ASSESSING THE NEED OF FUNDING FOR A SUSTAINABLE PUBLIC TRANSPORT BUS SERVICE FOR THE CITY OF WINDHOEK

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION OF UNIVERSITY OF NAMIBIA

BY
JOHANNA NDALINOSHISHO SHIKUKUTU

201312286

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Supervisor: Prof. A. Mbwambo (Mzumbe University, Tanzania)
Abstract

This study sought to assess the need for funding for a sustainable bus service for the City of Windhoek. The study was guided by two main objectives namely, to ascertain other potential revenue streams that the City of Windhoek can use to provide a sustainable public transport bus service, and secondly to explore existing best practices of funding strategies in the sustainable public transport system of the City of Windhoek. The study adopted a qualitative approach and primary data was collected using a research questionnaire, and the data were collected from participants who are chairpersons of different committees of the sustainable urban transport master plan. Data collected were analysed and interpreted using the inductive approach and findings were presented in graphs, charts and in tabular format. Moreover, discussions on the findings were made and it was observed that a need for funding exists in order to realize a sustainable public bus service for the City of Windhoek. The study concluded that additional revenue streams in the form of national funding, local fares, advertising revenues, national and local taxes, revenues from public-private partnerships and donors should be explored to fund the City of Windhoek public transport bus service. The researcher recommends that a strong policy framework that prioritises sustainable national funding programmes for public transport in the country should be established by the central government.
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<th>Full Form</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>BOO</td>
<td>Build - Own – Operate</td>
</tr>
<tr>
<td>BOT</td>
<td>Build – Operate - Transfer</td>
</tr>
<tr>
<td>BRT</td>
<td>Bus Rapid Transit</td>
</tr>
<tr>
<td>CCT</td>
<td>City of Cape Town</td>
</tr>
<tr>
<td>COW</td>
<td>City of Windhoek</td>
</tr>
<tr>
<td>DBFO</td>
<td>Design – Build – Finance - Operate</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transport of South Africa</td>
</tr>
<tr>
<td>GIZ</td>
<td>Deutsche Gesellschaft fur Internationale Zusammenarbeit</td>
</tr>
<tr>
<td>GRN</td>
<td>Government of the Republic of Namibia</td>
</tr>
<tr>
<td>IRT</td>
<td>Integrated Rapid Transit</td>
</tr>
<tr>
<td>MWT</td>
<td>Ministry of Works and Transport</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Government Organisation</td>
</tr>
<tr>
<td>NSA</td>
<td>Namibia Statistics Agency</td>
</tr>
<tr>
<td>PPP</td>
<td>Public – Private - Partnership</td>
</tr>
<tr>
<td>PRASA</td>
<td>Passenger Rail Agency of South Africa</td>
</tr>
<tr>
<td>PSC</td>
<td>Public Service Contracts</td>
</tr>
<tr>
<td>PTISG</td>
<td>Public Transport Infrastructure and Systems Grant</td>
</tr>
<tr>
<td>PTNG</td>
<td>Public Transport Network Grant</td>
</tr>
<tr>
<td>PTS</td>
<td>Public Transport Strategy</td>
</tr>
<tr>
<td>SUTMP</td>
<td>Sustainable Urban Transport Master Plan</td>
</tr>
<tr>
<td>UITP</td>
<td>Union Internationale des Transport Publics</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
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</table>
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Firstly, I would like to thank God the Almighty, without His will I would not have found the right path in life. His mercy was with me throughout my life and particularly during the period of conducting this study.

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Declaration

I Johanna Ndalinoshisho Shikukutu, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

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………………………….  ………………………..  ……………………….
Student Name     Signature     Date
CHAPTER ONE

INTRODUCTION

1. INTRODUCTION

1.1. Background of the study

Sustainable Public Transport plays an essential role in urban development by providing services for people to access education, employment, health, recreation and other key services. According to Satoh and Lan (2007, p. 69-72), “sustainable transport should satisfy the current transport and mobility needs without compromising the ability of future generations to meet these needs.”

The City of Windhoek, Division of Public Transport, in its annual report (CoW, 2015) indicated that the main source of income comes from ticket sales and bus hires. The statistics from the report indicate that ticket sales are the main source of income, contributing 92% of the total income, while bus hires account for the remaining 8%.

The table below outlines passengers and revenue statistical data for the Financial Years 2012/2013, 2013/2014 and 2014/2015 respectively.

Table 1.1: Passenger and revenue statistics for the City of Windhoek public transport bus service

<table>
<thead>
<tr>
<th>Year</th>
<th>Passengers</th>
<th>% change</th>
<th>Revenue (N$)</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>3,238,901</td>
<td>-5%</td>
<td>14,712,377.00</td>
<td>-16%</td>
</tr>
<tr>
<td>2013-2014</td>
<td>3,391,969</td>
<td>25%</td>
<td>17,612,369.00</td>
<td>27%</td>
</tr>
<tr>
<td>2012-2013</td>
<td>2,719,374</td>
<td></td>
<td>13,863,883.00</td>
<td></td>
</tr>
</tbody>
</table>
Table 1.1 above reveals that the CoW lost passengers during the said period (2014/2015) by 5%. The decrease in the number of passengers resulted in a decrease in revenue by 16% during the same period. The decrease in passengers and subsequently the loss of revenue could be as a result of decreasing fleet due to ageing buses, making the availability of bus services for the public not adequate.

Bus hire is the second source of income for the City of Windhoek’s Public Bus Service. It contributed 8% of the revenue. The table below illustrates the bus hire revenue for the financial years 2012/13, 2013/14 and 2014/15 respectively.

Table 1.2: Bus hire revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>Bus hire revenue (N$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014/2015</td>
<td>1 253 443</td>
</tr>
<tr>
<td>2013/2014</td>
<td>972 491</td>
</tr>
<tr>
<td>2012/2013</td>
<td>845 338</td>
</tr>
</tbody>
</table>

The Annual Report for the City of Windhoek for the financial year 2014/15 states that a substantial surge in bus hires revenue in 2015 contributed to the hiring of buses for the 25th Namibia Independence Day on the 31st of March 2015 when a new country President was inaugurated.

1.1.2. Operational expenditure for the CoW public bus transport
The City of Windhoek’s Public Transport Division’s second highest expenditure is on transport maintenance, repairs and servicing of buses after personnel costs, followed by fuel consumption. The table below depicts the operational expenditures for the financial year 2014/15.

**Table 1.3: Operational expenditure of the 2014/15 financial year**

<table>
<thead>
<tr>
<th>Item description</th>
<th>Budgeted amount (N$)</th>
<th>Actual expenditure (2014/15)</th>
<th>Current ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport maintenance (maintenance, repairs and servicing of buses)</td>
<td>16,550,000.00</td>
<td>16,004,378.00</td>
<td>97%</td>
</tr>
<tr>
<td>Fuel</td>
<td>9,500,000.00</td>
<td>8,340,967.00</td>
<td>88%</td>
</tr>
<tr>
<td>Vehicle licences</td>
<td>2,900,000.00</td>
<td>1,613,846.00</td>
<td>56%</td>
</tr>
<tr>
<td>Personnel costs (Salaries and wages, other allowances and overtime)</td>
<td>60,602,678.00</td>
<td>38,321,849.00</td>
<td>63%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89,552,678.00</strong></td>
<td><strong>64,281,040.00</strong></td>
<td><strong>72%</strong></td>
</tr>
</tbody>
</table>

*Source: City of Windhoek Public Transport Division Annual Report: 2014/15 financial year*

The above figures are based on the current public transport bus service which is only available to the residents during week days in the morning and afternoon peak hours. The service is also available on Saturdays during morning hours only. A sustainable public bus transport should provide mobility services that are reliable, frequent, affordable and accessible in the city throughout the day.

MWT (2012) in its sustainable urban transport master plan provided for improved mobility and adequate public transport services for all residents of Windhoek. However, the
Sustainable Urban Transport Master Plan (SUTMP) needs an integrated financing structure that should cover costs for capital investment for infrastructure such as dedicated bus lanes in the city, bus stops, interchange public transport stations, new buses and purchasing of modern intelligent transport passenger information systems. Likewise, the funding structure should cover recurrent expenditures which require a continuous stream of financial resources. The City of Windhoek, however, is not funded by the central government to provide the public bus service but all funds come from its own charges, fares and levies that it collects from the residents for making use of municipal services.

Sakamoto (2010), state that “cities and towns around the world face a major gap between meeting the needs of the local population for an efficient, equitable and environmentally friendly urban transport system, and financial resources available to meet the demand.” Moreover, Kyte (2012), emphasise that public transport is often the only means of transport for the poor and without it they would be able to look at work opportunities only within walking distances of their homes. Thus, public transport improves their livelihood opportunities.

Ardila and Ortegon (2013), points out that in many cities of the developing world congestion is endemic and public transport is of low quality. Ardila and Ortegon (2013) further argue that the low quality public transport, short mass transit and poor conditions of roads and sidewalks are an indication that the public transport system is not receiving the financial resources it needs to cover all its investments, operations and maintenance costs. The percentage of people living in urban areas among the world’s population reached 54% in 2014 and it is expected to increase by 66% by the year 2050. Much of the expected urban growth will take place in developing countries, particularly in Africa, thereby imposing high
demand for housing, infrastructure, mobility as well as other basic services such as education and health care (UN, 2014).

Noteworthy is the fact that “The population of Windhoek is rapidly growing at 3.1% per annum above the national growth rate” (NSA, 2011). As a result of the population growth, new infrastructure and basic transport services are required to meet such demand in the future. The City of Windhoek Council (CoW) faces a challenge in meeting the public transport needs of its residents and financial resources available to meet this demand. Infrastructure for public transport such as bus stops, bus stations, pedestrian and cycling lanes are underfunded. The City of Windhoek public transport system comprises of the different modes as indicated in Figure 1.1 below.

![Figure 1.1: Public transport modes in Windhoek](image)

**Source: MWT 2012**

Shakti (2016) explains that a public transport bus service of any city is a vital lifeline supporting the growth of an economy. Shakti (2016) further argues that a public transport bus service needs to be efficient and affordable for maximising its use and at the same time it must generate sufficient revenues for its financial sustainability, to continually service the ever expanding travel demand. The International Association of Public Transport (UITP, 2012), emphasises that successful mobility in cities starts at the very top of the policy-making
chain. Governments need to recognise the importance of urban mobility issues nationally and to ensure that they are high up on the policy agenda. Moreover, the Namibian Transport Policy’s vision for transport in the country appeals for a transport system which will provide safe, reliable, effective, efficient and fully integrated transport operations and infrastructure, which shall best meet the needs of passengers at improving levels of service and cost in a fashion which supports government strategies for economic and social development. The policy recognises the historic neglect of urban transport and the poor quality of service currently provided by public transport operators (MWT, 2016).

The Government of Namibia through the Ministry of Works and Transport, the City of Windhoek (CoW) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), are working together on the implementation of the Sustainable Urban Transport Master Plan (SUTMP) for Windhoek, also known as Move Windhoek. The project includes plans to develop an improved public transport system for Windhoek. The SUTMP demonstrates that the Government of the Republic of Namibia (GRN) is at least moving in the right direction (MWT, 2012). However, the funding requirements for these initiatives have been estimated, both from an initial capital and future operational perspective, and it is clear that the City of Windhoek, and indeed any city which looks to implement a public transport solution of this nature, does not have sufficient financial resources to fund the implementation of the project unilaterally. In recognition of this and the important socio-economic role of public transport, the Government of Namibia has committed to contributing towards the funding requirements of the project over the short-term period.

1.1. Statement of the problem
The City of Windhoek currently operates a small scale public transport bus service compared to other cities of the world. In a report written Pegasys (2016), the service is inadequate and ineffective in meeting user needs. It was further stated in the report (Pegasys, 2016) that the insufficient public bus service among others, results from lack of funding and it is impacting on Windhoek residents’ daily lives in different ways, for instance in getting to and from work or being able to access essential services such as health and education. Pegasys (2016) expressed concern over the current service which is operating with very old buses due to lack of funding to purchase new vehicles. The lack of sufficient buses is the main problem to the poor and inadequate service which is only available from Monday to Saturdays during early hours (in the mornings) and in the afternoon, therefore, the service is not accessible to the commuting public throughout the day and on Sundays. There are no interchanges connecting different routes within the city and the present fleet cannot satisfy the demand during peak hours due to inadequate and ageing buses. Furthermore, because of lack of sufficient funding, no additional bus drivers can be employed.

According to MWT (2012), roughly 87% of the Windhoek population is categorised as low income earners who cannot afford cars. Consequently for the majority of the population, non-motorized transport and public transport bus services are the only affordable options to cater for their mobility. The MWT (2012), further point out that the urban poor in Windhoek currently spend on average 24% of their disposable income on transportation, and this percentage is expected to increase, if the current level of service remains the same. Currently, there is a funding gap between what is needed locally in the city of Windhoek and the available resources. The City of Windhoek’s budget is severely strained and investments in public bus transport services are of great magnitude and they largely require external funding. Next to capital investments, recurring expenditures for the public (bus) transport operations have to be covered.
It is due to the lack of busses and inefficiency in public bus transportation services as highlighted above that the researcher decided to carry out this research and find out which sources of funding are most favourable to the City of Windhoek’s public bus transport for sustainable growth.

In essence, the problem guiding this study was to explore how the City of Windhoek can ascertain various potential revenue streams as well as identify existing best practices of funding strategies in the sustainable public transport system.

1.2. Main research objectives

The main research objective was to assess the need of funding for a sustainable public transport bus service for the City of Windhoek.

- Specific research objectives:
  1. To ascertain other potential revenue streams that the City of Windhoek can use to provide a sustainable public bus service.
  2. To explore existing best practices of funding strategies in the sustainable public transport system of the City of Windhoek.

1.3. Significance of the study

Sustainable public transport is an essential part of a safe, clean and affordable transport system for economic development. Cities with good and sustainable public transport have evolved as centres for trade, commerce, industry, education, tourism and other essential services. The findings of the study may thus serve as recommendations to the national government and the City of Windhoek as a local authority to fund public transport services
and infrastructures, not only in Windhoek but in other towns of Namibia. Currently, the public bus service transport is derisory in terms of service delivery: buses are old and not reliable. The results of the study may enable the City of Windhoek, if funded by the national government and other sources, to provide an efficient public transport bus service that offers modern buses with new technologies such as automated passenger doors and access for people with special needs.

1.4. Limitations of the study

Due to time and financial constraints, the study focused on interviewing Chairpersons of various committees of the Sustainable Urban Transport Master Plan. Furthermore, due to strict rules and regulations at some institutions, respondents were hesitant to participate, thus making the process difficult and this might have rendered some of the collected data inaccurate.

1.5. Delimitation of the study

This study is limited to assessing the need of funding for a sustainable public transport bus service of the City of Windhoek. The study can in the future look at potential revenue streams and existing best practices of funding strategies in the sustainable public transport system of the City of Windhoek. The researcher analysed data that are applicable to the City of Windhoek’s public transport bus service and the sustainable urban transport master plan.
2. LITERATURE REVIEW

2.1. Introduction

This chapter provides an overview of previous research on funding for sustainable public transport in diverse cities of the world. The chapter explores secondary sources that other researchers have already written on funding sustainable transport. The initial section of the chapter describes the concept of sustainable public transport, followed by current revenue sources for the City of Windhoek’s public transport bus service. Furthermore, the chapter explores the different funding approaches from different cities around the world. The chapter concludes by providing new knowledge on environmental benefits that cities could recoup from sustainable public transport systems.

2.2. Sustainable public transport

Litman (2008) refers to sustainable public transport as a transport system that enables access to goods and services that support equitable development while limiting short and long term adverse consequences for environmental, social and economic services and systems. Dalkmann and Brannigan (2007), also agree with Litman (2008) that a sustainable transport system allows individuals, companies and societies to meet their basic mobility needs in a way that preserves the human and ecosystem healthy, and promotes equity within and between successive generations. Furthermore, Pojani and Stead (2015) proffer that effective public transport is central to the economic growth of developing cities. Pojani and Stead
(2015) point out that for the majority of residents; public bus transport is the only means to access employment, education and public services.

According to CODATU (2009), the world urban sprawl and traffic congestion in cities have generated an ever growing need for urban transportation, which in turn creates demand for collective transportation systems. In the same vein as Dalkmann and Branningan (2007), CODATU (2009) also recognises the importance of public transportation on the role it plays when it comes to energy-saving and low greenhouse gas emissions. It was further stated (CODATU, 2009) that the financing of these systems (operating and investments costs) cannot be covered by income from fares and subsidies alone; other funding sources are necessary. In a wide range of local and national contexts, many original mechanisms have been developed; taxes on employers and business activities, betterment taxes to capture land value increases in areas served by public transport systems, and road infrastructure and parking charges (Dalkmann & Branningan, 2007; CODATU, 2009). These mechanisms are associated with different levels of public institutions, sometimes the urban transport authorities, but also private actors, especially in the context of public private partnerships. Their goal is the continual and efficient development of urban transportation and its sustainable adaptation to the city’s growth (CODATU, 2009).

According to Ubbel, Nijkamp, Verhoef, Potter and Enoch (2001), concerns are more on the financial challenges that are faced in the public transportation sector. Ubbel et al. (2001), argue that the public transport sector receives scarce financing because of the lack of political will to help this sector. Even though some states are firmly committed to the rehabilitation of viable public transport for their citizens, generally speaking, African governments seem to be unaware of the economic collateral effects of public transport disorganisation, thus the priority of budgets is still not given to this important sub-sector (Ubbel et al., 2001). Denmark
Anjali, Mathew and Dalkmann (2013), point out that the fundamental problem in the promotion of sustainable public transport and urban mobility is that many of the solutions to advance this objective do not generate sufficient revenue for themselves to pay for their capital costs or even to pay for all the operating and maintenance costs for the infrastructure and services needed. As a result, advancements in public transport systems and services may typically require a greater on-going contribution from state funding more generally to sustain their operation.

Sakamoto et al. (2010), on other hand are to some extent in agreement with Ubbel et al. (2001) in terms of financial challenges that are experienced in the public transport sector, mostly due to lack of funding. Sakamoto et al. (2010) specifically argue that public transport services in developing countries are informal, inadequate and often dangerous due to lack of investment in formal services. Sakamoto et al. (2010) further proffer that large amounts of resources are spent on costly options such as flyovers, ring roads and urban highways which make driving more attractive and hence create extra traffic congestion. These in turn increase the pressure to build even more infrastructure to accommodate this new demand. Adeniyi, Christof, and Jürgen (2013) also emphasise the need for financing of infrastructure and investments in public and non-motorised transport, institutional development and road maintenance. Furthermore, Adeniyi et al. (2013) relate that since developing countries face severe financial limitations, budgetary considerations should become the starting point of
planning. Available funds, both grants and loans, must be assessed carefully and then spent efficiently and rationally. According to Adeniyi et al. (2013), this means tackling the tendency of policy makers to favour prestige projects and instead convincing them to adopt a sustainability oriented prioritisation of public transport projects. The efficient use of resources comes in the debate as part of the public transport sector components that have been overlooked. Consistent with the emphasis on urban access, resources can be most efficiently used if major transport investment decisions are based upon the performance standard of the least out of pocket government cost per reduced hour of transport delay. In view of the limited government funding, services would be more economically sustainable if they are supported by commercial revenue, a rarity even in the affluent urban areas of the more developed world (Cox, 2012).
Figure 2.1: Three (3) pillars of sustainable transport

**Government sustainability**
Nature of laws, enforcement mechanisms. Flows of public and private resources into sustainable transport

**Safety & environmental sustainability**
- health of future citizens
  - Ambient air quality
  - Emissions factors
  - Public health records on air pollution related diseases
  - Accident and safety data

**Social sustainability**
- equity-
  - Travel times and other measures of access by gender, social class, location of housing
  - Crimes and incidents in public transport system
  - Costs of travel, budgets shares

**Economic sustainability**
- innovation & efficiency-
  - Transport costs in national accounts
  - Fares and fuel costs
  - Financial balance of private and public transport firms
  - Institutional structure of transport industry

Transport system: geographical area, participants, modal split, vehicle kms travelled, and origin to destination survey

*Source: Adeniyi et al. (2013)*
Sustainable transport supports a competitive economy and balanced regional development, and promotes equity within and between successive generations. Environmentally sustainable transport uses resources efficiently, and minimises waste and harmful emissions. It uses renewable resources at below their rates of generation, uses scarce non-renewable resources at below the rates of development of renewable substitutes and limits emissions and waste.

Furthermore, a sustainable public transport system offers affordable access to all people, including those who are physically, economically and socially disadvantaged, while operating and pricing services to foster efficiency and quality, taking into account requirements for investments in capacity and the need for maintenance and rehabilitation (Ubbel et al., 2001). Hence public transport needs to be subsidized in order to address social equity. Many residents such as the disabled, elderly and the low and middle income earners largely depend on this service and they will benefit if it is subsidized (Ubbel et al., 2001).

Moreover, MWT (2012), reveals that the inadequate and inappropriate urban transport financial arrangements within the City of Windhoek are largely responsible for the worsening of the city’s public transport bus service. For a public transport to be financed sustainably, its revenues should be balanced with the expenditures or when at least the income exceeds spending.

2.3. Funding approaches
Funding for urban public transport should ideally depend on funding from several sources and this involves various partners, both public and private. Different funding approaches worldwide are discussed below.

2.3.1. State funding

Central governments, regardless of their political and administration organisation, remain key role players in funding public transport directly or through financial institutions. The central government channel funds into the budget of local authorities in different ways namely: global allocation, equipment subsidies and proceeds from certain taxes (Anjali et al., 2013). Governments participate directly in the funding of certain projects in partnership with other public players, towns or regions, either in specific projects or in global urban public transport projects when a transport authority is responsible for management. Central government funding always takes the form of an annual budget, the value of which depends on the requests made by the different ministries.

Adeniyi et al. (2013), state that domestic funding is still the major source of transport investments in developing countries. Millions of dollars, often a quite substantial part of overall national budgets are spent each year predominantly for the construction of infrastructure and maintenance.

According to OECD (2012), mapping support for Africa's infrastructure investments, transport infrastructure investments in almost all African countries are underfunded. On average, only 50% of the investments needed are covered by domestic sources. Considering the need to invest in fields of sustainable transport infrastructure, the amount needed in reality is much higher.
State subsidies for public transport in urban cities are necessary, particularly when the use of most cost effective public transport services is promoted (Swanepoel, 2009). Swanepoel (2009) explains that state subsidies are an effective instrument in the promotion of a more efficient and overall effective public transport system.

2.3.1.1. Taxes on the use of private vehicles

Private vehicle users can pay various taxes such as; taxes at the time of purchasing the vehicle, on its usage, carbon emission (pollution), the recycling of the vehicle and also fuel tax. In countries such as the United States of America, Australia and Canada, where these constitute a lasting source of funding, funds from taxes are pre-allocated to the transport sector, specifically to urban public transport systems. In Namibia, Windhoek has the highest population of private cars in the country (MWT, 2012), yet no tax for the use of private cars is collected to fund public transport in Windhoek.

2.3.1.2. Fuel levies

Litman (2016), states that fuel taxes can be collected in a jurisdiction to fund public transport. Litman (2016) points out that in some countries, a portion of existing fuel tax revenue is dedicated to public transit (transport) programmes without increasing fuel tax rates. According to the City of Cape Town, MyCiTi Business Plan (2015), the South African government allocated an amount of R2003 million from nationally collected fuel levy to the MyCiTi public transport system project during the year 2015.

Sakamoto et al. (2010)’s views which relate to the example of the South African government above, further explain that there are ways in which revenue raised at national level can be redirected for use at local level. Sakamoto et al. (2016) give an example of the
implementation of local fuel tax surcharge, whereby a city can surcharge on the national fuel tax (an enabling legislative framework and institutional capacity should be in place for this approach to be effective), or through redistribution, where the central government gives a proportion of revenues to local levels.

According to CODATU (2009), in Columbian cities, a 20% surcharge is collected from the sale of fuel. Half of the money generated is used to construct infrastructure required for Bogota’s Public Transport System, TransMilenio. In this way, private vehicles owners account for 19% of the population, which finance about one third of the infrastructure for public transport system.

2.3.1.3. International state funding approaches in different countries (cities) for public transport projects

a) Funding frameworks for public transport capital and operating expenditure in South Africa

A commission of inquiry into urban transport facilities in South Africa made recommendations on the planning, provision and financing of urban transport facilities in metropolitan areas. The commission recommended a subsidy of 20% on revenue for all public urban bus services which were not already subsidised and recommended that these subsidies be financed through an Urban Transport Fund and a central Consolidated Fund (Behrens, 2016).

Behrens (2016) explains that South Africa passed a law in 2009 (the Division of Revenue Act, Act 12 of 2009) that enabled the Department of Treasury to take control of the road based public transport subsidy budget. The Act required a ticket subsidy system to be
converted to a km-based system so that expenses can be controlled through a limitation on kilometres operated. South African provinces had to agree with bus operators to convert from the ticket based to km-based contracts as well as to cap their overall subsidy claims in terms of the Act. The Act is a legal mechanism used by the South African government to ensure that funds are spent where they are supposed to be spent and to limit expenses.

- State funding of MyCiTi public bus system in Cape Town

  The City of Cape Town Business Plan (2012) states three main sources of funding for the MyCiTi public bus system as follows:
  a) National government’s Public Transport Infrastructure and Systems Grant (PTISG)
  b) System revenue, including fares and advertising revenues
  c) The City’s own contributions, mainly for the funding of associated operating costs

According to the City of Cape Town’s Business Plan (2012), the PTISG is a national grant, a Strategic Goal to support the National Land Transport Act (No. 5 of 2009) and Public Transport Strategy (PTS) and Action Plan in promoting the provision of accessible, reliable and affordable integrated public transport services (Division of Revenue Act 2012).

Moreover, the PTISG was intended to support capital investment and related implementation costs, such as planning costs and costs related to the transitioning of the industry from the old to the new system. The PTISG Grant Framework as set out in the Division of Revenue Act (Act 5 of 2012) includes public transport infrastructure, public transport services and plans. However, as the cost of running associated operations became evident, the scope of the grant was extended to allow it to be used for such costs (CCT, 2012).
In 2015, the City of Cape Town developed another business plan, ‘MyCiTi Business Plan 2015 Update’, which is based on improved efficiencies resulting from moderation exercises. According to the Business Plan, the City of Cape Town receives state funding through the Public Transport Network Grant (PTNG) for Network Operations Component as set out in the Division of Revenue Bill of 2015.

The City of Windhoek currently does not receive any funding in the form of Public Transport Infrastructure and Systems Grants or Public Transport Network Operating Grant, as the central government does not have these instruments in place nor has it made any provision thereof.

**Table 2.1**: National government spending on different modes of public transport in South African Metropolitan cities

<table>
<thead>
<tr>
<th>Public Transport mode</th>
<th>Public Transport users in 2013 in South Africa’s metropolitan cities</th>
<th>National government spending on public transport 2006/07-2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Rail</td>
<td>823 000</td>
<td>17.5%</td>
</tr>
<tr>
<td>Bus</td>
<td>768 000</td>
<td>16.3%</td>
</tr>
<tr>
<td>Taxi</td>
<td>3 110 000</td>
<td>66.2%</td>
</tr>
<tr>
<td>Total</td>
<td>4 701 000</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Source: Presentation on Public Transport Policy and Regulation by Philip van Ryneveld, University of Cape Town, August 2016*

The table 2.1 above indicates that the majority of public transport users in South African Metropolitan Cities use Taxis compared to public bus transport which is at third place with
768 000 users after rail transport with 823 000. However, public transport bus service received the second highest of national government subsidy of 37.4% after rail transport which received 60.5%. The goal for high subsidies to public bus transport and rail is to encourage more people to shift to these modes as they have a high carrying capacity compared to taxis; they are safe, reduce congestion and contribute to clean green cities.

- Operating subsidies for public transport in South African cities

Operating costs constitute a heavy financial burden which has to be taken into consideration to ensure the long-term survival of a public transport system. The operating costs depend on the public transport mode chosen, however the key is to establish a long-term sustainable funding condition both for investments (infrastructure and rolling stock) and the operations (maintenance and replacement).

Table 2.2: Operating subsidy for public transport in South African cities

<table>
<thead>
<tr>
<th>Mode</th>
<th>Operating subsidy per passenger trip</th>
<th>Fare box recovery rates as % of operating costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal bus services</td>
<td>R16.75- R24.36</td>
<td>13% -31%</td>
</tr>
<tr>
<td>Conventional bus services</td>
<td>R11.40 – R16.89</td>
<td>31% -44%</td>
</tr>
<tr>
<td>Bus Rapid transport (BRT)</td>
<td>R11.76 – R15.12</td>
<td>28% to 44%</td>
</tr>
<tr>
<td>Minibus taxis</td>
<td>R0.00</td>
<td>100%</td>
</tr>
<tr>
<td>Gautrain</td>
<td>R60.03</td>
<td>57%</td>
</tr>
<tr>
<td>PRASA Metrorail</td>
<td>R3.73</td>
<td>39%</td>
</tr>
</tbody>
</table>

Source: Presentation on Public Transport Policy and Regulation by Philip van Ryneveld, University of Cape Town, August 2016
According to CODATU (2009), the central government should remain the key role player in the funding of projects on urban public transport, and if new sources of funding are to be introduced that may require changes to regulations or the introduction of new laws. Wang (2013) echoes the views by like CODATU (2009), agreeing that government subsidies from various levels of the government are required to fund public transport capital and operating projects to fulfil environmental and social requirements.

b) State funding approaches in Brazil

According to CODATU (2009), the Ministry of Cities funds urban transport through three programmes namely:

1. Urban Mobility Programme which supplements funding from Municipalities and federal states. The programme receives government funds and aims to promote coordination of transport, traffic and accessibility policies. It prioritises public transport systems, non-motorised transport and accessibility.

2. The second programme is the Pro-Transporte with funds from the workers retirement fund. This programme targets cities situated in the country’s poorest regions. It provides funds for engineering studies, public transport investments. Thirdly, is the PRO-MOB programme for the funding of infrastructure for public urban mobility. The programme is managed by the national bank for economic and social development and it is open to municipalities and promotes work which favours the introduction of public transport projects to depressed urban areas.

2.3.2. Local funding

2.3.2.1. Local taxes
Over the past 20 years, decentralisation has been a global trend which has allowed towns and cities to become key players in the urban public transport sector to different degrees, depending on the country: from management of traffic to defining and the implementation of an urban public transport policy. The transfer of responsibilities to local authorities through decentralisation rarely comes with sufficient level of financial support. It is therefore up to the towns and cities to find new forms of finance, such as local taxes which generally rest on the town or city’s economic activity, but which do allow them to cover all public service needs.

To leverage their own finances and funding from international sources, national governments could tap into local funding and explore other innovative sources which can include:

- Land value tax
- User fees (bus fares)
- Collection of fuel pricing and reduction of subsidies

Raising the above local funding sources is an important opportunity that national governments can pursue to fund sustainable public transport projects demanded by local areas and in return this would create greater local support as well as buy-in and commitment to projects.

The City of Windhoek does not currently have any local tax scheme that collects taxes or fees to fund public transport projects directly. Olsen, Ericksen, Fearnley and Longwa (2011) argue that the construction of local taxes can raise political or cultural barriers to implementation, hence, one should specify what type of public transport project the fees collected are funding, or one can provide specific compensation for the taxes introduced.

2.3.2.2. Land value tax
The development of public transport infrastructure gives rise to an increase in the value of the land and building properties served in a particular area. CODATU (2009), states that when a metro system was built in Helsinki-Finland, the price increase of apartments was inversely proportional to the distance from the metro station within a radius of 750 metres, with a particularly high level between 250 and 500 metres. The value uplift of the 81,000 buildings less than a kilometre away was estimated at between U$550 and U$670 million. Equally, there are negative impacts to building properties that are closer to public transport infrastructure such as pollution, noise and an increase in traffic congestion. But in the case of Helsinki, areas that are not served by public transport have dropped in property value, hence the proximity to a public transport corridor increases businesses for local shops and services while increasing productivity and reducing costs for consumers (CODATU, 2009).

Land value tax is another source that can be used to fund public transport infrastructure and services. In this funding scheme, the revenues that can be raised from all land uses in a specified area by charging each land owner in relation to the benefit that they will receive from increases in the land value that result from enhanced transport provisions in the vicinity, reflecting the potential for businesses to receive more customers, reduced transport costs and enhanced efficiency through accessibility improvements. Land value tax collection involves periodic valuation of all properties in the city whereby the basis of taxation is the optimum permitted use and not the current state of the site. This means that all existing improvements are ignored. Periodic revaluations have to ensure that any rises or falls in land prices would be reflected in taxable value. In this funding stream, each land owner is then charged a tax, calculated as a certain percentage of the current market price. As the land value rises and so does the tax collected Sakamoto et al. (2010).
The City of Cape Town’s MyCiTi Business Plan (2015) update states that the city’s two main sources of general revenue are property rates and a share of the nationally collected fuel levy. In the budget for the 2014/2015 Financial Year, the estimate for these revenue sources was as follows:

**Table 2.3:** Other contributions and sources of revenue from City of Cape Town during the period 2014/15 financial year

<table>
<thead>
<tr>
<th>Sources of revenue</th>
<th>Revenue (in million R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property rates</td>
<td>R 5 931 million</td>
</tr>
<tr>
<td>Share of nationally collected Fuel Levy allocated to the City</td>
<td>R 2 003 million</td>
</tr>
</tbody>
</table>

*Source: MyCiTi Business Plan 2015 Update – City of Cape Town*

According to the MyCiTi Business Plan (2015), R5 931 million represented a one percent of property rates income from the City of Cape Town. In 2012, the City of Cape Town agreed that it would be prepared, and could at most afford, to contribute up to the equivalent of 4% of property rates income to MyCiTi operating costs.

### 2.3.2.3. Bus fares

According to CODATU (2009), fares are the primary sources of funding for public transport on an operational level. Depending on modes of public transport and the manner in which these modes are organised, the fare may or may not cover all the operating costs. Fare prices are guided by the need to fund public transport at a cost which is socially acceptable to the local authority, municipality and users and which does not penalise the neediest segment of the population. It was further indicated in CODATU (2009) that if spending on public transport is more than 15% of a household’s income, the public transport system would lose its appeal. Furthermore, MWT (2012) point out that on average, the low income earners in
Windhoek spend 24% of their disposable income on transport. Furthermore, 52% of low income earners in Windhoek can hardly afford public transport, as it will require more than half of their monthly income.

The City of Windhoek sets the fare for its public transport bus service. The fare is NAD 5 per trip for Smart card users and if a commuter is paying in cash, the fare is fixed at NAD 6 no matter where the destination is. Fare levels must be set carefully to avoid the negative impacts upon overall patronage (and resulting in revenue loss) as well as the impacts for vulnerable users such as the urban poor who are unlikely to have alternative travel choices.

Pegasys (2016) explains that the City of Windhoek’s public bus service requires at least NAD 2, 82 billion for the next 7 years (2016-2022), of which NAD1,23 billion is needed for capital projects and NAD 1,59 billion to cover operational costs. Approximately NAD 955 million could be covered by fare revenue but a funding gap of NAD 1, 86 billion still exists. The funds are needed to replace the ageing fleet of the City of Windhoek public bus service of which 60% of the buses have already passed their economic life span. Because of the ageing buses, the City of Windhoek public bus service is only available during certain times of the day and therefore they are not readily accessible to the commuting public throughout the day as in most other cities.

Furthermore, there are no interchanges and the present bus fleet cannot satisfy peak hour demands. The operations and maintenance of the bus fleet are also a challenge due to the poor conditions of the buses most of which are old and have become unreliable. Urban public transport requires subsidies to become financially viable in order to cover large capital costs associated with public transport infrastructures such as creating dedicated bus lanes in
the city and the construction of proper bus interchange terminals, and operational costs to cover for salaries and wages for more bus drivers.

An acceptable fare should be examined on the basis of indices of what the poorest groups of people can pay by comparing the cost of daily return trips with minimum household income. Furthermore, as a strategic approach to funding, there is a need to consider the elasticity of demand in an economic and sociological context. A high fare could therefore create a factor of social exclusion as it would not allow the poorest in society to easily access the job market or public services such as health and education which are located in city centres.

2.3.2.4. Parking charges

Christman (2013) explains that parking fees create an incentive for more commuters to opt for public transport, thus raising the fare the system collects, and this subsidises those who choose not to bring their cars into congested areas. The City of Windhoek collects charges from parking spaces that belong to the Council but there are no arrangements to monitor that the money collected is allocated solely to the improvement of public transport projects in the city.

2.3.2.5. Advertising

According to the City of Cape Town Business Plan (2012), the City identified the sale of advertising space on its MyCiTi public transport infrastructure as a source of revenue for the Integrated Rapid Transit (IRT) System. The city has run a tender process which has resulted in awarding the advertising contract to an outdoor media company to act as its agent for marketing and managing advertising on IRT public transport infrastructure. The contractor is responsible in addition, for the maintenance and cleaning of MyCiTi bus stops, funded from
such sale of advertising, at no cost to the city. The city also provides the advertising contractor with a monthly inventory of available sites including additional opportunities identified by the advertising contractor. The inventory is used as a basis for the advertising contractor paying the city 60% of the space, whether advertising is sold or not. For the remaining 40% of the space, the Contractor will only pay if it has sold the space.

The Annual Report for the City of Windhoek’s Public Transport Division for the financial year 2014/2015 indicates that the source of income constitutes of ticket sales (bus fares) and bus hires, and not advertising. Hence the City of Windhoek can use advertising on its public transport infrastructures and buses to generate revenue to fill gaps in funding. Furthermore, the City of Windhoek has a total of one hundred and sixty (160) bus stops along its entire bus route network according to the MWT (2012). Out of a hundred and sixty (160) bus stops, only 8% have shelters in both directions while 47% have shelters in one direction and 44.8% have no shelters at all. Of course not every bus stop is required to have a shelter depending on its location and size in the bus network but the City of Windhoek can tap into opportunities with private companies to supply bus shelters and manage advertising spaces on them.

Litman (2016) states that most transit agencies (public transport agencies) collect revenue from transit vehicles, stops and stations through advertising. Litman (2016) further reasons that although expanding transit services and increasing transit ridership should allow more advertising, even doubling or tripling of revenue, this would provide relatively small additional revenue.

2.3.2.6. Public Private Partnership (PPPs)
A Public Private Partnership (PPP) is a contractual agreement between a public sector and a private sector party to secure funding for construction, modernisation, operation and maintenance of a project and the delivery of a service that traditionally was provided by the public sector (Sakamoto et al., 2010). Similarly, the World Bank (2015) describes public-private partnership as a long term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.

It is becoming increasingly clear that governments cannot meet the growing demand for services by acting alone and that there is indeed a need to look for support from other employers within society to contribute towards service delivery. However, since basic services are public goods and since markets fail to provide such services equitably, the primary responsibility and accountability for their delivery remains with the state.

Urban growth in the capital city of Namibia since independence in 1990 has outstripped the City of Windhoek’s ability to cope with the growing demand for the most basic and essential public services such as sanitation, water and waste. Therefore, the City of Windhoek has used PPP approaches and introduced various projects mainly in waste collection and servicing of land to alleviate the problems experienced by the residents. The implementation of these projects by the City of Windhoek has created a favourable environment for the rendering of defendable and suitable services and ensured economic empowerment within the various communities of the city.

The PPP approach has also led not only to the creation of new jobs but it has also contributed towards sustainable community development. The creation of an entrepreneurial culture
amongst the newly established entrepreneurs has created an understanding that none or under performance in service delivery will result in the cancellation of the contracts.

i. As far as the human mobility and habitat is concerned, the following legal instruments make provisions for dealings relating to Public-Private Partnerships

- The Local Authorities Act, 1992 (Act No. 23 of 1992) as amended;
- The Regional Councils Act, 1992 (Act No. 22 of 1992);
- The Decentralisation Enabling Act, 2000 (Act No. 23 of 2000);
- The Trust Fund for Regional Development and Equity provisions Act, 2000 (Act No. 22 of 2000);
- The Nature Conservation Ordinance, 1975 (Ordinance No. 4 of 1975);
- The National Environmental Health Policy of March 2003; and

Each of these current or pending laws has implications for PPPs in Namibia. The law currently prescribes two mechanisms for establishing PPPs. These two mechanisms are joint business ventures and/or commercialisation of services, functions and duties. Currently the preferred mechanisms for PPPs in Namibia are the entering into a joint business venture by a local authority council or regional council. This arrangement implies that a local authority or a regional council in Namibia may enter into a joint business venture by taking up shares in an existing registered company or a company to be registered in terms of the Companies Act, 2004 (Act No 28 of 2004) or by accepting the position of beneficiary of a trust established or entering into an agreement with the government, a ministry, a regional council, another local authority council, a public enterprise or an NGO relating to the joint or business venture.
ADB (2011), underlines that PPPs in urban transport offer various advantages to all stakeholders in the sector. ADB (2011) further emphasises that the public sector tends to benefit from private innovation, sharing of responsibilities and risks, and importantly more public resources can be set aside for other development priorities. The private sector benefits from opportunities to make profit while consumers are set for better quality and more accessible public transport services.

In the same line of thought like ADB (2011), the World Bank (2015) also proffers that public private partnerships are often regarded as an effective way for local authorities to finance transport infrastructure. This is essentially due to the fact that they combine the security and political commitment of government with the expertise and financing of the private sector. PPP agreements are considered by the public sectors to be better value for money than buying the assets and being responsible to running and maintaining it.

ii. Types of common PPP models

I. Design and Build Model

This model is mainly used in the funding of infrastructure projects. A construction project is put on tender and a private contractor is selected through a competitive bidding process. The infrastructure is then planned and constructed based on a fixed fee. The contractor will then take on the risk involved in the design and construction of the project.

II. Build-Operate-transfer (BOT) Model

This partnership is formed when the private sector builds and operates the infrastructure and associated services for a fixed period of time after which ownership reverts back to the public sector. The model has the impact of transferring risks to the private sector whilst the public
sector retains ultimate ownership. The public sector stipulates basic requirements of service provision in the agreement.

III. Build-Own-Operate (BOO) or Design-Build Finance-Operate (DBFO) Model

In this partnership model, the private sector builds or designs a complete project or facility at little or no cost to the government (public sector), owns and operates the facility as a business for a specified period, usually 10 to 30 years, then transfers it to government at a previously agreed upon market price. The BOO model allows public sector customers to focus on their core business while the private sector contractor takes responsibility for the design and operation of the infrastructure. A revenue stream is a condition in this partnership agreement and it includes guarantee on the quantity, quality and costs. Generally this model aims at transferring the risks associated with major infrastructure projects to the private sector while promoting innovation in technical matters, financing and commercial arrangements.

ADB (2011) and World Bank (2015) further posit that public transport bus operations should ideally be done by private firms, in a well-regulated market, under competitive terms. Surveys show that general private-public bus operators are considerably more efficient than public operators. ADB (2011) further argues that the PPPs should involve the public bus operator agreeing to increase service standards, for example, investing in new buses, enhancing frequency levels and undertaking bus drivers training. The local authority should agree to invest in public transport bus priority measures, for example dedicated bus lanes, real-time passengers’ information systems and to restrict private car access to areas where bus services are provided.

Munya (2010), on the other hand highlights that financing of transportation infrastructure is a major problem in Sub-Saharan Africa. Munya (2010) emphasises that when developing
countries are considering delivery of transportation infrastructure, they ought to critically consider PPP as an alternative avenue. Munya (2010) concludes that there are advantages and disadvantages associated with PPPs as outlined below.

A. Advantages of PPPs agreements

- Tapping new money for infrastructure
- Cost savings
- PPPs spur innovation
- PPPs shorten project delivery with several years
- Transfer of supply and risk demand to the private sector

B. Disadvantages of PPPs agreements

- Lack of accountability to the public especially during the planning process
- Toll facilities might be too expensive if operated by the private sector
- Limit public sector’s ability to construct competing facilities
- May interfere with system wide planning
- The private contractor may go bankrupt, passing the whole risk back to the public sector since it effectively underwrites the investment
- The cost of the PPP scheme will rise over a long period, but there is no guarantee that the government will have the necessary funds to keep the agreed commitments

Meakin (2004) on the other hand also relates that engaging the private sector through Public Private Partnerships (PPPs) is another way to leverage the public sector and international financing for sustainable transport to achieve greater scale and impact. Equally, state funding alone cannot fulfil the vast infrastructure needs in the public transport sector. A need exists to
attract private sector financing by ensuring a viable regulatory and legal environment, appropriate design and structure of markets, and long-term incentives for private investment. Public Private Partnerships utilise governance advantages of the public sector and the operational efficiency, as well as developing innovative technology and managerial effectiveness of the private sector to deliver higher levels of service in a cost-effective way. Applying PPP methods for investment and the operation of public transport systems allows the public sector to assume and ease social, environmental as well as political risks, while the private sector assumes financing, construction and commercial risks.

2.4. Sustainable public transport contributes to green cities

In cities with developed public transport systems, most passenger trips are made with public transport vehicles such as buses or by non-motorised public transport like dedicated pedestrian and cycling lines. Furthermore, a sustainable public transport uses new technologies of hybrid buses and electric buses powered by solar energy that produces less carbon emissions into the air.

Climate protection is important in developing countries. According to OECD (2011), 80% of greenhouse gases will come from developing countries in the next 10 years. The need to develop societies and economies in Africa that are less dependent on private cars and road freight is crucial. Recognition of the low-carbon transport sector in donor funding will contribute to the environmental sustainability of projects and programmes.

As recent climate finance mechanisms were not applicable for the vast majority of transport projects, the donor community should identify new instruments in order to include transport in climate finance schemes (OECD, 2012).
CHAPTER THREE
RESEARCH METHODOLOGY

3. METHODOLOGY

3.1. Introduction

This chapter describes the methodology used in the research study. It begins by describing the research design, the population and sample of the study, research instruments and the procedure followed during data collection and analysis process. The chapter concludes with an outline of research ethics applied in the study.

3.2. Research design

The study adopted a qualitative research design to examine the findings and come up with conclusions and recommendations to implement regarding factors affecting the need for funding for a sustainable public bus service of the City of Windhoek. ‘Qualitative research aims to produce new knowledge about how things work in real life context’ (Ericksson & Kovalainen, 2008). It is further stated by the Ericksson and Kovalainen (2008) that like quantitative business research, qualitative research also relies on several methods of data collection and analysis.
The study asked respondents to react to the structured questions by means of guided interviews. For this type of research to be successful, the number of respondents was drawn from a large number to make sure that they are a representative sample of the targeted population.

3.3. Population

Mcmillan (1996) defines the population as a group of elements or cases, individuals, objects or events that conform to specific criteria. In this study, the researcher used a population of forty two (42) members drawn from seven committees that are responsible for steering the Sustainable Urban Transport Master Plan for Windhoek. The committees are comprised of diverse members from government ministries, the City of Windhoek, non-governmental organisations and other local authorities in the surroundings of the City of Windhoek. Each committee is comprised of six members who translate into forty two (42) members of the population.

3.4. Sample

According to Lynch (2011) a sample is a proportion or subset of a larger group called population. The Sustainable Urban Transport Master Plan consists of seven committees comprising of a chairperson each. The study used non probability sampling approach to take a sample of seven respondents. The respondents are the chairpersons of the sustainable urban transport master plan from government ministries, the City of Windhoek and a non-governmental organisation.
3.5. Procedure

The researcher used questionnaires to collect primary data. The questionnaire comprised of a mixture of open-ended and closed-ended questions which were completed by respondents. Secondary data were collected from available published documents such as the City of Windhoek’s Public Transport Division Annual Report.

3.6. Research instruments

The researcher used questionnaires to collect data from respondents. Warwick (1975) indicates that the methods chosen for data collection should provide high accuracy and convenience for obtaining data from the respondents. Zohrabi (2013) posits that questionnaires are one of the efficient instruments of collecting data on a large scale basis. Interviews with the committee chairpersons were carried out to collect information on the need for funding for a sustainable public bus service of the City of Windhoek. The following comprised instruments that were employed for collecting data; structured questionnaire, face to face interview and documentary analysis.

3.7. Data analysis

Carbone (2013) explains that there are two approaches to data research analysis, inductive and deductive approaches. According to Gabriel, the deductive approach is aimed at testing theory whilst inductive is concerned with the generation of new theory emerging from the data. Data analysis in this study followed an inductive method with a deductive orientation. Furthermore, data collected from respondents are organised, analysed and interpreted question by question. The researcher used graphs, charts and tabular format to present data.
3.8. Research ethics

According to Resnik (2011), it is important for a researcher to adhere to ethical norms in the research study; ethical norms promote the aims of the research, such as knowledge, truth and avoidance or error, and ethics helps to ensure that the researcher can be held accountable to the public.

The researcher sought consent from all participating organisations and individuals. Furthermore, participating organisations and individuals were informed that no names and other private details (cell phone, identity numbers and residential address) of the respondents would be disclosed on the questionnaires. Likewise, information obtained from respondents through questionnaires and personal interviews will be treated with confidentiality, and will be locked in a safe cabinet and disposed of within a period of time after the data has been captured and analysed.
CHAPTER FOUR
RESULTS AND DISCUSSION

4. RESULTS AND DISCUSSION

4.1. Introduction

This chapter presents data collected from chairpersons of various committees of the Sustainable Urban Transport Master Plan in response to the researcher’s questionnaire which was mainly aimed to assess the need for funding for sustainable public bus service of the City of Windhoek. The research questionnaire was divided into three sections with the first section collecting background information of the respondents whilst the last two sections focused on the research objectives which were:

- To ascertain other potential revenue streams that the City of Windhoek can use to provide a sustainable public bus service.
- To explore existing best practices of funding strategies in the sustainable public transport system of the City of Windhoek
4.2. Data presentation

Respondents represented various institutions that are key stakeholders to the matters of public transportation in Windhoek. Table 9 below shows that the Sustainable Urban Transport Master Plan committee members are drawn from four institutions, namely GIZ, City of Windhoek, Ministry of Urban and Rural Development and Ministry of Works and Transportation. It also shows that committee membership is comprised of individuals holding positions ranging from Senior Transport Planner, Senior Development Planner, Transport Technical Advisor, Economist, Director, Deputy Director as well as Head of Passengers and Transport Regulations.

Table 4.1: Biographical information of respondents

<table>
<thead>
<tr>
<th>Institution</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIZ</td>
<td>Technical Advisor - Transport</td>
</tr>
<tr>
<td>Ministry of Urban Planning and Rural Development</td>
<td>Senior Development Planner</td>
</tr>
<tr>
<td>City of Windhoek</td>
<td>Head of Passenger Transport Regulations</td>
</tr>
<tr>
<td></td>
<td>Senior Transport Planner</td>
</tr>
<tr>
<td>Ministry of Works and Transport</td>
<td>Economist</td>
</tr>
<tr>
<td></td>
<td>Deputy Director: Transportation Regulation</td>
</tr>
<tr>
<td></td>
<td>Director: Transportation</td>
</tr>
</tbody>
</table>

4.3. The investigation and analysis

Figure 4.1: Where does the City of Windhoek currently get finances to fund the public bus services
Figure 4.1 tells where the City of Windhoek obtains funds for its public bus services. Thirty one percent of the respondents pointed out that the City of Windhoek gets its funding from local bus fares; while 25% of the respondents believe that the central government provides funding for the city’s bus service, supplemented by international donor funding and levies from local taxes as indicated by 19% of the respondents. Furthermore, the data revealed that 19% of the respondents indicated that the City of Windhoek bus service is funded from local taxes, whereas 6% indicated advertising.

**Figure 4.2:** What are the current funding sources for the public bus transport operating costs?

The findings in figure 4.2 above reveal that most funds for bus operations are perceived to be generated from local fares as indicated by 43% of the respondents. Twenty nine percent of
the respondents indicated that other sources of funds that contribute to the operations for public bus comes from the government. Furthermore, 14% of the respondents indicated that funds for bus operations come from contributions by international donors while the remaining 14% of the respondents observed that additional sources of funds for bus operations come from advertising. Bus operations involve running costs such as fuel, maintenance of buses, wear and tear of parts and other road worthiness compliances. Bus operations also involve operational costs for salaries and wages for bus drivers and technical staff, and operating systems such as the Automated Fare Collection System and Scheduling System.

**Figure 4.3: Sources of funding for capital improvement**

As figure 4.3 depicts, the City of Windhoek mostly relies on international donors when it acquires its new buses. At the moment, international donors are assumed to top up a high ratio as 38% of the respondents revealed. However, 25% of the respondents believe that the government contributes funding for capital improvements, whereas 19% of the respondents indicated local taxes as the source of funding for capital improvements for the bus service. The results of the 19% is supported by literature in the previous chapter that the City of Windhoek’s bus service is funded by money collected from local taxes charged from residents for municipal service. Twelve percent of the respondents said bus fares are the source of funding for capital improvements to the City of Windhoek’s bus service.
Over the past ten years, three of the respondents indicated that there was no increase in funding received for the improvement of public transport in the City of Windhoek. The remaining five respondents, two pointed out that there was little change while a similar number also observed a major change in the funding. The above outcome of results could be attributed to various factors such as the lack of political will from the central government to support the City of Windhoek with funding. The absence of a Public Transport Policy that could provide guidance and priority in terms of funding of public transport activities could be another factor. Priority is given to other pressing issues such as housing and health service provision at central government level. Wang (2013) argues that public transport is not profitable due to large capital costs, continuous expenses, and the nature of public services. Wang (2013) emphasises that government subsidies are required to fund capital and operating projects. The above results do not show commitment by the government which as per literature is expected to play a key role in terms of funding of public transport activities.
As identified in figure 4.5, the lack of political will and lack of PPP agreements designed to fund public transport projects in the City of Windhoek top the list of challenges identified that are presently absent in order to achieve sufficient funding for public transportation. Out of seven respondents, six indicated that lack of political will and the absence of PPP agreements are the main challenges. The above results are supported by Denmark (2016), who states that cities across the world experience more congestion and decreased mobility of people because of lack of synergies between political visions and plans.

Denmark (2016) further explains that political visions guide cities’ development by setting ambitious goals, followed by plans, strategies and assessments. The findings also revealed the lack of a public transportation policy as another challenge in obtaining funding for public bus transportation of the City of Windhoek. Other challenges that were mentioned but lowly rated are shortage of financial capacity, competing of other national priorities and lack of technical capacity.

**Figure 4.6:** Public transport policy
Figure 4.6 shows an overwhelming need for a public transport policy for the City of Windhoek. All respondents indicated a great need for the city’s own public transport policy.
Respondents were asked whether plans for capital improvement are being hindered due to lack of funding and how it limits such plans, and 83% of the respondents agreed that funding availability plays a big role in deterring the plans to improve capital projects for the city’s public transport bus services. The above results relate to Pegasys (2016) who proffers that the public bus service of the City of Windhoek is inadequate and ineffective due to old buses that are not replaced. It was further stated that insufficient public bus services among others result from lack of funding and this is impacting on Windhoek residents’ daily lives in different ways, for instance in getting to and from work or being able to access essential services such as health and education.
Figure 4.8: Other potential revenue streams

Figure 4.8 shows that marketing and advertisements as well as Public Private Partnership agreements make the most listed as other potential sources of revenue for the City of Windhoek. The outcome by four (4) out of seven (7) respondents who indicated that PPPs could be potential sources of revenue for the City of Windhoek public bus transport system are supported by the view of Shakti (2016), who states that cities could undertake steps to improve mobility and revenue for public bus operations through PPPs. Shakti (2016) argues that common PPP agreements on public bus operations require the public sector to take responsibility of planning, designing, identifying routes, fixing of fares and the overall monitoring of the project, while the private sector provides bus services within the city in accordance with a fleet deployment plan on specified routes and frequency. In the order of listing, donor funds are also considered as the main source of revenue streams followed by fuel levies and parking charges. Although only one respondent highlighted fuel levy as a potential source of revenue, literature suggests different. According to Ardila and Ortegon (2013), fuel taxes earmarked for use in the public transport system are the way to begin with. Ardila and Ortegon (2013) emphasise that fuel taxes are stable sources of revenue with low administration costs and they promotes efficiency and equity, and help achieve environmental goals.
Figure 4.9: The role the City of Windhoek public bus services play in the society and in the city’s economy

The results indicated above reveal that of all other benefits gained from the City of Windhoek’s public transport bus services, mobility and freedom make the most benefits appreciated. Others greatly ranked public bus roles are namely giving users transportation options and more buses are said to reduce congestion on the road.

The city’s public bus services are also known to play other roles such as saving money, they are considered to be safe to travel in compared to small vehicles because of low speed and less accidents and injuries. The data further indicated that the public bus service contributes less to environmental air pollution in the City of Windhoek.
**Figure 4.10:** Does the national government need to finance and support the city’s public bus services?

The statistics above relate to the question whether the national government needs to fund and support the City of Windhoek’s public transport bus services. All seven (7) respondents agreed that the national government should be one of the leading sources of funding to the public transport bus service of the City of Windhoek.

**Figure 4.11:** What type of financing does City of Windhoek need to realize a sustainable public transport system?

Figure 4.11 shows how respondents listed various sources of financing that could secure sustainable public transportation. State or national government funding followed by PPPs agreements are considered as major financing sources to ensure sustainable public
transportation as compared to other listed funding sources. Other sources that were put forth for sustainable public transportation are advertising on buses, local levies, parking charges, donor funding and bus fares.

**Figure 4.12:** How much of the city’s budget goes to fund sustainable public transportation development?

From Figure 4.12, it is clear that only between 0 – 10 percent of the City of Windhoek budget is allocated for sustainable transportation development as indicated by 86% of the respondents. The result of the 86% of the respondents indicate that it is because of the little budget allocation that the public bus service of the City of Windhoek is inadequate and ineffective to meet user needs. Fourteen (14%) of the respondents indicated that public transport development receives about 11 - 20 percent of the City of Windhoek budget.
Figure 4.13: Has the usage of public transport bus service increased or decreased in the last 10 years?

![Pie chart showing 57% increased, 29% neither, 14% decreased](image)

The findings in figure 4.13 above indicate that 57% of the respondents pointed out that there has been an increase in the usage and support of public transportation over the past ten years. However, 29% of respondents indicated that there was no change, while 14% noted a decrease in the support and patronage.

Figure 4.14: What effect does the increase in usage (ridership) of public bus transportation have on the users and economy of the city of Windhoek?

![Bar chart showing effects of high ridership](image)

The increase in usage and support of the public bus services is noted to have a number of impacts on the consumers and the businesses at large. The most stated effect caused by the increase is a longer travel times experienced by the passengers. Longer travel times could be elicited by the limited buses to transport passengers and the increase in private means of
transportation, causing congestion on the city roads. When a public transport bus service is inadequate, people will resort to buying private cars, resulting in congestion and longer travel time. Likewise, this results in slow business productivity which could be due to employees not arriving on time at work as well as the cost of congestion on the road. The findings further revealed that the city’s competitiveness is damaged when the support and usage of public bus transport increased yet the service is lacking mainly due to ageing vehicles and infrastructure.

**Figure 4.15:** What are the biggest obstacles in obtaining political support for public bus transportation projects?

There are a number of political obstacles faced when seeking funds to invest in public transportation projects, as the above statistics in figure 4.15 reveal. The most highlighted challenge is lack of understanding of public transportation benefits by the highest decision makers on the political level. Competing priorities that are seen to be urgent and important by the decision makers is another reason investment in public transport is not being realised. The other reason that was stressed is a perception that the provision of transportation should be a market driven force rather than a political intervention.
Table 4.2: In your opinion, do you think the Public-Private Partnership (PPP) model could work for the City of Windhoek public transport bus service?

<table>
<thead>
<tr>
<th>Participant response</th>
<th>Number of respondents</th>
</tr>
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<tbody>
<tr>
<td>Yes</td>
<td>7</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
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</table>

As presented in the table above, all seven respondents indicated that a PPP model can work to improve the funding requirements for the City of Windhoek public transport bus service.

Figure 4.16: How is the City of Windhoek collaborating with private transport operators to enhance public transportation in Windhoek?

At the moment, it is indicated that there is little collaboration between the City of Windhoek and the private transport operators to enhance the public transportation system in the city. This is affirmed by 87% of the respondents who showed that there is no collaboration at all with other stakeholders in public transport. This scenario is observed in the report of sustainable urban transportation by Denmark (2016), which states that the collaboration approach is challenged by the number of stakeholders and interests. The report however also stated that collaboration between different stakeholders can create valuable synergies, resulting in greener and more liveable cities.
**Figure 4.17:** What can the national (central) government do to establish a financial framework that ensures a sustainable public transport in Windhoek and other cities in the country?

To ensure a sustainable public transport system in the City of Windhoek and other cities of Namibia, three of the respondents indicated that a legal and institutional framework needs to be put in place first. Once such a legal framework is in place, other arrangements can follow such as revising the road traffic and transportation act, enhancing private sector participation, and providing more facilities with respect for the pedestrians and cyclists.

**Figure 4.18:** If funding was not an issue, what would be an ideal public bus transportation scenario for the City of Windhoek?
The researcher wanted to find out the ideal public bus transportation service for the City of Windhoek should there be sufficient funds. Seventy-two percent (72%) of the respondents agreed that there will be frequent, reliable and timely running of buses with more coverage. The remainder of the respondents indicated that sufficient funding will also contribute to better lives for Windhoek residents in terms of poverty reduction as well as contributing to better planning and monitoring.

4.4. DISCUSSIONS

The discussion presents the interpretation of the results and findings as per the research objectives.

4.4.1. Assessing the need for funding for a sustainable public bus service of the City of Windhoek

The findings as per the collected data from respondents illustrate that there is indeed a need to consider the funding requirements for the City of Windhoek’s public transport bus service. These findings were proven by the statistics that revealed that state subsidy and public-private partnership models are needed to address funding requirements for the City of Windhoek public transport bus service. Swanepoel (2009) explains that state subsidies for public transport in urban cities are necessary and they are an effective instrument in the promotion of more efficient and overall effective public transport system.

Furthermore, the data also disclosed that only between 0-10 percent of the City of Windhoek budget is allocated for sustainable public transportation development. Moreover, four of the seven respondents mentioned that there was no increase in funding received for the improvement of public transport bus service over the past 10 years. Hence, all (100%) the respondents pointed out that the national government needs to finance and support the City of
Windhoek’s public transport bus service. Furthermore, respondents also mentioned that other revenue streams such as advertising on buses, shelters and stations, entering into public-private partnerships, local fuel levies and local taxes could be explored to address the funding requirements.

4.4.2. To ascertain other potential revenue streams that the City of Windhoek can use to provide a sustainable public bus service

The study revealed that advertising on buses, inside buses, on bus shelters, bus stations and public-private-partnership (PPP) models are other potential revenue streams available to the funding needs of the City of Windhoek bus service. UITP (2012) elucidates that public transport is typically a low-margin business and by developing additional revenue streams, public transport operators can capitalize on their existing assets and know-how. This will help them increase both revenue and their margins. UITP (2012) further argues that public transport operators’ assets include space for advertisement and by tapping into the potential of these assets, public transport operators will generate income. Similarly, ARA (2014) explicates that PPPs are increasingly popular contractual partnerships between government and private entities to finance, build, operate and maintain public transport and infrastructure projects. According to ARA (2014), PPPs provide viable financing opportunities that should be explored further as reliable and long-term sources to invest in public transport systems. The study further revealed that local fuel levies and parking charges could be additional potential revenue streams. The findings further confirm the argument by New Zealand Ministry of Transport (2014), who states that fuel taxes have significant revenue yields, coupled with very low administrative compliance and compliance costs. Furthermore, New Zealand Ministry of Transport posits that fuel taxes can be spent on public transport activities.
4.4.3. To find out existing best practices of funding strategies in the sustainable public transport system

Indeed, the City of Windhoek as the custodian of the public bus transport has to play a major role in raising local financial resources but as the study has shown, this will not be sustainable in the long term. The findings mentioned that additional players such as the national government are required to step in to raise financial resources at national level and set out rules for the allocation and redistribution of these resources between national and local authorities. Additionally, the findings revealed that the City of Windhoek mostly relies on international donations so far for capital improvements. This modality poses future risks as it is not sustainable.

However, the findings established that the City of Windhoek could explore the PPP model to create a sustainable funding model for its capital improvement in the public transport system. As the literature of this study has shown, public private partnerships have been successful in providing sustainable funding in public transport. Munya (2010) reveals that the public transport sector, in addition to its reliance on public budgets, the earmarking of charges and levies, the development of partnerships with private investors such as banks and the business community, should become part of the long-term revenue strategy. A PPP agreement will not only allow the City of Windhoek to transfer the risk of investment to the private partner but this will also guarantee a sufficient profitable set up that attracts more investors.

The City of Windhoek population is popularly and increasingly turning to using public buses when commuting to work places or moving from place to place for personal business, but this growth in the support and use by the Windhoek residents is not met with equal services by the City of Windhoek authorities. The City of Windhoek itself is struggling to mobilize funds for capital improvements as the findings revealed that not more than 10% of the budget is
allocated to the public bus service. The available funds are always immediately used for maintenance and other operations.

The research study indicated that there is a need for a Public Transport Policy as indicated by all seven (7) respondents. Moreover, the respondents mentioned the lack of political will as a stumbling block in overcoming the funding dilemma for the City of Windhoek’s public transport bus service. Politicians are said to ignore the issue of public transportation by putting other priorities first, at the expense of public transport. The findings further exposed the need for a legal and institutional framework at national level, which is required to provide leadership in terms planning, processes, contracting of operators, funding, performance monitoring and evaluation, enforcement, stakeholder and infrastructure management.

Currently, there is no framework, neither at local authority level nor national level, where issues of public transportation could be taken up for account. For other things to fall into place such as promoting collaboration between various public transport operators and stakeholders, a legal and institutional framework must be in place. The need for a political will to improve public transport systems in any city is very important. In Africa and many other countries, governments are normally headed by representatives of a political party. Hence, if a ruling party in power has the political will to improve public transport at national level, this may benefit the local authorities in form of national subsidies. From the literature, the study has shown that many national governments are committed to funding public transport systems by channeling funds to local authorities. The government of South Africa, through the Division of Revenue Bill 2015 provides funds under the Network Operations Component of the Public Transport Network Grant.
It strongly came out in this research that the government should be the prime funding source for the public transport provisions. It also came out that PPPs models are currently the existing best practices of funding strategies in sustainable public transport systems in many cities hence this can be a solution to the current financial bus service impediments of the City of Windhoek. The study indicated that the City of Windhoek has already participated in some PPPs models in the areas of land servicing and waste collection but not public transport. However, the study has also shown how PPPs models have worked well in other countries in creating sustainable funding for public transport systems.

The research brought out some frustrations that are being experienced by the residents of the City of Windhoek as a result of ineffective public transport bus services. Issues such as longer travel times to your destination, slow business productivity due to late arrival at work places, high levels of congestion on the road, and increases in road accidents were some of the frustrations aired. Public transport does not liven up by reducing congestions on the roads and reduces carbon emissions, thereby creating a clean city, and reduces unemployment and poverty as the poor are able to travel cheaper to access places of employment.

In the face of the existing public buses scenario, the research highlighted some benefits that might be realized when the current situation is overcome one day; reliable, timely and more coverage, the freedom to mobility, reduction of road congestion, money savings, reduction of environmental pollution, reduction in accidents, reduction in poverty and overall better living condition for Windhoek inhabitants. Windhoek currently has high motor vehicle accident rate as this research has shown. Most of these accidents involve pedestrians. If the City of Windhoek had a proper public transport system, not only its public transport bus service, pedestrians could have their share of the road, through safe pedestrian lines where they could walk freely.
CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5. CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The purpose of this research was to assess the need for funding for a sustainable public bus service for the City of Windhoek. This chapter presents the conclusion and recommendations based on the data presented in Chapter 4 and the related literature review presented in Chapter 2. The conclusion is presented in relation to the main research objectives that guided the study, while the recommendations derive from the research findings.

5.2. Conclusion

In this study, a research questionnaire was used to collect information from respondents that took part in the data collection process which was intended at assessing the need for funding for a sustainable public bus service for the City of Windhoek.

For the researcher to get a brief background of each of the respondents taking part in the study, respondents were requested to complete the first section in the questionnaire which was aimed at collecting biographical information (institution of employment, position held at institution etc.). Asking participants about their biographical information creates confidence for respondents to get relaxed before answering the research questions outlined in the research instrument. Thus, it also helps the researcher to make conclusions based on the analysis of the collected data.

The study observed that the City of Windhoek bus service’s only current source of funding is the allocation from the City of Windhoek budget. The study further learned that the funds
allocation from the City of Windhoek to the public transport bus service is made up 0 -10 percent of the city’s budget and this is not sufficient to adequately address both operational and capital improvements that are required. Lack of sufficient funding for the City of Windhoek bus service impedes the realisation of social benefits of freedom of mobility and saving on transport costs etc. for the residents of Windhoek. The study also revealed the need for the state through the central government to subsidise the City of Windhoek public transport bus service and to create a legal framework that supports and describes the funding and planning needs of public transport projects. Furthermore, the study data related that some of the potential funding streams that the City of Windhoek could explore are state funding, revenue from advertising and local taxes. Similarly, the data from the study exposed that public-private-partnership agreements are some of the existing best practices of funding strategies that the City of Windhoek can consider for the bus service.

The study concluded that there is a need for the City of Windhoek to assess the funding needs of the public transport bus service and explore potential financial support from external sources other than the City of Windhoek.

Lastly, the researcher concluded that state funding subsidies will immensely address the funding requirements for the City of Windhoek bus service, mainly for its capital improvement in a short term while entering into PPPs which will create a sustainable funding option for the city’s public transport bus service.

5.3. Recommendations

The recommendations presented below are derived from the research findings and in view of the research objectives. The researcher recommends that:
To assess the need for funding for a sustainable public transport bus service for the City of Windhoek, an assessment of current financial needs should be made to determine specific funding instruments. Public transport is a public utility and it is not a profit generating product but rather a supporting tool for socio-economic development. The City of Windhoek should approach the central government to consider immediate financial subsidies for the public transport bus service. Moreover, the central government should establish a strong policy framework that prioritises funding and investments programmes for public transport. State funding programmes could be in the form of Public Transport Infrastructure and Systems Grants that could be used mainly for capital investments for infrastructure which are normally expensive. This could also include investments in new technologies, such as the purchase of modern buses and system wide technologies, for example the Intelligent Transport Systems (ITS). These investments require large levels of financial resources hence the role of the national government and international donors becomes essential.

The second research objective was for the City of Windhoek to ascertain potential revenue streams and the researcher would recommend that the City of Windhoek should tap into local funding sources and develop other innovative financing schemes like revenue from advertising on buses, inside buses, on bus shelters and bus stations, fuel taxes, private vehicle use levies, parking charges and land value capture. Advertisements on public transport vehicles (buses), bus stops and stations have a potential to generate additional revenue to fund the gap on the city’s operating costs. Hence the researcher strongly recommends that the City of Windhoek should identify the sale of advertising spaces on its public transport infrastructures and vehicles (buses) and enter into contractual arrangements to generate a reliable source of
revenue from advertisements. Windhoek is growing and more public transport infrastructure such as central bus stations and bus shelters could be created to provide advertising spaces. Additional revenue streams will assist to cover for recurring expenditures which require a continuous stream of financial resources long after the capital investments take place. This includes the operations of buses, the maintenance of infrastructure, administration costs, and support for policies and programmes.

- The third research objective was to explore existing best practices of funding strategies in the sustainable public transport system. The researcher recommends that the City of Windhoek could enter into PPPs agreements with private sectors such as banks or urban developers to share the financial burden that comes with improvements of public transport services. PPPs could be encouraged at all times for massive infrastructure needs of the public transport bus service since PPPS do not only contribute towards efficiency and better planning, but also contribute to a longer financial sustainability in public transportation.

- Lastly, the researcher recommends for sustainable urban funding to be integrated into a wider public transport policy at national level, through develop a multi-tier financing system that combines various financing approaches based on their comparative advantages, and allow both capital investments and recurrent expenditures to be fully covered. A potential vehicle to ensure sustainable urban transport financing can be created by developing an urban transport fund for all cities and towns in Namibia.
6. REFERENCES


Munya, A. (2010). Advantages and Risks of Pursuing P3s Elements of Express Lane Networks in California. Nairobi: ISOCARP.


APPENDIX I: INTERVIEW QUESTIONNAIRE

UNIVERSITY OF NAMIBIA

NAMIBIA BUSINESS SCHOOL

DEPARTMENT OF ECONOMICS AND MANAGEMENT SCIENCE

ASSESS THE NEED FOR FUNDING FOR SUSTAINABLE PUBLIC BUS SERVICES OF THE CITY OF WINDHOEK

TARGET GROUP: Chairpersons of the Sustainable Urban Transport Committees

Dear Respondent,

My name is Johanna Ndalinoshisho Shikukutu, a final year Masters in Business Administration student at the University of Namibia. I am currently conducting a research under the supervision of Professor Andrew Mbwambo. The focus of my study is to assess the need for funding for a sustainable public bus service of the City of Windhoek.

I humbly request you to spare some few minutes of your time and answer these questions below.

The study is strictly for academic purposes and will be treated with utmost confidentiality.

Your cooperation is highly appreciated.

Part A: General Information

1. Name of your Institution………………………………………………………………………………

2. Position or title of person completing the questionnaire

……………………………………………………………………………………………………
Part B: Source of funding

1. Where does the City currently get its finance to fund the public bus service?  
   Please tick as many options as appropriate.

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<th>Source of Funding</th>
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<td>State funding</td>
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<tr>
<td>Local fares (bus fares)</td>
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<td>Advertising on buses</td>
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<td>Local taxes (levies)</td>
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<td>Parking charges</td>
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<td>International funding (donors)</td>
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<td>Public Private Partnership (PPP)</td>
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<td>Others (please specify)</td>
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2. What are the current funding sources for the public bus transportation operating costs?  
   Please tick as many options as appropriate.

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<td>Parking charges</td>
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<td>International funding (donors)</td>
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<td>Public Private Partnership (PPP)</td>
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<td>Others (please specify)</td>
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</table>

3. What are the current funding sources for the public bus transportation system’s capital improvements and expansion programs?  
   Please tick as many options as appropriate.

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<th>Source of Funding</th>
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<tr>
<td>State funding</td>
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<td>Local fares (bus fares)</td>
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</tr>
<tr>
<td>International funding (donors)</td>
<td></td>
</tr>
<tr>
<td>Public Private Partnership (PPP)</td>
<td></td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
</tr>
</tbody>
</table>
4. How have these funding sources changed in the last 10 years?

<table>
<thead>
<tr>
<th>No change at all</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No significant changes</td>
<td></td>
</tr>
<tr>
<td>Major changes</td>
<td></td>
</tr>
</tbody>
</table>

5. Is it easier to obtain funding for operating costs than it is for capital improvement and expansion projects?

<table>
<thead>
<tr>
<th>Yes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

6. What are the key challenges of obtaining funding for public bus transportation projects?

Please tick as many options as appropriate.

<table>
<thead>
<tr>
<th>No Political will</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of public transportation policy</td>
<td></td>
</tr>
<tr>
<td>Lack of Public Private Partnership (PPP)</td>
<td></td>
</tr>
<tr>
<td>No financial capacity to undertake such projects</td>
<td></td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
</tr>
</tbody>
</table>

7. In your opinion, do you think there is a need to have a Public Transport Policy in place that regulates urban public transportation in the country?

<table>
<thead>
<tr>
<th>Yes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

8. How much does the capital improvement plan limit itself due to expected funding availability?

<table>
<thead>
<tr>
<th>Not limited at all</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately limited</td>
<td></td>
</tr>
<tr>
<td>Very much limited</td>
<td></td>
</tr>
</tbody>
</table>

Apart from national (central) government’s need to fund the public bus transport of City of Windhoek, are there other potential revenue streams that the City of Windhoek can tap into?

________________________________________________________________________
Part B: Sustainability and efficiency

9. What role does the City’s public bus service play in the society and in the economy? **Please tick as many options as appropriate.**

| Provides personal mobility and freedom |  |
| Transportation options (get to work, go to school, visit friends, or go to a doctor’s office) |  |
| Saves Fuel |  |
| Reduces Congestion |  |
| Saves Money |  |
| Less Crashes and injuries for motorists, pedestrians |  |
| Less Traffic speeds |  |
| Less environmental pollution |  |

10. Do you think national government need to play a role in financing and support of the City’s public bus transportation service?

Yes

No

11. What types of financing does the City of Windhoek need to realize a sustainable public transport? **Please tick as many options as appropriate.**

| State funding |  |
| Local fares (bus fares) |  |
| Advertising on buses |  |
| Local taxes (levies) |  |
| Parking charges |  |
| International funding (donors) |  |
| Public Private Partnership (PPP) |  |
| Others (please specify) |  |

12. In your opinion, how much of the current City of Windhoek budget goes to sustainable public transportation development?

| 0 – 10% |  |
| 11 – 20% |  |
| 21 – 30% |  |
| 31- 40% |  |
| 41- 50% |  |
| 51- 60% |  |
| 61 -70% |  |
| 71- 80% |  |
13. Has the usage of public transport bus service increased or decreased in the last 10 years?

| Increased | | Decreased | | Neither |
|-----------|------------------|-------------|-------------------|

14. What effect does the increase in usage (ridership) of public bus transportation has on the users and economy of the city of Windhoek? **Please tick as many options as appropriate.**

| High cost of congestion | | Harming the cities’ competitiveness | | Longer travel times | | Slow Business productivity | | Others (please specify) |
|-------------------------|------------------|-----------------------------------|-------------------|----------------------|------------------------|------------------------|-----------------------|

15. What are the biggest obstacles in obtaining political support for public bus transportation projects? **Please tick as many options as appropriate.**

<table>
<thead>
<tr>
<th>There are other pressing priorities other than improving public transportation</th>
<th></th>
<th>Lack of understanding for Public Transportation economic and social benefits</th>
<th></th>
<th>Public provision of transportation is more a market force than a political force</th>
<th></th>
<th>Others (please specify)</th>
</tr>
</thead>
</table>

16. In your opinion, do you think Public-Private Partnership (PPP) model could work for the City of Windhoek public transport bus service?
17. How is the City of Windhoek collaborating with private transport operators to enhance public transportation in Windhoek?

<table>
<thead>
<tr>
<th>No collaboration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum collaboration</td>
<td></td>
</tr>
<tr>
<td>Extensive collaboration</td>
<td></td>
</tr>
</tbody>
</table>

18. What can national (central) government do to establish a financial framework that ensures a sustainable public transport in Windhoek and other cities in the country?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

19. If funding were not an issue, what do you think would be an ideal public bus transportation scenario for the city of Windhoek?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________