

FACTORS INFLUENCING DEVELOPMENT OF PEDESTRIAN
URBAN FOOTPATHS AROUND BUS STATIONS IN KISII
TOWN, KISII COUNTY

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN
PROJECT PLANNING AND MANAGEMENT

UNIVERSITY OF NAIROBI

2015

DECLARATION

This research project is my original work and has not been presented for the award of any degree in any other University.

Signature.....

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This research proposal is dedicated to my mother Lillian Cherop and Sister Angela Maranga for giving me ample time to undertake my post graduate studies.

ACKNOWLEDGEMENTS

I acknowledge with a lot of appreciation my supervisor, Mr. Awino for his professional guidance and support that he accorded me to complete this research study. I also acknowledge the support and encouragement given by my lecturers in the department of Extra- Mural studies in the University of Nairobi.

The County Physical Planners office, Kisii central is also to be acknowledged for the needed support they gave. I cannot forget to thank the Members of Kisii County Assembly and pedestrians that were interviewed around the Kisii Central Bus Station who responded positively to the questionnaires that were used to gather information on factors influencing the development of urban pedestrian footpaths in Kisii town, Kisii County.

I also extend my sincere acknowledgement to Ms. Mercy Chemtai for her moral support and encouragement throughout the course of the project. She proof read the manuscript and ensured it was right for submission.

Lastly it would be prudent to acknowledge the librarian at the university's Kisii campus Mr. Rotich for being supportive in ensuring that I got material for referencing at my disposal all the time.

TABLE OF CONTENTS

Content	Page
Title Page	i
Declaration	ii
Dedication	iii
Acknowledgements	iv
Table of Contents	v
List of Figures	ix
List of Abbreviations and Acronyms	x
Abstract	xi

CHAPTER ONE

INTRODUCTION

1.1 Background of the study.....	1
1.2 Statement of the Problem.....	4
1.3 Purpose of the Study.....	5
1.4 Objective of the study.....	5
1.5 Research Questions.....	5
1.6 Significance of the Study.....	6
1.7 Limitations of the Study.....	6
1.8 Delimitations of the study.....	6
1.9 Basic Assumptions of the Study.....	6
1.10 Definition of significant terms.....	7
1.11 Organisation of the Study.....	9

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction.....	10
2.2 Concept of Pedestrians Footpaths at Bus Stations.....	10
2.3 Influence of Pedestrian Demands on Footpath Development.....	13
2.4 Influence of Stakeholder Engagement on Footpaths Development.....	15
2.5 Influence of Spaces on Footpath Development.....	16
2.6 Influence of Finances on Footpath Development.....	19
2.7 Theoretical Framework.....	23
2.8 Conceptual Framework.....	26
2.9 Summary of Literature Review.....	27
2.10 Operationalization Table.....	28

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction	29
3.2 Research Design.....	29
3.3 Target Population.....	29
3.4.1 Sample Size.....	30
3.4.1 Sample Selection.....	30
3.5 Research Instruments.....	30
3.5.1 Piloting	30
3.5.1 Instruments Validity.....	31
3.5.2 Reliability.....	31
3.6 Data Collection Procedure.....	31
3.7 Data Analysis Techniques.....	33

3.8 Ethical Considerations.....	33
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CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.1 Introduction.....	34
4.2 Response Rate.....	34
4.3 Demographic Characteristics.....	34
Table 1.1: Pedestrians Age Distribution.....	34
Table 1.2: Pedestrians Gender Distribution.....	35
Table 1.3: Pedestrians’ Living Standard Measure.....	36
4.3.1 Demographic Characteristics of Physical Planners.....	36
Table 1.4: Physical Planners Age Distribution.....	36
Table 1.5: Urban Development Projects overseen by Physical Planners.....	37
4.3.2 Members of County Assembly Demographic Representation.....	37
Table 1.6: Age Representation of the MCAs.....	38
Table 1.7 MCAs who served as Councillors.....	38
4.4.2 Pedestrian Demands for Urban Pedestrians Footpaths.....	38
Table 1.8: Utility Frequency of Bus station pedestrians’ Footpaths.....	39
Table 1.9: Reasons for Going to the Bus Station Area	39
Table 1.10 Influences of Quality Footpaths on Familial Expense.....	40
Table 1.11: MCAs responses on who walked the most at the Bus Station Area...	40
Table 1.12: Type of Frequented Establishment at the Bus Station Area.....	41
Table 1.13: Hindrances to Safety and Comfort from the Footpath connectivity....	41
Table 1.14: Complaints to Footpath Mobility	42
4.5 Influence of Stakeholder Engagement in development of Footpaths.....	42

Table 1.15: Pedestrians’ Attendance to the Engagement Forums.....	42
Table 1.16: Objectivity of Information Disclosure.....	43
Table 1.17: Stakeholder Engagement forums before Inception of Projects.....	43
Table 1.18: Methods of Negotiations and Partnerships at the Forums.....	43
Table 1.19: Methodology of Grievance Management.....	44
Table 1.20: Grievance Management among the MCAs.....	45
4.6 Influence of Space on Development of Urban Pedestrians Footpaths.....	45
Table 1.18: Design of Footpaths around the Bus Station.....	44
Table 1.21: Spatial Interaction with Motorist on Safety and Comfort.....	46
Table 1.22: MCAs Responses on the Need for Safe and Comfortable Footpaths..	46
Table 1.23: Design of Footpaths around the Bus Station Area.....	47
Table 1.24: Traffic Calming Features for the Bus Station Footpaths.....	47
Table 1.25: Zoning of Vending Activities at the Bus Station Area.....	48
Table 1.26: Influences of Finances on Footpath Development.....	49
Table 1.27: Pedestrian Responses on Adequacy of Finances for Footpath.....	49
Table 1.28: Dimension to Financing Infrastructure Projects as Per the MCAs.....	50
Table 1.29: Innovative Options to Financing Urban Pedestrians Footpaths.....	50

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings.....	51
5.2 Discussions of Findings.....	53
5.3 Conclusion of the Study.....	54
5.4 Recommendations of the Study.....	55
5.5 Suggestions for further Research.....	55
REFERENCES	56

LIST OF FIGURES

Diagram 1.1: Conceptual Framework.....	26
Appendix I: Operationalization Table.....	28
Appendix II: Pedestrians Questionnaire.....	63
Appendix III: Physical Planners Questionnaire.....	65
Appendix IV: MCAs Questionnaire.....	66

LIST OF ABBREVIATIONS AND ACRONYMS

ASI: Avoid- Shift- Improve Paradigm	LOS: Level of Service
BTOD: Bus Transit- Oriented Development	LGMS: Local Growth Management Strategy
BRT/S: Bus Rapid Transit/System	MDG: Millennium Development Goals
CBD: Central Business District	NEMA: National Environmental Management Authority
COHRE: Centre on Housing Rights and Forced Evictions	NMIMT: Non Motorised and Intermediate Means of Transport
DIZP: Detailed Influence Zone Plan	OECD: Organization for Economic Cooperation and Development
EM: Environmental Mainstreaming	PPS: Project for Public Spaces
ERS: Economic Recovery Strategy	RMLF: Road Maintenance Levy Fund
HMDA: Hyderabad Municipal Development Authority	SERVQUAL: Rate of Service Quality
GDP: Gross Domestic Product	TOD: Transit Oriented Development
INTP: Integrated National Transport Policy	UHI: Urban Heat Island
ITF: International Transportation Forum	UN: United Nations
KOV: Kensington Oval and Vauxhall Forum	UNEP: United Nations Environmental Programme
KRB: Kenya Roads Board	NTP: Integrated National Transport Policy
LED: Local Economic Development	

ABSTRACT

The Ministry Of Transport's Sessional Paper on Integrated National Transport Policy of 2010 whose theme is "Transport for Prosperity" seeks to "develop, operate and maintain an efficient, cost effective, safe, secure and integrated transport system that links the transport policy with other sectoral policies, in order to achieve the Vision 2030's development objectives in a socially, economically and environmentally sustainable manner". The policy recognises the importance of stakeholder engagement in the design and implementation of new transport infrastructures to ensure integration of Non-Motorised and Intermediate Means of Transport (NMIMT). As the County Government of Kisii seeks to develop 258 new transport infrastructures, it is urgent to study factors that influence the development of pedestrians' urban footpaths around bus stations in Kisii town, Kisii County. The literature reviews data about the variables of developing urban pedestrian's footpaths that include pedestrians' demand, stakeholders' participation, space and availability of funds. The theoretical framework borrows from special equilibrium theory. The study used a descriptive design to target a stratified sample population of 394 street traders, 4 physical planners and 6 county representatives. The study used a convenience sampling method for the pedestrians through a street intercept surveying methodology. The findings indicate that demand for sustainable footpaths is high because it's a primary mode of mobility to the poor who majority are the youth. However, the respondents showed a lack of concern for engaging in stakeholder forums which may be the reason for the skewed footpath design by the physical planners. Despite a focus on the consumption value of capital in financing footpaths, members of county assembly showed willingness to provide better footpath even if the sought finances from dedicated infrastructure agency and to maintain a transport industry fund for capacity building. Since the pedestrians formed a captive audience in urban planning, it was concluded that it was possible to reverse the trend by re-assigning priorities by meeting the needs of pedestrians and public transport commuters then private motorists, in that order.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Pedestrians are the most vulnerable road users of road transport networks because of their lack of speed, mass and protection, compared to other road users, and also because of their particular characteristics and behaviour affecting the nature of their interaction with motorised traffic and its facilities (OECD, 2001). Knowledge of pedestrian attitudes, perceptions and behaviour may thus assist policy makers in better understanding of pedestrian issues and safety needs, and in the planning and implementation of measures to improve pedestrian safety.

Walking has numerous economic, physical and environmental benefits, it is imperative that commuters are encouraged to adopt walking as a means of travel. This can be achieved by providing a safer and more inviting pedestrian environment, to encourage more people to undertake walking trips and to facilitate modal shift from other means of transport (Walton and Sunseri, 2005).

The provision of new, safer and improved crossing facilities to make pedestrian journeys safer and more convenient is important to achieving a number of national policies. In Kenya the Integrated National Transport Policy (2010) by the Kenya Roads Board encourages Non-Motorised and Intermediate Means of Transport (NMIMT) in realizing the socio- economic pillar of Vision 2030 (Kenya Roads Board (KRB), 2010), by focusing investment into land transport in order to increase economic productivity (KRB, 2010).

Data from the Kenya Household Travel Survey (2010) shows that journeys to and from home, work and social or recreational outings are the most common reasons for pedestrian

trips. Shopping is also an integral and popular reason for travelling on foot. For these reasons, pedestrian facilities near local shopping areas, recreational activities and residential areas need to be of an adequate standard (KRB, 2010).

However, Shortfalls in the physical environment of bus stations, especially those that compromise pedestrian safety, can deter people from considering walking around these facilities. Therefore, the construction of new pedestrian pathways, and/ or the upgrade of existing ones are key methods by which the quality of the pedestrian environment can be improved, and it is important that consideration of the pedestrian environment is taken into account during the design and implementation of these facilities (Buchanan and Heuman, 2004).

To enable easier audit of pedestrian footpaths, a template for a facility- monitoring database, is populated against information from the analysis of site-specific data regarding location, road classification and traffic volume, type of improvement to be carried out, pedestrian usage, level of publicity, proximity to institutions- terminals or schools-, and social context (Turner et al, 2011).

As can be seen providing friendly walking paths increases trips made on foot fourfold over time which when quantified by a benefit factor (walking trips), makes pedestrian facilities improvement projects more favourable from a benefit- cost perspective, giving them a greater chance of being approved for funding (IMF, 2010). The fourfold increases in trips are in New Zealand- from \$0.50 to \$2.70; \$0, 50 to \$2.65 in Hungary; and \$0.50 to \$3.00 in Morocco (Pedestrian Planning and Design Guide, 2007).

Pedestrian facilities performance studies are mostly performed with quantitative variables such as pedestrian space, pedestrian and/or vehicle traffic, and sidewalk width (e.g. TRB, 2000, Landis et al. 2001, Huang et al. 2007); and for this study the pedestrian environment is

reviewed within the context identified as the Kisii Central Bus Station Development. The terminal was an Economic Recovery Strategy (ERS, 2003) project meant to rehabilitate, expand and reform among others bus stations; with the aim of providing quality transport systems at a low cost to support economic revitalisation (Government of the Kenya, 2007).

However, the terminal is capacity constrained, a pedestrian hazard and inefficient in needs provision in the current urban transport scene hacked by unorthodox modes like Boda-boda taxis and ‘Probox Matatus’, therefore the urge by the Kisii county government to develop an addition of 258 transport facilities (Kisii County Government, 2013).

Kisii County is the economic hub of South Nyanza (Wikipedia, 2013: Agenda Urban, 2013) and walking and public transport play an important supportive role thereof. However, with at least 5 pedestrian deaths monthly according the Kenya Police Quarterly Roads Safety Report of 2014 and a dense population (Kenya National Institute of Statistics, 2012), there is a need for developing an inviting urbanscape with good pedestrian facilities (and Agenda Urban, 2013: UN-HABITAT, 2007).

1.2 Statement of the Problem

Kenya's Integrated National Transport Policy (INTP) requires incorporating Non-Motorised and Intermediate Means of Transport (NMIMT) in the design, development and operation of all transport modes (KRB, 2010). As the Kisii County is proposing development of 258 bus stops, stations and bays (Omwoyo, 2014), integrated pedestrians facilities are a requisite, however space will be a major hindrance in providing footpaths because the town has a dense agglomeration of buildings (UN-HABITAT, 2007) that force pedestrians to share motorways with vehicles cruising at more than 40 km/h on 84 % of the roads present (iRAP Assessment, 2015). This is uncomfortable and dangerous. With pedestrian safety being a shared responsibility, governments (national and local) that are best placed to draw attention to the specific needs of pedestrians to legislate, enforce laws and standards (WHO, 2013) often either fail to provide pedestrian facilities on the roadside or compromise the safety of pedestrians altogether (Lesan, 2014). So the need of the hour is to provide a safe environment for pedestrians without any conflicts with other modes of transportation and this study will attempt to focus pedestrian perception of performance into the development of optimal footpaths. Information will be collated from pedestrians to form a set of qualitative variables for local officials (town planners and county officials) responses and further incorporation into the footpaths to meet the pedestrians' expectations.

1.3 Purpose of the Study

The study sought to find out factors that can influence the development of urban pedestrian footpaths around the Kisii central bus station based upon pedestrian perceptions of optimal performance. A questionnaire with different items to measure pedestrian perception in four different areas i.e. safety and comfort, stakeholder participation, space and availability of finances believed to give a true impact on footpath performance and will be used to collect data for the study.

1.4 Objectives of the study

The study had the following objectives:

1. To establish how pedestrian demands for walking facilities influence the development of urban pedestrian footpaths around the Kisii bus station.
2. To assess the extent to which stakeholder participation in the development of urban pedestrians' footpaths around the Kisii bus station.
3. To establish how space will influence the development of the urban pedestrian footpaths around the Kisii bus station.
4. To determine the extent to which availability of finances influence the development of pedestrian urban footpaths around the Kisii bus station.

1.5 Research Questions

This study sought to answer the following research questions:

1. To what extent do pedestrian demands for urban walking facilities influence development of pedestrian urban footpaths around Kisii bus station?
2. To assess the extent to which stakeholder participation influence development of pedestrian urban footpaths around Kisii bus station?

3. To establish how availability of space influence development of pedestrian urban footpaths around Kisii bus stations?
4. To what extent does availability of finance influence development of pedestrian urban footpaths around Kisii bus stations?

1.6 Significance of the study

The study is useful because many trips originate or terminate around the bus station while serving as an access point between various service points in the town because of its central location. Improving foot mobility will entail providing footpaths that are pedestrian friendly by integrating the convenience of shopping and entertainment while developing an efficient local economic development around a sustainable mobility sphere.

1.7 Limitations of the study

The study was conducted in Kisii Central Township, and the area defined as Bus Transit Oriented Development (BTOD) of between 200- 500 metres of the bus station.

1.8 Delimitations of the study

The study area was chosen because it is accessible to the researcher, while it also gives an ideal representation for developing innovative strategies to develop pedestrians' footpaths in environments constrained by a lack of space

1.9 Basic Assumptions of the Study

The study assumed that:

- I. Development of pedestrian footpaths is a priority for the town because of the weight of walking needs but its hampered lack of space for developing dedicated pathways.
- II. The respondents will give true, honest and representative answer

1.10 Definitions of significant terms as used in the study

Bus station: A terminal and intermodal hub designed for bus taxis to park and board commuters to other destinations.

Foot paths: dedicated lanes meant for walking by pedestrians' in urban centres over a distant away from motorways.

Land use planning: A discipline of urban planning which seeks to order and regulate land use in an efficient and ethical way, thus preventing land- uses conflicts

Oriented developments: These are developments that are pegged on a particular entity because of the advantages it offer. Transit oriented developments are developments that are pegged on the availability of people from the transport industry.

Pedestrian traffic: The flow of movement by people on foot near road infrastructures designed for vehicles.

Pedestrian perception: A pedestrian's apprehension of his mobility environment by means of the senses or of the mind; cognition and or understanding.

Space: A boundless three dimensional extent in which objects and events have relative position and direction

Stakeholder participation: The process an organisation involves people- most affected by decisions made- in project implementation.

Top down design planning: A step wise design to give character to the compositional subsystem normally without stakeholder engagement

Urban Agglomeration: Study of human settlement in a built up area characterised by a tight collection of buildings.

Urban planning: A technical and political process concerned with the use of land and design of the urban environment, including air, water and its infrastructures.

1.11 Organization of the study

This study is organised into five chapters. Chapter 1 of this study introduced the problem statement and described the specific problem addressed in the study as well as design components. Chapter 2 presents a review of literature and relevant research associated with how pedestrians' perceptions are shaped by bus station development to influence foot mobility addressed in this study. Chapter 3 presents the methodology and procedures used for data collection and analysis. Chapter 4 contains an analysis of the data and presentation of the results. Chapter 5 offers a summary and discussion of the researcher's findings, implications for practice, and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Safety, access, and mobility issues related to downtown redevelopment programmes have been the subjects of concern for departments of transportations, local authorities, urban residents, and advocacy groups. Feasibility of these projects calls for undertaking a Mobility Audit of the local transportation needs for design consideration into the development of a select alignment of preferred multi-modal treatments based on mobility, access, traffic safety, and general cost implications involved. Much research has been conducted in the areas of pedestrian facilities development around terminals in transit oriented development (TOD). The purpose of this chapter is to explain and highlight what other various scholars have said about development of urban pedestrian footpaths around bus station development considering pedestrians' perception, stakeholder's participation, availability of space and finance for development.

2.2 Concept of Pedestrians Urban Footpaths around Bus Stations

Footpaths are those parts of a road or street that are intended for pedestrian use on foot, in wheel chairs, on mobility scooters, or pushing a pram (Daaman, 2003). It is therefore important that footpaths are wide enough for unhindered, unobstructed use by all user groups – including disabled users (Axelson, 1999). Footpaths generally run parallel to the adjacent carriageway and may be separated by kerbs and cultivated or uncultivated road margins (Bass, 2004). Footpaths should be provided on at least one side of the road over the full length of urban roads. However, in areas with a significant number of pedestrians such as bus routes, commercial centres, school routes, and those with a high public profile, footpaths

should be provided on both sides of the road (Burden, 2004). Similar selection criteria are applicable to determining the need for footpaths in rural areas (Beasley, 2002).

Where the longitudinal gradient of the road is greater than the recommended limit for pedestrians, footpaths can often be grade separated (Allan, 2001). Besides being used primarily by pedestrians, footpaths are sometimes shared with cyclists (shared paths). There must be a functional pedestrian through-route on a footpath (Abley, 2007). Key to this is a careful consideration of the position of potential obstructions e.g. lighting poles, power boxes, sign posts and other street furniture. Existing construction materials, methodology and workmanship must be considered when maintaining and renewing footpath components and pedestrian facilities (IPPUC, 2008).

Typically, local walking strategic plans should aim to increase the number of walking trips, while decreasing the rate and severity of pedestrian injuries. These two goals are not usually mutually exclusive. A greater number of pedestrians should result in increased visibility and act as a reminder to other road users to consider them (Ramonés, 2008). Reducing the speed and volume of other traffic may do as much to help pedestrian safety as providing new infrastructure. Consequently, local walking strategic plans need to be supported by more general traffic, road safety and transport strategies (Whyte, 1988).

The right to walk is a fundamental element in a considerable number of public policies. Although its contribution to transport objectives is often underestimated, its importance must not be ignored (Marshall, 2007). National governments often promote legislatures that encourage pedestrianisation. Kenyan legislation relating to walking are the Economic Recovery Strategy for Wealth and Employment Creation 2003- 2007 (ERS), under which there is the Integrated National Transport Policy (INTP) contained in Vision 2030 (KRB,

2010). Thus, the envisaged Department of Transport (DoT) are mandated to develop an Integrated Transport Master Plan encompassing all modes.

Further, it is anticipated that County Transport Plans based on partnerships between stakeholders take into account local transport needs and linkages with other sectors by the recognition of Non-Motorised and Intermediate Means of Transport (NMIMT) in addressing the local needs by the integration of NMIMT in the design, development and operation of all modes of transport. The Government of Kenya (GoK) (2010) has shown recognition of the walking towards facilitation of rapid economic growth and reconstruction, poverty eradication and in wealth creation (MoT, 2010).

Bus stations and the surrounding areas is the “shop window” to a town, a place where many people see what the community has to offer (Hincapié, 2011). Referred to as Transit oriented developments (TOD), they need therefore to be attractive and inviting to visitors and should be designed to maximize access by non-motorized transportation- walking to- encourage integrated mobility in order to access the multimodal mix of travel need efficiently and in a cost effective manner (Renne, 2009). There are two key elements that comprise a sustainable public transport system: the first relates to movement into the system and the second is basically the exchange from one transport system to another (Whitelegg, 1993). In the first element we find different types of public transport available, all of which focus on the reduction of resource consumption and on clean management, ranging from massive vehicles using motorways, to the simple action of walking or cycling. The second element is the possibility of interchange between modes of mobility, thus making a sustainable system effective; this means that the easier the transference from one mode to another, the more effective the overall system is (Richards, 2001).

However, urban mobility is a complex issue which involves the interchange between different travel modes, such as pedestrians, public transports and private cars over time and space (Koolhaas, 1998). In these cases, a multimodal approach could be necessary to get a more sustainable way of travelling around these terminals that integrates walking facilities i.e. footpaths which are grade separated and differentiated to allow access by people on foot. The size of the city has great influence on the viability of the transport system of the city due to scale problems, especially in terms of economic self-sustainability which can be achieved only by demand of the available modes (Marshall, 2007).

2.3 Influences of Pedestrian Demands for Urban Footpaths

Pedestrians' perceptions of footpaths performance can be assessed by many ways. Pedestrian input can be used for determining adequate levels of service from a road user's perspective. In past studies, Parasuraman et al. (1988) studied the scale for measuring service quality in the private service sector and developed an instrument (called SERVQUAL) for assessing customer perceptions of service quality in service and retailing organizations. The original SERVQUAL scale included five factors i.e. Tangible asset: physical facilities, equipment, and appearance of personnel; Responsiveness of Facility: willingness to help customers and provide prompt service; Reliability of facility: ability to perform the promised service dependably and accurately; Assurance by the facility: knowledge and courtesy of employees and their ability to inspire trust and confidence; and Empathy: caring, individualized attention the firm provides its customers. These five factors are considered generic service quality factors and applicable to any type of service demanded to satisfy a given need. In highway applications, Burde (2008) evaluated road users' overall perceptions of highway maintenance service quality. Referring to SERVQUAL factors, two factors were proposed, namely, safety and reliability. The safety factor is a combination of two service dimensions: assurance and tangible.

Bahari, Arshad, and Yahya (2011) conducted a perception based survey of pedestrians' attitudes towards sidewalk facilities in Kuala Lumpur, Malaysia and found that the current city centre is not pedestrian-friendly due to its lack of pedestrian linkages and the existence of major deficiencies such as poor maintenance, inefficient design and poor accessibility. Besides that, the local and foreign visitors often find deficiencies in the pedestrian sidewalk facilities that are physically challenging to the disabled and the elderly. Unlicensed vendor and hawkers using the pedestrian sidewalk for their business purpose and some building prohibit public access across their property worsen this scenario (Rahaman, 2012). The quality of the path context in the network is an important criterion that can affect the likelihood of wanting to walk (Xi and Son, 2012). However when it comes to urban transportation planning, the provision of pedestrian facilities are usually neglected despite the undeniable importance of the pedestrian (Zaly, 2010). Only minimum facilities are provided for the pedestrian in some areas therefore pedestrians are usually exposed to accident risks, adverse weather, snatch thieves and other hazard which make people tend to avoid travelling by walking in long distance. Inadequate pedestrian facilities cause constant conflict between the pedestrians and the vehicles on the roadway between pedestrian and another pedestrians, parked vehicles and with roadside development (Laxman, 2010). Fortunately, government have identified the problem and come out with initiatives to reduce the problem. Currently, a programme has been initiated between the government, local authority and private sector to upgrade the existing pedestrian network. This sector planned to construct a total of 4.5 km of covered and elevated pedestrian linkage in the city centre within 2012 for short term and a total of 45 km full pedestrian network across KL city for long term plan which is expected to be completed by 2014 (KWPKB, 2011).

2.4 Influence of Stakeholder Participation on Pedestrian Footpaths

Enhancing mobility options for poor is of prime importance to the cities as mobility is the first step to improve the socio-economic conditions of the poor population, as higher mobility implies higher access to socio-economic opportunities (KRB, 2010). A pro-poor mobility approach while planning for transportation is important as it is this section of the society, which faces severe mode-choice constraints, due to the inability to own personal modes, low levels of affordability for public transport services, locational disadvantage and unusual demand character (e.g. long-distance travel in odd hours – early mornings and late evenings) (Taylor, 2006).

Efforts are being made to improve the existing transportation systems, with special consideration being given to evolve more efficient and pro-poor transport systems (MoT, 2010). Dar-es-Salaam, which is the third fastest, growing city in Africa, has only 6% of its households owning a car (Mfinanaga, 2009). This leads to limited mode choice options for people and they have to largely depend on walking and cycling to meet their travel needs. Since the limited road space is shared by a multitude of modes, ranging from cars, two-wheelers, buses to hand-carts, peddle carts, cycles and pedestrians, the speed of traffic is reduced considerably, negatively affecting the travel times (Behrens, 2009). In Kenya, boda-bodas charge half the price and reach the destination faster than the Matatus, by evading traffic. The bicycle taxis also have an added advantage, as they can offer excellent last mile connectivity solution by providing transport connectivity to any destination, as they do not operate on any fixed route (Schalekamp, 2009). As per the Fourth National Human Development Report for Kenya, “Linking Industrialisation with Human Development” (United Nations Development Programme, 2005), the lower cost of bicycles due to industrial advances in the country (Kenya) has led to a revival of bicycle usage. This case study depicts

that it is possible to find successful mobility solutions through utilization of already existing resources (UNDP, 2005).

To address the mobility needs of poor in Africa, Cycling out of Poverty (CooP) was launched in 2006 together with the governments of Kenya, Uganda, Tanzania, Gabon and Rwanda; with the idea of making bicycles more affordable and promoting their use. Several projects have been launched under the main themes of Bike4school, Bike4work, Bike4care and African Bicycle Design. Some of the projects launched include Cycle to School (Katakwi, Uganda, 2008-2009; Kisumu, Kenya, 2009), Bicycle Ambulances (Katakwi, Uganda, 2008-2009), Bicycle Workshops (Kisumu, Kenya, 2009-2010), and Curriculum Development for Bicycle Mechanics (Kenya, 2009). On certain roads like the Kisumu Road, redesign of on-street parking was carried out to accommodate a cycle lane and traffic calming measures like speed bumps were deployed to reduce speeds. All these interventions made the NMT infrastructure very attractive and all pedestrians refrained from using the carriageway (Non-Motorized Transport in African Cities, 2005).

2.5 Influence of Space on Pedestrian Footpaths

Given the diversity of pedestrians, scheme designs should consider a wide range of user needs, including the needs of children, those with mobility aids and older pedestrians. Schemes should, wherever possible, be designed for pedestrians with the lowest level of ability. This removes access barriers for those with special needs, and ensures pleasant, convenient routes that are beneficial for all pedestrians (Department for the Environment, Transport and the Regions, 2000).

Physical space required by pedestrians differ with the highest requirement being space to manoeuvre as the vast majority of people walk at speeds between 0.8 metres per second (m/s) and 1.8 m/s (2.9 kilometres per hour (km/h) and 6.5 km/h), with round 70 percent of walking

trips in the New Zealand travel survey (2000) involved getting from A to B solely on foot and 30 percent were undertaken in association with other modes of transport (e.g. walking from a parked car, or walking to and from public transport), for walk- only trips, half are more than 10 minutes, 18 percent are more than 20 minutes and nine percent are more than 30 minute. Overall, females, the young, and the aged make the most walking trips for a wide range of purposes, with social and recreation activities and shopping the most common reasons, followed by work and education related journeys (ITE Traffic Engineering Council Committee. 1998).

Shortfalls in the physical environment are the most obvious deterrent to walking (Lalani, 2009). Reasons often mentioned include missing footpaths or sections of footpath, poor-quality (cracked, uneven or slippery) walking surfaces, obstacles on the footpath, including poorly placed street furniture, lack of footpath maintenance like litter and overhanging vegetation, increased distances imposed by road layouts, barriers, footbridges and subways, lack of continuous signing to potential destinations, lack of continuous pedestrian routes, missing or unsuitable crossing treatments creating severance, poor-quality lighting, speeding traffic, lack of rest areas and seating, traffic fumes and noise, lack of shade, lack of shelter from inclement weather, lack of interesting features on the route (Ker, Ian, Hubard, Veith and Taylor, 2007).

In Kenya, as in many rapidly-developing countries, there is a direct correlation between GDP per capita and private car modal share: as GDP per capita rises, so does the use of motorised vehicles. To prevent this trend from continuing, The Kenyan Urban Roads Authority (KURA) has adopted a policy that systematically integrates NMT facilities on all new urban roads, and requires projects to conduct NMT safety audits (KRB, 2010). Therefore integrating NMT facilities should follow proper policy in Universal Accessibility which stipulates that urban spaces should be suitable for 8-years-olds as well as 80-year-olds; if

spaces are adapted for the most vulnerable users, then they will be suitable for everybody. The Principle of Complete Streets entails incorporating infrastructure for walking and cycling, including signage, ramps and other facilities for the physically challenged (Langen, 2005). Complete roads promote safety for all users, and incorporate all of the principles of universal accessibility. Principle of incremental learning ensures that best strategies are implemented for specific local needs and pilot projects should provide excellent opportunities to learn-by-doing while experiences from other regions are taken into consideration (Pendakur, 2005). Documenting these pilot project experiences will facilitate the learning process (iRAP, 2009).

According to the U.K. Department of Transportation (1987), a pedestrian hit by a car at 64.4km/h has an 85 per cent chance of being killed, at 48.3km/h the likelihood goes down to 45 per cent, and at 32.2km/h the fatality rate is only 5 per cent. Therefore, footpaths should be properly located to reduce speeds and provide traffic calming features like more open green spaces. According to *Share the Road: Focus on Africa*' (2010), the effectiveness of speed reduction depends on how it is integrated into the broader transport strategy. Aiming for an improved redistribution of transit modes that favour NMT and public transport should establish a road hierarchy that discourages through traffic on smaller streets and promote lower speeds where there is a high concentration of pedestrians. Korte, Afstanden, Grootste Kansen (2003), in a study in the Scandinavian countries observes that improving space allocations for NMT requires reallocating space for its use and enjoyment and that using valuable urban space for walking can be a cost-effective investment as NMT urban dwellers can make more efficient use of that space. Tembele (2000) includes proper urban use of land in a compact city in the urge to optimise urban mobility and reduce the need for motorized travel. He says that as urban transport services become more accessible, this phenomenon becomes even more pronounced. Land use policy that promotes mixed and dense urban

environments can enhance commerce and economic activity, and make walking an attractive option. Compact cities also optimise infrastructure investments by reducing the need for roads. For lasting and sustainable urban transport, systems must be planned in concert with a clear urban development strategy and land use plan (UN-Habitat, 2010)

2.6 Influence of Finances on Pedestrian Footpaths

New and improved pedestrian facilities enable greater access and mobility within our communities. A pedestrian-friendly environment plays an important role in encouraging walking as a mode of travel, and this has proven health and environmental benefits. Supporting and promoting the option to walk for short distances is also listed as a key objective of various national, regional, and local transport and community plans (NZTA, 2013).

A research conducted by the New Zealand's Transport Agency (NZTA) in 2009 shows that the benefit factor applying to new pedestrian trips increased from \$0.50 to \$2.70/km, between 2005 and 2009, making pedestrian facility improvement projects more worthwhile. Thus, estimating the increase in pedestrian flows (as opposed to simply recording existing pedestrian flows) is now important in the economic evaluation of new or improved facilities. The magnitude of these changes varied between sites, from 7% for signalised pedestrian crossing to 90% for the kerb extensions. The reasons for the increases in flows were analysed in each of the individual case studies, and were found to be a mix of factors such as safety, delay and directness (Smith, 2006). Overall, it was observed that the construction of kerb extensions/refuge islands resulted in the largest increase in pedestrian numbers, followed by the installation of kea crossings (Fletcher and Sharples, 2001).

As in most Sub-Saharan cities, the road infrastructure has a hard time keeping pace with urbanization in Douala. Paved roads are mainly concentrated in the central areas and a few

interconnections in areas targeted by urban development programs or restructuring programs. Inasmuch as unplanned neighbourhoods are the result of anarchic development, roads in these neighbourhoods are sometimes simply nonexistent as are pedestrian footpaths (Poverty and Urban Mobility in Douala, 2008). Access to dwellings is then limited to narrow, winding, unsanitary alleyways. Access to the centre is, of course, complicated by the deterioration of the road system and roads are daily jammed at peak hours (DSCN, 2002). Motorbike taxis first appeared in Douala in the early 1990s to take advantage of the scenario and their numbers have steadily increased ever since, estimated at roughly 10,000 in 1997 (Godard, Ngabmen, 2002). In the opinion of the operators themselves, the boom in motorcycle taxis is due to their ability to reach places inaccessible to four-wheel vehicles, their low cost and the proliferation of traffic jams which make them quicker than other modes of travel at peak hours (Diaz, Plat, Pochet, 2001). These advantages should not obscure the many grievances held against them. They are blamed for imprudent or even dangerous driving, resulting in many accidents (Antoine, Razafindrakoto, Roubaud, 2001). John Howe (1989) says that while walking dominates all measures of personal and household-level goods movement in Sub-Saharan African societies, it is rarely evident in planned interventions in its transport systems. The capture of investment by elites is most apparent in cities without a network of safe walkways, yet where only a minority drive cars. The persistence of poverty with its obvious relation to immobility, and declining environmental conditions in cities, are the most likely issues to force a reassessment of the role of walking among decision makers (Howe, 1989).

While the promotion of motorised mobility became the primary objective of the major development agencies and most governments, China and India were, until recently, the main exceptions to this trend as they prioritized investment in pedestrianisation (Howe, 1997). Correlating investment and economic growth, Economist Walter Rostow inferred that there

was a causal relationship between the United States' prosperity and its road transport investment, and equated automobile-dependence with the highest stages of economic growth (Rostow, 1962).

Of course in one sense Rostow was right; a modern transport system is indispensable to the process of social and economic development. But it is not the only requirement, and in the rush to motorise and accommodate motorised traffic an unfortunate side effect seems to have been the rejection of non-motorised means of movement as somehow inferior or backward. It is a view that still strongly prevails in many countries. Furthermore, many planners do not give cognizance to the downside of the U.S. model even though Rostow's term automobile-dependence is now used pejoratively in public opinion. Over-expansion of the sector, made possible by huge, and generally hidden, subsidies to users, is seen to have created an unsustainable system with a large and increasing dependence on external energy supplies. More subtly, it has led to an extravagant pattern of land use in which living and employment locations are separated by considerable distances thereby further marginalising walking. This imposes high (commuting) costs on the international competitiveness of U.S. businesses as have China and India recognised (World Transport Policy & Practice, 2001). After having banned bicycles from certain city-centre roads, the Chinese government made a policy U-turn in favour of urban non-motorised transport. In 2006, the government ordered cities that had narrowed or removed bike lanes to restore them. Today, cities like Huangzhou, Beijing and Shanghai are examples of large cities that have moved away from car-centric urban models (Kim and Jong, 2011).

Howe (2007) in the case of Africa and Tiwari (1999) for Asia show that the pedestrian environment is not a static phenomenon. It gets worse every day as more cash and more policy goes into supporting car use in societies where this can only be accessed by the very rich and powerful. This damages the economy, damages health and damages the quality of

the built environment. Cavill (2014) takes up the health point and shows how walking can positively improve health. The epidemic of obesity and diseases made more prevalent because of obesity is a drain on the health care systems of the USA and Europe. James and Brög (2007), show that walking is excellent value for money. Once again we have strong evidence that reveals much of current transport policy pursuing costly options producing maximum (and costly) damage. Walking and cycling are capable of accounting for at least 30% of all journeys in a well planned metropolitan area and much more in densely populated and highly accessible cities like Calcutta. The fact that much of global performance in this area of modal share is so very bad is a damning indictment of the transport planning and engineering professions and the decision making systems that they feed into (Omwenga, Obiero and Malombe, 1993). Limited resources are a common challenge for many transit agencies. While there is no dedicated funding source for pedestrian safety improvements near transit stops at the governmental level, there are many funding sources that can be leveraged by an agency in order to achieve these goals. Some potential resources include from around the world include: Allocating some capital improvement resources as matching funds to improve pedestrian safety and access in partnership with cities, counties, Departments of transportation (DOTs), or other organizations. Implement a Tax Increment Financing (TIF) program to generate funding for physical improvements. Surface Transportation Program (STP) funds, can be used to improve and construct pedestrian walkways, Bus and Bus Facility Grants provide capital funding for transit-related improvements, including passenger shelters. Congestion Mitigation and Air Quality (CMAQ) Improvement Program, provides financial and technical resources for transit agencies and metropolitan planning organizations (MPOs) seeking to improve air emissions from transportation-related sources. Often these resources are applied to programs or projects that may also have a safety benefit (Nabors, Schneider, Leven, Lieberman, and Michel, 2008)

2.7 Theoretical Frameworks

This study is guided by the Spatial Equilibrium Theory

2.7.1 Spatial Equilibrium Theory

Models of spatial equilibrium demonstrate how population flows across regions in order to equate utility in different areas (McCann, 2013). In these models, individual utility is derived from consumption of amenities plus private consumption of tradable and non-tradable goods (where the price of the former is exogenous to the region and that of the latter is endogenous).

This theory is used to support infrastructure that is required for local travel needs

Grimes (2014) extend the Overman et al model to include infrastructure provision, deriving the conditions under which a new infrastructure investment within a city will expand that city's population. To do so, the infrastructure investment must raise amenity-adjusted real wages, where amenity-adjusted wages include the value of unpriced amenities to an individual. An infrastructure investment may increase amenity-adjusted wages through a variety of mechanisms: first, the infrastructure may raise amenities in a city (e.g. through provision of a new footpath); second, the infrastructure may reduce travel costs (e.g. through provision of walking facilities); third, the infrastructure may raise productivity and hence wages (e.g. through ease of access and unhindered mobility); fourth, the infrastructure may raise skills and hence wages (e.g. through provision of a higher educational institution).

Early studies which find positive impacts of transport infrastructure on economic growth include Mera (1973) for Japan's regions, Blum (1982) for regional growth in West Germany, and Aschauer (1989) and Munnell (1990) for regions within the United States. Economic growth induced by transport investments encourages employment and population growth as consumers move across regions to maximise wages. Thus transport investments result in

population growth and employment growth within regions where imperfect, spatially competitive labour markets lead to the provision of higher net wages (Fujita and Thisse, 2002).

Duranton (2013) find that the quality of the transport network affects the structure of a city's production, with a 10% increase in a city's mobility leading to a 5% increase in tonnes of goods exported by that city. This result mirrors earlier results on the importance of the transportation network for commercial cities structures (Fernald, 1999). Similarly, the quality of the transportation network may affect the degree of agglomeration economies within and surrounding a city (Maré and Graham, 2013).

However, improved transportation links do not necessarily lead to agglomeration for all sectors. Glaeser (1998) suggests that declining transport costs within the United States led to fewer jobs within the manufacturing sector within cities that have high urban densities, in favour of commercial enterprises, while Behrens and Picard (2011) find that freight rate differentials can incentivise manufacturing firms to scatter across space instead of clustering. Service sectors benefit from falling transport costs through the benefits of clustering, and thus choose to locate within cities. In their study of the distance decay of agglomeration benefits, Graham et al (2009) conclude that both the distance decay and productivity impacts of agglomeration are greater for firms in services than for those in manufacturing. Beyond its contribution to production, transport infrastructure has value by reducing costs for consumers who reside within close proximity to it. If consumers or firms prefer to locate within close proximity to these interchanges, their demand will be reflected in the increased price of housing or commercial buildings in the immediate area (Haughwout, 2002).

Transport corridors that are able to deliver both mobility and amenity improvements have been found to deliver improved economic outcomes reflected in increased land rents (Grimes and Young, 2013).

Of the above studies, Duranton and Turner's investigation of transport infrastructure and regional growth is the most similar to ours. Their model specification originates directly from consumer theory, with the inclusion of variables for distance travelled and exogenous amenities within a city in the representative resident's utility function. This approach yields equations for three variables: the rate of change of population, investment in roads, and initial road characteristics. Population change is a function of the prior period's level of population and roading, plus observable time-invariant regional characteristics. Investment in roads is a function of the same variables while initial road characteristics are a function of the prior population level, observable time-invariant regional characteristics and a vector of exogenous (historical) regional characteristics. However, Duranton and Turner's postulated consumer utility function treats distance travelled by an individual as contributing positively to consumer utility which contrasts with the notion that travel is a cost.

2.8 Conceptual Framework

Figure 1.0 represents the research structure of County projects as independent variables and their interplay with dependent variable.

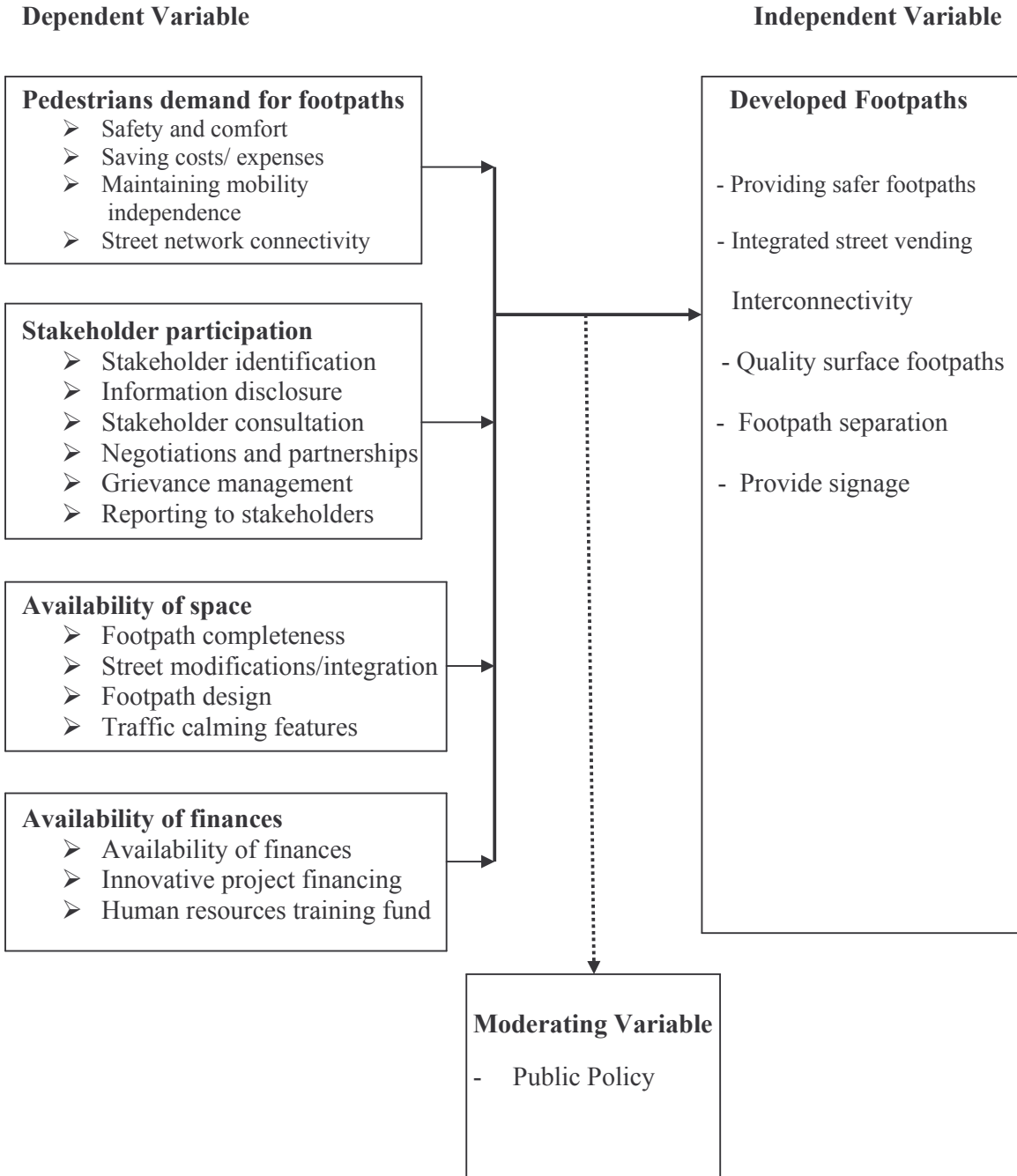


Figure 1.1 Conceptual Frameworks

2.9 Summary of Literature Review

Walking is the most fundamental form of mobility. It is inexpensive, emission-free, offers health benefits, and accessible for all regardless of income, and it is a source of great pleasure. Yet walking presents challenges to society's least robust individuals. Public institutions representing specifically the interests of pedestrians are rare: that it has become highly challenging to cope with the complex, sometimes hostile, traffic conditions that characterise today's urban centres. The vitality of an urban centre is closely linked to people being out and about on foot to access goods and services and sojourn. Providing well connected networks with friendly infrastructure is essential in designing accommodative TODs that feature traffic calming effect that ensure reduction of the frequency and severity of crashes, especially those involving pedestrians while enhancing in many ways the livability and sustainability of cities. Changes in urban design to assure stakeholder participation are required to manage the preponderant role of motorised traffic in low- and middle-income countries, which are now moving rapidly towards much higher levels of motorization.

2.10: Operationalization Table

Objectives	Variables	Indicators	Measurement Scale	Data Collection Method	Data Analysis
To establish how pedestrian demands for walking facilities influence the development of urban pedestrian footpaths	Independent	Functional complaints	Nominal	Questionnaire	Descriptive
	Dependent	Footpath provision	Nominal	Questionnaire	Descriptive
To assess the extent to which stakeholder participation in the development of urban pedestrians' footpaths	Independent	Forums held	Nominal	Questionnaire	Descriptive
	Dependent	Footpath provision	Nominal	Questionnaire	Descriptive
To establish how space will influence the development of the urban pedestrian footpaths	Independent	Footpath Zoning	Nominal	Questionnaire	Descriptive
	Dependent	Footpath provision	Nominal	Questionnaire	Descriptive
To determine the extent to which availability of finances influence the development of pedestrian urban footpaths	Independent	Appropriation of finances	Nominal	Questionnaire	Descriptive
	Dependent	Footpath provision	Nominal	Questionnaire	Descriptive

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology used in this study and provides a general framework for this research. The chapter presents details of the research design, target population, sample and sampling procedures, description of research instruments, validity and reliability of instruments, data collection procedures, data analysis techniques and ethical considerations while conducting the study.

3.2 Research Design

Ogula (2005) describes a research design as a plan, structure and strategy of investigation to obtain answers to research questions and control variance. This study will adopt a descriptive survey. Kombo and Tromp (2006) say descriptive surveys provide concrete or abstract descriptions from data collected through interviews by questionnaires administered to a sample population (Orodho, 2003). By demonstrating the existence of social problems, competent descriptions can challenge accepted assumptions about the way things are and can provoke action (Marsh, 1982).

3.3 Target Population

A population is the total collection of elements the researcher wishes to make references. The study targets three strata of population namely pedestrians, town planning officials and Nyaribari Chache members of the county assembly who number 81801 (Kenya National Bureau of Statistics, 2011) 4 (Kisii, 2015) 6 (Report on the Implementation of Devolved Government in Kenya, 2010) respectively.

3.4 Sample Size and Sample Selection

A sample is a smaller representative of the population with all the characteristics of the said population. This research will use a stratified sampling technique, because the subpopulations vary and so it is advantageous to sample each subpopulation independently (Mugenda and Mugenda, 2003).

3.4.1 Sample size of pedestrians

A convenience sampling will be used to get the sample of pedestrians to be administered with questionnaires because the target population is assumed to be homogenous and the pedestrian sample is in some inaccessible part of the population (Ross, 2005). Hence a Sloven's Formula ($n = N / (1 + Ne^2)$) will be used to get the sample of pedestrians to be studied. Where in the formula $n =$ samples size, $N =$ total population, $e =$ error tolerance; a sample of 398 pedestrians will be used using a confidence level of 0.05 (95 %).

3.4.2 Sample selection of town planners and members of the county assembly (MCA).

Considering the low number of the Physical Planners (4) the whole population will be sampled as the MCAs who number 6 (Mugenda and Mugenda, 2003).

3.5 Research Instruments

A questionnaire was developed to measure pedestrian perception in five different areas: demographic Characteristics, pedestrian demands, stakeholder consultations, space and availability of finances.

3.5.1 Piloting

To collect the data, street intercept interviews were conducted in the study location at the bus station between 4- 6 P.M.

This is when there is most traffic as people are heading home after shifts in work or school. Some interviewers stopped the pedestrians and asked them for possibility to interview. The yes/no type questions were answered as 1(yes)/0(no). Structured questionnaires were used and administered in a drop and pick methodology for the town planners and MCAs.

3.5.2 Instrument Validity

According to Mugenda and Mugenda (1999), Validity is the accuracy and meaningfulness of inferences, which are based on the research results. It is the degree to which results obtained from the analysis of the data actually represent the variables of the study. The research instrument will be validated in terms of content and face validity. The content related technique measures the degree to which the questions items reflected the specific areas covered.

3.5.3 Instrument Reliability

Reliability is concerned with consistency, dependability or stability of a test (Mugenda and Mugenda, 1999). This study used Test Re-Test Technique to estimate the reliability of the instruments. This involved administering the same test twice to the same group of respondents who have been identified for this purpose.

3.6 Data Collection Procedure

Prior to the commencement of data collection, the researcher obtained all the necessary documents, including an introduction letter from the University of Nairobi. After sampling and ensuring of content validity, the researcher got authority to carry out the study from the University of Nairobi, through the academic supervisors which enabled the researcher to apply for a permit from the National Council for Science and Technology. Audience with the Kisii County Government's Transport Ministry was sought to clarify the purpose of the

study. Upon getting clearance, the researcher in person distributed the questionnaires to the sampled pedestrians, the physical planning officials and the local county representatives. This was through direct contact of the respondents with the researcher. This was done individually and in each case the respondent was instructed on the way to fill the questionnaires.

Pedestrians were selected from the 3 major streets connecting the bus station within walking distances of 300 metres from the bus station in a street intercept type survey such that the questionnaires were typically administered where the person is intercepted. During the intercept, basic demographic information should be collected followed by the various research questions that query their perception of foot mobility within the bus station and the specifications for the development of footpaths. The street-intercept method was designed to access all people on the street engaged in such activities walking to or from work, running errands, and preparing to use public transportation. Interviewers were instructed to approach the first eligible respondent they saw who was anywhere in the streets identified. All interviews were conducted outdoors on weekdays, usually between 9:00 a.m. and 3:00 p.m., during the month May of 2015.

Street intercept survey and a convenience sampling entail following the responses from the pedestrians with the town planners and MCAs. This follow up responses guide formulating subsequent questionnaires so that their responses can be analysed together or they can be stratified (Miller, 1996).

The respondents were expected to fill the instruments accurately, completely and honestly. The respondents were assured verbally of confidential treatment of information provided. The questionnaires were collected the same day after completion.

Acquisition of archival data was done from the records gotten from Physical Planning office. Officers from the office also helped go through the records and to record the findings.

3.7 Data Analysis Techniques

Both quantitative and qualitative approaches were used for data analysis. Quantitative data from the questionnaire was coded and entered into the computer for computation of descriptive statistics. The Statistical Package for Social Sciences (SPSS version 11.5) was used to run descriptive statistics such as frequency and percentages so as to present the quantitative data in form of tables and graphs based on the major research questions. The qualitative data generated from open ended questions was categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation. The qualitative data was used to reinforce the quantitative data.

3.8 Ethical Considerations

The respondents were asked to contribute to this study as it is an academic requirement for the completion of a degree programme. Therefore they were assured of anonymity by not disclosing their names. The interviewers were asked not to use leading question and also to ensure respect to the respondents is maintained in every instance.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1. Introduction

This chapter analyses and discusses the results of the statistical tests carried out. The results are presented and describe the overall findings of the study in descriptive statistics form.

4.2. Response Rate

The questionnaires used in this study were administered to pedestrians, county physical planners and the members of the county assembly (MCAs) for the wards that make up the Kisii Town municipality. Among the questionnaires administered none was left incomplete, all the MCAs and Physical Planners sampled as responded also did provide responses and hence a response rate of 100%.

4.3. Demographic Characteristics

The demographic characteristics of the pedestrians, MCAs and Physical Planners made up of information on age, gender, monthly income, prior service a councilor (MCAs) and urban development projects overseen by the planners. Table 1.1 gives the ages of the pedestrians respondents. This was necessary so as to quantify foot mobility users' age representation.

Table 1.1: Age Characteristics of Pedestrians.

Age (years)	Frequency	Percentage (%)
0- 17	56	14
18- 35	179	45
36- 53	119	30
54- 71	40	10
72 and above	4	1
Total	398	100

According to data from Kenya National Bureau of Statistics (KNBS) majority of Kenya’s population is made up of the youth between the ages of 18 and 35, correlating with the respondents response that indicate the youth at 18- 35 years made up 179 (45 %), the ages 36- 53 had 119 (30 %), 0 -17 56 (14%), 54- 71 40 (10 %) and the ages of 72 and above making the minority with 4 (1%) of the pedestrians at the bus station.

Unsafe urban environments influence gender representation and quantifying the make up at the bus station provided walking paths will help in further analysis the situational condition of the footpath at the bus station. Therefore table 1.2 gave responses on gender.

Table 1.2: Pedestrians’ Gender Characteristics

Gender	Frequency	Percentage
Male	203	51
Female	195	49
Total	398	100

Table 1.2 indicates that majority of the pedestrian paths users were male who accounted for 203 (51%) of the population. Female respondents were 195 (49 %). This is a skewed representation of the population at large according to KNBS (2010).

The respondents were also asked on monthly incomes. The levels were based on the KNBS (2010) Living Standard Measure (LSM) that gives an economic category to Kenyans i.e. lower income persons to the high class. The rates 0- 23670 (lower income), 23671- 47340 (Floating class), 47341- 71010 (mid-middle class), 71011- 118350 (upper middle class) and 11831 and above (upper class) indicate the categories. Table 1.3 gave the respondents economic classifications.

Table 1.3: Respondents Living Standard Measure (LSM)

LSM (KES/Month)	Frequency	Percentage (%)
0- 23670	203	51
23671- 47340	119	30
47341- 71010	48	12
71011- 94680	20	5
94681- 118350	4	1
11351 and above	4	1
Total	398	100

Table 1.3 indicates that majority of the respondents are of the lower income classification with 203 (51%). 23671- 47340 indicate 119 (30%), 47341- 71010 indicate 48 (12%), 71011- 94680 indicate 20 (5%), 94681- 118350 indicate 4 (1%) and those who earn 11351 and above make 4(1%). Majority of the respondents are of the lower income scale according to the LSM indicator by the KNBS (2010) with a corresponding higher margin among the lower middle class. The minority pedestrian respondents fall under the upper middle class and upper class who according to presumption preferred private vehicles for mobility.

4.3.1: Demographic Characteristics of the Physical Planners

The physical planners' ages, career span in Kisii county and number of urban development projects overseen was deemed necessary. Table 1.4 gives their responses.

Table 1.4: Physical Planners Age Characteristics.

Age (years)	Frequency	Percentage (%)
18- 35	2	50
36- 53	2	50
54 and above	0	0
Total	4	100

Table 1.4 indicates that the physical planners are of the middle ages with the youth between 18- 36 and 36- 54 sharing an equal representation of 2 (50 %) each. The ages between 54 and above did not have a representation.

Information from table 1.4 was a pointer to the length of time they have worked in Kisii county and their contribution to urban planning considering that a comprehensive Kisii town urban plan was formulated in the 1970s (Kisii County, 2015). Therefore, a response on the number of urban development projects overseen was a natural inquest. The responses are given in table 1.5.

Table1.5: Urban Development Projects Overseen

Number (Years)	Frequency	Percentage
0- 5	2	60
6- 10	1	20
11- 15	1	20
16 and above	0	0
Total	4	100

According to table 1.5, 2 (60 %) of the respondents have overseen less than 5 urban development projects, 1 (20%) has overseen between 6 and 10 project and another 1(20 %) as overseen up to 15 urban redevelopment projects in the town. No one had overseen 16 projects or more in their stay as physical planners in Kisii County.

4.3.2 Demographic Characteristics of the Members of the County Assembly

The MCAs age, gender, and if any served prior to the 2003 general election as Councilors were deemed appropriate indicators to highlight in an effort to understand step achieved in providing pedestrian footpaths.

Table 1.6 Age Representation of the MCAs.

Age (Years)	Frequency	Percentage (%)
18- 35	1	16
36- 53	3	50
54 and above	2	34
Total	6	100

According to the table 1.6 above majority of the MCAs were of middle ages between 36 and 53 years with 3 (50 %) of the municipality’s MCAs. Ages 54 and above reported 2 (34 %) while 18- 35 reported 1 (16 %).

On being asked if any served as councilors (prior to the 2013 election), the responses were as indicated in table 1.7 below.

Table 1.7: MCAs who served as Councilors

Councilors	Frequency	Percentage (%)
Yes	1	17
No	5	83
Total	6	100

According to table 1.7 only 1 (17 %) served prior to the 2013 election as a councilor while the rest 5 (83 %) were new entrants.

4.4: Pedestrians Demands for Urban Pedestrian Footpaths.

Provision of proper urban pedestrian footpaths around the bus station area is requisite in achieving a friendly and sustainable environment that better facilitates the local economy as in TOD settings.

Respondents were asked on how frequent they used the walking facilities at the bus station

with the aim of deducing effects to their safety and comfort, cost advantage of the bus station over other establishments in the CBD and their perceptions of how the paths enable easy linkages to other street. Table 1.8 indicates response on the respondents' frequency of use of the walking facilities at the bus station.

Table 1.8: Utility Frequency of the Bus Stations Pedestrians Footpaths

Rate	Frequency	Percentage (%)
Everyday	346	87
At Least Once A Week	40	10
At Least Once A Month	8	2
At Least Once In An Year	4	1
Total	398	100

Table 1.8 shows that the majority of the respondents' used the paths daily at 346 (87%). 40 (10%) said the used the paths once a week, 8 (2 %) at least once a month and 4 (1 %) used the bus station's paths at least once in a year.

Since 346 (87 %) of the respondents said they were at the bus station daily, safety and comfort to using the paths provided for walking was likely a big issue.

Despite the poor mobility experiences at the bus station, 346(87 %) respondents passed through it every day. Reasons for their utility preferences are as in table 1.9.

Table 1.9: Reason for the Use of the Bus Station Area

Cost And Variety	Frequency		Percentage (%)	
	Cost	Variety	%	%
Bus station area	267	346	67	87
CBD	131	52	33	13
Total	398	398	100	100

Table 1.9 shows that goods and services are cheap and of a wide variety at the bus station compared to the CBD. Cost efficiency indicated 267 (67 %) and 346 (87 %) at the bus station area while at the CBD cost was at 131 (33%) and variety at 52 (13 %).

The physical planners said that the demand for urban footpaths around the footpath was justified and according to them footpaths influence expenses that got to families as of table 1.10 below.

Table: 1.10: Influences of quality footpaths on family expenses

Responses	Frequency	Percentage (%)
Yes	4	100
No	0	0
Total	4	100

According to table 1.10, the planners say that quality footpaths have a relation to expenses that go into health, mobility fares, cost of goods and services which is collaborated by the Kenya Roads Board (2010).

The MCAs also had an idea of who walked the most in urban areas and at the bus station. Their responses on who walked the most at the bus station are a given in table 1.11 below.

Table 1.11: MCAs responses of who walked the most at the bus station

Responses	Frequency	Percentage (%)
Poor	4	67
Middle- class	2	33
Rich	0	0
Total	6	100

The similarity of responses from table 1.11 above on who walked the most at the bus station was collaborated with pedestrians own responses that the poor walked the most. Table 1.11 shows that majority were the poor at 4 (67 %). The middle class reported 2 (33%).

The pedestrian responses on the establishment at the bus station they frequented are given as in table 1.12.

Table 1.12: Type of establishments frequented

Type of establishment	Frequency	Percentage (%)
Formal	191	48
Informal	207	52
Total	398	100

Table 1.12 shows that the respondents did much of their errands at informal establishments with 207 (52 %). Formal establishment attracted 191 (48%) of the respondents in the survey.

Footpath connectivity and its linkages to other mobility networks ensure safety and comfort if the allowances are good enough. The quality of connectivity entails a through route without hindrances. Respondents were asked on the quality of the street footpath connectivity and their responses were reported as in table 1.13.

Table 1.13: Hindrance to quality footpath network connectivity

Hindrances	Frequency	Percentage (%)
Path occupation by vendors	151	38
Poor crossing points	187	47
Solid waste management	8	2
Open landfills	52	13
Total	398	100

Table 1.13 indicates that the lack of dedicated crossing points posed a challenge to feeling safe and comfortable in accessing other streets and reported 187 (47 %), followed by vendor occupation of the paths at 151 (38 %). Open landfills were also a significant hindrance that reported 52 (13 %). Solid waste management reported a negligible 8 (2%).

According to the physical planners the most common complaints to walking at the bus station were given as in table 1.14 below.

Table 1.14: Complaints to foot mobility

Responses	Frequency	Percentage (%)
Lack of quality footpaths	3	75
Vendor occupation of paths	0	0
Reckless motorists	1	25
Total	4	100

According to table 1.14 the lack of quality footpaths was the most common complaint raise that hindered the form of mobility. Reckless motorists received 1 (25%) of the complaints while vendor occupation of the street had nil responses.

4.5: Stakeholder Participation in developing urban pedestrian footpaths

A stakeholder engagement should incorporate motorists, traders and pedestrians. Since the physical planners make the principle facilitators of urban development forums, stakeholder identification and analysis is important in determining the affected users of a project and Table 1.15 gives the responses on attendance to forums to the forums.

Table 1.15: Pedestrian Stakeholder Consultation Forums Attendance

Participation	Frequency	Percentage (%)
Regular	48	12
Irregular	147	37
Never	203	51
Total	398	100

Consultative forums participation among pedestrians is low according to table 1.15 with 203 (51 %) saying they never attend them, those who attended them irregularly reported 147 (37 %), while those who attended regularly recorded 48 (12 %).

Information disclosure in an objective way is crucial in enabling fruitful engagements and table 1.16 reports objectivity of the information that lead up to stakeholder engagement forums.

Table 1.16: Objectivity of Information Disclosed to Pedestrians

Objectivity of Information	Frequency	Percentage (%)
Always	48	100
Sometimes	0	0
Rarely	0	0
Total	48	100

The pedestrian respondents that attended the forums regularly say the information on proposed on and to be deliberated was always objective with a universal response of 48 (100%) according to table 1.16 above.

The planners were asked if they did provide stakeholder consultation forums prior to inception of developmental projects and their responses are given as in table 1.17 below.

Table 1.17: Stakeholder Consultation Forums before Project Inception

Responses	Frequency	Percentage (%)
Yes	4	100
No	0	0
Total	4	100

Table 1.17 shows that stakeholder consultation forums indeed are held regularly with an agreement of 4 (100%). The researcher also sought to find responses concerning the negotiations and partnerships that take place at the forums. The responses are given in table 1.18.

Table 1.18: Methods of Negotiations and Partnerships

Method	Frequency	Percentage (%)
Joint exploration of issues	2	50
Use of legitimate leaders	1	25
Involve strategic partners	1	25
Total	4	100

Table 1.18 shows that majority of the planners said they liked to explore important issues joint with the stakeholders at 2 (50 %), while 1 (25 %) said that using legitimate leaders from the stakeholder group is favorable, while another 1 (25 %) thought using strategic partners of the proposed project is favorable.

Since grievance management is contingent in stakeholder forums, its handling is critical. Table 1.19 shows ways the planners deal with grievance concerning a project.

Table 1.19: Methodology of Grievance Management

Methodology	Frequency	Percentage (%)
Suggestion Boxes	4	100
Community Meetings	0	0

Community Liaison Personnel	0	0
Total	4	100

Table 1.19 says that suggestion boxes 4 (100%) are the preferred methodology employed to deal with grievances. Community meeting and liaison personnel reported nil. The human feel is important in enabling the feeling of accountability and responsibility which suggestion boxes do not offer.

The MCAs were also asked how they handled grievances from pedestrians since they were accountable to them and usually represent their interests. Their responses are given in table 1.20.

Table 1.20: Grievance Management among the MCAs

Responses	Frequency	Percentage (%)
Joint Issues Exploration	1	17
Expert Advice	2	33
Legitimate leaders	3	50
Total	6	100

4.6: Influence of Space on the Development of Urban Pedestrian Footpaths around the Kisii Bus Station

Space is a limiting factor in Kisii County as a whole because of the dense concentration of populations and also because of a rapid urban development in the past decade. According to the pedestrians on the spatial zoning of facilities for motorists and the pedestrians at the town, space influences safety and comfort of walking according to table 1.21 below.

Table 1.21: Spatial Interaction with Motorists on Safety and Comfort

Responses	Frequency	Percentage (%)
Yes	0	0
No	398	100
Total	398	100

From table 1.21 above pedestrians said that the spatial interaction with motor vehicles is very unsafe and uncomfortable with an overwhelming response of 398 (100%).

The responses were augmented by MCAs response on the need to provide footpaths. The responses are according to table 1.22 below

Table 1.22: MCAs Response on the Need for Safe Urban Pedestrian Footpaths

Responses	Frequency	Percentage (%)
Yes	6	100
No	0	0
Total	6	100

According to table 1.22, the MCAs thought that provision of the footpaths at the bus station is important. There was no disagreement.

Provision of footpaths will likely adopt a creative methodology that will try to incorporate stakeholders' issues. Therefore the design pattern of the footpaths at the bus station area will likely to be integrated. Table 1.23 gives the design most appropriate at the bus station according to the town's physical planners.

Table 1.23: Design of Footpaths around the Bus Station

Design	Frequency	Percentage (%)
Dead zone design	1	25
Uninterrupted footpaths	0	0
Multi- utility zone design	3	75
Total	4	100

Table 1.23 indicates that majority of the planners said that a multi utility zone design is the most appropriate with 3 (75 %) response. A dead zone located at a property’s front got a response of 1 (25 %), while having uninterrupted through way footpath did not get a response because of the dense agglomeration of buildings in the town and because it entails eviction of other stakeholders interests.

Conflicts from vendors and motorists will pose a challenge according to the design in table 1.23. Table1.24 sought to find out ways by which the pedestrians will be protected from the named sources of conflicts.

Table 1.24: Traffic Calming Features for the Bus Station Footpaths

Features	Frequency	Percentage (%)
Kerbs extensions	4	100
Cultivated margins	0	0
On Street parking	0	0
Total	4	100

Table 1.24 indicates that the most appropriate separation methodology in footpath – motorway interaction is through the use of kerb extensions at 4 (100%) as reported by the physical planners. Cultivated road margins and allowing on- street parking received 0 (0 %)

responses as can be argued that allowing on- street parking will lead to further traffic congestion as the bus routes in the town are very narrow.

Since street vending and other activities are integral in multi- utility footpath designs and also an objective of the CoG (2013) providing spaces for this activities is therefore important as to control their interference with pedestrian mobility. The planners were asked of the ways the vending activities will be provided in the streets and responses are given as in table 1.25.

Table 1.25: Zoning of Vending Activities on Streets

Zoning	Frequency	Percentage (%)
Available squares	3	75
Street kiosks	1	25
Special zones on footpaths	0	0
Total	4	100

The planners, according to table 1.25, said that finding squares within the town will be the most prudent way to allow vending activities with a response of 3 (75 %). Street kiosks for newsstands, snacks and cobblers/ butlers will also be considered to a smaller extent with a response of 1 (25%). Creating special zones to allow vending on the footpaths was disfavored as it receive a 0 (0%) response.

4.7 Influence of Finances on the Development of Urban Pedestrian Footpaths at the Bus Station

County governments are charged with the development of footpaths as per the Taskforce on Devolved Government report of 2012.

The planners were asked how finances influence the development of infrastructure and their responses are given as in table 1.26 below

Table 1.26: Influence of finances on footpaths development

Responses	Frequency	Percentage (%)
Quality footpaths	2	50
Completion time	1	25
Unrepresented issues	1	25
Total	4	100

The quality of infrastructure is of more importance to footpath development and it is more hampered with availability of finance. It got a response of 2 (50 %). Completion time may be delayed and user views may be unrepresented in order to cut costs. They received responses of 1 (25 %) equally and respectively. From the pedestrian point of view their responses on the adequacy of finances for footpath development are given in table 1.27 below.

Table 1.27: Pedestrian responses on the adequacy of finances for footpaths provision

Responses	Frequency	Percentage (%)
Yes	80	20
No	318	80
Total	398	100

The negative perception on provision of adequate funding for footpaths is seen from the responses in table 1.27 above. 318 (80%) think finances are not adequately provided for pedestrian footpaths against a score of 80 (20%).

The researcher asked the MCAs what they thought influenced allocation of finances for infrastructure projects from public funds, and their responses are given in the table below.

Table 1.28: Dimensions to Funding Infrastructure Projects according to the MCAs

Responses	Frequency	Percentage (%)
Capital Productivity	1	17
Capital's Consumption Value	4	66
Lead To LED	1	17
Total	6	100

Table 1.28 indicates that appropriation of public finances for infrastructure investment is dependent on the consumption value of public finance. Capital productivity and the infrastructures role in influencing the locations economic activity report 1 (17 %) each.

The MCAs asked of other financing options considering that public finances are limited that would ensure provision of urban pedestrian footpath and their responses are given in the table below.

Table 1.29: Innovative Options to Financing Urban Pedestrian Footpaths

Responses	Frequency	Percentage (%)
Joint Ventures with the Private Sector	1	17
Dedicated Infrastructure Agencies	4	66
BOOT Ventures	1	17
Total	6	100

According to table 1.29, the MCAs thought that opting for finances from dedicated infrastructure agencies was the most appropriate route to infrastructure financing with a responses of 4 (66%), while seeking joint ventures with the private sector or through Build Own Operate and Transfer options received at marginal responses of 1 (17 %) each.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The bus station area attracts a multitude of people due to abundance of shopping facilities combined with availability of transport modes for intra and extra town transport. However with unsafe walking conditions responses from 394 (99 %) of the respondents, who are in their youth at 179 (45 %) and characterized as of the lower income bracket (KNBS, 2010) of between 0- 23670 KES/ Month at 203 (51 %), walking is neither friendly nor sustainable at the bus station area. The unfriendly footpaths deters female members of the population who at the time of the study were the minority with a response 195 (49 %) showing a skewed gender representation of the Kenyan society. As per the pedestrians who used the footpaths every day, a response of 346 (87 %), their biggest hindrances to comfort and safety were from the poor crossing points, vendors and open landfills with responses of 187 (47 %), 151 (38 %) and 52 (13 %) respectively.

With unsafe and uncomfortable footpath that had a response of 394 (99%) and a majority pedestrians never attending engagement forums with personal responses of 203 (51 %), yet the station area offered efficiencies of cost and variety at responses of 268 (67 %) and 346 (87 %) respectively, negative representation are bound to be rife. However, the forums are always held at the inception of every developmental project with a response of 4 (100%) from the planners, and they were always objective according to 48 (100 %) of those who attended them.

A major portion 4(100%) of the planners are of middle ages 0- 54 years and they do maintain best principles to ensure stakeholders are engaged in project development through joint exploration of important issues in negotiations at the forums with 2 (50 %) responses. However, despite the poor attendance to the forum they do encourage grievances through the use of strategically placed suggestion boxes which report an approval 4 (100%) from the planners.

The provision of through way urban pedestrian footpaths at the bus station is challenged by spatial characteristics of the towns urban planning and land dynamics and therefore a multi-utility zoning design was deemed most feasible and appropriate by 3 (75 %) of the planners to enable integration of motorists and street traders. Despite the spatial design nature of the footpaths, pedestrian dedication is provided by kerb extension which were appropriate to 4 (100%) of the planners while vendor placement will be at identified squares according to 3 (75 %) planners, with some provision for least interfering modes of trading allowed at the footpaths for newsstands and cobbler kiosks.

As the legislators form part stakeholders in developing sustainable urban footpaths, their representation is important in negotiation sessions at engagement forums with 1 (25 %) of the planners saying that they are better at guaranteeing partnerships for NMINT programs. Their role in legislation and appropriating finances is very important in provision of these facilities. As footpath provision is not always a straight forward economic investment in an agricultural county as Kisii, the consumption value of a capital (footpath), as per the MCAs assures financing of the facilities with a response of 4 (66 %). This dimension to public finance relates specifically to the product being considered and to its perceived utility.

As the MCAs are rather new with only 1 (17 %) having served prior as a councilor, sourcing for additional financing to develop more walking facilities will likely be from dedicated

infrastructure agencies as 4 (66%) preferred them over joint partnerships with the private sector who received a dismal 1 (17 %) as with other innovative project financing schedules such as BOOT (Build Own Operate and Transfer) that also received a paltry- like response of 1 (17 %). To maintain and manage the facilities, majority of the leaders thought having a special levy to enable developing a competent human resource is important at 5 (83 %) as managing pedestrian who prefer informal establishments at the bus station area with a pedestrian approval of 207 (52 %) will require dedicated services to maintain equity and sustainability.

5.2 Discussion of the Findings

The literature reviewed indicates that efforts have been made to provide urban pedestrians footpaths and create a sustainable urban sphere in Kisii town. John Howe (2008) says that attitude is the most plausible explanation why walking is ignored, buttressed by a sense that it has little economic importance. The persistence of poverty with its obvious relation to immobility, and declining environmental conditions in cities, are the most likely issues to force a reassessment of the role of walking among decision makers. However, new and improved pedestrian facilities enable greater access and mobility within our communities (MARC, 1998).

Pedestrian precincts, most beneficial where there is heavy pedestrian activity, retail or mixed development, and a high number of pedestrian/vehicle conflicts must embrace the concept of livable streets (Nirathron, 2005). The concept of 'living streets' recognizes that, as a priority, streets should be designed with living and community interaction. A living street aims to balance the needs of residents, businesses, and pedestrians with cars, and thereby encourage a better quality of life and a greater range of community and street activity (Muleta 2006).

Considering that the pedestrians respondents are poor hence ‘captive pedestrians’, they form the largest group of road users. Yet their need for a safe and convenient infrastructure continues to be ignored; this creates sub-optimal conditions for all road users at the Kisii bus station.

A reversal of this trend is possible. The guiding principle is re-assigning priorities to various road users and by meeting the needs of pedestrians and public transport commuters in that order (Howe, 2008). Pro active engagement towards the provision of these facilities is evidenced by the MCAs and Physical Planners show. However, a policy guide toward this endeavor would go along way into ensuring their provision without resource diversion.

5.3: Conclusion of the Study

The research study revealed that the development of urban pedestrian footpaths at the bus station area was influenced by pedestrians lack of keenness to communicate appropriately their desire for friendly footpaths, the planners insistence on a top down design methodology albeit challenged by inadequate finances and poor inputs of pedestrian aspirations, the MCAs insistence of a financing dimension that seems to extend facilities for a foreseeable again by using a consumption value over financing in an attempt to influence a locations economic activity and lack of will to enable a multiple streams through finances and expertise inflows to promote foot mobility within the town and the bus station area as a whole. Pedestrian complaints about functionality of the footpaths have been reported to the leaders and physical planners but it seems that the ultimate decision is dependent on availability of finances. However, both the county’s physical planners and the MCAs responses have shown a willingness to better the use of foot mobility in the urban centre but according to best managerial and accountancy practices.

5.4 Recommendations of the Study

In reference to the research findings the researcher recommends that the county government formulate a policy guideline for which pedestrian footpaths will be guaranteed irrespective of competing projects. Developmental consultative forums should also be well packaged to attract stakeholder participation or other innovative methods be applied so as to get a considered quorum in order to develop a proposed project. These innovative methods may be guided questionnaires, social media queries or toll free help lines - although expensive.

5.5 Suggestions for Further Research

Based on the findings of this study, the research study made the following suggestions for further study:

1. Problems encountered in organizing stakeholder participation forums
2. Develop a methodology by which to incorporate views from the stakeholders
3. Possibility of promoting ultimate pedestrianism within selected streets in the urban centre.

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Appendix 1: Pedestrians' Questionnaire

No.....

Dear Sir/Madam

You have been selected to assist in providing information considered important for the study: *Factors Influencing Development of Pedestrian Urban Footpaths around Bus Stations in Kisii Town, Kisii County*. Kindly fill the questionnaire which will be used for the purpose of this study.

Section A. Demographic Data

1. Gender: Male Female
2. Age in Years: 0- 17 18- 35 36- 53 54- 71 72 and above
3. Monthly Income (Kshs): 0- 23670 23671- 47340 47341- 71010 71011- 94680 94680- 118350 118351 and above

Section B. Pedestrian demand for footpaths

1. How often do you use the bus station walking paths? Daily Weekly Monthly Yearly
2. Describe what draws you to go to the bus station area?
3. What type of establishment do you frequent at the bus station? Formal Informal
4. What hinders your mobility to these establishments, Describe?

Section C

Stakeholder engagement

1. Do you attend stakeholder engagement forum? Regular Irregular Never
2. If regular from the question above, are they objective? Yes No

Section D

Space

1. Does the spatial interaction with motorists enhance safety and comfort? Yes [] No []
2. How should the footpaths be differentiated with the vendors? Integrated [] Evicted []

Section E

Availability of Finances

1. Do you think the county government provides enough funds for footpath development in the town? Yes [] No []

Appendix 11: Interview Schedule for Physical Planners

Demographic Data

1. What is age? 0 – 17 [] 18- 35 [] 37- 54 [] 55 and above []
2. Career Span in Kisii County? 0- 5[] 6- 10 [] 11-15 [] 16 and above []
3. Number of urban planning initiatives overseen? 0- 5 [] 6- 10 [] 11- 15 [] more than 16 []

Pedestrians Demand for Footpaths

1. Are demands for urban footpaths at the bus station area justified? Yes [] No []
2. Do you think quality footpaths enable urban familial expenses? Yes [] No []
3. What hinders free pedestrian mobility at the bus station area? Describe

Stakeholder Engagement

1. Are engagement forums held regularly before project inception? Yes [] No []
2. What information should be provided to ensure quality consultations? Describe
3. Describe your method of stimulating negotiations in seeking partnerships
4. How do you deal with grievances? Suggestion Boxes [] Stakeholders Meetings []
Liaison Personnel []
5. What method of information reporting is insisted for project teams? Describe.....

Influence of Space

1. Describe the most appropriate design methodology of pedestrians' footpaths at the bus station area?
2. From the answer above, how will footpaths be separated from motorists? Describe.....
3. How will space for vending and other street activities be provided? Describe.....

Availability of finances

1. How does availability of finances influence development of footpaths? Quality []
Completion time [] Unrepresented views []

2. Do you think it is better to use other methods of project financing to provide for the footpaths? Yes [] No []

Appendix III: Interview Schedule for Ward Representatives (MCAs)

Personal Profile

1. Age: 18- 35 [] 36- 54 [] 55 and above []
2. Did you serve prior to 2003 as a Councilor? Yes [] No []

Pedestrians' Demands for Urban Footpaths

1. Have pedestrians ever complained about the safety and comfort in functionality of the footpaths at the bus station area? Yes [] No []
2. Who do you think walks the most in town? Poor [] Middle- class [] Rich []
3. What are the most common complaints to walking in the town? Describe

Stakeholder Engagement

1. What useful information do you disclose to enhance quality of the forums? Describe...
2. How do you think the negotiations should be done, Describe
3. How do handle grievances? Joint Issues Exploration [] Expert Advice [] Leaders []

Space at the Bus Station

1. Is it important to provide safe walking footpaths at the bus station area? Yes [] No []
2. How should pedestrians and vendors be managed? Integrated [] Separated [], and should they have specialized facilities? Yes [] No []

Availability of Finances

1. What methodologies are used in appropriating public finances to infrastructure programs? By Capital's productivity [], through its consumption value [] or through its role to influence the location of economic activities []
2. Since public finances are limiting, what ways do you think would be appropriate in ensuring provision of footpaths innovatively? Seeking joint partnerships with the private sector [], financing from dedicated agencies [] of through newer project development/ financing methods like BOT, BOOT []

3. Do you think it is essential to provide a fund for transport sector human resource development and training to increase capacity? Yes [] No []