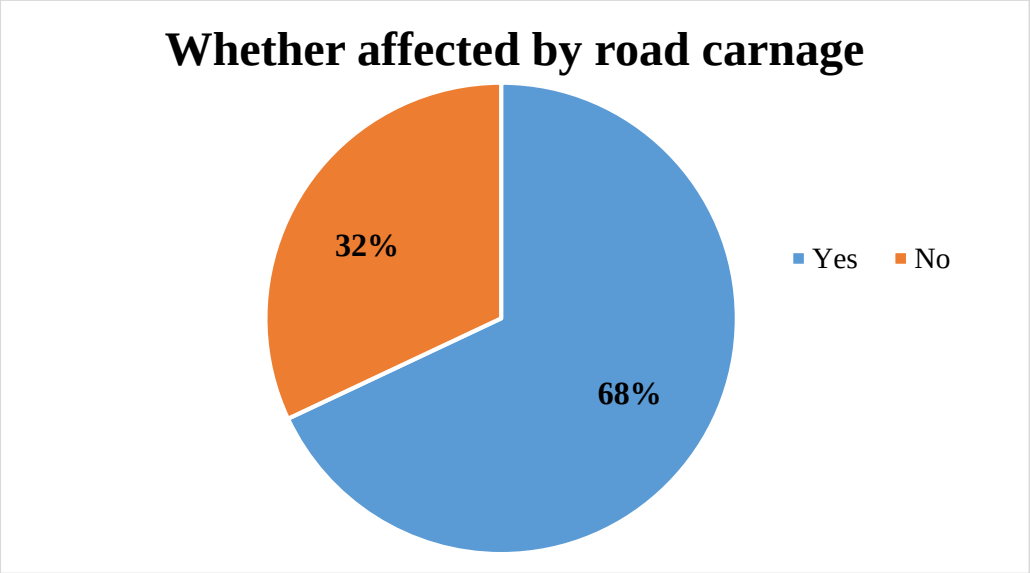
Figure 9: Respondent's understanding of road safety



In this study, respondents were asked to indicate what they understand about road safety. Their responses are presented in *Figure 8* above. The results as depicted in *Figure 8* above revealed that that majority (54.5%) of the respondents considered road safety to be actions to ensure road safety (41%) do not know anything they only know that they are road safety messages. However, 4.5% indicated they are programs which help people to understand road safety issues.

Whether affected by road carnage

Figure 10: Whether affected by road carnage



The results as depicted in *Figure 9* above revealed that most of the study participants reported that they are affected by road carnage (68%). However, 32% reported that they were not affected by road carnage at the time of the study.

Table 7: Responses on items related to road safety

Statement	Response					Cumulative Agree & Disagree - %	
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Agree	Disagree
I think that I am a safer driver than most people	16 (32%)	6 (12%)	8 (16%)	14 (28%)	6 (12%)	22 (44%)	20 (40%)
Some people can drive perfectly safely after drinking three or four pints of beer	18 (36%)	12 (24%)	16 (32%)	2 (4%)	2 (4%)	35 (60%)	4 (8%)
Some people can read text messages while driving along, without being too distracted	24 (48%)	8 (16%)	14 (28%)	4 (8%)	0 (0%)	32 (64%)	44 (8%)
I use my own judgement, not speed limits, to decide my speed on the road	18 (36%)	12 (24%)	4 (16%)	4 (8%)	8 (16%)	30(60%)	12 (24%)
It is quite acceptable to take a slight risk when overtaking	35 (60%)	6 (12%)	8 (16%)	6 (12%)	0 (0%)	36 (72%)	6 (12%)
People stopped by the police for close following are unlucky because lots of people do it.	22 (44%)	10 (20%)	12 (24%)	4 (8%)	2 (4%)	32 (64%)	6 (12%)
I would welcome further use of double white lines to let me know when it is safe to overtake.	12 (24%)	6 (12%)	8 (36%)	8 (16%)	6 (12%)	18 (36%)	14 (28%)
Even one drink makes you less safe as a driver	14 (28%)	10 (20%)	12(24%)	6(12%)	8 (16%)	24 (48%)	14 (28%)

The study assessed the awareness level of road safety through a series of statements to which respondents indicated their level of agreement, disagreement or undecided. The overall picture that emerged was a negative one, the levels of awareness are low. As shown in *Table 7* above, the cumulative percentages showed that 72% of the respondents broadly agreed that it is quite acceptable to take a slight risk when overtaking. Going further, 64% broadly agreed that some people can read text messages while driving along, without being too distracted. Further, analysis also indicated that cumulatively, 64% agreed that people stopped by the police for close following are unlucky because lots of people do it.

The cumulative percentages also show that 60% broadly agreed that some people can drive perfectly safely after drinking three or four pints of beer. Additionally, 60% also broadly agreed that they use their own judgement, not speed limits, to decide their speed on the road. However, others were undecided on whether they would welcome further use of double white lines to let them know when it is safe to overtake. Furthermore, 24% were undecided on whether even if one drink makes them less safe as a driver, on the other hand, 48% broadly agreed to this matter.

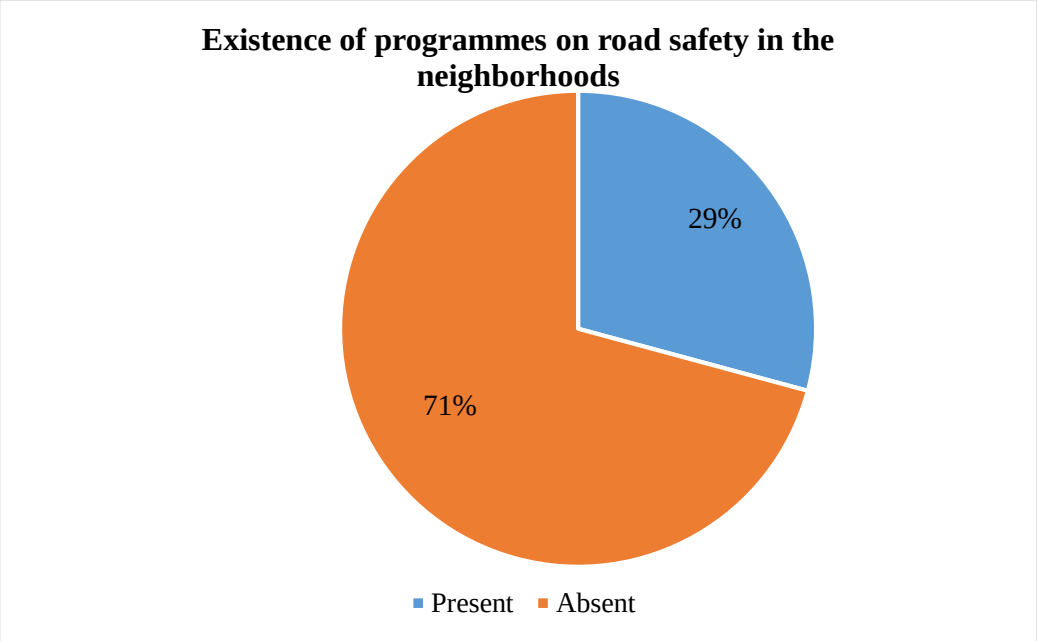
Table 8: Responses on items related to road safety

	Response					Cumulative Agree & Disagree %	
Statement	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**	**Agree**	**Disagree**
It doesn't matter which side of the road cyclists can use on the road	22 (44%)	12 (24%)	12 (24%)	2 (4%)	2 (4%)	34 (68%)	4 (8%)
I cycle well when I am listening to music and have plunged on earphones on both sides of my ears	26 (52%)	12 (24%)	10 (20%)	0 (0%)	2 (4%)	38 (76%)	2 (4%)
Running while crossing the road is not risk at all because even if I fall driver can still see me	24 (56%)	10 (20%)	10 (20%)	2 (4%)	0 (0%)	38 (76%)	2 (4%)
Looking right, left and right again when I want to cross the road is old fashioned	32(64%)	6 (12%)	12 (24%)	0 (0%)	0 (0%)	38 (76%)	0 (0%)
I feel vulnerable when I am not wearing a seatbelt.	14 (28%)	8 (16%)	12 (24%)	6 (12%)	10 (20%)	22 (44%)	16 (32%)
Seatbelts can be dangerous.	18 (36%)	18 (36%)	14 (28%)	0 (0%)	0 (0%)	36 (72%)	0 (0%)
Seatbelts reduce the risk of injury for drivers and passengers.	6 (12%)	8 (16%)	10 (20%)	18 (36%)	12 (24%)	14 (28%)	30 (60%)
People should be free to choose if they wear a seatbelt or not	14 (28%)	16 (32%)	8 (16%)	8 (24%)	0 (0%)	32 (60%)	12 (24%)

The cumulative results as depicted in *Table 8* above shows that the majority of the respondents broadly agreed that they cycle well when they are listening to music and have plunged on earphones on both sides of my ears (76%), running while crossing the road is not risk at all because even if I fall driver can still see me (76%), looking right, left and right again when they want to cross the road is old fashioned (76%), seatbelts can be dangerous (72%) and 28% were undecided on whether seatbelts can be dangerous. Furthermore, 68% broadly agreed that it doesn't matter which side of the road cyclists can use on the road. In addition, 60% broadly disagreed that seatbelts reduce the risk of injury for drivers and passengers, however, 20% were not sure on this matter. Lastly, 60% broadly agreed that people should be free to choose if they wear a seatbelt or not, while 16% were undecided on this matter.

Existence of programmes on road safety in the neighborhoods

Figure 11: Existence of programmes on road safety in the neighborhoods



The study required participants to indicate whether people in their neighbourhood have any programmes on road safety. The overall results show a negative picture, the majority (71%) of the participants reported that there are no programmes on road safety in their neighbourhood. Only 29% acknowledged that there are some road safety programmes exists in their neighbourhood.

In this study, respondents were asked to indicate how often they get accident reports on road traffic accidents in their areas. Their responses were that they have never gotten any road traffic accident reports regarding their area, all they know is that they have been a lot of road traffic accidents where road users have been injured or died and some of them they have witnessed the accidents. They receive such news frequently through their friends, neighbors and through the media.

CHAPTER 5

DISCUSSION OF FINDINGS

5.0 Introduction

This section of the study presents a discussion of findings that were presented in chapter 4 on the effectiveness of the communication strategies used by RTSA in promoting road safety in Lusaka urban. Presented here are the findings of the study which encompassed three (3) specific areas namely:

i. To establish the channels and effectiveness used by RTSA to communicate road safety messages around the Misisi area of the Great North Road.

ii. To evaluate the quality of messages used by RTSA to educate road users around the Misisi area of the Great North Road about road safety.

iii. To assess the levels of awareness of road users around the Misisi area of the Great North Road about road safety.

For clarity sake, the discussions were done using sub-themes arising from the presentation of the findings of this study.

5.1 Channels and effectiveness of the channels used by the RTSA to communicate Road Safety Information

Information and messages about road safety come to road users through various channels. A communication channel is the means by which messages get from one individual to another. Objective one of this study sought to establish the communication channels used by RTSA in promoting Road Safety. Communication channels used by RTSA can be categorised in the two major categories identified by Rodgers (1983), namely mass media and interpersonal channels. According to the findings of this study, the most commonly used communications channels reported by respondents as used by RTSA to disseminate information on road safety in their order of frequency are radio (64%), television (44%), social media (36%), print media (20%), and posters (16%). The findings of this study are confirmed by the study conducted by Shindano (2016) who reported that according to RTSA officers, the most commonly used communications

channels are mass media channels which include radio and TV, especially ZNBC TV 1 and MUVI TV, while among the radio channels, radio phoenix was thought to top due to the fact that there is always a program on traffic watch. However, the use of TV and radio may be very useful but only to those who have access to them. The media channel used at times may be different from the real life setting.

In a real life setting, people may not have access to some media channels. In situations where people do not have access to radio and TV, Rogers (2003) diffusion theory's social system can be applied for example, RTSA can come up with innovative ways of reaching out to the road users for example RTSA can use existing structures in communities to educate road users on the importance of road safety since the problem of road traffic accidents affects everyone and is a shared responsibility. People are willing to solve their own problems especially when the communities form groups to identify a problem or problems which are affecting them. Rogers (2003) defined the social system as "a set of interrelated units engaged in joint problem solving to accomplish a common goal" (p. 23). Since diffusion of innovations takes place in the social system, it is influenced by the social structure of the social system.

In relation to previous studies, the findings of this study are consistent with earlier observation by Morris (2006) who observed that in many African countries, the media used in road safety campaigns in their order of frequency are radio, TV, flyers, posters and drama. A study conducted by NRSC (2006) in collaboration with Namibia Economic Policy Research Unit (NEPRU) had a dissimilar finding in which they reported that the main media through which the public in Namibia received the messages in all road safety campaigns was TV and was followed by radio.

During interviews with officers from RTSA, the researcher was informed that road safety programmes are delivered through various channels and the beneficiaries are getting the messages though more needs to be done for example, messages needs to be segmented. According to RTSA officers the channels through which road users receive messages includes electronic, print and social media platforms, as well as road shows, road safety school programmes and information kiosk among others.

Going further, during one-to-one interviews with a top official from RTSA, the researcher was informed that electronic, print and social media platforms, as well as road shows, road safety school programmes and information kiosk are mostly the channels which RTSA uses to disseminate road safety messages to the road users, however, they are relative effective because they do not carter for each segment of the population especially pedestrians who are classified as vulnerable and always found on the road. This means that the communication channels that RTSA uses to disseminate road safety messages are not the correct channels as they are not highly effective as they do not reach to all the masses of road users such as marketeers and other road users who do not usually listen to the radio since radio is the most used. This shows that there is more that needs to be done in order to reach all road users. According to Rodger's diffusion of innovation, the channels used should be able to persuade the target audience to adopt into an innovation or new ways of doing things, Rodgers, 2003.

Furthermore, desk research also revealed that RTSA uses interpersonal communication channel (direct contact), and according to Shindano (2016) this is more effective in raising awareness, knowledge, attitude and behaviour of road users in Zambia, as there is immediate feedback.

It is evident from the findings of this study that RTSA uses a multi-channel communication approach in its annual communication plans although they are not properly segmented. This is particularly important to note because according to Servaes (2008), the multi-channel communication approach is seen as an effective strategy in the collection of communication mechanisms. The use of a combination of mass media and interpersonal channels is important because diffusion theory informs us that many people tend to rely on mass media to learn about new ideas but they use interpersonal networks to move from knowledge to trial and continued practice of a new behaviour (UNICEF, 2005; Shindano, 2016).

Further analysis revealed that road safety information from RTSA target various groups of road users in that there are specific messages for specific road users. This clearly indicates that road safety messages account for different demographic populations, and these are reached out through various mediums and methods including sensitization in bus stations, communities, schools, traditional

ceremonies among others. In disseminating road safety messages, it is very important that the messages are tailored according to specific individuals because there are different road users and these require specific road safety messages

Further, the study found that to some extent beneficiaries of the messages who are the road users are getting the messages though more needs to be done in order to ensure that these communication channels are very effective by reaching out to everyone affected by road safety and that the information is segmented according to the target audience. According to the findings of this study, the channel that has effective in reaching out to the people is radio.

However, the overall effectiveness of RTSA' communication strategy may only be seen through change of behaviour of the beneficiaries of road safety messages. During interviews, the study findings showed that there is low adherence regarding issues of road safety. Road users particularly pedestrians are not very conscious when they are moving on the road, sometimes motorists have to stop and wait for the them to move out from the road.

In educating road users on road safety, Rodgers' diffusion of innovation can be applied for example, pedestrians could be imparted with knowledge on the use of the footbridge along that stretch. The road users could be educated on how the bridge is used and the importance of using it. As stated by Rogers (2003) media channels are more significant at the knowledge stage." The road users could further be persuaded to use this bridge using effective communication channels and in this case one to one interactions could be appropriate. By doing that, road users could cope with feelings associated with a new idea and a decision could be made to use it to start using the bridge and by doing so other could emulate hence reduction in road traffic accidents. Behaviour change can also be done through emulation, when a new idea is adopted and implemented, other road users could emulate for example the road users who adopts the new idea of using the overhead footbridge can help in incorporating other road users to use it as well.

5.2 Quality of messages used by RTSA used to disseminate road safety information

One of RTSA's primary duties is to conduct road safety education by way of publicity campaigns and also undertaking and assisting in the dissemination of information on road safety for the benefit of the community. The Agency has an Education and Publicity Unit and Public Relations Department whose roles are disseminate information through various means therefore, objective two of this study sought to evaluate the quality of messages used by RTSA to educate road users around the Misisi area of the Great North Road about road safety.

The findings revealed that among the road safety messages communicated to the road users includes, mobile phone use (56%), over speeding (52%), drink driving (36%), seatbelts (32%) and Jay walking (16%). In addition, participants in their own words expressed that some of the road safety messages they received from RSTA included: to be observant on the road, to be considerate on the road, not to use cell phones while driving. It is evident from the study findings that road users receive various road safety messages.

During interviews, the RTSA officers revealed that some of the road safety messages communicated to the road users included, not to drink and drive, not to drive at excessive speed (following speed limits), to always put-on seatbelts, pedestrian safety, cyclist safety, driver safety, passenger safety and crossing safety among others.

Clearly, the findings also show that various road safety messages have been designed and is being disseminated to all road users. However, the study revealed that the messages which disseminated to members of the public are concentrates more on motorist's safety and not much on other road users. The messages tailored needs to cater for all road users especially pedestrians as most accidents along that stretch involves pedestrians. According to Fisa et al, 2019, the road users that are prone to or at high risk of road traffic accidents include those from Misisi area as they are exposed when crossing Kafue road due to their proximity to the highway.

The study also revealed that road users are not segmented and according to the responses the road users indicated that people can still take risks on the road meaning there is no change of behaviour after the knowledge was imparted.

As shown in *Table 7* above, the cumulative percentages show that 72% of the respondents broadly agreed that it is quite acceptable to take a slight risk when overtaking and 64% broadly agreed that some people can read text messages while driving along, without being too distracted. Further, analysis also indicated that cumulatively, 64% agreed that people stopped by the police for close following are unlucky because lots of people do it. According to (Bandura 2004), self-efficacy highlights the tendency of individuals to see themselves as possessing the capacity to perform a given behaviour safely, not minding any obstacle that might come along the way. (Bandura, 2004; Akhtar, 2008). This stands as people's overall belief in their abilities for success (Ackerman, 2019). There is need for RTSA to come up activities where good road users are rewarded so that with time others can emulate and in line with enforcement can also be incorporated so that other road users are deterred from abrogating traffic rules and regulations.

These findings also are supposed to be in line with reports from WHO (2013) which states that road user behaviour can be improved through road safety campaigns, which is combination with behavioral measures for example through education or training. According to WHO (2013), eliminating fatal crashes and reducing serious injuries can be achieved through a range of activities relating to education, behaviour change, regulation, enforcement and penalties.

5.3 Awareness levels of Lusaka residents on Road Safety

The last objective of this study sought to assess the awareness levels of road users around the Misisi area of the Great North Road on road safety. The study found that the awareness levels are low and are not properly segmented. From the findings of the study, it seems that some road users have heard on road safety but do not know what they are supposed to do. Awareness and knowledge levels are thought to be crucial in changing attitudes, fostering good road user behaviour among road users and consequently decreasing traffic injuries and deaths. The fact that there are few programmes on road safety in the communities. It is indicative

of how responsible institutions should invest in ensuring that road safety messages targeted at behaviorial change is disseminated to all road users.

5.4 Implications of the findings

By implication, the findings of the study show that most road users in Lusaka urban are not aware of road safety issues, in addition, they do not adequately understand what road safety is all about. The awareness of road safety is a fundamental requirement towards sustainable safety. In relation to other studies, the findings of this study do correspond to the findings of a study conducted by Kavuyi (2017) in Kabwe who found that knowledge levels among the PSV drivers regarding road safety were found to be very low. Furthermore, the findings of this study correspond to the findings by Shetty et al (2017) in a study conducted among the coastal population of Karnataka in India who found that a substantial number (70%) of participants in their study were observed to have poor level of knowledge regarding road safety measures.

However, the findings of this study are not consistent with the findings of a study conducted by Singh (2018) in Rajasthan, India who found that with regards to awareness regarding road safety rules, 68.7% had average awareness and 25.3% had good awareness of road safety. The difference here could be due to the location in which the studies were conducted and the target population.

The low awareness levels with regards to issues of road safety among road users could be due to lack or inadequate programmes on road safety in communities and neighbourhood. This was evident from respondents' own reporting as the majority (71%) of the participants reported that there are no programmes on road safety in their neighbourhood. By implication, the study findings show that despite RTSA having a Public Relations and an Education and Publicity Unit whose mandate is to disseminate road safety messages, RTSA has not invested much in road safety programmes that target road users in the local communities. Therefore, the Government through the Ministry of Transport and Logistics and RTSA should come up with deliberate community programmes and road safety campaigns that aim to target road users in households since everyone is a road user.

The diffusion of innovation theory can be used to explain the process that road users go through to become aware about road safety. For the purpose of this study, the diffusion of innovation theory can be used to accelerate the adoption of important road safety programmes that typically aim to change the behaviour of the road users. For instance, based on the Diffusion of Innovation Theory, an intervention to address the problem of road safety accidents can be developed and promoted to road users in a social system with the goal of adoption. The intervention can be communicated through certain channels over time to the road users. A communication channel in this case can be through one to one interactions with road users, radio, TV, posters and social media. Through these media, road safety messages can be communicated from one individual to another.

In relations to the study, the diffusion of innovation is appropriate because according to the study findings, RTSA uses several platforms to reach out to the general public. Apart from the traditional media which mostly is appropriate for road users who have no access to the internet, the Agency uses new media such as Facebook, twitter, website and other Phone Applications to target other publics (those who may have access to the internet). Using these platforms, the public are persuaded to use the road correctly and also inform them about the dangers of not following the road traffic rules and regulations.

The study can assist the RTSA to come up with a viable communication strategy which will target all road users and messages will be properly segmented according to particular road users and will help the Ministry in charge of road safety to come up with programmes which will help to reduce road traffic crashes.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the conclusion and recommendations of the study. The study made conclusion on the major findings of each objective. The recommendations were based on the study findings.

6.1 Conclusion

This study investigated the effectiveness of the communication strategy used by RTSA to promote road safety in Lusaka Urban. The results provided a basic understanding of the effectiveness of the communication strategy used by RTSA in order to mitigate road traffic accidents.

This study established various channels are used to communicate road safety information and that the mostly used is radio. The communication strategy is not effective because the channel used are not properly segmented, and the study revealed that there are few programmes in the community on road safety.

The study established that most of the messages which are communicated to boarders more on motorist's safety neglected the other road users. The messages also on motorist's safety do not border much on behavioural change.

The study established that the levels of awareness is low. This is worrying because the awareness of road safety is a fundamental requirement towards sustainable safety. Raising stakeholder awareness levels with regards to road safety is one of the major issues in RTSA's Communication Strategy.

The diffusion of innovation theory can be used to raise awareness of road safety issues through the adoption of important road safety programmes that typically aim to change the behaviour of road users. In relations to the study, the diffusion of innovation is appropriate because according to the study findings, the RTSA uses a number of platforms to reach out to the public. Apart from the traditional media which mostly is appropriate for people who have no access to the internet, the Agency uses new media such as twitter, website and other phone applications to

target other publics (those who may have access to the internet). Using these platforms, the public are persuaded to use the road correctly and also inform them about the dangers of not following the road traffic rules and regulations.

Understanding the effectiveness of the communication strategy used by RTSA in mitigating road traffic accidents may provide insights in designing interventions for reducing and ending road traffic accidents in Zambia. Therefore, the results suggested contextually specific evidence which might be taken into consideration when rethinking policies to reducing and ending road traffic accidents in Zambia.

6.2 Recommendations

Based on the findings of the study, the following recommendations were made:

1. The fact that the majority of the participants reported that there are no programmes on road safety in their neighbourhood, justifies the need for the Government through the Ministry of Transport and Logistics and the RTSA to invest more and come up with deliberate community road safety programmes targeted at behavioural change. More effort is needed to ensure that road safety programmes reach the local communities to increase the awareness and knowledge levels with regards to Road Safety.
2. The issue of community sensitization on road safety cannot be overemphasized. This study recommends that the RTSA and all its stakeholders in road safety need to come up with more innovative and effective ways of communicating road safety messages to members of the public as education is key changing the attitude of road users which will lead to reduction road traffic accidents (WHO, 2013). This will ensure that messages publicized will reach a lot of people.
3. Furthermore, there is need by RTSA to regularly provide reports on road accidents to the members of the public so that they are adequately informed on the prevailing situation regarding RTAs in their communities and the country in general.
4. In addition, RTSA needs to make come up with messages which are bordering more on behavioral change unlike just information or knowledge.
5. The RTSA need to collaborate with the relevant authorities to enhance the road signs and markings so that they are clear and visible for all road users

to see, as well as putting speed humps in the roads that are close to communities.

6. Finally, to promote and enhance road safety in Zambia, people should be taught the importance of adhering to traffic rules and regulations. Intensive enforcement and traffic education should be done continuously and at times should be done at the same time as observed in Sweden where road safety education is at times coupled with enforcement.
7. The RTSA also needs to conduct a needs assessment to ascertain road users' needs as well for example the challenges which they face.

6.3 Recommendation for further studies

More research is needed in this area to ensure the reduction of RTAs in Zambia. Another study evaluating the appropriateness of communication channels used to address RTAs and how champions on road safety can enhance compliance to road safety rules could be conducted to cover a wide geographic area on the same topic.

REFERENCES

Choudhury, P.S. (2011). *Media in Development Communication*. Global Media Journal – Indian Edition. Winter Issue. Vol. 2 (2):1-13.

Dainton, M., and Zelley, E. D. (2004). *Applying Communication Theory for Professional Life*: A Practical Introduction. 2nd Edition. SAGE Publications.

Fisa et al (2019), *Modelling Deaths Associated with Road Traffic Accidents and other Factors on Great North Road in Zambia between the years 2010 and 2016 using Poisson Models*. Open Public Health Journal ISSN: 1874-9445 – Volume 13, 2020.

Kavuyi. K. (2017*). Analysis of Road Safety Awareness and Road User Behaviour Among Public Service Vehicle Drivers*: A Case Study Of Kabwe. Masters' dissertation, Mulungushi University, Kabwe Zambia.

McGraw-Hills. (2000). *Theories of Small Group Communications*. Theoretical Approaches-Student Section. McGraw-Hills Publications. URL: http://www.mhhe.com/socscience/comm/group/students/theory.htm. Accessed on 4th December 2012.

Mefalopulos, P. (2008). *Development Communication Source Book: Broadening the Boundaries of Communication*. The International Bank for Reconstruction and Development/World Bank, Washington, D.C.

Mefalopous, P., and Kamlongera, C. (2004). *Participatory Communication Design*: A Handbook. 2nd Edition. FAO. Rome.

MoCT (2002). Transport Policy. Ministry of Communication and Transport. Lusaka.

Nair, K, S and White, S. A. (2004). Participatory Development Communication as Cultural Renewal. pp. 139-193. In: Participatory Communication. Editors. White S. A, Nair, K. S and Ascroft, J. SAGE Publications. London.

Road Traffic Act No.11 of 2002 of the Laws of Zambia. Government Printers, Lusaka, Zambia.

Robinson, L. (2009). A Summary of Diffusion of Innovations. URL: http://enablingchange.posterous.com. Accessed on 17th August 2012.

Rodgers, E. M. (1983). *Diffusion of Innovations*. 3rd Edition. The Free Press. New York.

RTSA (2011a). Second Quarter – 2011 Report for the Road Safety Department. Road Transport and Safety Agency. Lusaka.

RTSA (2011b). Annual Returns on Road Traffic Accidents 2007-2011. Road Transport and Safety Agency. Lusaka.

RTSA (2013a). Road Transport and Safety Agency. Website. URL: http://www.rtsa.org.zm. Accessed on 24th July 2013.

RTSA (2013b). Second Quarter – 2013 Report for the Road Safety Department. Road Transport and Safety Agency. Lusaka.

RTSA (2013c). Zambia Road Safety Study (ZARSS) - Proposal. Road Transport and Safety Agency. Lusaka.

Servaes. J. (2008). *Communication for development and social change*. 2nd Edition. SAGE Publications, India. New Delhi

Singh. M. (2018*). Awareness and Practice of Road Safety Rules among Secondary School Students in Jaipur*, Rajasthan. Nitte University Journal of Health Science. Vol. 8, No.2, ISSN 2249-7110.

UNICEF. (2005). *Strategic Communication for Behaviour and Social Change in South East Asia. United Nations Children Emeregency Fund*. Regional Office for South Asia. Working Paper. URL

World Health Organisation (WHO) (2001) A 5-year WHO Strategy for Road Traffic Injury Prevention. WHO/NMH/VIP/01.03 30.

World Health Organisation (WHO) Global Status Report on Road Safety 2015. 31.

World Health Organisation (WHO) 2015a. Global Status Report on Road Safety 2015. Geneva. 32.

World Health Organisation (WHO) 2018. Global Status Report on Road Safety 2018. Violence and Injury prevention. http://wwww.who.int/violence injury prevention/safety status/2018/en. 33.

World Health Organisation (WHO) (2020), WHO fact sheet on road traffic injuries providing key facts. https://www.who.int/news-room/fact-sheets/detail/road-traffic -injuries. Accessed online on 30th june,2020. 34.

World Health Organisation (2020) Global Health Observatory (GHO) data disability adjusted life years https://www.who.int/gho/mortality_burden_disease/daly_rates/text/en/

Respondents from in-depth interviews

1. A. Zulu, pers. comm., 3 October
2. D Maimbo 2020, pers. Comm., 17 October
3. M Mambwe 2020, pers. com., 14 October
4. N Mulenga 2020, per. comm., 14 October
5. P Mwanza 2020, pers. comm., 22 October
6. J Banda 2020, pers. comm., 20 October

APPENDICES

APPENDIX 1: QUESTIONNAIRE FOR MEMBERS OF THE PUBLIC (MISISI AREA)

THE UNIVERSITY OF ZAMBIA
GRADUTE SCHOOL OF BUSINESS STUDIES

QUESTIONNAIRE FOR MEMBERS OF THE PUBLIC (MISISI AREA)

An Evaluation of the Communication Strategies used by Zambia Road Transport and Safety Agency (RTSA) in promoting Road Safety in Zambia: A Case Study of Lusaka District

Dear respondent,

I am a student of the University of Zambia, Graduate School of Business Studies carrying out a research on the reference topic above as a partial fulfillment for the award of the Master of Science in Corporate Communication. I seek to get your opinion about the issue in question to facilitate the study. Your views will be highly confidential and specifically used for academic purposes.

Your personal identification either by name or residential address will not be required.

Please be assured that the information obtained from you will be treated with the utmost confidentiality. Your time and corporation will be appreciated.

Yours faithfully,

Getrude Siatwiko

Please answer all questions:

1. The questionnaire is made up of both open ended and close-ended questions.
2. The open-ended questions are to be filled in the space provided while the closed questions require you to tick one of the options of the letters or as instructed.

3. All information given will remain confidential and to maintain anonymity no names are required but for the ease of analysis please indicate your personal details as presented in the Questionnaire.

SECTION B: BIO DATA

1. What is your sex?
   a) Male [ ]
   b) Female [ ]

2. What is your age?
   a) 19 years and below [ ]
   b) 20-29 [ ]
   c) 30-39 [ ]
   d) 40-49 [ ]
   e) 50-59 [ ]
   f) 60 & above [ ]

3. Highest level of education attained.
   a) None [ ]
   b) Primary [ ]
   c) Secondary [ ]
   d) Tertiary [ ]

4. What is your occupation? .....

5. What is your monthly income?
   a) Less than K150 [ ]
   b) K150 – K499 [ ]
   c) K500- K999 [ ]
   d) K1, 000 and above [ ]

SECTION B: ROAD SAFETY: AWARENESS AND COMPLIANCE

6. What do you understand about road safety?
   a) Actions to ensure road safety [ ]
   b) Programs which help to understand road safety issues [ ]
   c) Do not know anything [ ]
   d) Other,
      Specify……
      …

7.Who is a road user?.....

8. From the list of road users below, which one are you?
   a) Pedestrian
   b) Cyclist
   c) Passenger
   d) Motorist

9. From list of road users below, which one are you?
   e) Pedestrian
   f) Cyclist
   g) Passenger
   h) Motorist

10. What mode of transport do you use?
   i) Motor vehicle
   j) Bicycle
   k) Yes [ ]
   l) No [ ]

11. Are you affected by road traffic carnage?
   m) Yes [ ]
   n) No [ ]

12. If yes, explain how you are affected
……
……

9. To what extent do you agree or disagree with the following statements?
(Please tick the appropriate column)

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I think that I am a safer driver than most					
Some people can drive perfectly safely after drinking three or four pints of beer					
Some people can read text messages while driving along, without being too distracted					
I use my own judgement, not speed limits, to decide my speed on the road					
It is quite acceptable to take a slight risk when overtaking					
People stopped by the police for close following are unlucky because lots of people do it.					
I would welcome further use of double white lines to let me know when it is safe to overtake.					
Even one drink makes you less safe as a driver					
It doesn't matter which side of the road cyclists can use on the road					
I cycle well when Iam listening to music and have plunged on earphones on both sides of my ears					
Running while crossing the road is not risk at all because even if I fall driver can still see me					
Looking right, left and right again when I want to cross the road is old fashioned					
I walk well on the road while I am drank and I don't consider it to be a road safety risk					
Wearing a seatbelt is a waste of time					
I feel vulnerable when I am not wearing a seatbelt.					
Seatbelts can be dangerous.					
Seatbelts reduce the risk of injury for drivers and passengers. [1]					
People should be free to choose if they wear a seatbelt or not. [1]					

10. Do people in your neighborhood have any programmes on road safety?
A. Yes [ ] B. No [ ]

11. What do you think about this practice?
.....

12. How often do you get reports on road accidents in your area?
A. Weekly [ ]
B. Monthly [ ]
C. Annually [ ]
D. Once every 2 years [ ]

13. What kind of assistance have you received towards helping your situation?
A. Cash [ ]
B. Material [ ]
C. Information [ ]
D. Other,
Specify……

14. Who gave you the assistance?
A. A friend
B. Government
C. NGO
4. Other, specify ……

15. In your opinion, how would you rate the assistance you have been receiving?
A. More than enough [ ]
B. Enough [ ]
C. Cannot tell [ ]
D. Not enough [ ]

16. What challenges have you been facing in your area in trying to reduce or mitigate road traffic?
Kindly specify.

SECTION C: COMMUNICATION CHANNELS

21. What is your preferred source of information?
    a) Television
    b) Radio
    c) Newspapers
    d) Posters
    e) Internet
    f) Social Network Sites
    g) Other, specify……..

21. How often do you listen to your preferred source of information?
    a) Everyday
    b) Weekly
    c) Fortnight
    d) Monthly

21. How do you receive information on road safety?
    a) Television
    b) Radio
    c) Newspapers
    d) Posters
    e) Internet
    f) Social Network Sites
    g) Other, specify……..

21. How do you prefer to receive information on road safety?
    a) Television
    b) Radio
    c) Newspapers
    d) Posters
    e) Internet
    f) Social Network Sites
    g) Other, specify……..

21. What type of information have you received on road safety?
    a) Drink driving
    b) Seatbelt
    c) Mobile phone use
    d) Over speeding
    e) Jay walking

21. Did the information you received help you understand issues of road safety?
    a) Yes

b) No

21. If no to the question above, what was lacking in the information you received?.....

.....
...

21. Please suggest how the presentation of messages on road safety can be improved?.....

……
……

22. How many days in a week do you listen to the radio? Kindly indicate the number on the following dots: …….days.

23. How many days or nights in the last week do you watch television? Kindly indicate the number on the dots…….days/nights.

24. How often do you read the Newspaper to get information and news?

A. Once a month [ ]
B. Once a week [ ]
C. Two to three time a week [ ]
D. Everyday [ ]
E. Never read them [ ]
F. Do not have access to them [ ]
G. Do not know how to read [ ]

24. Information and messages about road safety come to us in various channels. Kindly indicate how you received the information and messages on road safety.
Media source Yes No Don't Know
A. Television, [ ] [ ] [ ]
B. Radio [ ] [ ] [ ]
C. Print Media (Newspaper, Poster, Magazine, Brochures, other Leaflets) [ ] [ ] [ ]
D. Social Media [ ] [ ] [ ]
E. Poster [ ] [ ] [ ]
F. Other,
Specify……

25. What information have you ever received from the RTSA or any other organisation regarding

Road Safety?

.....

.....

26. Who gave you the information?

1. An officer from RTSA [ ]
2. An officer from Ministry of Transport and Communications [ ]
3. Road Safety activists [ ]
4. Other, Specify……..

27. Did the information you were given help you understand issues of Road safety?

1. Yes [ ]
2. No [ ]
3. Don't [ ]

28. If the answer to question 27 is No, what do you think lacked in the information you were given?.....

.....

.....

.....

.....

APPENDIX 2: INTERVIEW GUIDE FOR RTSA OFFICERS

Interview Guide (Schedule) For RTSA Officers

Date of interview……

1. What do you understand to be the mandate of RTSA?.....……
   ……
2. What is your role at RTSA?.....……
   …….
3. Explain the factors that influence the public awareness about road safety?.....……
   …….
4. Describe the communication channels that RTSA uses to disseminate information about road safety
   ……
   ……..……
5. How do you rate the effectiveness of these communication channels?
   ……
   …….
6. What are the key messages that RTSA communicates to the public about road safety?
   ……
   ……
7. Describe the process of designing these messages?
   ……
   …….
8. How do the messages account for different demographic populations?
   ……
   ……
9. How helpful are other stakeholders in assist in providing public education about road safety?
   ……
   ……
10. How do you ensure that other stakeholders are within the prescribed guidelines of communicating road safety information? ……..
    ……

APPENDIX 3: INTERVIEW GUIDE FOR OFFICERS FROM THE MINISTRY OF TRANSPOR AND COMMUNICATIONS

INTERVIEW GUIDE FOR OFFICERS FROM THE MINISTRY OF TRANSPORT AND COMMUNICATIONS

Date of interview……

1. What is your understanding of road safety?
……..……
……..
2. What are the pressing issues regarding the state of road safety in Zambia?
……
……

3. How can these issues be solved?
……
……
4. What is your perception of the local programs promoting road safety?
……
……
5. What are the correct channels of communication used to pass on information to beneficiaries?
……
……..

6. How effective and efficient are these channels?
……..……
…….

7. What kind of information is passed on to the beneficiaries?
.....……
……

8. How relevant is the information?
……
…….

9. Who do you use to communicate your messages?.....……
……
10. Do you segment the audience?
……
……
11. What factors have contributed to the current state of the road traffic accidents in Lusaka?
……
…….
12. In your opinion, what needs to be done to reduce road traffic accidents?

APPENDIX 4: INTERVIEW GUIDE FOR STAKEHOLDERS

INTERVIEW GUIDE FOR STAKEHOLDERS

1. In what ways have you been involved in mitigating road safety accidents?

……

2. For how long have you been involved in road safety issues?

……
….

3. What is your perception of the state of the road safety issues?

……
……

5. What selection criteria is used in selecting eligible officers to be involved in dealing with road safety issues?

……
……

6. What communication strategies has the RTSA put in place?

……
……..

7. Are they working?

……
……

8. What kind of information is given to the public regarding measures to be taken to ensure road safety on our roads?

……
…….

9. What communication channels do you use to disseminate information and how often is the information communicated to the stakeholders/beneficiaries?

……
…….

10. How effective and efficient are the communication channels used by the RTSA?

……
……

11. What messages do you bring out?

……

12. What language is used to communicate this information?

……

13. What audience do you service?

……
……

14. Which type of media do you think is effective in communicating to the Beneficiaries?

……
……..

15. Why do you think that this type of media is effective?

APPENDIX 5: INTERVIEW GUIDE FOR STAKEHOLDERS

INTERVIEW GUIDE FOR STAKEHOLDERS

Date……

1. How have you partnered with the Agency to reduce road traffic accidents?
.....

2. Which medium do you use to sensitize members of the public on road traffic accidents?
……
……

3. Referring to Question 2. Which medium has been very effective in reaching out to the people?
……
……

4. How do you assess whether the medium used is effective or not?
……
5. What kind of messages do you communicate?

6. what tool do you use to measure whether the attitude of the road users changes these sensitizations?
……

7. How do you think the Agency can improve in sensitizing members of the public in Misisi about road traffic accidents?

THE UNIVERSITY OF ZAMBIA

DIRECTORATE OF RESEARCH AND GRADUATE STUDIES
HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

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P O Box 32379
Lusaka,

REF No. HSSREC 2020 – AUG -010

Approval of Study

2nd March, 2021

Ms Getrude Siatwiko
Principal Investigator
C/o GSB
LUSAKA

Dear Ms Siatwiko

"EVALUATING THE EFFECTIVENESS OF THE COMMUNICATION STRATEGY USED BY THE ROAD TRANSPORT AND SAFETY AGENCY (RATSA) IN PROMOTING ROAD SAFTY IN LUSAKA URBAN".

Reference is made to your submission requesting approval of the study captioned above.

The University Of Zambia Humanities And Social Sciences Research Ethics Committee IRB resolved to approve this study and your participation as Principal Investigator for a period of one year.

There are specific conditions that will apply to this approval as stated below. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to or the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

Review Type	Review	Approval No. HSSREC 2020 – AUG -010
Approval and Expiry Date	Approval Date: 2nd March, 2021	Expiry Date: 1st March, 2022
Protocol Version and Date	Version-Nil	1st March, 2022
Information Sheet, Consent Forms and Dates	I English.	To be provided
Consent form ID and Date	Version	To be provided
Recruitment Materials	Nil	Nil

Conditions of Approval

- All unanticipated or Serious Adverse Events (SAEs) must be reported to the IRB within 5 days.
- All protocol modifications must be IRB approved by an application for an amendment prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address or methodology and methods. Many modifications entail minimal risk adjustments to a protocol and/or consent form and can be made on an Expedited basis (via the IRB Chair). Some examples are: format changes, correcting spelling errors, adding key personnel, minor changes to questionnaires, recruiting and changes, and so forth. Other, more substantive changes, especially those that may alter the risk-benefit ratio, may require Full Board review and approval. In all cases, except where noted above regarding subject safety, any changes to any protocol document or procedure must first be approved by the IRB before they can be implemented.
- All protocol deviations must be reported to the IRB within 5 working days.
- Principal investigators are responsible for initiating Continuing Review proceedings. Documents must be received by the IRB at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Any documents received less than 30 days before expiry will be labelled "late submissions" and will incur a penalty.
- Every 6 (six) months a progress report form supplied by The University of Zambia Humanities And Social Sciences Research Ethics Committee IRB must be filled in and submitted to us. There is a penalty of K500.00 for failure to submit the report.

- The University Of Zambia Humanities And Social Sciences Research Ethics Committee IRB does not "stamp" approval letters, consent forms or study documents unless requested for in writing. This is because the approval letter clearly indicates the documents approved by the IRB as well as other elements and conditions of approval.

  Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of The University of Zambia Humanities and Social Sciences Research Ethics Committee IRB, we would like to wish you all the success as you carry out your study.

Yours faithfully,

Dr. Jason Mwanza
BA, MSoc, Sc., PhD
CHAIRPERSON
The University Of Zambia Humanities and Social Sciences Research Ethics Committee IRB