EFFECTS OF THE MANAGEMENT OF PUBLIC SERVICE VEHICLES’ SACCOS ON ROAD SAFETY IN NYERI COUNTY, KENYA.

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF HUMANITIES AND SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF PUBLIC POLICY AND ADMINISTRATION OF KENYATTA UNIVERSITY

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DECLARATION

Declaration by Student:

This project is my original work and has not been presented for a degree award in any other university.

Signature

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Declaration by Supervisor:

This project has been submitted with my approval as University supervisor

Signature

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DEDICATION

This project is dedicated to my dear wife, Mrs Josephine Wangechi, my beloved children, Edwin Gichohi and Shellomith Wamuyu, my late father, Mr Gichohi and my beloved mother, Mrs Wamuyu Gichohi and my entire siblings for their prayers, encouragement and support.
ACKNOWLEDGEMENT

I thank the Almighty God who gave me the opportunity and strength to pursue my studies to this end. My utmost gratitude goes to my supervisor, Dr. Wilson Muna who guided me patiently throughout my study. Special thanks to my fellow Masters candidates in the Department of Public Policy and Administration especially Njue and Juma for their persistent encouragement and valuable criticisms about the content, flow and meaning of this project. I am also indebted to; the management of the following PSV SACCOs in Nyeri County: specifically, 2NK SACCO, NAKONNS SACCO and NYENA SACCO. I am grateful to the faculty members at the Department of Public Policy and Administration for their support throughout my studies. I will forever be grateful to my wife, children, mother, sisters and brothers for their moral and material support throughout my life.
ABSTRACT

The purpose of this study was to examine the effect of management of PSV SACCOs on road safety in Nyeri County, Kenya. The study objectives were: to determine the effect of Self-Management of PSV SACCOs of public transport through PSV SACCOs on road safety in Nyeri County; to establish the effect of investment in public transport operations through PSV SACCOs on road safety in Nyeri County; to determine the effect of consumer protection standards by PSV SACCOs on road safety in Nyeri County; to determine the effect of regulation measures by PSV SACCOs on road safety in Nyeri County. The study was anchored on SERVQUAL Theory and Elton Mayo’s HAWTHORNE effect. The independent variables for the study were: Collective Management; Investment in public transport operations; Consumer protection by PSV SACCOs and Regulation Measures by PSV SACCOs whereas the dependent variable was Road Safety and intervening variables were Quality of Roads, Weather Conditions and Government policy. Descriptive research design was used in this study. The target population was eleven PSV SACCOs licensed by the National and headquartered in Nyeri County as at 2016. A Sample size of 86 employees was drawn from the three largest SACCOs in Nyeri County. They included: 2NK SACCO, NAKONNS SACCO and NYENA SACCO. Stratified and simple random sampling techniques were used to select individuals who participated in the study. Primary data in this study was collected using self-administered structured questionnaire and interview guides. Content and construct validity research instruments were determined using a pilot study and review of empirical and theoretical literature respectively. The coefficient of internal consistency was used to measure the reliability of the questionnaire used in this study. It was tested using Cronbach’s alpha reliability coefficient. The overall research instrument was therefore highly reliable, with Cronbach’s alpha value of 0.786. Thematic analysis was used to analyse qualitative data while Descriptive and Inferential statistics were used to analyse quantitative data. Data was presented using tables and figures. Multiple Regression Analysis was used to test all the hypotheses. The findings indicated that; management of PSV SACCOs with focus on wearing seatbelts, driving within the speed limit, use of speed cameras greatly contribute in reducing road crashes deaths, and that a safe system approach combining infrastructure and speed management measures further produced substantial safety gains for road users. Self-Management of PSV SACCOs of Public Transport through PSV had a significant positive effect on Road Safety in Nyeri County. Joint investments in the public transport sector through PSV SACCOs did not have significant effect on road safety in Nyeri County. The results also showed a significant relationship between Consumer Protection through PSV SACCOs and road safety in Nyeri County. The results further showed a significant positive relationship between Regulation Measures by PSV SACCOs and road safety in Nyeri County. An increase in enforcement of Measures by PSV SACCOs resulted to enhanced road safety. The study recommended strict adherence to speed limits, establishment of reward management systems by the management of PSV SACCOs reward to motivate their employees, government to provide conducive policy framework that would boost the management of PSV SACCOs, regular audits of the PSV SACCOs to ensure compliance to the statutory regulations, establishment of specific training schools and curriculum for drivers of public service vehicles. The study also recommended for a replication of this study in other counties and further research on other factors affecting road safety in Kenya other than management of PSV SACCOs.
# LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>MOA</td>
<td>Matatu Owners Association</td>
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<td>MoT</td>
<td>Ministry of Transport</td>
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<tr>
<td>MVOA</td>
<td>Matatu Vehicle Owners Association</td>
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<td>MWA</td>
<td>Matatu Welfare Association</td>
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<tr>
<td>NTSA</td>
<td>National Transport and Safety Authority</td>
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<tr>
<td>POWAK</td>
<td>Public Service Vehicle Owners Welfare Association of Kenya</td>
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<tr>
<td>PSV</td>
<td>Public Service Vehicle</td>
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<tr>
<td>ROK</td>
<td>Republic of Kenya</td>
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<tr>
<td>SACCO</td>
<td>Savings and Credit Cooperative Organization”</td>
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<tr>
<td>TLB</td>
<td>Transport Licensing Board</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 4.1: Reliability Test of Research Instrument ........................................38
Table 4.2: Response Rate .................................................................................39
Table 4.3: Demographic Profiles of Respondents ...........................................40
Table 4.4: Road Safety in Nyeri County .........................................................41
Table 4.5: Self-Management of PSV SACCOs and Road Safety ...................46
Table 4.6: Investment through PSV SACCOs and Road Safety in Nyeri County ....49
Table 4.7: Consumer Protection Measures and Road Safety in Nyeri County ....52
Table 4.8: Regulation Measures by PSV SACCOs and Road Safety in Nyeri County .................................................................54
Table 4.9: Regression Results for Management of PSV SACCOs and Road Safety .57
LIST OF FIGURES

Figure 2.1: Conceptual Framework .................................................................28
OPERATIONAL DEFINITION OF TERMS

Dala dala: Minibus in Tanzania, often overcrowded during peak hours and usually are the quickest way to get around the city due to the best local knowledge of the driver.

Matatu - A public service vehicle having a seating accommodation for not more than twenty-five passengers exclusive of the driver, but does not include a motor-car;

Matatu Conductor - A person employed to work with a matatu driver and is assigned the responsibility of assisting passengers to board the public service vehicle, collecting the fare due for the distance travelled and notifying the driver of the PSV vehicle the bus stage at which a passenger may alight.

Matatu Driver - A person licensed to drive a public transport vehicle licensed and is employed as such by either a SACCO or by a Company engaged in public transport.

Operators - Refers to the driver, conductor and the owner of the PSV.

PSV Operations – The process of running and providing of transport to the public at a fee.

Public Service Vehicle - Any vehicles, which are licensed to carry passengers for hire

Public Service Vehicles’ Sacco/Company - A corporate body in whose name the public vehicle is registered.

Public Transport - Shared passenger-transport service which is available for use by the general public

Quality of Service – The level to which the services of the system are considered desirable and therefore usable from the users’ point of view.

Regulation Measures by PSV SACCOS - The Code of Conduct, Rules and Regulations that apply to Matatu Sacco and Company staff, drivers, conductors and PSV owners.
**Road Safety** - The methods and measures used to prevent road users from being killed or seriously injured.

**Road Users** - Include pedestrians, cyclists, motorists, vehicle passengers, and passengers on the road.

**Staff** - A person employed or hired by PSV Sacco or Company.

**Management of SACCOs** – Complying with NTSA regulations that require all public service vehicles to be members of a Matatu Sacco a company. The body corporate must own a minimum of thirty serviceable vehicles registered as public service vehicles.
TABLE OF CONTENTS

DECLARATION.................................................................................................................. i

DEDICATION.................................................................................................................. ii

ACKNOWLEDGEMENT.................................................................................................. iii

ABSTRACT....................................................................................................................... iv

LIST OF ABBREVIATIONS AND ACRONYMS ................................................................. v

LIST OF TABLES ............................................................................................................. vi

LIST OF FIGURES .......................................................................................................... vii

OPERATIONAL DEFINITION OF TERMS ....................................................................... viii

CHAPTER ONE: INTRODUCTION ................................................................................. 1

1.1 Background to the Study ......................................................................................... 1

1.2 Statement of the Problem ....................................................................................... 7

1.3 Objectives of the Study ......................................................................................... 7

1.4 Research Questions ............................................................................................... 8

1.5 Study hypotheses ................................................................................................... 8

1.6 Justification and Significance of the Study ............................................................ 8

1.7 The Scope and Limitations of the Study ................................................................. 9

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK .... 10

2.1 Introduction ............................................................................................................ 10

2.2 Empirical Literature Review ............................................................................... 10

2.2.1 Road Safety ...................................................................................................... 10
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2.2 Self-Management of PSV SACCOS and Road Safety</td>
<td>12</td>
</tr>
<tr>
<td>2.2.3 Joint Investment and Road Safety</td>
<td>15</td>
</tr>
<tr>
<td>2.2.4 Consumer Protection Standards by PSV SACCOS and Road Safety</td>
<td>18</td>
</tr>
<tr>
<td>2.2.5 Regulations Measures by PSV SACCOS and Road Safety</td>
<td>21</td>
</tr>
<tr>
<td>2.3 Summary of Research Gaps.</td>
<td>22</td>
</tr>
<tr>
<td>2.4 Theoretical Literature Review</td>
<td>24</td>
</tr>
<tr>
<td>2.4.1 SERVQUAL Theory</td>
<td>24</td>
</tr>
<tr>
<td>2.4.2 HAWTHORNE Effect</td>
<td>27</td>
</tr>
<tr>
<td>2.5 CONCEPTUAL FRAMEWORK</td>
<td>28</td>
</tr>
<tr>
<td>CHAPTER THREE: RESEARCH METHODOLOGY</td>
<td>30</td>
</tr>
<tr>
<td>3.1 Introduction</td>
<td>30</td>
</tr>
<tr>
<td>3.2 Research Design</td>
<td>30</td>
</tr>
<tr>
<td>3.3 Study Variables</td>
<td>30</td>
</tr>
<tr>
<td>3.4 Site of the Study</td>
<td>30</td>
</tr>
<tr>
<td>3.5 Target Population</td>
<td>31</td>
</tr>
<tr>
<td>3.6 Sampling Techniques and Sample Size</td>
<td>32</td>
</tr>
<tr>
<td>3.7 Data Collection Instruments</td>
<td>33</td>
</tr>
<tr>
<td>3.8 Reliability and Validity</td>
<td>34</td>
</tr>
<tr>
<td>3.8.1 Reliability</td>
<td>34</td>
</tr>
<tr>
<td>3.8.2 Validity</td>
<td>34</td>
</tr>
<tr>
<td>3.8.3 Pilot Study</td>
<td>35</td>
</tr>
</tbody>
</table>
3.9 Data Collection Procedures ............................................................................................................35

3.10 Data Analysis ..................................................................................................................................35

3.10.1 Empirical Model..........................................................................................................................36

3.11 Data Management and Ethical Considerations ............................................................................36

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSION .................... 37

4.1 Introduction ......................................................................................................................................37

4.2 Validity Test of Research Instruments ............................................................................................37

4.3 Reliability of Research Instrument ................................................................................................38

4.4 Descriptive Statistics .......................................................................................................................38

4.4.1 Response Rate in Respect to Questionnaires .............................................................................38

4.4.2 Response Rate in Respect to Interviews......................................................................................39

4.4.3 Demographic Profiles of the Respondents..................................................................................40

4.5 Road Safety in Nyeri County ............................................................................................................41

4.6 Self-Management of PSV SACCOs and Road Safety .....................................................................46

4.7 Joint Investment through PSV SACCOs and Road Safety .................................................................48

4.8 Consumer Protection through PSV SACCOs and Road Safety in Nyeri County ...................51

4.9 Regulation Measures by PSV SACCOs and Road Safety in Nyeri County ...............................54

4.10 Testing of Hypotheses ....................................................................................................................57

4.10.1 Usefulness of the Model .............................................................................................................57

4.10.2 Empirical Model..........................................................................................................................58

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS ............ 60
Appendix VII: Research authorization - Graduate School...............................86

Appendix VIII: Research authorization - NACOSTI........................................87

Appendix IX: Research authorization - County Commissioner..........................88

Appendix X: Research authorization - County Director of Education..................89
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Public Transport SACCOS in Kenya were formed to comply with the National Transport and Safety Authority operation of Public Service Vehicles Regulations, 2013 that came into effect from July 1, 2014. The regulations made it mandatory for all public service vehicles seeking a Transport Licensing Board (TLB) certification to be members of a Matatu Sacco in Kenya or belong to a company. The body corporate must own a minimum of thirty serviceable vehicles registered as public service vehicles (National Transport and Safety Authority, 2014). The main purpose for the regulations was to ensure the provision of safe, reliable and efficient road transport service in Kenya.

Public transport SACCOS in Nyeri County (NC) are operated by a few bus companies and the paratransit matatus. There are 11 Public Transport SACCOS registered within Nyeri County (National Transport and Safety Authority, 2014). Nyeri County is one of the 47 Counties in Kenya created after the promulgation of the New Constitution in August 2010. It covers the area which was initially covered by the larger Nyeri District. Nyeri County had a population of 693,558 people according to Kenya National Bureau of Statistics census of 2009. The bureau’s projection of the County’s population was 714,627 people by 2015 and 721,791 people by 2017. Given its relatively small area, Nyeri is among the densely populated counties in Kenya with a population density of about 285 people per Km2.

In February 2004 the Ministry of Transport introduced new regulations governing the operation of Public Transport vehicles (Njoroge, 2015). These regulations are the
compulsory fitting of safety belts and speed governors popularly known as the Michuki Rules. In addition, standing on matatus was banned. As a result of these regulations, many matatus were taken off the road, which caused great disruption to Public Transport, forcing many people to walk to work. After the government issued a legal notice requiring all the Matatu’s to join SACCOS or limited liability companies by December 2010, over 655 Matatu SACCOS had been registered with the Ministry of Cooperative Development and Marketing. Public transportation sector provides the most efficient of moving large number of people especially in densely populated urban centres from their places of residence to where they must go to pursue all the activities of life, such as work, education, business, shopping and leisure activities.

In addition to the well-being of its users, public transport plays a vital role in the productivity of cities which in turn has a direct bearing on the national economies (Gehl, 2011). The need to restore sanity in the public transport sector and improve the quality of services offered to the customers in the sector has been a major desire for all the stakeholders worldwide. A review of international literature on public transport quality shows that quality of service reflects passenger perception of the quality of public transportation service (Walsh, 2014).

Okeyo (2016) investigated the effects of introduction of the policy and regulation on customer service in public transport sector. The study sought to establish the extent that Sessional Paper No. 2 of 2012 on the Integrated National Transport Policy and National Transport and Safety Authority Regulations 2013 had been implemented; characteristics of Public Service Vehicles (PSV) industry operations; consumer satisfaction with PSV
service quality offered after formulation of the policy and how the current regulatory structure could be combined with other approaches for improved transport system.

A view at the global front public transport shows a high level of government controls on most structural arrangements and infrastructure. For instance, the American public transport system is predominantly controlled by the federal government (Winston, 2013). America has one of the largest public transit systems in the world. Most major cities like Chicago, New York City, Boston, Washington, DC, and San Francisco have like a third under the federal government and the rest controlled by other transportation Authorities like Metropolitan Transport Authority (MTA) for New York City, Chicago Transit Authority (CTA), The Massachusetts Bay Transit Authority (MBTA), Washington Metropolitan Area Transit Authority (WMATA) and Bay Area Rapid Transit (BART) in Francisco and outlying areas in East Bay.

Other countries like China with fast growing economies have significant problems associated with urban public transport. The urbanization rate was 42% in 2004, and is expected to reach 57% in 2020, with the current urban population of 830 million continuing to grow by approximately 80 million each year as rural residents relocate to urban areas. This level of urbanization brings huge transportation demand between urban and rural areas and requires much more transportation capacity, both at the inter-city and intra-city level (Stern & Green, 2015).

Therefore, it is wise to design the transportation structure to accommodate an integrated transportation system connecting urban and rural areas. In general, most developed nations have a fair share of challenges on public transportation but their main concern is on
sustainability issues and environmental concerns (Al-Kodmany & Ali, 2013). Existing public transport services in developing countries are unable to cope adequately with demands due to numerous factors, including inadequate road infrastructure, uncontrolled expansion of cities, high population growth and low level income and poor traffic management. When the urban transport system experiences major difficulties, consequences are felt by households, by businesses, and by the urban community at large (Marshall & Farahbakhsh, 2013).

The main challenges facing public transport sector in developing economies especially in the African continent are; poor quality of transport services; inappropriate modal split; unexploited regional role of the transport system; transport system not fully integrated; urban environmental pollution; lack of an urban/rural transport policy; institutional deficiencies; inadequate human resource capacity and lack of a vision for the transport sector (Brenton & Isik, 2012). The Kenyan public transport faces challenges like Poor Quality of Transport Services, High costs for passengers, Low levels of investment, Long waiting times, Lack of an Urban/rural Transport Policy, Weak and ineffective structures and Lack of capacity to manage the sector. Investment in the transport sector covers a wide range of projects with participation from a cross range of public and private. These investments cover infrastructural projects in transport that have reached financial closure and directly or indirectly serve the public (Oira, 2015).

The Kenya's public transport system contributes majorly to the country’s economic inefficiency as it encourages use of low capacity vehicles compared to the high capacity ones (Angira, 2013).
The majority of public transport vehicles have a capacity of 14 passengers that leads to high operation costs. As a result, Kenya's public transport system is facing challenges that inhibit it from performing the role of facilitating economic growth and development. Ease of management of the Public transport sector is expected to significantly increase the performance of the public transport sector by managing the challenges faced by the various players adequately. This role should be properly undertaken by the Public transport SACCOS. Congestion, pollution, numerous road crashes, corruption between Matatu operators and traffic police, cartels and insecurity (Mungiki) are said to have erupted over the years in the transport sector and need to be addressed to make the industry attractive to more investors (Haufler, 2013). In Nairobi, as well as in many cities in the developing world, rapid urbanization, high operational costs, crumbling infrastructure, and weak institutions result in depleted public transportation services and service voids (Thaimuta & Moronge, 2014).

Ensuring road safety through providing and enforcing regulations that would ensure the crashes are reduced, guarantees that investors’ investment will be protected so will the lives of road users. It should be noted that every investor is interested in investing in a business that they are sure is well regulated to cushion their investment from unnecessary risks (Kile, 2011). Availability of regulations is not just enough; going the extra mile to ensure adequate implementation of these laws is also important in confirming that a sector is well regulated. In fact, the presence of the laws does not have a significant impact on the sector but strict adherence to the same thus ensuring road safety (Afsah, 2013).

Road safety refers to methods and measures for reducing the danger of a person utilizing the road network being killed or severely hurt. The users of a road include pedestrians,
cyclists, motorists, their passengers, and passengers of on-road public transport, mainly buses and trams. Best practice road safety strategies focus upon the prevention of serious injury and death crashes in spite of human fallibility (Mullen, Tight, Whiteing & Jopson, 2014).

Nearly three thousand and four hundred people die on the world's roads every day. Tens of millions of people are injured or disabled every year. Children, pedestrians, cyclists and older people are among the most vulnerable of road users. The role of reducing the road carnage is a collective responsibility of all stakeholders in public transport sector. These include bus owners, employees, government regulators and commuters (Arason, 2014).

For a long time, commuters have been left out in the fight. But according to Kevin Ganza of the University of Rwanda’s College of Science and Technology, passengers should also take responsibility of their safety on the road by calling to order reckless drivers through traffic police phone numbers. The numbers should be displayed inside buses so that passengers can alert the police when they feel their safety is being compromised (David, 2014).

Only when available laws are well implemented through ensuring that vehicles operate within the law and the fruits can be witnessed, then does the effect of the created laws seem to have meaning. Over the last few years road crashes have been very rampant on Kenyan roads particularly during festive periods leading to a lot of losses being incurred. Inadequate enforcement of the available regulations in public transport saw speeding and overloading of PSV vehicles increase hence the crashes (Saylan & Blumstein, 2011). When the formulated regulations are weak or when the enforcement of the available regulations is inadequate, motorists see that as a chance to engage in illegal practices like overloading of freight vehicles, illegal PSVs or racing of buses and it is only through
strong regulations that are well implemented that award of driving licenses fraudulently will be controlled hence controlling dangerous and reckless driving practices” (Leigh & Blakely, 2016)

1.2 Statement of the Problem

In 2013, the National Transport and Safety Authority (NTSA) enacted Licencing Regulations for Public Service Vehicles (PSVs) with an aim of restoring road safety on the Kenyan roads. The regulations required the authority to licence only vehicles that belong to SACCOS and companies to operate as PSVs. These measures also made the PSV operators take full control of their businesses. However little was known about the effects of the Self-Management of PSV SACCOS on Road Safety in Kenya; this is the gap that this study sought to fill.

1.3 Objectives of the Study

i. To determine the effect of Self-Management of PSV SACCOS of public transport through PSV SACCOS on road safety in Nyeri County

ii. To establish the effect of investment in public transport operations through PSV SACCOS on road safety in Nyeri County

iii. To determine the effect of consumer protection standards by PSV SACCOS on road safety in Nyeri County

iv. To determine the effect of regulation measures by PSV SACCOS on road safety in Nyeri County
1.4 Research Questions

i. What is the effect of Self-Management of PSV SACCOs of public transport through PSV on road safety in Nyeri County?

ii. What is the effect of investment in public transport operations through PSV SACCOs on road safety in Nyeri County?

iii. What is the effect of consumer protection standards by PSV SACCOs on road safety in Nyeri County?

v. What is the effect of regulation measures by PSV SACCOs on road safety in Nyeri County?

1.5 Study hypotheses

The following null hypotheses were formulated and tested at 5% level of significance.

\( H_{01} \): Self-Management of PSV SACCOs of Public Transport through PSV has no effect on Road Safety in Nyeri County

\( H_{02} \): There is no relationship between investments in public transport through PSV SACCOs and Road safety in Nyeri County

\( H_{03} \): Consumer protection standards by PSV SACCOs has no significant effect on Road safety in Nyeri County

\( H_{04} \): Regulation Measures by PSV SACCOs have no significant effect on Road safety in Nyeri County

1.6 Justification and Significance of the Study

Road accidents have been the cause of many avoidable deaths and injuries, this has put road safety at centre of public policy makers. Policy measures aimed at preventing road accidents have been implemented. This study examined the relationship between PSV SACCOs and road safety in Nyeri County. This study is significant both in academic and
policy spheres. In the academic sphere, the study was to investigate the role of public transport SACCOS in handling challenges facing public transport sector in Nyeri County, Kenya. The results are of great help to researchers and scholars because it will help them increase general knowledge on the subject in terms of how the variables are related and provide useful reference for future studies as part of scholarly literature. The study will suggest recommendations for further studies for researchers who might be interested to study a phenomenon related to this. The findings of the study are useful to policy makers and practitioners in the transport industry in gaining more insights about the role of Public transport SACCOS in addressing the challenges facing the sector in Nyeri county and take necessary steps towards improving public transport.

1.7 The Scope and Limitations of the Study

This study concentrated only on Public Transport SACCOS operating in Nyeri County. Primary data was collected from the employees of those SACCOS. Independent variables were: Self-Management of PSV SACCOs of Public Transport through PSV SACCOs, Investment in public transport operations through PSV SACCOs, Consumer protection by PSV SACCOs and Regulation Measures by PSV SACCOs whereas the dependent variable was Road Safety.

The researcher faced some difficulties where some respondents were hesitant to participate in the study but the researcher assured them that the information would only be used for academic research only. In addition, the researcher produced an introductory letter from the University and the research permit from NACOSTI to confirm that the study was for academic purpose. The respondents were also assured of confidentiality and anonymity of all of their responses. The respondents cooperated and researcher collected all the necessary data.
CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

There are a number of studies that have attempted to develop theoretical and empirical works to understand the role of public transport SACCOS in handling challenges facing the public transport sector. The review provides theoretical and empirical studies on management of public transport SACCOS and road safety and thereafter provides a summary of the literature review.

2.2 Empirical Literature Review

2.2.1 Road Safety

Safety in Public Transport is the state in which the probability of harm to persons or of property damage is reduced to, and maintained at, a level which is as low as reasonably possible through a continuing process of hazard identification and risk management (Glendon, Clarke & McKenna, 2016). Road safety is a significant aspect in this study. It is one of the key roles that Public transport SACCOS should play to reduce the challenges facing the Public transport sector. This section gives a detailed review of literature related to road safety from different scholars.

A study by Webb (2010) on customer-focused improvements in the Chicago Transit Authority’s Public Transport services, results showed a 5% (or 15 million trips per annum) increase in ridership over 5 years after a sustained period of decline. Improvements focused on comfort-related issues such as vehicle cleanliness, road safety and improved complaints handling. A subsequent survey of 2400 passengers revealed significantly increased satisfaction with regard to improvement in service quality, addressing vehicle crowding (7%), safety (6%), seat availability (5%), in-vehicle temperatures (5%) and ease of embarking the vehicle (3%).
Redi (2015) conducted a study on Performance and Challenges of Zonal Taxi Transport System in Addis Ababa. The study revealed that accessibility and quality of zonal taxi transport system is relatively better because of the opening up of new routes, fair distribution of taxis, protection of criminal activities, and reduction of traffic crashes by giving break for drivers and others.

A study conducted by Keall, Mulvihill, Logan & Newstead (2013) found that there was evidence that past improvements in speed management had been a major factor in reducing road crashes deaths, and that a Safe System approach combining infrastructure and speed management measures further produced substantial safety gains for road users. The study pointed certain behaviours as diminishing the safety gains in public transport. These behaviours included speeding, drink and drug impaired driving, driving while fatigued, being distracted or aggressive while driving, and not using, or incorrectly using, safety devices (seatbelts and child restraints). The study highlighted speed management as a key measure to improving safety in public.

Chitere and Kibua (2012) in their study found the following limitations in road safety improvement in Kenya: seat belts fitted by some matatus were substandard and did not guarantee safety in the event of crashes. In some vehicles, they were not cared for and some passengers declined wearing them owing to their being dirty. The matatu SACCOS were hiking fares which compelled passengers to appeal to the government to control them although this has not been possible owing to the liberalized market economy among other factors highlighted. The study concluded that there was need for strengthening training of public transport drivers through regulation of activities of commercial training schools and
support of initiatives being taken by the vehicle owners associations, NGOs and insurance firms in training of the drivers in road safety in order for safety gains to be felt in public transport.

2.2.2 Self-Management of PSV SACCOs and Road Safety

Thomas (2014) conducted a research on China’s public transportation and observed that the rapid urbanization and large scale motorization would bring challenges to the urban environment. These challenges would be associated with population increase, traffic congestion, air pollution, urban sprawl and increased energy consumption. The expansion of cities increased the length of trips for most urban residents, leading to more travel demand for roadways and public needs.

As Mexico City grew it became difficult for travel demands to be satisfied. Gamez (2012) in a report on Implementing Sustainable Urban Travel Policies in Mexico revealed that urban growth in Mexico has been explosive in terms of urban land use and population. Mobility rose to 22 million trips daily in 2007. Public transport is dominant in most Mexican cities. In 2007, the predominant urban transport user was an adult worker or employee, followed by younger students. Mexico City people used about 17.5 million hours daily to travel to their activities. This is equivalent of more than 2.2 million workers doing nothing for eight hours. This comparison with working hours gives a preliminary idea of the economic and social cost of urban transit that replaces productive activities, rest, family life or education.
The study also revealed that the main obstacle faced by urban transport projects is the lack of modernization of the institutional framework. To some extent, this problem is caused by the relative contempt of certain authorities towards the proposals of transport operators or public transport users. Emphasis should be focused towards the need that any transport project must seek active participation of both authorities and operators/users as an indispensable condition.

A study conducted by Rizzo (2011) on the nature of employment among daladalas conductors and drivers found that lack of permanent employment status is among the main causes of poor level of service offered by drivers and conductors. The study found that majority of conductors and drivers had no fixed wages and their income depended on daily revenue collections. The study also found that a common form of employment was daily employment which accounted for 73.24%, contractual form of employment, longer than a day accounted for 14.32%, while permanent employment represented 12.16%. This poses serious challenges on enforcement, regulation and supervision. The study also established that the dominant mode of remuneration was surplus of daily target. The study also investigated working hours for daladalas conductors and drivers by investigating if drivers observed the stipulated working hours. The study revealed that the average working hours for the bus drivers was 16.02 hours. Majority (62.5%) of drivers started work at 0500 hours and closed at 2100 hours. Regarding resting time between starting and closing time of work, 84.4% of drivers had no resting time.

Githui, Okamura and Nakamura (2009) conducted a survey to determine public transport service attributes that influence overall passengers’ satisfaction in developing countries with Nairobi city as case in point. The study found that the level of satisfaction was found
to be significantly influenced by Service Quality, Safety, Travel Cost and the perception on
the systems’ performance. The study therefore proposed the model to transportation
engineers and planners in Nairobi city in the investigation of travel factors that do
determine commuters’ satisfaction with public transportation services.
Ogombe (2017) carried out a study on the Influence of Road Infrastructure Interventions
on Implementation of Pedestrian Safety Rules in the City of Kisumu, Kenya. The study
applied mixed methods approach and pragmatism as the research philosophy and Ex Post
Facto as the research design. The sampling entailed both probability and non-probability
procedures where simple random sampling, cluster random sampling, stratified random
sampling and convenience and purposive sampling techniques were used. Quantitative
data analysis was done using descriptive and inferential statistics and qualitative data
analysis using content analysis. Statistical Package for Social Sciences (SPSS) for
Windows version 20 was used.

The study employed Safe Systems Approach Theory, Grey System Theory and Risk
Homeostasis Theory. The study found that public education, enforcement of traffic laws,
pedestrian demographic factors and attitude of pedestrians’ influence implementation of
pedestrian safety rules. The study also found that effective implementation of pedestrian
safety rules are of significant benefit to policy makers, the government and all road users
specifically pedestrians.
2.2.3 Joint Investment and Road Safety

Redman, Friman, Garling and Hartig (2013) outlined a two-stage introduction of fare integration and automated Public Transport ticketing systems in Melbourne, Australia, explaining why one stage was successful, and one was less so. The first stage focused on fare integration, launching the ‘Travel card’, the system’s first multi-modal ticket, which allows passenger’s unlimited daily travel on all previously disconnected transport modes within the designated zone. While the Travel card did actually entail an increase in travel price for passengers, the fare increase was met with little resistance as passengers largely perceived the Travel card to have improved value as it offered potentially unlimited daily travel where, previously passengers would need to buy a single ticket for each journey as well as whenever changing modes.

A project in Norwich, England provided new, covered bus shelters with 15 seated spaces at the rail station and throughout the region’s bus routes. An on-street survey subsequently found that 98% of respondents were at least satisfied (42% were very satisfied) with the quality of the new facilities. Researchers gave no indication as to whether the participants were new or existing public Transport patrons. While these results again shed light on the improvement’s effect on passenger ratings, it is unclear whether such improvements in comfort can encourage increases in ridership (Collis, 2013).

Bosch (2010) conducted a study to evaluate the quality of customer service delivery offered by the East London public transport commuter rail service provider operated by METRORAIL. The study was guided by three fundamental service quality indicators. In order to evaluate these indicators, the research focused on whether the quality of customer services provided by Metrorail meets commuter expectations. The study found that the
ability of METRORAIL to offer quality and affordable services is hindered by a constricted budget which is required to make the necessary investments and innovation that will help to improve the level of customer service. The study recommended that the company should make more investments so that the level of customer service will improve.

A study by Nhundu (2013) on quality of service in 14 African cities revealed that no formal quality of service statistics are available, but formal and informal surveys of users undertaken in these cities suggest widespread dissatisfaction with bus service. Frequent complaints include poor quality of roads, overcrowding of buses, unpredictable and irregular service and inadequate terminal facilities. The study also revealed that routes run between terminals controlled by the operators’ union which limits the degree to which they can be adjusted to meet passenger demand. As a result, passengers must change buses at least once to reach their destination, thus increasing the duration and cost of their trip. Redman, Friman, Garling and Hartig (2013) evaluated the impact of a new bus route introduced in a low-income, fringe-area of Melbourne, Australia. While no data on actual ridership are available, a post-implementation survey found 13% of users retrospectively stating that they chose to use the new bus routes over their private car, 20% were less reliant on others for rides, and improved access to leisure or activities was highlighted as a major outcome. Of non-users surveyed, the reason for not using the bus service was access to a private vehicle.

Clifton and Mulley (2016) evaluated the impact of an extended and new rail service and related feeder bus routes in Perth and the Gold Coast, Australia. Results for Perth indicated 25% of new passengers previously travelled by car, and 11% had not previously used
Public transport. The majority of new passengers (64%) were considered new even though they had previously been using bus services that were replaced by the improvement concerned. Similar figures were found for the Gold Coast, and it is noted that in both cases car use in the same transport corridors was reduced by only a small percentage. In the Gold Coast, the initial drop in car use was only temporary, over time the up-trend in car use continued.

Okeyo (2016) investigated the effects of introduction of the policy and regulation on customer service in public transport sector by seeking to establish the extent that Sessional Paper No. 2 of 2012 on the Integrated National Transport Policy and National Transport and Safety Authority Regulations 2013 had been implemented; characteristics of PSV industry operations; consumer satisfaction with PSV service quality offered after formulation of the policy and how the current regulatory structure be combined with other approaches for improved transport system. The research used non experimental study design to get primary data from a sample of 208 household respondents and 12 key informants. Data was collected using questionnaires and analysed quantitatively using SPSS to yield descriptive and inferential test statistics.

Findings further showed that half of participants agreed that PSV service quality had improved with the implementation of the requirement for the formation of PSV SACCOS. The research hypothesis further established that implementation of the Policy has led to improvement in service delivery. In overall, there is some improvement in service delivery/service quality. The study recommended further research in the effects of these regulations on conflict resolution, passenger comfort, routing issues and passenger safety that would give birth to a holistic integrative approach.
2.2.4 Consumer Protection Standards by PSV SACCOS and Road Safety

The Consumer Protection Act (CPA-2012) provides for the protection of the consumer, prevents unfair business practices in consumer transactions and for matters connected and incidental thereto. In Public Transportation, Consumer Protection Act is designed to provide the lowest possible cost of public transportation, consistent with service quality and safety standards by creating a competitive environment in which both public transit agencies and private transportation providers are fairly considered for operation of services. Consumer’s federation of Kenya (COFEK), consumer protection act, 2012 (Republic of Kenya, 2014).

The management of the Public transport SACCOS in Nyeri County should ensure that the commuters are served well thus helping to handle the challenges facing the public transport sector. This section of literature review gives a holistic picture of studies conducted in consumer protection and presents the findings by various researchers.

Bolella (2011) studied public perception of public transportation and its built environment in the new haven – Springfield Corridor. This research found that people place a significant value on the quality of public spaces created by transit, captured here through the use of digitally rendered built environments that depict several features of good public spaces: wide sidewalks, greenery, reduced building setbacks, etc, combining different levels to define four distinct groupings of public spaces. It also discovers that an individual’s willingness to pay for public spaces varies based on geography of their community. A study conducted by Redman, Friman, Garling and Hartig (2013) revealed that, by replacing a complex per-boarding fare system with a simple zone fare system with free transfers in Haifa, 30% of the passengers reported that they were making more trips by
bus after the reform. The former system overcharged the passengers and was very inefficient for the same.

A study by Omondi (2012) to find out whether the reforms introduced by the government between 2003-2005 had contributed to road safety behaviour. The study took cognizance of the government's efforts to bring reforms in the transport sub-sector through legal notice No. 161 and other policies. The study was anchored on rational choice theory and reasoned action theory. The study findings revealed that the level of road safety behaviour continued to be very low despite the transport reforms introduced by the government. The study also observed that there was a high level of awareness by matatu crew with regards to the traffic rules. Also adherence to some of the requirements of Legal Notice No. 161 is relatively high like fitting seatbelts, displaying driver photograph and uniforms. However, the study found a high disregard to traffic rules. Further the study revealed that most of the drivers had attained some form of driving training in a formal institution. Majority of the matatu drivers worked full time and most of the drivers had a positive perception about the traffic rules but cited working conditions as an obstacle to following them.

According to the findings from the studies carried out in South African, the quality of public transport service in South Africa requires urgent improvement since it affects mostly poorer members of the community who rely on it for daily commuting (National Planning Commission, 2011; Mokonyama, 2012). A survey by Finn and Mulley (2011) found that the poorer members of the community are often faced with inadequate transport service, poorly arranged schedules, the absence of facilities – including bus stops and shelters, and the infrequency of services, particularly at off-peak times.
Govender (2014) conducted a study on commuters’ perceptions of bus and mini bus taxi service quality using SERVQUAL instrument. The results showed an overall perceived quality of public bus transport services exceeded that of minibus taxis, despite the minibus taxis being the dominant mode of public transport. All the RECSA (Reliability, Extent of the service, Comfort, Safety and Affordability) dimensions of transport service quality influenced the respondents’ perception of public bus service quality, whereas only three, namely reliability, affordability and extent of the service, influenced their perception of the minibus taxis service quality. To improve public road transport service quality, service providers should among others, implement scheduling systems to improve the punctuality of the service, invest in communication systems, introduce a comfort rating system, improve the arrival times at destinations and reduce journey length.

A study conducted by Nhundu (2013) on the challenges of public transport in Dar-es-Salaam found that 81.9% of passengers rated operatives’ language as poor or very poor. Incidences of abusive language were more pronounced during collection of fares, loading and disembarking of passengers. The study also found that 87.7% of passengers were not satisfied with neatness of bus crew. Apart from bad language and dirtiness of crew, noises from radio and music players were the third ranked nuisance on board by passengers. Playing music or radio on a high volume, apart from disturbing passengers, led to misunderstanding, and therefore resulting in bad relationship between bus crew and passengers. All these factors contribute to the poor perception of commuters on the quality of services.
2.2.5 Regulations Measures by PSV SACCOS and Road Safety

Evidence has shown that adherence to traffic rules and regulations reduced road crashes significantly. A study by Manji (2015) showed that when Legal Notice No. 161 of 2003 was issued and later implemented, for the first 6 months of its strict adherence, road crashes were reduced by about 73%, compared to a similar situation in the previous year. Much as right laws are important, their positive impact will very much depend on their proper implementation and enforcement. Besides, a change of attitude and behaviour by all road users is fundamental in addressing road crashes.

A case study on Easy Coach Transporters by Michieka (2017) on their road safety tips from the drivers’ perspective indicated that the issue of observing safety rules, regulations and ethics on the roads is brought to their attention repeatedly. Some of the tips given to the drivers to ensure safety while driving included: not speeding even while going downhill; not using mobile phone while driving; not overtaking at blind spots and ensuring passengers buckle their safety belts before the start of the journey. The study also found that the company has adopted a business practice policy of not picking passengers on the way. The findings indicated that observing all that observing all these regulations and measures enhanced passengers’ safety. A study by Chitere (2014) on Training, testing and licensing of drivers of public service vehicles: their implications for compliance with traffic regulations in the city of Nairobi to find out how far training, testing and licensing of par transit public service vehicle (PSV) drivers ensured their compliance with road safety regulations.
Fifty two (52) drivers were sampled and interviewed from 13 routes situated along four major corridors in the City of Nairobi. About two-thirds (61.5%) of the drivers reported having lowly complied with traffic regulations. The PSV industry was dominated by SACCOS/company and sole proprietor type of organization and operations characterized by setting of target amount of money to be given to the operator each day and casual employment with daily wage and no other benefits. More of the drivers who had attended professional schools or refresher courses, those who were older and those who had served for more years tended to comply with traffic regulations set by respective SACCOS/company. The study concluded and recommended that establishment of PSV schools with standard syllabus, introduction of hybrid system with BRT operating on major corridors and contracted to better performing SACCOS/companies and employing better qualified drivers will improve compliance with traffic regulations.

2.3 Summary of Research Gaps.

Early research largely considered the development of the public transport sector and the challenges facing the sector but did not consider the role played by the public transport SACCOS in addressing the challenges facing the public transport sector. A study conducted by (Ngugi, 2013) revealed that public transportation is under-developed, highly fragmented and inefficient. More than 1 million passengers are using public transport in Nairobi where only 800 high occupancy buses are operating along with the concentration of para-transit service. (Aligula et al., 2010) noted that, In Kenya, the growth of Public transport sector has been hindered by numerous challenges including: lack of management skills, political instability, Inadequate Education and Skills, Unfavourable National Policy
and Regulatory Environment, low level of investment in the sector, weak and inefficient structures, Poor Infrastructure and Scanty Markets information.

A study conducted by Mukabanah (2008) revealed that, since the year 2000, the public transport sector has seen the rise of cartels whose main aim has been to extort public service operators as well as passengers. He refers to the Mungiki as the main known extortionist according to him. Republic of Kenya (2009) agrees that before the 2002 general election in Kenya, the effect of cartels on most of city routes was significantly felt by operators (Republic of Kenya, 2009). The study by Machobane (2010) on total quality management and effective urban public transport found, amongst others, that there are no Total Quality Management practices among public transporters in Ethiopia and this affects the quality of services offered.”

Kyalo (2012) did an analysis of factors affecting performance of Matatu enterprises’ sector by using a case of selected routes in Nairobi. The study concluded that the weaknesses in the Matatu sub-sector can be reduced by improving the management skills of owners, lowering costs of operations, research, law enforcement and improving the road transport infrastructure by the government. A study conducted by Mlambo and Khayesi, (2006) on the challenges of public transport in Dar es Salaam found that 81.9% of passengers rated operatives’ language as poor or very poor. Incidences of abusive language were more pronounced during collection of fares, loading and disembarking of passengers. The study also found that 87.7% of passengers were not satisfied with neatness of bus crew.

After this review of literature, several gaps have been identified in the earlier studies on Public transport sector and the challenges facing the same. This study is therefore aimed at streamlining the ambiguity of the findings of earlier researchers on the concept of Public
transport and its challenges by determining the role of public transport SACCOS in handling challenges facing public transport sector.

A case study on Easy Coach Transporters by Michieka (2017) on their road safety tips from the drivers’ perspective indicated that the issue of observing safety rules, regulations and ethics on the roads is brought to their attention repeatedly. The study focused on the drivers’ perspective on observing Regulations Measures established by PSV SACCOS; the proposed study focused on managers of PSV SACCOS, drivers and passengers.

### 2.4 Theoretical Literature Review

Various theories have been formulated on management of public transport and road safety. This study was reviewed using SERVQUAL and HAWTHORNE theories and draws their relevance in the study as discussed below.

#### 2.4.1 SERVQUAL Theory

In conducting this study, the researcher was guided by the SERVQUAL Theory. The SERVQUAL Theory developed by Zeithaml in 2003 explains the relationship between customer satisfaction and service quality. According to the theory, there is a direct relationship between the quality of services offered by a service provider to a customer and the level of customer satisfaction derived from the same (Agbor, 2011).

SERVQUAL questionnaire/measurement scale is designed to measure service quality by capturing respondents’ expectations and perceptions along the five dimensions of service quality.

SERVQUAL standard questionnaire comprise of 22-item questions as follows:
Questions 1 - 4 measure tangibility or the physical facilities, equipment and personnel.

Questions 5 - 9 measure reliability or the ability to perform promised services dependably and accurately.

Questions 10 – 13 measure responsiveness or the willingness to provide prompt services.

Questions 14 – 17 measure assurance or the ability to inspire trust and confidence in users.

Questions 18 - 22 measure empathy or the amount of caring and individualized attention to clients. In each of the indicators or elements, respondents are asked to express their views on the existing quality of services provided and their expectations from the services. According to Cook, Heath, & Thompson (2003), expected or desired level represents the level of service that users expect to receive from the library; and the perceived level the actual services provided by the service providers or obtained by the Users (Onyeagahala, 2016).

Service quality is generally visualized as the sum of customer perceptions of the service experience. The difference between service quality and satisfaction is a global judgment, or attitude, relating to the superiority of the service. Whereas satisfaction is related to the specific transaction, customers form service expectations from many sources, such as past experiences, word of mouth, and advertising (Milakovich, 1995; Berry, Seiders & Grewal, 2002).

In general, customers compare the perceived services with the expected service. If the perceived service falls below the expected service, customers are dissatisfied and if the perceived service quality is above the expected level, it creates satisfied customers (Goddard, Raab, Ajami & Gargeya, 2012). According to Becerra, Santalo and Silva (2013) service quality has become a significant differentiator and the most powerful...
competitive weapon which many service organizations possess. Successful companies add benefits to their offering that not only satisfy customers but surprise and delight. Delighting the customers is a matter of exceeding expectations.

Public transportation is defined as transportation by a conveyance that provides continuing general or special transportation to the public; excluding school buses, charter and sightseeing service. Public transportation includes various modes such as buses, sub ways, rail, trolleys and ferry boats. Public sector organizations including transportation services are created by governments with an intention not to compete in the open market, rather their objective is to fulfil the needs of common public (Ngo, 2015). As public transport organizations grow older and matured, the quality of service dwindles down with public being left with no option but to accept what is offered. To help this situation the concept of quality need to be introduced into public transportation for meeting the quality expectations of the public.

Management of public transportation has focused on initiatives such as carrot and stick policy for the managerial cadre to perform better and encourage them with autonomy to act. Competitive advantage benefits customers and service quality is one of the mechanisms to achieve this. Service quality is recognized as one of the important areas on which public organizations including transportation services are focusing in present times (Brown, 2013; Chowdhury, Alam & Ahmed, 2015).

Better quality in public services such as better experience management, adopting corporate style of functioning, benchmarking activities, competitive based work environment, optimization and better planning of organizational resources, more focus on
service quality output generation (Mathooko & Ogutu, 2014). Though service quality is an important aspect in public transportation, there is very less research being done to explore this issue. Hence to a large extent it’s a virgin area to investigate. Therefore, systematic research aimed at measuring the commuters’ perception on service quality offered by the public transport services will be beneficial to consumers and service producers.

2.4.2 HAWTHORNE Effect

The term Hawthorne effect was coined in 1958 by Henry Landsberger when analyzing earlier experiments from 1924–32 at the Hawthorne Works; a Western Electric factory outside Chicago (Bayer, 2014). The Hawthorne effect is also referred to as the observer effect. It is a type of reactivity in which individuals modify an aspect of their behaviour in response to their awareness of being observed (Chen, Vander, Hofmann & Reisinger, 2015). It was named after the original research at the Hawthorne Works in Cicero, Illinois, on lighting changes and work structure changes such as working hours and break times was originally interpreted by Elton Mayo and others to mean that paying attention to overall worker needs would improve productivity (Young, 2016; Yousuf, 2016).

This model was relevant in explaining the behaviour of PSV SACCOS in the context of them being observed by the NTSA and also the behaviour and performance of the individual drivers and other employees while being observed by the PSV Sacco management and the public. The model was used to validate the findings and serve as a basis for recommending desirable public policy intervention”.
2.5 CONCEPTUAL FRAMEWORK

INDEPENDENT VARIABLE

Management of Public Service Vehicles SACCOS

Collective Management of Public Transport through PSV SACCOS
- Accountability
- Effectiveness

Investment in public transport operations through PSV SACCOS
- Access to adequate financing
- Employment opportunities

Consumer protection by PSV SACCOS
- Regularisation of fares
- Waiting times

Regulation Measures by PSV SACCOS
- Speed Governors
- Branding
- Seat Belts
- Driver/Conductor Uniforms

DEPENDENT VARIABLE

Road Safety
- Reduced Road crashes
- Reduced Road Fatalities
- Cost-effectiveness
- Efficiency

INTERVENING VARIABLE

- Quality of Roads
- Weather Conditions
- Government policy
- Time of the day

Figure 2. 1: Conceptual Framework
Figure 2.1 above shows the relationship of the study variables. The independent variables are: Self-Management of PSV SACCOS of Public Transport through PSV SACCOS, Investment in public transport operations through PSV SACCOS, Consumer protection by PSV SACCOS and Regulation Measures by PSV SACCOS. The dependent variable is road safety while the intervening variables are: Quality of Roads, Weather Conditions and Government policy.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter is organized as follows: research design, study variables, site of the study, target population, sampling techniques and sample size, research instruments, validity and reliability, pilot study, data collection procedures, data analysis and presentation and data management and ethical considerations that this study will employ.

3.2 Research Design

A descriptive research design was used in this study. According to Ezeani (1998) the purpose of descriptive research design is to collect detailed and factual information that describes an existing phenomenon. It attempts to describe such things as possible behaviour, attitudes, values and characteristics as they exist. The study sought to describe the effects of Self-Management of PSV SACCOS of public service SACCOS on Road Safety in Nyeri County.

3.3 Study Variables

The independent variables are: Self-Management of PSV SACCOS of Public Transport through PSV SACCOS, Investment in public transport operations through PSV SACCOS, Consumer protection by PSV SACCOS and Regulation Measures by PSV SACCOS. The dependent variable is road safety while the intervening variables are: Quality of Roads, Weather Conditions and Government policy.

3.4 Site of the Study

The study was conducted in Nyeri County, Kenya. Nyeri County is one of the 47 Counties in Kenya created after the promulgation of the New Constitution in August 2010. It covers the area which was initially covered by the larger Nyeri District. Nyeri County had a population of 693,558 people according to Kenya National Bureau of Statistics census of
2009. The bureau’s projection of the County’s population was 714,627 people by 2015 and 721,791 people by 2017. Given its relatively small area, Nyeri is among the densely populated counties in Kenya with a population density of about 285 people per Km2. Nyeri County preferred for this study because it had already established PSV SACCOs before the regulations came in place. This therefore offers a perfect site for the study.

3.5 Target Population

According to Kisilu and Tromp (2006), the population denotes a group of individuals, objects or items from which samples are taken for measurement. Population can also be defined as all items under consideration in any field of inquiry (Kothari, 2004). The target population included all the 11 PSVs SACCOS registered and licensed by the National Transport and Safety Authority operating and headquartered in Nyeri County as at (2016). The accessible population was the three (3) largest PSVs SACCOS operating and headquartered in Nyeri County with a total population of 110 employees which follow under top, middle and lower management levels.

Table 3.1: Distribution of Target Population

<table>
<thead>
<tr>
<th>Psv Sacco</th>
<th>Management Level Strata</th>
<th>Stratum Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Top Level</td>
<td>4</td>
</tr>
<tr>
<td>2NK SACCO</td>
<td>Middle Level</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Lower Level</td>
<td>31</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td></td>
<td><strong>45</strong></td>
</tr>
<tr>
<td>NAKONNS SACCO</td>
<td>Top Level</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Middle Level</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Lower Level</td>
<td>24</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td></td>
<td><strong>36</strong></td>
</tr>
<tr>
<td>NYENA SACCO</td>
<td>Top Level</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Middle Level</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Lower Level</td>
<td>19</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td></td>
<td><strong>29</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>110</strong></td>
</tr>
</tbody>
</table>

Source: (NTSA, 2016)
3.6 Sampling Techniques and Sample Size

The study used stratified and simple random sampling techniques to select the required sample from the target population of 110 employees that was drawn from the three strata of top, middle and lower management levels of the PSVs SACCOS registered and licensed by the National Transport and Safety Authority operating and headquartered in Nyeri County. Based on the total population of 110 employees, a sample of 86 was drawn using Sekaran (2003) sample size determination table at 95% confidence level (Appendix vi). This was then distributed proportionally in the strata as per Pedhazur and Schmelkin’s (1991) and Kyamanywa (2005), formula below:

\[
R = \frac{C \times S}{P}
\]

Where

- \(R\) is respondent required from a stratum
- \(C\) is stratum population
- \(S\) is the desired size (86)
- \(P\) is the total population (110)

Through the above formula, the sample size is as per the table 3.2 below
Table 3.2: Sample Distribution of Size

<table>
<thead>
<tr>
<th>STRATA</th>
<th>MANAGEMENT LEVEL</th>
<th>STRATUM POPULATION SIZE (R = C × S) P</th>
<th>SAMPLE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2NK SACCO</td>
<td>Top Level</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Middle Level</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Lower Level</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Sub Total</td>
<td></td>
<td><strong>45</strong></td>
<td><strong>35</strong></td>
</tr>
<tr>
<td>NAKONNS SACCO</td>
<td>Top Level</td>
<td>4</td>
<td>3</td>
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<td></td>
<td>Lower Level</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Sub Total</td>
<td></td>
<td><strong>36</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>NYENA SACCO</td>
<td>Top Level</td>
<td>4</td>
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<td></td>
<td>Lower Level</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>Sub Total</td>
<td></td>
<td><strong>29</strong></td>
<td><strong>23</strong></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td><strong>110</strong></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>

Source; Researcher (2018)

3.7 Data Collection Instruments

Primary data was collected using self-administered structured questionnaire which was administered to the three levels of management and NTSA reports. The questionnaires contained both closed ended and open ended questions. Interview guide was used to conduct interviews with a key informant from each PSV SACCO to compliment data collected using the questionnaires. Three key informants from top level management were
interviewed; one from each SACCO. The study preferred the top level management because they are involved in policy formulation and setting strategic vision for the respective SACCO. Therefore this is where the required information to complement questionnaires would be found. The study also used secondary data that was obtained from Newspapers, websites and PSV SACCO reports.

3.8 Reliability and Validity

3.8.1 Reliability
Reliability of instrument in the study was tested using Cronbach’s alpha reliability coefficient. According to Field (2009) and Cooper and Schindler (2010), a Cronbach’s alpha value equal or greater than 0.7 is regarded to be an indication of reliability. Road Safety had a Cronbach’s Alpha of 0.837, Self-Management of PSV SACCOs 0.738, Investments 0.712, Consumer Protection 0.822, and Regulation Measures 0.820. In conclusion, all the variables attained the acceptable and recommended level of alpha 0.7. The overall research instrument was therefore highly reliable, with Cronbach’s alpha value of 0.786.

3.8.2 Validity
According to Kimberlin and Winterstein (2008), Validity is of a research instrument refers to the extent to which an instrument measures what it purports to measure. Validity requires that an instrument is reliable, but an instrument can be reliable without being valid. To ensure content validity of the questionnaire that was used in this study, a pilot test was carried out with nine respondents where the results were used to make adjustment where necessary.
3.8.3 Pilot Study

A pilot study was carried out to test whether the respondents experience difficulties in understanding items, whether they omitted items and time estimate the respondents took to complete the questionnaire. From the pilot study, it was noted that the questionnaire was too long, as a result of which the researcher shortened it accordingly.

3.9 Data Collection Procedures

An introductory letter granting the researcher the authority to collect data from the target companies was obtained from the University. Permission to conduct the research was obtained from the NACOSTI office before contacting the sampled respondents. The researcher then sent the request letters to the SACCOS for permission to carry out the research there.

3.10 Data Analysis

Data cleaning was done to correct any error that might have occurred during data collection and data was coded for analysis. After coding; qualitative data was grouped into respective themes and was analysed using thematic analysis. Quantitative data was analysed using descriptive and inferential statistics. Descriptive statistics was used to describe and summarize the data. Descriptive statistics of mean, mode, median and standard deviation computed to make it possible to interpret the information. Inferential statistics specifically multiple regression analysis was carried out to establish whether there is a relationship between the independent variables and the dependent variables and the type of the relationship if there is using the regression model below:
3.10.1 Empirical Model

\[ RS = \beta_0 + \beta_1 \text{CM} + \beta_2 \text{CP} + \beta_3 \text{IV} + \beta_4 \text{RM} + \varepsilon \]

Where,

RS = Road Safety

\( \beta_0 = \) Constant

\( \beta_1 \) to \( \beta_4 = \) The slope

CM = Self-Management of PSV SACCOS

CP = Consumer protection standards

IV = Investments

RM = Regulation Measures

\( \varepsilon = \) Standard Error

3.11 Data Management and Ethical Considerations

The study guaranteed of privacy, confidentiality and anonymity in carrying out the research. The data collected from the field was scrutinized and processed in order to ensure proper data management. There was a written form for guaranteeing privacy, confidentiality and anonymity, where the respondents were to sign to confirm.
4.1 Introduction

This chapter presents the study findings, analysis of data, presentation and discussion. It is organized as follows: First, descriptive statistics showing the respondents profiles and characteristics are presented to show the degree to which data represents the population of interest. Secondly, pre-estimation diagnostic tests are presented and, finally, testing of hypotheses is presented thematically, based on the research objectives.

4.2 Validity Test of Research Instruments

To ensure content validity, a pilot test was carried out with nine respondents where the results were used to make adjustment where necessary to ensure the instrument measures what it was supposed to measure (Saunders et al., 2007). The pilot study tested whether the respondent experienced difficulties in understanding items, whether they omitted items, time estimate the respondents took to complete the instrument and it gave the indication on how the data collecting instrument would perform in the field. The result disclosed that the questionnaire was easy to answer, but it was long, so the researcher shortened some of the questions that were too long to enable the respondents to complete the questionnaire within the given period of time.

Construct validity was ensured by reviewing empirical and theoretical literature such as SERVQUAL Theory and HAWTHORNE Effect in order to understand the relevant concept and by constructing the instrument items based on previous studies. The research instrument for this study was viewed by the supervisor and other experts in research methodology. They examined the questionnaire and provided the feedback. The main feedback was that the questionnaire was too long, as a result of which the researcher shortened it accordingly.
4.3 Reliability of Research Instrument

The coefficient of internal consistency was used to measure the reliability of the questionnaire used in this study. It was tested using Cronbach’s alpha reliability coefficient. According to Wuang and Su (2009), a Cronbach’s alpha value equal or great than 0.7 is regarded to be a good internal consistency.

Table 4.1: Reliability Test of Research Instrument

<table>
<thead>
<tr>
<th>Variable</th>
<th>No of Items</th>
<th>Cronbach’s Alpha</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Safety</td>
<td>19</td>
<td>0.837</td>
<td>Reliable</td>
</tr>
<tr>
<td>Collective Management</td>
<td>5</td>
<td>0.738</td>
<td>Reliable</td>
</tr>
<tr>
<td>Investments</td>
<td>5</td>
<td>0.712</td>
<td>Reliable</td>
</tr>
<tr>
<td>Consumer Protection</td>
<td>5</td>
<td>0.822</td>
<td>Reliable</td>
</tr>
<tr>
<td>Regulation Measures</td>
<td>6</td>
<td>0.820</td>
<td>Reliable</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>0.786</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Source: Pilot data (2018)

Table 4.1 above shows that Road Safety had a Cronbach’s Alpha of 0.837, Self-Management of PSV SACCOs 0.738, Investments 0.712, Consumer Protection 0.822, and Regulation Measures 0.820. In conclusion, all the variables attained the acceptable and recommended level of alpha 0.7. The overall research instrument was therefore highly reliable, with Cronbach’s alpha value of 0.786.

4.4 Descriptive Statistics

4.4.1 Response Rate in Respect to Questionnaires

A total of eighty-six questionnaires were administered to employees of three largest PSV SACCOs operating in Nyeri County. Fifty-four questionnaires were completed and
returned while 32 questionnaires were not received even after follow-up. The completed and returned questionnaires gave a response rate of 63 per cent. According to Mugenda and Mugenda (2003), Saunders, Lewis and Thornhill (2007), a response rate of 50 per cent is adequate, a response rate of 60 per cent is good, and a response rate of 70 per cent is very good. Sixty-three per cent response rate was therefore appropriate for drawing conclusion of this study. The study also conducted interviews with a key informant from each PSV SACCO to compliment data collected using the questionnaires.

Table 4.2: Response Rate

<table>
<thead>
<tr>
<th>PSV SACCO</th>
<th>Target Respondents</th>
<th>Successful Respondents</th>
<th>Response Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2NK SACCO</td>
<td>35</td>
<td>24</td>
<td>67</td>
</tr>
<tr>
<td>NAKONNS SACCO</td>
<td>23</td>
<td>15</td>
<td>63</td>
</tr>
<tr>
<td>NYENA SACCO</td>
<td>28</td>
<td>15</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>54</td>
<td>63</td>
</tr>
</tbody>
</table>

Source: (Research data, 2018)

Table 4.2 shows that a majority of the respondents (67%) were from 2nk Sacco Society Limited followed by Nakonns Sacco Ltd (63%) and finally Nyena Co-Operative Savings And Credit Society Limited (55%). The response rates from all SACCOS except Nyena Co-Operative Savings And Credit Society Limited were proportional to the targeted respondents.

4.4.2 Response Rate in Respect to Interviews

Interview guide was used to conduct interviews with a key informant from each PSV SACCO to compliment data collected using the questionnaires. Three key informants from top level management were interviewed; one from each SACCO. The study preferred the top level management because they are involved in policy formulation and
setting strategic vision for the respective SACCO. Therefore this is where the required information to complement questionnaires would be found.

4.4.3 Demographic Profiles of the Respondents

Table 4.3: Demographic Profiles of Respondents

<table>
<thead>
<tr>
<th>PSV SACCO</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>2NK SACCO</td>
<td>24</td>
<td>80</td>
<td>6</td>
</tr>
<tr>
<td>NAKONNS SACCO</td>
<td>9</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>NYENA SACCO</td>
<td>7</td>
<td>58</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>74</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age of Respondents (Years)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 30</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>31 – 45</td>
<td>29</td>
<td>54</td>
</tr>
<tr>
<td>Above 45</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>High school</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>College</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Service</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5 years</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>28</td>
<td>52</td>
</tr>
<tr>
<td>Above 10 yrs.</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: (Research data, 2018)

Table 4.3 shows that out of fifty four respondents, forty were male and fourteen were female. This shows that the majority of the respondents (74%) were male and 26% female.

In terms of age, the table shows that majority of the respondents (4%) were between 31 – 45 years while 24% were between 18 – 30 years and 22% were above 45 years. In terms of level of education, a majority of the respondents (33%) had college education 30% had primary education, 24% had high school education, 11% had a bachelor’s degree and 2%
had a postgraduate degree. The table further shows that majority (52%) of the respondents had worked in the public transport sector for between 5 – 10 years, 32% above 10 years and 16% below five years. Therefore the respondents had adequate experience in the public transport sector to be able to adequately respond to the items in the questionnaire.

4.5 Road Safety in Nyeri County

Road Safety in Nyeri County was assessed using nineteen items. The responses were rated using a likert scale on the level of 1 to 5. The results are shown in table 4.4 below.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Statement</th>
<th>Response Rate Scale of 1 - 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree 1</td>
</tr>
<tr>
<td>1.</td>
<td>Wearing Seatbelts seatbelts reduce the risk of injury</td>
<td>0%</td>
</tr>
<tr>
<td>2.</td>
<td>I feel vulnerable when not wearing a seatbelt</td>
<td>0%</td>
</tr>
<tr>
<td>3.</td>
<td>I sometimes don't bother to wear a seatbelt</td>
<td>0%</td>
</tr>
<tr>
<td>4.</td>
<td>Seatbelts are necessary</td>
<td>0%</td>
</tr>
<tr>
<td>Aggregate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Speeding The severity of injuries</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sustained in a crash would be reduced if the speed was 10km/h slower.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6.</td>
<td>The use of speed cameras reduces road deaths.</td>
<td>0%</td>
</tr>
<tr>
<td>7.</td>
<td>You are more likely to be involved in a crash if you speed</td>
<td>0%</td>
</tr>
<tr>
<td>8.</td>
<td>It is difficult to always drive within the speed limit</td>
<td>22%</td>
</tr>
<tr>
<td>9.</td>
<td>It is OK to speed if you drive safely</td>
<td>22%</td>
</tr>
<tr>
<td>10.</td>
<td>It is OK to drive up to 10kms over the speed limit</td>
<td>15%</td>
</tr>
</tbody>
</table>

**Aggregate**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.19</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Drink Driving</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Random breath testing</td>
</tr>
<tr>
<td>12.</td>
<td>I would drive home if I was over 0.8 mg/ml the limit</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Safety Management Plan**

<table>
<thead>
<tr>
<th>Statement</th>
<th>YES</th>
<th>NO</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Does your SACCO have Road Safety management plan?</td>
<td>81%</td>
<td>15%</td>
<td>4%</td>
</tr>
<tr>
<td>14. If YES, is road safety audit review Programme part of your road safety plan?</td>
<td>76%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Road Accidents**

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Have you or any of your friends ever been involved in a road accident</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. If the answer is yes, was the accident fatal?</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. If the answer is yes, but no fatalities, were there serious injuries?</td>
<td>28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Would you refuse a lift from a driver whom you know breaks the speed limit regularly?</td>
<td>76%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Have you been in a car that has broken the speed limit?</td>
<td>63%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: (Research data, 2018)

The results presented in table 4.4 show that 44% of the respondents agreed 48% strongly agreed that seatbelts reduce the risk to injury in case of an accident, 7% were neutral and none disagreed. The mean was 4.41 and standard deviation 0.63. Another 61% strongly agreed that they feel vulnerable when not wearing a seatbelt, 26% agreed, 13% were neutral and none disagreed. This is supported by a 4.48 and a low standard deviation of 0.72 implying that the respondents’ responses did not widely vary. The respondents were
further asked whether they sometimes don't bother to wear a seatbelt, and the results show that 44% agreed, 44% were neutral and 11% strongly agreed. The mean was 2.63 implying neutrality and standard deviation was 1.32. In conclusion, the respondents strongly agreed that seat belts are necessary with a mean of 4.57 and standard deviation of 0.60. These results are in line with Chitere and Kibua (2012), their study in Kenya found the seat belts fitted by some matatus were substandard and did not guarantee safety in the event of crashes. In some vehicles, they were not cared for and some passengers declined wearing them owing to their being dirty.

On speed, the findings indicate that the respondents agreed with a mean score of 4.37 and standard deviation of 0.59 the severity of injuries sustained in a crash would be reduced if the speed was 10km/h slower. And that you are more likely to be involved in a crash if you speed. They also agreed with that use of speed cameras enhances road safety. The respondents were asked whether it is difficult to always drive within the speed limit, the result show that 57% disagreed, 22% strongly disagreed, 21% were neutral and none agreed. On whether is OK to speed if you drive safely, 22% strongly disagree, 50% disagreed, 28% were neutral and no one agreed. On drunk driving, the results show that 54% strongly agreed that random breath testing can reduce the number of road accidents and 65% said they would not drive home if they were over 0.8 mg/ml the limit.

About road safety management, the findings show that 81% of the respondents were aware of the Road Safety management plan in their SACCO, 15% were not aware and 4% didn’t know. Further findings indicated that 76% of the respondents who were aware of Road Safety management plan in their SACCO admitted that road safety audit review Programme was part of their organization’s road safety plan. The study also sought to
establish whether the respondent or any of his/her friends had ever been involved in a road accident. From the findings, 20% reported that they or their friends had been involved in a road accident. Whether the accident fatal, seven % of those who answered yes said the accident was fatal and 28% were there serious injuries. Further on road safety, the study sought to establish whether the respondents would refuse a lift from a driver whom they know breaks the speed limit regularly, 76% said they would refuse a lift from such a driver and 63% admitted they have been in a car that broke the speed limit.

The above results are consistent with those of Keall, Mulvihill, Logan & Newstead (2013) who found that past improvements in speed management had been a major factor in reducing road crashes deaths, and that a Safe System approach combining infrastructure and speed management measures further produced substantial safety gains for road users. The study pointed certain behaviours as diminishing the safety gains in public transport. These behaviours included speeding, drink and drug impaired driving, driving while fatigued, being distracted or aggressive while driving, and not using, or incorrectly using, safety devices (seatbelts and child restraints). The study highlighted speed management as a key measure to improving safety in public. Chitere and Kibua (2012) also reported that some passengers did not wear seat belts because they were dirty in some vehicles. Some seat belts fitted by some matatus were substandard and did not guarantee safety in the event of crashes.
4.6 Self-Management of PSV SACCOs and Road Safety

Self-Management of PSV SACCOs and Road Safety was assessed using five items. The responses were rated using a likert scale on the level of 1 to 5. The results are shown in table 4.5 below.

Table 4.5: Self-Management of PSV SACCOs and Road Safety

<table>
<thead>
<tr>
<th>Q#</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>ST DEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>Management of public transport through PSV SACCOS increases efficiency in providing public service</td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>2%</td>
<td>61%</td>
<td>37%</td>
<td>4.35</td>
<td>0.52</td>
</tr>
<tr>
<td>21.</td>
<td>Management of public transport through PSV SACCOS makes the sector more profitable</td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
<td>30%</td>
<td>65%</td>
<td>4.59</td>
<td>0.60</td>
</tr>
<tr>
<td>22.</td>
<td>Management of public transport</td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>7%</td>
<td>65%</td>
<td>28%</td>
<td>4.20</td>
<td>0.56</td>
</tr>
<tr>
<td>23. Management of public transport through PSV SACCOS decreased non-fatal injuries</td>
<td>0%</td>
<td>0%</td>
<td>15%</td>
<td>70%</td>
<td>15%</td>
<td>4.00</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Management of public transport through PSV SACCOS decreased fatal road injuries</td>
<td>0%</td>
<td>0%</td>
<td>19%</td>
<td>56%</td>
<td>26%</td>
<td>4.07</td>
<td>0.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>4.24</strong></td>
<td><strong>0.58</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: (Research data, 2018)

The findings in table 4.5 show that the Self-Management of PSV SACCOS of Public Transport through PSV SACCOS has a mean of 4.24 and standard deviation of 0.58 implying that the respondents agreed that Self-Management of PSV SACCOS of Public Transport through PSV SACCOS improves road safety in Nyeri County. For example, 61% of the respondents agreed with a mean of 4.35 and standard deviation of 0.52 that Management of public transport through PSV SACCOS increases efficiency in the public transport sector.
transport sector. Also 65% of the respondents strongly agreed with a mean of 4.59 and standard deviation of 0.60 that Management of public transport through PSV SACCOS had made the sector more profitable. This view came out through the interviews where the interviewees noted that PSV SACCOS had helped in eliminating cartels from the system, brought in professionalism thus making the sector more profitable.

Similar findings were reported by Keall, Mulvihill, Logan & Newstead (2013) who found that Self-Management of PSV SACCOs of Public Transport through PSV SACCOs resulted to better quality in public services such as better experience management, adopting corporate style of functioning, bench marking activities, competitive based work environment, optimization and better planning of organizational resources, more focus on service quality output generation. These findings seem to serve as the solution to what Rizzo (2011) observed as the main challenge facing the daladala conductors and drivers. The study found that lack of permanent employment status was among the main causes of poor level of service offered by drivers and conductors.

4.7 Joint Investment through PSV SACCOs and Road Safety

Investment in public transport operations through PSV SACCOS and road safety in Nyeri County was assessed using five items. The responses were rated using a likert scale on the level of 1 to 5. The results are shown in table 4.6 below.
Table 4.6: Investment through PSV SACCOs and Road Safety in Nyeri County

<table>
<thead>
<tr>
<th>Q#</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
<th>Mean</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
</tr>
<tr>
<td>25.</td>
<td>Increased access to adequate financing through PSV SACCOs reduces road fatalities</td>
<td>2%</td>
<td>7%</td>
<td>13%</td>
</tr>
<tr>
<td>26.</td>
<td>Increased access adequate financing by through PSV SACCOs reduces costs of road injuries</td>
<td>4%</td>
<td>4%</td>
<td>17%</td>
</tr>
<tr>
<td>27.</td>
<td>Increased</td>
<td>4%</td>
<td>15%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Increased personnel through PSV SACCOs has reduced road fatalities

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28.</td>
<td>Increased personnel through PSV SACCOs has reduced nonfatal injuries</td>
<td>4%</td>
<td>11%</td>
<td>15%</td>
<td>59%</td>
<td>11%</td>
</tr>
</tbody>
</table>

<p>| | | | | | | |</p>
<table>
<thead>
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<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>29.</td>
<td>Increased personnel through PSV SACCOs has reduced the cost of road fatalities and non-fatal injuries</td>
<td>4%</td>
<td>11%</td>
<td>37%</td>
<td>35%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<p>| | | | | | | |</p>
<table>
<thead>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>3.73</td>
<td>0.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: (Research data, 2018)
The findings presented in table 4.6 above show that the aggregate mean is 3.73 and standard deviation is 0.99. This implies that the respondents agreed that investment in public transport operations through PSV SACCOs improves road safety in Nyeri County. Majority of the respondents (46%) agreed, 31% strongly agreed and 13% were neutral that increased access to adequate financing through PSV SACCOs reduces road fatalities. Only 7% and 2% disagreed and strongly disagreed respectively.

Similarly, 57% of the respondents agreed with a mean of 3.83 and standard deviation of 0.91 that increased access to adequate financing through PSV SACCOs reduces costs of road injuries. Similar comments were made in the interviews where the interviewee reported that the PSV SACCOs easily get financing from banks which reduced the costs of road carnage. The respondents also increased personnel through PSV SACCOs professionalized the management of PSV SACCOs which in turn reduced road accidents. Similar findings were reported by Rizzo (2011) on the nature of employment among conductors and drivers found that lack of permanent employment status is among the main causes of poor level of service offered by drivers and conductors.

4.8 Consumer Protection through PSV SACCOS and Road Safety in Nyeri County

Consumer Protection through PSV SACCOS and road safety in Nyeri County was assessed using five items. The responses were rated using a likert scale on the level of 1 to 5. The results are shown in table 4.7 below.
Table 4.7: Consumer Protection Measures and Road Safety in Nyeri County

<table>
<thead>
<tr>
<th>Q #</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
<th>Mean</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.</td>
<td>Regular fares reduce traffic fatalities</td>
<td>Strongly Disagree 4%</td>
<td>Disagree 7%</td>
<td>Neutral 19%</td>
</tr>
<tr>
<td>31.</td>
<td>Reduced fares reduce nonfatal injuries</td>
<td>28%</td>
<td>39%</td>
<td>7%</td>
</tr>
<tr>
<td>32.</td>
<td>Security standards such as seat belts and speed governors reduce non-fatal injuries</td>
<td>4%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>33.</td>
<td>Security standards such as seat belts and speed governors reduce fatal injuries</td>
<td>2%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>34.</td>
<td>Security standards</td>
<td>0%</td>
<td>17%</td>
<td>4%</td>
</tr>
</tbody>
</table>
such as seat belts and speed governors reduce costs resulting from fatal injuries

| Aggregate | 3.50 | 1.07 |

Source: (Research data, 2018)

The results in table 4.6 above show that the aggregate mean and standard deviation are 3.50 and 1.07 respectively. This implies that the respondents agreed that measures put in place by PSV SACCOs to protect their customer from exploitation by conductors have served to improve road safety. The measures include regularization of fares waiting times. The mean score and standard deviation for Security standards such as seat belts and speed governors are 4.50 and 0.86 respectively. This implies that the respondents strongly agreed that in case of an accident, security standards such as seat belts and speed governors reduce non-fatal injuries. This is supported by a low standard deviation of 0.86 indicating that there were small variations in the respondents’ opinions.

Similar findings were reported by Michieka (2017) on road safety tips from the drivers’ perspective indicated that the issue of observing safety rules, regulations and ethics on the roads is brought to their attention repeatedly. Some of the tips given to the drivers to ensure safety while driving included: not speeding even while going downhill; not using mobile phone while driving; not overtaking at blind spots and ensuring passengers buckle their safety belts before the start of the journey. The findings indicated that observing all these regulations and measures enhanced passengers’ safety. Bosch (2010) and Nhundu
(2013) reported similar findings where service quality and affordable services were hindered by budget constraints and therefore joint investments in the public service transport would melt down this barrier. Frequent complaints include poor quality of roads, overcrowding of buses, unpredictable and irregular service and inadequate terminal facilities. The study also revealed that routes run between terminals controlled by the operators’ union which limits the degree to which they can be adjusted to meet passenger demand. As a result, passengers must change buses at least once to reach their destination, thus increasing the duration and cost of their trip.

4.9 Regulation Measures by PSV SACCOS and Road Safety in Nyeri County

Regulation Measures by PSV SACCOS and Road Safety in Nyeri County was assessed using six items. The responses were rated using a likert scale on the level of 1 to 5. The results are shown in table 4.8 below.

**Table 4.8: Regulation Measures by PSV SACCOS and Road Safety in Nyeri County**

<table>
<thead>
<tr>
<th>Q #</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
<th>Mean</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.</td>
<td>Fitting of Speed governors reduces fatalities</td>
<td>Strongly Disagree 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree 2</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral 3</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree 4</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree 5</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>4.41</td>
<td>0.84</td>
</tr>
<tr>
<td>36.</td>
<td>Branding of PSV vehicles increases efficiency in the transport</td>
<td>Strongly Disagree 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree 2</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral 3</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree 4</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree 5</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>4.31</td>
<td>0.86</td>
</tr>
<tr>
<td>37.</td>
<td>Fitting of seat belts reduces road fatalities</td>
<td>Strongly Disagree 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree 2</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral 3</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree 4</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree 5</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>4.33</td>
<td>0.89</td>
</tr>
<tr>
<td>38.</td>
<td>Drivers/conductors uniforms increases efficiency</td>
<td>Strongly Disagree 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree 2</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral 3</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree 4</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Agree 5</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>4.43</td>
<td>0.63</td>
</tr>
</tbody>
</table>
The study sought respondents’ opinions on the effect of regulation measures implemented by PSV SACCOs on road safety in Nyeri County. The regulation measures included: Fitting of Speed governors, branding of PSV vehicles, fitting of seat belts, drivers/conductors uniforms and fitting comfortable seats. The results as shown in table 4.6 indicate that the aggregate mean is 4.4 and standard deviation is 0.76. The implication of this is that the respondents agreed that those measures improve road safety in Nyeri County. On providing adequate space in public vehicles and fitting comfortable seats, 59% of the respondents strongly agreed that this goes a long way in reducing non-fatal injuries in case of an accident. The mean score and standard deviation were 4.50 and 0.67 respectively.

About drivers and conductors wearing prescribed uniform and identification badge while at work; the respondents agreed with a mean of 4.43 and standard deviation of 0.63 that they all served to improve road safety. Similar views were noted in the interviews; “introduction of uniforms, name tags and badges for the drivers and conductors has assisted us to enforce decorum and ensure safety of the public. We take away the badge away from a driver or a conductor who flout the rules as a discipline measure.” The stage manager of Nyena SACCO stated during the interview. The respondents’ views on
uniforms and badges were that with the vital information on the badge, any conductor involved in crime can easily be identified and apprehended. The passengers also feel comfortable knowing the name of the driver and the conductor. The respondents also agreed with a mean of 4.43 and standard deviation of 0.63 that decongested public vehicles with comfortable seats reduces nonfatal traffic injuries.

These findings are supported by the findings of Webb (2010) on customer-focused improvements in the Chicago Transit Authority’s Public Transport services. The results showed that improvements focused on comfort-related issues such as vehicle cleanliness, road safety and improved complaints handling. Passengers revealed significantly increased satisfaction with regard to improvement in service quality, addressing vehicle crowding (7%), safety (6%), seat availability (5%), in-vehicle temperatures (5%) and ease of embarking the vehicle (3%). Manji (2015) also showed that adherence to traffic rules and regulations reduced road crashes significantly. Chitere (2014) reported that regular training, testing and licensing of drivers of public service vehicles showed a positive correlation with compliance with road safety regulations in the city of Nairobi.
4.10 Testing of Hypotheses

Multiple Regression Analysis was used to test all the hypotheses. However, before the tests were carried out, it was necessary to test the usefulness of the model. The regression results are shown in Table 4.9 below.

Table 4.9: Regression Results for Management of PSV SACCOs and Road Safety

<table>
<thead>
<tr>
<th>SUMMARY OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regression Statistics</strong></td>
</tr>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Adjusted R Square</td>
</tr>
<tr>
<td>Standard Error</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ANOVA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
</tr>
<tr>
<td>Regression</td>
</tr>
<tr>
<td>Residual</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Coefficients</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Error</strong></td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>Collective Management</td>
</tr>
<tr>
<td>Investments</td>
</tr>
<tr>
<td>Consumer Protection</td>
</tr>
<tr>
<td>Regulation Measures</td>
</tr>
</tbody>
</table>

4.10.1 Usefulness of the Model

Table 4.8 shows F statistic is 20.75, with a P-value of 0.000 which is less than 0.05, which implies that the independent variables are jointly significant in explaining variations in the dependent variable. Adjusted R-squared is 60% meaning that the independent variables (Collective Management, Investments, Consumer Protection and Regulation Measures) jointly explain 60% of variations in the dependent variable (Road safety) while the remaining 40% (100% - 60%) of the variations in road safety is explained by other variables not included in the model. Therefore, the model can reliably be used to test the
influence of Collective Management, Investments, Consumer Protection and Regulation Measures on road safety.

4.10.2 Empirical Model

From the regression results in table 4.8 above, the model below was generated.

\[ RS = 0.62 + 0.24CM + 0.11IV + 0.27CP + 0.19RM \]

Where,

RS = Road Safety
CM = Self-Management of PSV SACCOs
IV = Investments
CP = Consumer protection standards
RM = Regulation Measures
\( \varepsilon \) = Standard Error

To assess the effect of the management of public service vehicles’ SACCOs on road safety in Nyeri County, the following four null hypotheses were formulated and tested:

**Null Hypothesis 01: Self-Management of PSV SACCOs of Public Transport through PSV has no effect on Road Safety in Nyeri County**

Table 4.8 shows that the coefficient of Self-Management of PSV SACCOs was positive at 0.24, with the t-statistic and corresponding p-value of 2.98 and 0.005 respectively. The P-value is less than 0.05, thus the study rejected the null hypothesis at 5% level of significance. Therefore, Self-Management of PSV SACCOs of Public Transport through PSV has a significant positive effect on Road Safety in Nyeri County. An increase in Self-Management of PSV SACCOs by one unit would result to an increase in road safety by 0.24 units.
Null Hypothesis 02: there is no relationship between investments in public transport through PSV SACCOS and road safety in Nyeri County

Table 4.8 shows that the coefficient of Investments through PSV SACCOS was positive at 0.11, with the t-statistic and corresponding p-value of 1.42 and 0.16 respectively. The P-value is greater than 0.05, thus, the study accepted the null hypothesis at 5% level of significance that there is no significant relationship between investments in public transport through PSV SACCOS and road safety in Nyeri County.

Null Hypothesis 03: consumer protection standards by PSV SACCOS has no significant effect on road safety in Nyeri County

Table 4.8 shows that the coefficient of Consumer Protection by PSV SACCOS was positive at 0.27, with the t-statistic and corresponding p-value of 3.10 and 0.00 respectively. The P-value is less than 0.05, thus, the study rejected the null hypothesis at 5% level of significance and concludes that there is a significant relationship between Consumer Protection through PSV SACCOS and road safety in Nyeri County.

Null Hypothesis 04: Regulation Measures by PSV SACCOS have no significant effect on road safety in Nyeri County

Table 4.8 shows that the coefficient of Regulation Measures by PSV SACCOS was positive at 0.19, with the t-statistic and corresponding p-value of 2.41 and 0.02 respectively. The P-value is less than 0.05, thus, the study rejected the null hypothesis at 5% level of significance and concludes that there is a significant positive relationship between Regulation Measures by PSV SACCOS and road safety in Nyeri County.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusion and contributions of the study to knowledge, recommendations and areas for further research.

5.2 Summary

This study sought to determine the effects of the management of PSV SACCOs on road safety in Nyeri County, Kenya. Road Safety in Nyeri County was assessed using nineteen items. The responses were rated using a Likert scale on the level of 1 to 5 and findings summarized as below.

5.2.1 Self-Management of PSV SACCOs and Road Safety

Self-Management of PSV SACCOs was assessed using five items. The responses were rated using a Likert scale on the level of 1 to 5. The results showed that Self-Management of PSV SACCOs resulted to better quality in public services such as better experience management, adopting corporate style of functioning, bench marking activities, competitive based work environment, optimization and better planning of organizational resources, more focus on service quality output generation. Further the findings showed that Self-Management of PSV SACCOs promoted behaviour change in their drivers and conductors. These behaviours included speeding, drink and drug impaired driving, driving while fatigued, being distracted or aggressive while driving, and not using, or incorrectly using, safety devices (seatbelts and child restraints). The study highlighted speed management as a key measure to improving safety in public.
5.2.2 Joint Investment in Public Transport Operations

Joint Investment in public transport operations through PSV SACCOs and road safety in Nyeri County was assessed using five items. The responses were rated using a Likert scale on the level of 1 to 5. The results are showed that PSV SACCOs had promoted investment in public transport operations. The management of public transport through PSV SACCOs had attracted new investors into the sector as a result of order and sanity that now exists in the sector. The PSV SACCOs now have the capacity to access more capital from financial institutions to boost their business. With sufficient capital they can afford better vehicles, motivated and qualified personnel who are employed on permanent and pensionable terms, better services and improved road safety.

5.2.3 Consumer Protection

Consumer Protection through PSV SACCOS and road safety in Nyeri County was assessed using five items. The responses were rated using a Likert scale on the level of 1 to 5. The results showed that measures put in place by PSV SACCOs to protect their customer from exploitation by conductors have served to improve road safety. Security standards such as seat belts and speed governors reduce non-fatal injuries. Drivers’ perspective indicated that the issue of observing safety rules, regulations and ethics on the roads was brought to their attention repeatedly. Some of the tips given to the drivers to ensure safety while driving included: not speeding even while going downhill; not using mobile phone while driving; not overtaking at blind spots and ensuring passengers buckle their safety belts before the start of the journey.
5.2.4 Regulation Measures

Regulation Measures by PSV SACCOS and Road Safety in Nyeri County were assessed using six items. The responses were rated using a Likert scale on the level of 1 to 5. The results showed that the regulation measures included: Fitting of Speed governors, branding of PSV vehicles, fitting of seat belts, drivers/conductors uniforms and fitting comfortable seats. The results showed those measures improve road safety in Nyeri County. Wearing prescribed uniforms and identification badges while at work; makes it easier to enforce decorum and ensure road safety. Uniforms and badges were that with the vital information on the badge, any conductor involved in crime can easily be identified and apprehended. The passengers also feel comfortable knowing the name of the driver and the conductor. Improvements focused on comfort-related issues such as vehicle cleanliness, road safety and improved complaints handling. Passengers revealed significantly increased satisfaction with regard to improvement in service quality, addressing vehicle crowding.

5.3 Conclusion

The following conclusions were made based on the findings of this study: Wearing seatbelts, driving within the speed limit, use of speed cameras greatly contribute in reducing road crashes deaths, and that a Safe System approach combining infrastructure and speed management measures further produced substantial safety gains for road users. Self-Management of PSV SACCOs of Public Transport through PSV has a significant positive effect on Road Safety in Nyeri County. Therefore, improved management of the PSV SACCOs would result to an increase in road safety.
Joint investments in the public transport sector through PSV SACCOS have no significant effect on road safety in Nyeri County. There is a significant relationship between Consumer Protection through PSV SACCOS and road safety in Nyeri County. Increased consumer protection by PSV SACCOS will lead to improved road safety. There is a significant positive relationship between Regulation Measures by PSV SACCOS and road safety in Nyeri County. An increase in enforcement of Measures by PSV SACCOS will result to enhanced road safety.

5.4 Contributions of the Regulation Study to the Existing Body of Knowledge

This study examined the relationship between PSV SACCOS and Road Safety in Nyeri County, Kenya. The findings provide scholarly literature on management of PSV SACCOS, road safety and their relationships in Nyeri County. This literature will be of great help to researchers and scholars because it will help them increase general knowledge on the subject in terms of how the variables are related. This study has also provided empirical evidence that will be useful to policy practitioners.

5.5 Recommendations for Policy and Practice

5.5.1 Self-Management of PSV SACCOS

The findings showed that Self-Management of PSV SACCOS of Public Transport through PSV has a significant positive effect on Road Safety in Nyeri County. The study therefore recommends that the NTSA in consultation with other stakeholders in the public transport sector formulate policies and programs that will boost strengthen the PSV SACCOS.
5.5.2 **Joint investments in public transport through PSV SACCOS and road safety in Nyeri County**

The results of the study showed that there is no significant relationship between investments in public transport through PSV SACCOS and road safety in Nyeri County. The study therefore recommends that the private sector should be left to invest in the public transport sector. Recommendation is made to the government of Kenya to scale down its investment in public transport and instead consider increasing the development of infrastructure and regulating the sector.

5.5.3 **Consumer protection standards by PSV SACCOS has no significant effect on road safety in Nyeri County**

Evidence from the study showed a significant relationship between Consumer Protection through PSV SACCOS and road safety in Nyeri County. The study recommends that PSV SACCOS should ensure consumer protection measures such as regular fares, seat belts and speed governors are fully implemented and NTSA and the traffic Department should ensure all are enforced.

5.5.4 **Regulation Measures by PSV SACCOS have no significant effect on road safety in Nyeri County**

The results showed a significant positive relationship between Regulation Measures by PSV SACCOS and road safety in Nyeri County. The study recommends that the PSV SACCOS in cooperation with NTSA and other key stakeholders in the public transport sector should conduct regular trainings, testing and licensing for drivers of public service vehicles to assess compliance with road safety regulations.
5.6 Recommendation for Further Research

The researcher recommends that since this research was conducted in Nyeri County, a similar research should be conducted in other counties in Kenya to compare the findings. Further studies should also be carried out to investigate factors affecting road safety other than the management of PSV SACCOs.
REFERENCES


68


Okeyo, M. O. (2016). Effects of Integrated National Transport Policy on Transport Service Delivery in Nairobi City County (Doctoral dissertation, School of Business, University of Nairobi).


Yousuf, A. B. (2016). "This dissertation is my original work and has not been presented for a Degree or any other academic award in any University or Institution of Learning" (Doctoral dissertation, New generation University College).


Dear Respondent,

RE: REQUEST TO COLLECT DATA FOR MPPA RESEARCH PROJECT

I am a student at the Kenyatta University pursuing a Master of Public Policy and Administration degree. Part of the requirements for attainment of this degree is to carry out a research project. The research I am carrying out is on the effects of management of public service vehicles’ SACCOS on road safety in Nyeri County. To enable me to capture the required data, I am kindly requesting you to answer the simple questions in the attached questionnaire so as to enable me to accomplish the project. All information given is for the purpose of the research project only and shall be treated with strict confidentiality.
I look forward to your humble assistance.

Yours faithfully,

Joseph Mwangi Gichohi

REG NO: C153/CTY/PT/32946/2015
Appendix II: Questionnaire

PART A: General Background Information

Please Tick (✓) Where Appropriate.

1. GENDER: Male [ ] Female [ ]

2. AGE: 18 to 30 years [ ]; 31 to 45 years [ ]; Above 45 years [ ]

3. MAXIMUM EDUCATIONAL LEVEL AT PRESENT
   - Primary [ ]
   - High School [ ]; Post-Secondary [ ];
   - Bachelor’s Degree [ ]
   - Post Graduate Degree [ ]; None [ ]

4. NAME OF YOUR PSV SACCO ________________________________

5. PLEASE INDICATE THE CATEGORY OF YOUR JOB
   - Executive [ ]; Credit [ ]; Supervisory [ ]; Accountant [ ];
   - Stage manager [ ]; Driver [ ];

6. OTHERS (write the category below)
   ________________________________
PART B: ROAD SAFETY IN NYERI COUNTY

Indicate in the scale of 1-5, the extent to which you agree with the statement; Where:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and that; 5 = Strongly Agree

<table>
<thead>
<tr>
<th>Q/No.</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td><strong>WEARING SEATBELTS</strong></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>41.</td>
<td>seatbelts reduce the risk of injury</td>
<td></td>
</tr>
<tr>
<td>42.</td>
<td>I feel vulnerable when not wearing a seatbelt</td>
<td></td>
</tr>
<tr>
<td>43.</td>
<td>I sometimes don't bother to wear a seatbelt</td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>seatbelts are necessary</td>
<td></td>
</tr>
<tr>
<td><strong>SPEED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>The severity of injuries sustained in a crash would be reduced if the speed was 10km/h slower.</td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>The use of speed cameras reduces road deaths.</td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>You are more likely to be involved in a crash if you speed</td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>It is difficult to always drive within the speed limit</td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>It is OK to speed if you drive safely</td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>It is OK to drive up to 10kms over the speed limit</td>
<td></td>
</tr>
</tbody>
</table>

Drink
Random breath testing can reduce the number of road accidents

I would drive home if I was over 0.8 mg/ml the limit

SAFETY MANAGEMENT PLAN  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Does your SACCO have Road Safety management plan?

If YES, is road safety audit review programme part of your road safety plan?

ACCIDENTS

Have you or any of your friends ever been involved in a road accident

If the answer is yes, was the accident fatal?

If the answer is yes, but no fatalities, were there serious injuries?

Would you refuse a lift from a driver whom you know breaks the speed limit regularly?

Have you been in a car that has broken the speed limit?

PART C: SELF-MANAGEMENT OF PSV SACCOS OF PUBLIC TRANSPORT THROUGH PSV SACCOS AND ROAD SAFETY IN NYERI COUNTY

Indicate in the scale of 1-5, the extent to which you agree with the statement; Where:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and that; 5 = Strongly Agree
<table>
<thead>
<tr>
<th>Q/No.</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>60.</td>
<td>Management of public transport through PSV SACCOS increases efficiency in providing public service</td>
<td>1</td>
</tr>
<tr>
<td>61.</td>
<td>Management of public transport through PSV SACCOS makes the sector more profitable</td>
<td>1</td>
</tr>
<tr>
<td>62.</td>
<td>Management of public transport through PSV SACCOS decreased non-fatal injuries</td>
<td>1</td>
</tr>
<tr>
<td>63.</td>
<td>Management of public transport through PSV SACCOS decreased fatal road injuries</td>
<td>1</td>
</tr>
<tr>
<td>64.</td>
<td>Management of public transport through PSV SACCOS decreased costs incurred as a result of road crushes</td>
<td>1</td>
</tr>
</tbody>
</table>

Other than the above; what are the other aspects of Self-Management of PSV SACCOs of public transport through PSV SACCOS that affect road safety in Nyeri County?”

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
PART D: INVESTMENT IN PUBLIC TRANSPORT OPERATIONS THROUGH PSV SACCOS AND ROAD SAFETY IN NYERI COUNTY

Indicate in the scale of 1-5, the extent to which you agree with the statement; Where:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and that; 5 = Strongly Agree

<table>
<thead>
<tr>
<th>Q/No.</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>65.</td>
<td>Increased access to adequate financing through PSV SACCOS reduces road fatalities</td>
<td>1</td>
</tr>
<tr>
<td>66.</td>
<td>Increased access adequate financing by through PSV SACCOS reduces costs of road injuries</td>
<td>1</td>
</tr>
<tr>
<td>67.</td>
<td>Increased personnel through PSV SACCOS has reduced road fatalities</td>
<td>1</td>
</tr>
<tr>
<td>68.</td>
<td>Increased personnel through PSV SACCOS has reduced nonfatal injuries</td>
<td>1</td>
</tr>
<tr>
<td>69.</td>
<td>Increased personnel through PSV SACCOS has reduced the cost of road fatalities and non-fatal injuries</td>
<td>1</td>
</tr>
</tbody>
</table>

Other than the above; what are the other aspects of investment by public transport through PSV SACCOS in public transport that affect road safety in Nyeri County?

________________________________________________________________________
________________________________________________________________________
PART E: CONSUMER PROTECTION THROUGH PSV SACCOS AND ROAD SAFETY IN NYERI COUNTY

Indicate in the scale of 1-5, the extent to which you agree with the statement; Where:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and that; 5 = Strongly Agree

<table>
<thead>
<tr>
<th>Q/No.</th>
<th>Description</th>
<th>Response Rate Scale of 1 - 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>70.</td>
<td>Regular fares reduce traffic fatalities</td>
<td></td>
</tr>
<tr>
<td>71.</td>
<td>Reduced fares reduce nonfatal injuries</td>
<td></td>
</tr>
<tr>
<td>72.</td>
<td>Security standards such as seat belts and speed governors reduce non-fatal injuries</td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>Security standards such as seat belts and speed governors reduce fatal injuries</td>
<td></td>
</tr>
<tr>
<td>74.</td>
<td>Security standards such as seat belts and speed governors reduce costs resulting from fatal injuries</td>
<td></td>
</tr>
</tbody>
</table>

Other than the above; what are the other aspects of consumer protection by transport through PSV SACCOS that affect road safety in Nyeri County?
PART F:

Indicate in the scale of 1-5, the extent to which you agree with the statement; Where:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree and that; 5 = Strongly Agree

REGULATION MEASURES BY PSV SACCOS SACCOS AND ROAD SAFETY IN NYERI COUNTY

<table>
<thead>
<tr>
<th>Q/No.</th>
<th>Description</th>
<th>Strongly Disagree 1</th>
<th>Disagree 2</th>
<th>Neutral 3</th>
<th>Agree 4</th>
<th>Strongly Agree 5</th>
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</thead>
<tbody>
<tr>
<td>75.</td>
<td>Fitting of Speed governors reduces fatalities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76.</td>
<td>Branding of PSV vehicles increases efficiency in the transport</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>77.</td>
<td>Fitting of seat belts reduces road fatalities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78.</td>
<td>Drivers/conductors uniforms increases efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>79.</td>
<td>Decongested public vehicles with comfortable seats reduces traffic fatalities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80.</td>
<td>Decongested public vehicles with comfortable seats reduces nonfatal traffic injuries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other than the above; what are the other regulation measures by PSV SACCOS that affect road safety in Nyeri County?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

81
Appendix III: Interview Guide

In your opinion;

i. Does your SACCO have a safety management plan?

ii. Does your SACCO have measurable safety goals?

iii. What are barriers to enforcing road safety?

iv. In what ways has PSV SACCOS influenced investments in the transport sector?

v. What is the effect of the above investment in public transport operations through PSV SACCOS on road safety in Nyeri County?

vi. What consumer protection standards have been implements by PSV SACCOS in Nyeri County?

vii. What is the effect of the above consumer protection standards by PSV SACCOS on road safety in Nyeri County?

vi. What are the regulations measures effected by PSV SACCOS operating in Nyeri County?

vii. What is the effect the effect of the above regulation measures by PSV SACCOS on road safety in Nyeri County?
Appendix IV: Sekaran Sample Size Determination Table At 95% Confidence

Sample Size for a Given Population Size (Sekaran, 2003)

<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>N</th>
<th>S</th>
<th>N</th>
<th>S</th>
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<tbody>
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<td>10</td>
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<td>55</td>
<td>48</td>
<td>110</td>
<td>86</td>
<td>210</td>
<td>136</td>
</tr>
</tbody>
</table>

Level
Appendix V: Map of the Study Area

Location of Nyeri Town in Nyeri County

Source: Google Earth Image (2017)
Appendix VI: Approval of research project proposal - Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

Internal Memo

FROM: Dean, Graduate School

TO: Joseph Mwangi Gichohi
C/o Public Policy and Administration Dept.

DATE: 19th April, 2018

REF: C153/CTY/PT/32946/2015

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 14th March, 2018 approved your Research Project Proposal for the M.PPA Degree Entitled, “Effects of the Management of Public Service Vehicles’ SACCOS on Road Safety in Nyeri County, Kenya”.

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University’s Website under Graduate School webpage downloads.

Thank you.

ELIJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL

cc: Chairman, Public Policy and Administration Department.
Supervisors:

1. Dr. Wilson Muna
C/o Department of Public Policy and Administration
Kenyatta University

DA/lin
Appendix VII: Research authorization - Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: C153/CTY/PT/32946/2015
DATE: 19th April, 2018

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR JOSEPH MWANGI GICHOHI – REG. NO.
C153/CTY/PT/32946/2015.

I write to introduce Mr. Joseph Mwangi Gichohi who is a Postgraduate Student of this
University. He is registered for M.PPA degree programme in the Department of Public Policy
and Administration.

Mr. Joseph intends to conduct research for a M.PPA Project Proposal entitled, “Effects of the
Management of Public Service Vehicles’ SACCOS on Road Safety in Nyeri County, Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL
Appendix VIII: Research authorization - NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Ref. No. NACOSTI/P/18/29885/21313

Date 20th February, 2018

Joseph Mwangi Gichohi
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effects of the management of public service vehicles’ SACCOS on road safety in Nyeri County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nyeri County for the period ending 20th February, 2019.

You are advised to report to the County Commissioner and the County Director of Education, Nyeri County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nyeri County.

The County Director of Education
Nyeri County.
THE PRESIDENCY
MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT

Telephone: 061 2030619/20
Fax: 061 2032089
E-mail: nyericountycommissioner@yahoo.com
When replying please quote

REF: NYC/ADM 1/57 VOL. VI/32

28th February, 2018

Joseph Mwangi Gichohi
Kenyatta University
P.O. Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Reference is made to the above subject.

Approval is hereby granted to carry out a research on “Effects of the management of public service vehicles’ SACCOs on road safety in Nyeri County”

The period of study ends on 20th February, 2019.

L. M. Rukwaro
For: County Commissioner
NYERI COUNTY
MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

E-Mail centralpdeo@gmail.com
Telephone: Nyeri (061) 2030619
When replying please quote

CDE/NYI/GEN/23/VOL II/181

1st March, 2018

Joseph Mwangi Gichohi
Kenyatta University
P.O. Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Reference is made to Secretary National Commission for Science, Technology and Innovation
letter Ref. NACOSTI/P/18/29885/21313 of 20th February, 2016 on the above subject.

Kindly note that you have been authorized to carry out research on “Effects of the
management of public service vehicles’ SACCOs on road safety in Nyeri County,” for a
period ending 20th February, 2019.

KABORA I.M.
FOR: COUNTY DIRECTOR OF EDUCATION
NYERI COUNTY

cc.
National Commission for Science,
Technology and Innovation,
P.O. Box 30623-00100
NAIROBI