



**Addressing the Spatial Inequality of Economic
Infrastructure through Spatial Planning: A Case of the
proposed Edendale Town Centre in Msunduzi Municipality**

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A dissertation submitted in partial fulfilment of the academic requirements for the degree of Master of Town and Regional Planning, College of Humanities, School of Built Environment and Development Studies, at the University of KwaZulu-Natal, Durban, South Africa.

August 2018

Declaration

I hereby declare that this dissertation is my own work and that any additional work done by other persons has been acknowledged properly by means of referencing. I also declare that this dissertation is my original work and has not been submitted for any other degree or examination in any university or tertiary institution.

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Acknowledgements

To God be the glory! “All things work together for the good of the Lord” (Jesse Chick). I wish to express my endless gratitude to my Lord and Saviour; Jesus Christ for protecting and guiding me towards the completion of this project.

My utmost appreciation goes to my supervisor, Dr Hope Magidimisha. Thanks Dr for consistently allowing this study to be my own work and steering me in the right direction when you felt I needed it.

I would also like to massively thank Mr Narain Singh who is the Chief Planner for GEVDI office and Edendale Town Centre Project Manager in Msunduzi Municipality. My heartfelt gratitude is also extended to Kamalen Gounden from Iyer Urban Design and all other private agencies as well as government departments contributed in this study.

I am also indebted to the community of Edendale Township (Ward 21/22); without their passionate participation and inputs, the validation survey could not have been successfully conducted.

I am also appreciative of the financial assistance I received from the National Research Foundation (NRF) to carry out this research project. Without NRF funding this study would not have been successfully completed. I would also like to thank Mr Zethembe Mseleku for taking his entire time to edit the research of this size.

My special thanks also go to my two friends: Mpumelelo Ngwabe and Mjabuliseni Nkosi. Thanks guys for showing me what true love is all about and giving me all the support that I needed during challenging times. I owe a special gratitude to the whole planning class of 2017 for the unwavering support they offered during the period I have been with them.

To my late Grandfathers: Mr Mkhize and Mr Ngwabi: Because I owe it all to you. Many thanks and may your precious souls rest in eternal peace!

I am gratefully indebted to my parents for giving me a special gift ‘education’. To my mom, Thembeke ‘TT’ Mkhize: Thank you so much for always being there whenever I need you! May God bless you plentifully!

Lastly, I would like to acknowledge and salute both Mkhize and Ngwabi families for giving me support whenever I needed it, “Kwande nalapho nithathe khona”.

Abstract

The apartheid planning in South Africa, legislated bias and racialized urban development through the common and notorious ‘apartheid city model’. Central to the apartheid’s spatial planning was unequal distribution of infrastructure, amenities and accessibility and most importantly was the long distance between residential and workplaces within low income residential areas. Therefore, it is still difficult for residents in the former townships to access socio-economic opportunities within their settlements as the necessary infrastructure for that has long remained insufficient. The resultant fragmented spatial form has resulted in widespread spatial inequality while making it difficult for government to integrate those areas spatially.

Currently, South African spatial planning is still faced with a huge obligation to integrate the previously fragmented townships through encouraging the development of economic infrastructure to where most people live. This could play a role in integrating the previously disadvantaged areas while also improving the socio-economic status of those areas. The government of South Africa had introduced the National Development Plan (NDP) as the driving tool to address the spatial legacy in the former townships through its Urban Network Strategy (UNS). Henceforth, this study employed a mixed-method approach (both qualitative and quantitative) of data collection to investigate how spatial planning can foster and influence the development of economic infrastructure in the former townships to address the abovementioned spatial inequalities.

Based on the findings of this research; it was proven that there is much expected from the Edendale Town Centre initiative in addressing spatial inequality in the study area. As rarely been the case before, the findings reveal that the initiative is likely to stimulate local economic development through the development of the informal traders’ market and the SMME Incubators. The findings also reveal that economic infrastructure planned within the proposed Town Centre such as the proposed mixed-use developments; will effectively address the socio-economic challenges facing Edendale Township and other surrounding areas while also integrating it to the Pietermaritzburg city centre and other better developed neighborhoods within Msunduzi Municipality. The Integrated Rapid Transport Network (IRPTN) which is also planned closer to the proposed Town Centre is more probable to improve public transport in the area. Hence, this will in turn reduce the spatial inequality of economic infrastructure in the area. However, the researcher concludes and recommends that to witness the era with reduced spatial inequality, there must be a link between infrastructure provision and spatial planning.

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Acronyms

ANC:	African National Congress
BRT:	Bus Rapid Transit
CBD:	Central Business District
CDS:	City Development Strategy
CoGTA:	Cooperative Governance and Traditional Affairs
DFA:	Development Facilitation Act
ENC:	Edendale-Northdale Corridor
GDP:	Growth Domestic Product
GEVDI:	Greater Edendale and Vulindlela Development Initiative
GIS:	Geographic Information System
GMS:	Growth Management Strategy
IDP:	Integrated Development Plan
IRPTN:	Integrated Rapid Transport Network
LAP:	Local Area Plan
LED:	Local Economic Development
NDP:	National Development Plan
NDPG:	Neighbourhood Development Partnership Grant
NMT:	Non-Motorized Transport
NP:	National Party
NPP:	National Physical Plan
PICC:	Presidential Infrastructure Coordinating Commission
PINK:	Phoenix, Inanda, Ntuzuma and Kwa-Mashu
PPP:	Public-Private Partnership
RDP:	Reconstruction and Development Programme
RIDP:	Regional Industrial Development Programme
ROW:	Right of Way
SDF:	Spatial Development Framework
SEZ:	Special Economic Zone
SMME:	Small, Medium and Micro Enterprises

SPLUMA: Spatial Planning and Land-use Management Act
UN: United Nations
UNS: Urban Network Strategy
WULA: Water Use License Act

1. Chapter One: Background of Research

1.0. Introduction

This chapter mainly presents the background of this research. This study assesses the role of spatial planning in addressing the spatial inequality of economic infrastructure; particularly in the former townships of South Africa. Initially, spatial legacy of townships as inherited from the apartheid city planning is discussed briefly as the researcher believes that the current spatial form and inequality of economic infrastructure in South Africa has its roots from the apartheid planning. In this chapter, the researcher also discusses the problem statement which identifies problems encountered by South African townships in relation to the aim of this research. The last part of the chapter provides reasons why the study is important and relevant. This includes the rationale to bridge the gap in literature mainly in the context of spatial inequality.

1.1. Background

South Africa, like other numerous developing countries in the African continent had a planning system which focused on physical and spatial factors that translated into the control of development. During the apartheid planning, the country and its spatial form was segregated across racial lines. More popular to this form of spatial segregation was the apartheid city model that legislated the separation of different races across the space. According to Hindson (1996), the apartheid city was created as a response to the urban crises of 1940s. The National Party (NP) government drew on past policies of racial segregation and spatial management to restructure and entrench more deeply the racial city form to protect and enhance the interest of white's constituency.

Urban apartheid spatial planning was based on the exclusion of Coloureds, Indians and Africans from the centres of economic and political power in cities. Hence, some of its legacies still prevail even today. Hindson (1996) articulates that the system led to the minimization of social and infrastructure expenditure in the new townships, low wages, and the creation of a differentiated workforce with some urban Africans having minimal access to urban residential rights whilst the majority were prohibited from permanently settling in the urban areas. Likewise, Berrisford (2011) argues that apartheid's spatial planning ensured that each town/city reflects not only an unequal distribution of infrastructure, amenities and accessibility, but the distances between the places in which the poor and the well-off live exacerbate that inequality.

Poor small dormitory towns near the former townships provided a very little opportunity for local economic development (LED) and the system also ensured minimal facilities for social and recreational activities. Due to the lack of formal economic opportunities in black's townships, there were high levels of poverty and general deprivation (Berrisford, 2011). As a result, residents were forced to travel long distance towards city centre or secondary nodes for economic and employment opportunities. This is one of the elements of this study which is mainly concerned with increased distance from home to work because of the insufficiency of economic infrastructure in the former townships.

In responding to challenges relating to spatial fragmentation such as differentiated distance between home and work, the South African government through National Development Plan (NDP) along with its Neighbourhood Development Partnership Grant (NDPG) has identified those urban areas which were previously neglected in the previous planning system, as the ones in which economic infrastructure development should take place as to encourage public and private investment. The NDP identified Greater Edendale area for township renewal and through proposing the establishment and development of urban hub or Edendale Town Centre to advance the transformation and regeneration of the Greater Edendale area. This is part of the Urban Network Strategy to reshape the urban spatial form; and the new strategic direction is based on a spatial development approach that builds on an urban network model, transit-oriented precinct investment planning, development and management approach at strategic spatial transformation.

However, having mentioned the above statement; this study aims at assessing the role that can be played by spatial planning in addressing the unequal distribution of economic infrastructure in Edendale Township. This is zoomed into the proposed Edendale Town Centre; investigating its impact in restructuring and integrating the area while also bringing economic opportunities into the area and to the surroundings. The stipulated aim of this research is going to be supported by the following objectives: - examining the existing economic infrastructure in the area, assessing the role of the Edendale Town Centre in promoting accessibility and connectivity, exploring and projecting the socio-economic impact of the Town Centre as well as trying to understand challenges that hinder the successful implementation of this project.

1.2. Problem Statement

The negative spatial legacy left by the previous planning system in South Africa still prevails mainly in the former townships regardless of the advent of government's spatial planning

policies to redress spatial inequality. As the urban poor remain located at a substantial distance from economic opportunities, the dysfunctional city structure has contributed massively in the increase of transportation costs. Dewar and Todeschini (2004) note that poorest of the poor in South African townships continue to be marginalized due to long distance between townships and industrial areas where the majority works. Increased transportation costs amongst the urban dwellers has raised questions for the role that current spatial planning can play in addressing unequal distribution of economic infrastructure in the townships. Such issues in the urban areas in South Africa has meant that there is a lack of spatial integration between the former townships and the affluent suburbs.

Edendale as one of the former apartheid townships, still experiences issues of spatial disparities and fragmentations being located away from the Pietermaritzburg city centre which comprises of a variety of socio-economic opportunities and services. Spatial fragmentation undermines the equitable distribution of public goods and services. Edendale Township in the Msunduzi Municipality is also one of the fastest developing and growing townships in South Africa. In that regards, this requires spatial planning interventions to provide proper services and facilities which was limited during the apartheid era. This includes the provision of well-planned and developed transportation infrastructure, sufficient economic infrastructure such as the nodes and corridors for the use by the local people to avoid the issue of high transportation costs to the city centre. This kind of development could bring economic opportunities closer to the people while also integrating the former township into the city centre as well as to the former apartheid suburbs.

When the African National Congress (ANC) was democratically elected into power in 1994, it committed itself to address the apartheid spatial legacy. Hence, the party recognized that the most prominent way to redress inequality would be spatial. Therefore, the move was to integrate the former white towns and black townships. In the Reconstruction and Development Programme (RDP) prepared by the ANC in (1994), it is noted that the key to address spatial fragmentation and inequality is the investment in infrastructural redevelopment that will provide access to modern and effective services, which will open previously suppressed economic and human potentials in urban and rural areas. Hence, economic infrastructural development may play a prominent role in restructuring Edendale Township as one of those previously fragmented and neglected urban areas in South Africa.

The recent NDP also realises that spatial divides hobble inclusive development in South Africa. Therefore, NDP proposes major investments in infrastructure development and provision of socio-economic services particularly in areas that have been deprived during the apartheid regime. Urban areas face huge development challenges alongside major economic opportunities. About 63% of South Africans now live in urban areas and 40% in metropolitan municipalities (National Planning Commission, 2011). Recognising these realities, the NDP has called on cities to be South African economic growth drivers through improved spatial efficiency and social inclusion. It predicts that by 2030 another 7.8 million people will be living in South African cities and by 2050 a further 6 million, adding enormous pressures to housing, services and infrastructure. Therefore, in responding to the urban spatial legacy and other socio-economic challenges, the NDP has called for spatial transformations that will focus on infrastructure development for economic development and integration. Hence, Edendale Town Centre is one of the examples on how the NDP tries to address the unequal distribution and shortage of economic infrastructure in South African urban areas.

1.3. Aim

The main aim of this research is to assess the possible impact of the proposed Edendale Town Centre in addressing spatial inequality of economic infrastructure towards achieving spatial integration in Edendale.

1.4. Objectives

- a) To identify existing economic infrastructure in Edendale Township and to determine if it satisfy the community.
- b) To understand factors that influenced the establishment of the proposed Edendale Town Centre.
- c) To examine how accessibility and connectivity will be achieved in the Edendale Town Centre towards achieving spatial integration.
- d) To explore and project the socio-economic impact of the proposed Edendale Town Centre in Edendale and surrounding areas.
- e) To identify the challenges that may hinder successful implementation of the Edendale Town Centre and to understand how the municipality address them.

1.5. Research Questions

What will be the impact of the proposed Edendale Town Centre in addressing spatial inequalities of economic infrastructure towards achieving spatial integration in Edendale?

1.5.1. *Sub-Questions*

- a) What is the situation concerning the existing economic infrastructure in Edendale Township?
- b) How will the proposed Edendale Town Centre promote access and connectivity in the area towards achieving spatial integration?
- c) What are the factors that have influenced the development of the proposed Edendale Town Centre?
- d) What will be the socio-economic impact expected from the proposed Edendale Town Centre in Edendale Township and surrounding areas?
- e) What are the challenges that may hinder successful implementation of the Edendale Town project and how the municipality addresses them?

1.6. Rationale

As Du Plessiss (2013) argued that even after two decades, South Africa is still facing unequal distribution of social and economic opportunities as well as spatial imbalances. In that regards, this study is important because it tries to raise and discuss the current state of spatial planning in the South African context and its role in restructuring and integrating the previously neglected urban areas. This is crucial because spatial equity is what determines the improvement in the quality of lives for residents since this will translate to the improvement of the living standards for the urban poor. Spatial inequality is a global issue which does not only affect developing countries. However, in that way; this study is relevant as it will propose some solutions on how spatial inequality can be addressed, specifically in the context of economic infrastructure in townships.

The policies that have been introduced by the democratic government of South Africa such as RDP and NDP, have placed a lot of investment in infrastructure planning and development as a strategy to integrate spatially fragmented areas and to reduce spatial inequalities. In that way, this study is important because it promotes the investment in infrastructure development as the best way to improve the quality of life as well as living standards of the urban poor. This is normally achieved through ensuring developments that will unlock social and economic

opportunities for urban residents. Hence, the Msunduzi Municipality also follows the same path of development via the Edendale Town Centre.

Since this study aims at critically evaluating the challenges relating to implementation of the Edendale Town Centre, this may also provide some assistance to the municipal officials on how they can deal with failures while focusing on those strategies that produce success. As a result, the same study may also become more convenient to other municipalities in South Africa; giving them an example on how they can deal with spatial form of their towns and townships in a post-apartheid era. Socio-economic development is one of the most important aspects of this research as the study tries to investigate the possible socio-economic impact of the proposed Edendale Town Centre. Therefore, this study was undertaken in the interest of the researcher to understand how spatial planning can also stimulate socio-economic development of the area. This is also going to be beneficial for the local people including those involved in the informal trade to derive their livelihoods.

The study is also intended to significantly contribute to the body of knowledge where the findings that are going to be produced may be used in institutions of higher learning and to make references about areas; or municipalities that are currently transforming their spatial form to be more integrative to those urban areas which were previously disadvantaged. In that manner, the study is going to contribute to the elimination of gap in literature as Kim (2008) argues that there is a very limited scope of literature of spatial inequality in the developing world. Most research on spatial planning has focused on the negative impact of apartheid planning. However, this research is looking on the current state of spatial planning and the success of government policy such as the NDP in trying to achieve spatial integration. Therefore, this research is important because it also encourages that in the post-apartheid South Africa; spatial planning in the form of infrastructure planning and development should be encouraged to promote spatial restructuring and local economic development for the local people.

1.7. Dissertation Structure

Chapter One: Presents the introduction to this study. In this chapter, the researcher discusses the background, problem statement and the rationale of the study. The background briefly explains South African spatial planning as inherited from apartheid regime and how it has left over the legacy of spatial inequality mainly concerning economic infrastructure. The problem statement offers a clear outline of the research problem that was investigated. Rationale

motivates why this study is important. The last part of the chapter outlines the aim, objectives and the research questions that guided the study.

Chapter Two: Discusses various methods that were employed by the researcher to collect data. The study employed a mixed-method approach of data collection (qualitative and quantitative). The chapter also identifies and briefly discusses the different data sources, sampling methods, sample size as well as data analysis. The last section of the chapter provides limitations of the study.

Chapter Three: Adopts and discusses a variety of theories and concepts that underpin the study. Theories and model such as apartheid city, growth pole theory, Marxian urban theory, and urban justice theory are discussed in this chapter to clearly explain spatial inequality and how spatial planning can respond to that. Different concepts such as spatial inequality, economic infrastructure, spatial planning amongst others are briefly outlined and defined.

Chapter Four: Is based on reviewing and discussing the previous literature regarding the spatial inequality, spatial planning and economic infrastructure. This is the chapter in which spatial inequality; more especially in the context of economic infrastructure is discussed, looking at it in a global perspective. The initial part of the chapter focuses on discussing spatial inequality and its causes through looking at different countries of the world. The last part of the chapter discusses international and local precedents that have undertaken almost similar initiatives to address the spatial inequality of economic infrastructure.

Chapter Five: Focuses on describing the case study of Edendale Town Centre. To coherently understand this, the chapter also discusses the context of Edendale Township in full details. This includes geographical context, demographic analysis, socio-economic status as well as environment analysis of Greater Edendale Township.

Chapter Six: Presents and discusses the study's findings based on the analysis of the data gathered for this study and on secondary data from Msunduzi Municipality relevant to the area under study. The first section of this chapter describes the study area and presents the quantitative data obtained by the researcher during a survey. The qualitative data was collected amongst the key informants where semi-structured questionnaires were utilised. The second section of this chapter presents qualitative data of this research, whereas; the last part of the chapter is based on analysing the data presented.

Chapter Seven: This chapter provides recommendations and the conclusion of the study. Prior to that, the chapter presents the overview of the findings as well as the lessons learnt by the researcher to determine if the objectives were met.

1.8. Conclusion

This chapter has paid more attention on presenting the background of the study. In better explaining that; it has briefly discussed apartheid planning since the current spatial legacy in the South African townships is attributed to it. Such legacy involves the insufficiency of economic infrastructure which plays a role in integrating the previously neglected areas to those with services and better facilities. In the chapter, it is discussed that economic infrastructure also brings economic opportunities closer to where most of the urban dwellers reside. However, the researcher also presented the problem statement as well as the rationale; focusing on why this research is relevant and why it was conducted. The next chapter below is a detailed discussion of the methods that were utilised by the researcher during data collection.

2. Chapter Two: Methodology

2.0. Introduction

This chapter discusses the methods used for data collection. Research methodology is a way to systematically solve the research problem that makes use of a set of research methods. Research methods can therefore be defined as the methods that are used in selecting and constructing research technique. According to Krippendorff (2004), methodology serves as a functional framework arranged according to facts, which give a clear meaning to the concept. Research methodology does not only make use of research methods, but it also considers the logic behind those methods adopted. This section discusses the research methods, procedures as well as tools that were utilised in this study during data collection. Since this research utilised mixed methods (qualitative and quantitative), such research methods are going to be discussed in detail below. In addition, methods used to analyse the data are also discussed in this chapter.

2.1. Methods of Data Collection

The aim of this research was to assess the role of spatial planning in addressing the spatial inequality of economic infrastructure particularly in the former townships. To facilitate that, the study employed mixed methods of data collection. This includes both qualitative and quantitative. According to Creswell *et.al* (2011), mixed methods research is both a method and methodology for conducting research that involves collecting, analysing, and integrating quantitative and qualitative research in a single study or a longitudinal program of inquiry. The use of mixed methods in this research was based on the premise that both qualitative and quantitative research, in combination, provide a better understanding of a research problem or issue than either research approach alone. Qualitative research is the type of research method that primarily relies on the use of words or explanations without the use of numerical data (Kielborn, 2001). On the other side, quantitative research method emphasizes numerical and statistical analysis of data collected.

This research used mixed methods to gain information from the ground or from the ordinary citizens of Edendale Township as well as from the officials, and this assisted the researcher in making comparisons to balance the data as well as in analysing it properly. The researcher also employed quantitative research to understand the socio-economic information of the residents and that assisted in making conclusions. Moreover, quantitative approach was used based on the premise that it is simple to analyse statistical or numerical data generated through quantitative instruments such as questionnaire. Eventually, the researcher found it worth using

qualitative approach because it provides a deep information about the phenomenon being studied in the form of interviews and other research tools.

2.2. Sources of Data

2.2.1. *Primary Data*

Primary data is the original data that is obtained through first-hand investigation and provides information that is not interpreted by any researcher. Mottier (2005) argues that it is important to collect primary data for research as this data has not been manipulated. This study obtained primary data through the wide use of qualitative and quantitative tools such as survey questionnaires, key informant semi-structured interviews as well as personal observations. Below is the detailed discussion of the research tools employed by the researcher during data collection.

a) Survey

According to Driscoll (2011), surveys are used to probe the answers of the respondents and at the same time, to observe the behaviour of the respondents, either individually or as a group. The purpose of conducting a personal interview survey is to explore the responses of the people to gather more and deeper information about their view on a certain issue. Survey in this research was conducted amongst the people residing in Edendale Township (ward 22) in the form of door-to-door household survey. The aim was to understand socio-economic status, statistical and demographic information of the residents. The survey also included questions on resident's views about their level of satisfaction concerning the existing economic infrastructure as well as how do they think or expect to benefit from the proposed Edendale Town Centre.

More data acquired through survey was based on the resident's understanding of the challenges they face on their daily basis and how do they think such challenges can be addressed. The survey was conducted on face-to-face basis to allow open-ended questions to be asked. Moreover, the survey included questions based on whether residents are employed within Edendale or not. Responses from surveys ensured the balance of information as well as testing the validity of information through comparing quantitative data from the community members as well as the qualitative data from the officials.

b) Interviews

Interviews refer to the process of asking participants questions either on a one-on-one or individual group setting (Driscoll, 2011). In this study key informant interviews were

conducted with municipal officials from Msunduzi Municipality as the municipality is concerned with service delivery within its jurisdiction boundaries. Officials from Department of Cooperative Governance and Traditional Affairs were also interviewed since they monitor the progress that municipalities in South Africa make. The key informants for this study also involved officials from the National Department of Treasury where the questionnaire was sent based on the Edendale Town Centre Project as part of the Neighbourhood Development and Partnership Grant (NDPG). The last key informant interviews were conducted amongst the consultants from Iyer Urban Design Studios since they were involved in feasibility studies of the Edendale Town Centre. The interviews for this study were conducted in the form of questionnaire being emailed to the participant as well as on face-to-face basis where the recorder was used based on the interest of the participant. The key informant interviews mentioned above were conducted to gain data on how the proposed Edendale Town Centre Project would ensure high levels of access and connectivity in the study area.

Some of the questions asked from the key informants were about the factors influenced the project and the socio-economic impact of the Edendale Town Centre on the residents of Edendale and the surrounding areas. This tool of data collection was also utilised to elicit relevant data about the strategies that facilitated the success of the Edendale Town Centre and the challenges the Municipality encountered concerning the implementation of the project.

c) Observations

The last primary data source utilised in this research study is observations. This is a situation where the researcher observes or measure the world around them in the purpose of answering research questions. Driscoll (2011) also argues that observations rely on the use of tools such as photographs. Personal observations during the field work included observing the availability of economic infrastructure in the area; including activity nodes and corridors, commercial and industrial land-uses. This also included a checklist on the connection of road networks and the densification of land-uses. Therefore, this research made the use of maps to map the existing land-uses and specifically the economic infrastructure in the area. Since some of the questions may not be answered by the respondents, observations were convenient as the researcher also used mapping to show how the area has been spatially fragmented and how the Edendale Town Centre will play a role in spatial integration. This basically included the use of GIS tools to show road networks which might play a role in integrating and connecting areas around Edendale Township. The photographs were also used to show situation concerning the existing economic infrastructure as well as the chosen location for the proposed Edendale Town Centre.

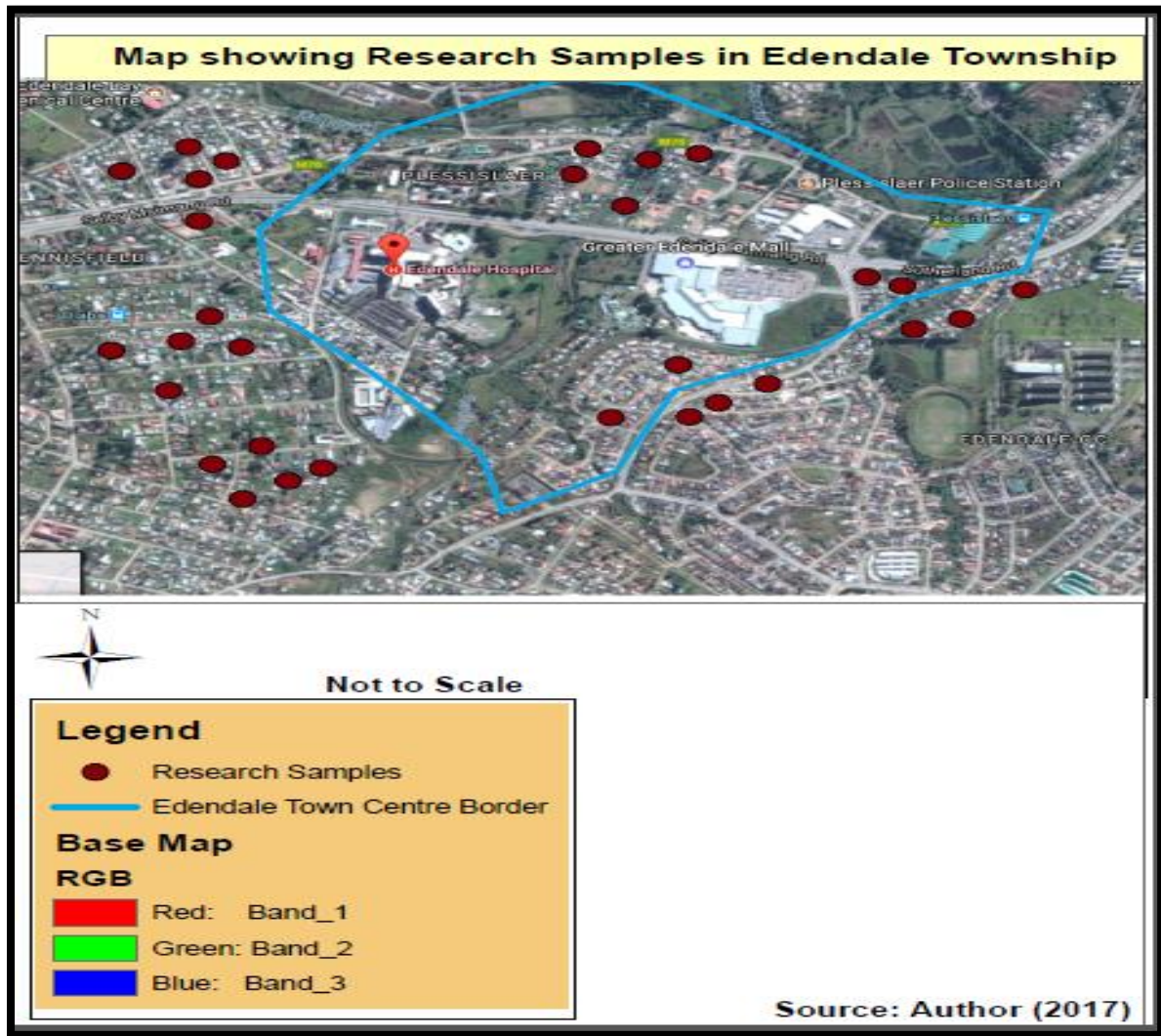
2.2.2. Secondary Data

Secondary sources provide second hand information. This also involves a review of previously collected data in the same study area. Secondary data sources may involve the use of books, journal articles, newspapers and so forth. Secondary data for this research was obtained from latest Integrated Development Plans (IDP), Spatial Development Frameworks (SDF) and Local Area Plans (LAP) for Msunduzi Municipality since they provide a lot of information regarding the status quo of development within the municipality. Information concerning the infrastructure provision such as shopping centres, roads networks and facilities was also obtained from these documents. IDP and SDF may also provide the information about the status of the projects within any municipality and this is the reason why the researcher preferred the use of these documents. Journal and other books were also utilised for reference purposes.

2.3. Sampling Method

Sampling is the process of selecting units such as people and organizations from a chosen population so that by studying the sample it may become easy to generalize the results back to the population from which they were chosen (Tongco, 2007). Since the study relied on survey and key informant interviews to elicit data, purposive sampling which is part of non-probability sampling was used to recruit the key informants. According to Teddlie and Yu (2007), purposive sampling techniques involve selecting certain units or cases based on a specific purpose rather than randomly. Purposive sampling is also used when a researcher wants to identify a particular type of case study for in depth investigation (Tongco, 2007). On the other hand, the researcher used cluster random sampling to recruit the residents in Edendale Township where households were grouped or clustered into 6 groups of 5 which makes up a total of 30 participants. This was done through randomly choosing household in different sides of the location for the Town Centre. In that process, both distant and near households (to the Town Centre) were chosen to balance the information. The researcher used GIS to cluster the households into 6 groups. The researcher decided to choose household at different directions of the proposed location of the Town to balance the information and to avoid biasness of the results. *Figure 2.3* shows GIS map used to target the respondents during survey.

Figure 2.3: Cluster Random Sampling in Edendale Township.



Source: Researcher (2017)

2.3. Sampling Size

Since Edendale Township is one of the large human settlements within Msunduzi Municipality, a manageable sample size of the population which was suitable for the study was selected and used as a sample group representing the entire population living there. In that regards, the sample size for this study included only 30 participants which took part in the survey. The researcher found it worth selecting such a size based on the premise that it would save time, costs as well as human resources. The sample size in this study considered the gender, age and general demographic profile of the participants. In that way, only those above the age of 18 were recruited in the survey. For the purpose of this research, another sample of 7 participants for this study included officials from Msunduzi Municipality, KZN Cooperative Governance

and Traditional Affairs (CoGTA), National Treasury as well as the consultants. Therefore, a total of 37 human subjects were recruited to participate in this study.

2.4. Data Analysis

After the research findings were presented, the study made use of content or thematic analysis to analyse the data. Neuman (2002) articulates that content refers to words, meanings, symbols, ideas, themes, or any other message that can be communicated. Therefore, content analysis is a method of analysing written, verbal or visual communication messages. Content analysis was used to analyse both qualitative and quantitative data, but in the quantitative aspects of the study; graphs and tables were used to present and analyse the data. To analyse both primary and secondary data, the three steps proposed by Gray (2009) were implemented.

- **Summarising the content:** The collected data was interpreted, paraphrased and grouped into corresponding themes. This also included the deletion of information deemed unnecessary and irrelevant.
- **Explicating content analysis:** This involved the clarification of unclear information through introducing context material into the analysis and.
- **Structuring content analysis:** This last step included identification of formal structures in the material.

2.5. Limitations of the Study

These are the limitations noted at the beginning of data collection.

- The researcher found it difficult to access some of the key informants which were identified for face-to-face interviews. The speculated reasons behind this is that most of them had so many commitments at work. Therefore, the researcher was compelled to send a questionnaire via email to save time.
- Most of the residents which formed part of the survey were illiterate so they hardly understood the aim of the research. Therefore, the researcher spent a lot of time giving explanations. Another challenge was that most of the participants were not fully aware about the Edendale Town Centre.
- Some of the residents could not entertain the researcher as they believed what was being asked was political, this is also attributed to the lack of access to information.
- Travel costs are also part of the limitations the researcher witnessed.

- The last limitation includes the unavailability of incentives for those who participated. This led to other participants being reluctant to participate since there were no benefits for those who took part in the study.

2.6. Conclusion

This chapter has focused on outlining and discussing the research methods used by the researcher during data collection. In the chapter, it is indicated that the study employed a mixed method approach to collect data and this included both qualitative and quantitative data. Sources of data for this research also included both primary and secondary sources. However, the collected data was analysed using content analysis. The following chapter provides a detailed discussion about the theories and concepts used to support the study.

3. Chapter Three: Theoretical and Conceptual Framework

3.0. Introduction

This chapter discusses various theories that are employed to support the study. Since the study focuses on assessing the role of spatial planning in addressing the spatial inequality of economic infrastructure, it does that through adopting theories that have been utilised to explain that. Such theories include Apartheid City, Growth Pole, Marxist Urban Theory, and Urban Justice Theory. The logic behind choosing these theories is that they better explain the location of economic infrastructure across the space. Therefore, spatial planning is usually exercised through executing theories such as the theory of growth pole. For the study to be informative, the apartheid city model was used so that the history of spatial planning mainly in the case of South Africa could be traced and explained. The last section of the chapter will focus on defining the key concepts used to justify the study.

3.1. Apartheid City

3.1.1. The history of the Apartheid City

Apartheid city was a racial policy or model that was adopted by the then South African National Party (NP) government as a response to the urban crisis of 1940s during the apartheid political system (Hindson, 1996). This model envisioned South African cities with no mixture of races through encouraging different settlements for Blacks, Coloureds, Indians and Whites. According to Mylum (1995), apartheid city planning has its roots on the introduction of Group Areas Act of 1950. The act promoted the spatial separation between different races in the urban settings. This involved the creation of Backs, Coloureds and Indian towns and townships as well as Whites suburbs. The Group Areas Act also ensured that there was no interaction between Africans, Coloureds, Indians and Whites through the establishment of buffers in between the settlements of these racial groups. Such buffers include freeways, sugarcane fields, massive manufacturing as well as natural features including rivers and forests.

3.1.2. The Spatial Legacy of the Apartheid Planning

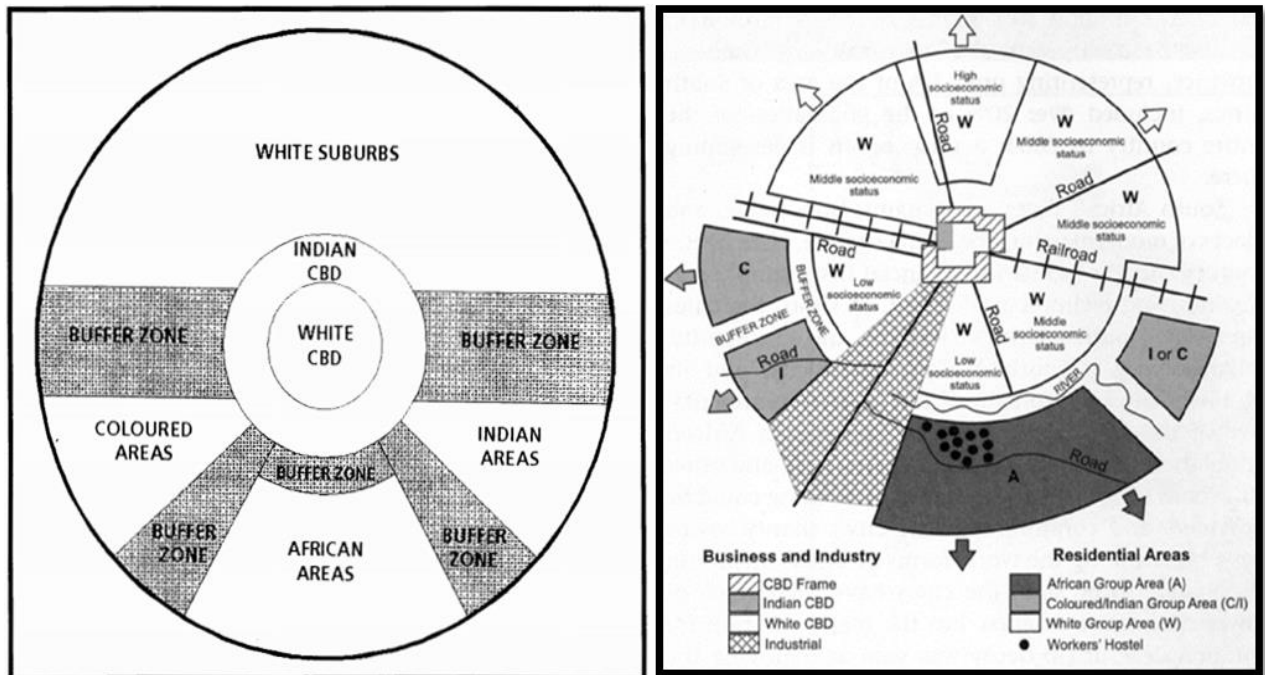
Frescura (2000) argues that apartheid city is clearly identified by different features such as the Segregation of Residential Areas. Selected residential suburbs were set aside for the exclusive use of specific communities. This segregation did not only take place along racial lines but, in some cases, was extended to perceived 'ethnic' groupings in the Black community itself. As a result, certain areas of Soweto, near Johannesburg, were set aside for Nguni, Sotho, Tswana and Venda language groups, and even the Nguni suburbs made allowance for Zulu, Xhosa,

Ndebele and Tsonga sub-divisions. In the case of Black/White segregation, this was regulated by legislation which controlled so-called 'Group Areas'. Separation between White and non-White citizens was strictly enforced, often by brutal police action, whilst little attention appears to have been paid to residential mixing and integration within the not-White group.

Hindson (1996) also articulates that those settlements or townships perceived as for blacks were characterised by poor social services and infrastructure while black people were compelled to travel longer distances to their places of work under poor public transport. According to Turok (2016), businesses suffered from frequent workforce absenteeism, punctuality problems and disruption to production. In addition, the state had to bear the extra costs of sprawling infrastructure networks, duplicate municipal facilities and inefficient transport systems caused by the over-extended spatial form.

The Apartheid city also ensured low or no levels of interaction amongst different racial as well as ethnic groups as Donaldson (2001) notes that the system ensured racially divided urban growth patterns and employed monofunctional land uses as well as use buffer zones to separate those suburbs. Such buffer zones which were used include natural features such as rivers and forests, industrial land uses as well as railway lines to name a few. Although apartheid planning was imposing unique burdens and controls on the black population, the trends in spatial form in increasingly sanitized 'white South Africa' were not much different from those of Europe or North America. However, according to Oranje (1998), this was a period of low-density suburbanisation, investment in and along the freeways, rise of multi-centred metropolitan cities, separation of land uses as well as decentralisation of commercial and office activities. The apartheid form of planning also ensured prominent and effective regulation of land uses that only benefitted the white's suburban areas. This can be better explained in the application of town planning schemes which were only applied to white only areas. The following figures clearly show the spatial organisation of the apartheid city with buffer zones.

Figure 3.1.2: Buffer Zones of the Apartheid city and the General Apartheid City Model



Source: *Planact (1997)*

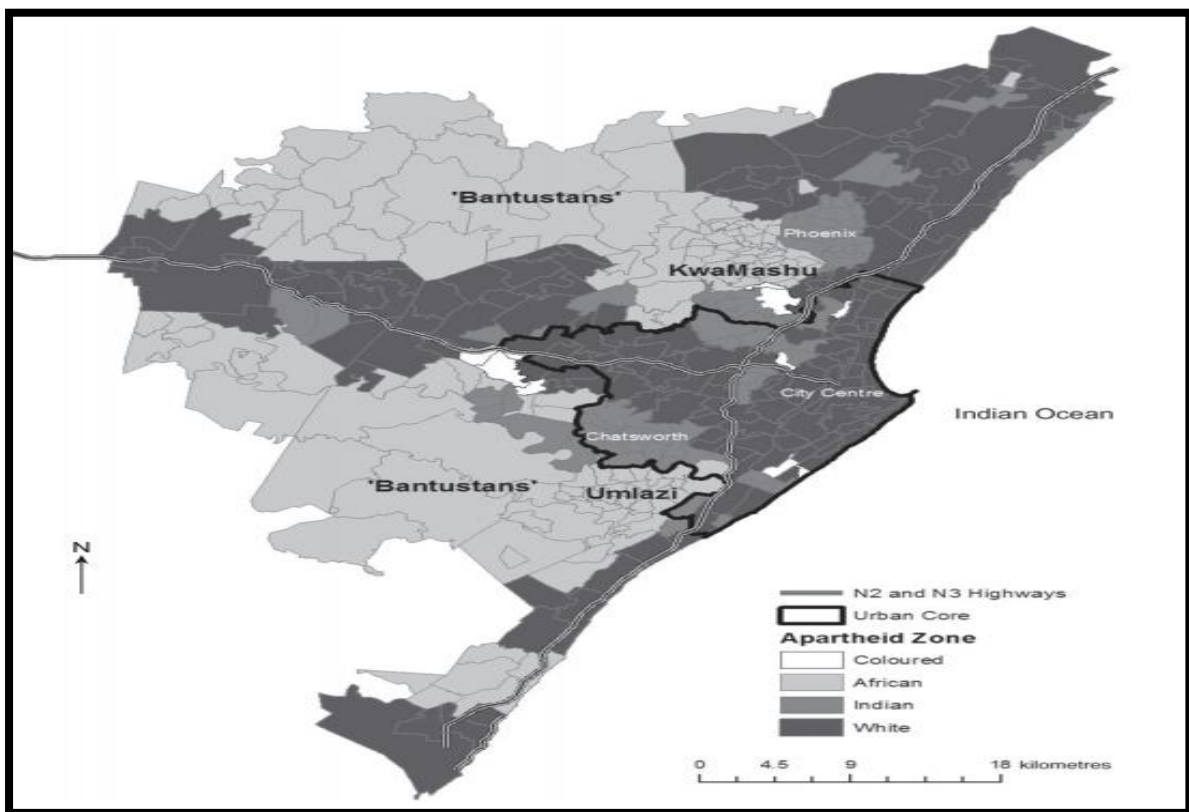
Another the legacy of apartheid city according to Frescura (2000) is that of extended city planning. In that way, black residential suburbs were invariably removed from the CBD. This disadvantaged blacks as Berrisford (2011) argues that apartheid form of spatial planning did not only led to unequal distribution of infrastructure, amenities and accessibility but even distances between the places of work and residential areas. The distance from the city centre varies from instance to instance. New Brighton, for example, was established during colonial times on land immediately beyond the city boundaries. Soweto, on the other hand, was the product of apartheid planners who originally wished to locate it near Newcastle, in Natal. It was their intention to link it to the Witwatersrand by a high-speed railway system, which would have covered the distance in under two hours.

3.1.3. Apartheid Planning in Durban

As Mylum (1995) argues, apartheid city has its lineage in the 19th Century. Similarly, Schensule and Heller (2010) argue that urban spatial segregation in Durban began after the conflict between Indian and Whites over the land. In that regards, apartheid cities were planned as a series of concentric circles, and Durban was no exception, although its shape was limited to a half circle by the coast. Durban’s apartheid urban spatial form evolved around its transportation structure, particularly the N3 running inland towards Johannesburg as well as

N2 that follows and runs along the coastline. Schensule and Heller (2010) further note that White urban suburbs ringed the downtown area, including the exclusive Berea neighbourhoods on the inner slope of the first set of hills. Indian townships were scattered in the North and South of Durban with buffers such as freeways, massive manufacturing industries and sugarcane plantations in between. The steepest terrain in Durban comprised of the location of African population such as Umlazi to the south, KwaMashu, Ntuzuma, Inanda, KwaDabeka, Clermont and others to the north. These African townships were as far as 25 kilometres away from the city centre, with little access to transportation other than a single roadway.

Figure 3.1.3: Apartheid spatial form in Durban



Source: Schensule and Heller (2010)

3.1.4. Greater Edendale Township as a Product of Apartheid Planning

Greater Edendale is one of the South African former townships established as a result of apartheid planning. Du Plessis (2013) argues that over a decade of post-apartheid planning, South African cities are still facing unequal distribution of social and economic opportunities inherited from the Apartheid. Edendale Township as established during the apartheid regime has inherited some of the legacy of the system. Okeke (2013) points out that the residents still face public transport challenges in the area. Moreover, he also highlights that the area lacks

connectivity with regards to transport system; therefore, high efficient transport systems are required. Some other impact and legacies can be easily understood through analysing the census data (2011) which makes good and coherent comparisons concerning differences in service delivery between former white suburbs and black townships. However, some of the spatial impact inherited from the previous planning system in Edendale Township include the awkward distance between residential and places of work, and this is a signal of the insufficiency of economic infrastructure in Townships (Okeke, 2013).

3.1.5. The Impact of Apartheid Planning on Black Townships

Notwithstanding the apartheid's efforts in achieving apparent success in the reorganization of urban space, it was creating enormous contradictions that would ultimately be its undoing (Harrison *et. al*, 2007). The greatest of these was the desire to remove blacks from white-occupied space while keeping them nearby to provide labour for the white-owned economy. Other spatial contradictions of apartheid were also magnified as the economic boom of the 1960s and early 1970s came to an end; for example, the movement of Africans further and further away from the urban core was leading to huge transportation costs which government was forced to subsidize (Maylam 1995).

Hindson (1996) was more concerned about the levels of violence that happened in the so-called 'black townships' because of the careless spatial organisation of these townships. Apartheid planning system also left high levels of spatial inequalities, which are difficult to redress even today. Such inequalities involve long distances to the centres of economic opportunities and lack of connectivity between former black townships and white suburbs such as in the case of Inanda, Kwa-Mashu and Ntuzuma in which it was difficult to access Mhlanga Ridge which is a former White Town. After the apartheid planning era in South Africa, a whole lot of African Townships experienced unavailability or insufficiency of economic infrastructure such as shopping centres that would create employment opportunities for African people.

Poverty was one of the outcomes since urban agriculture was neglected and these settlements were planned where soil was not conducive for agriculture. Harrison *et.al* (2007) note that the establishment of black dormitory settlements and hostel compounds for migrant workers without any kind of economic base or amenities was a further problem. There was deliberate under-investment in housing, physical infrastructure and social facilities, and blanket restrictions on self-employment and business start-ups. Many of these townships and adjacent

informal settlements became concentrations of poverty and exclusion, where miserable living conditions meant hardship, insecurity and crime.

Notwithstanding the fact that the apartheid planning subjected other racial groups to poor urban environments that were not conducive for the survival of any human being, we can learn a lesson or two from it. Some scholars such as Harrison et.al (2007) argue that post-apartheid South Africa could learn lessons from the policy and institutional coherence of the apartheid planning, and from the effectiveness of some of the tools employed by the apartheid state. However, in defining what is meant by the effectiveness of planning in the current context, we are not looking at the ability of the state to impose a top-down blueprint for transformation, but rather for the ability of the state, and governance more broadly, to generate and guide processes that will deliver equitable and sustainable outcomes, while promoting inclusive participation and deepening democracy. One can learn that the absence or limited scope of participation in development planning leads to those plans being rejected by the public.

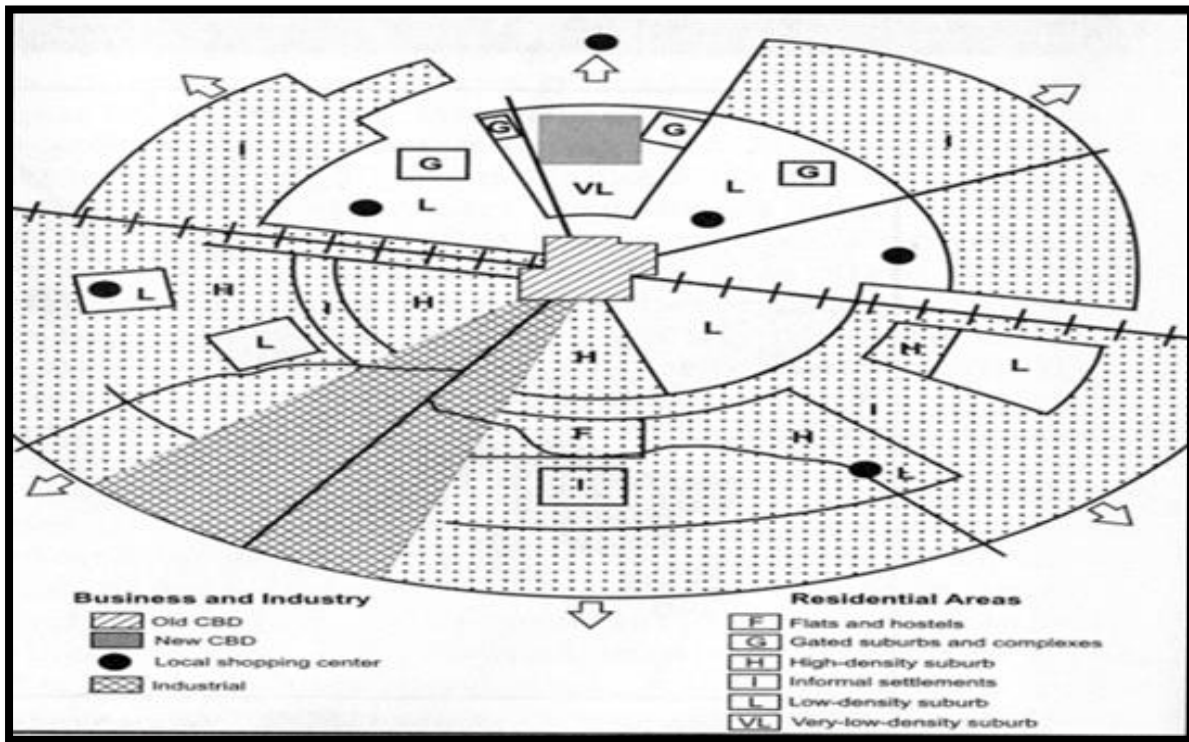
3.1.6. The Post-Apartheid Spatial Planning in South Africa

The transformation of spatial planning in South Africa in the post-apartheid era has been difficult to achieve as some of the legislations designed to implement the urban plans of apartheid stubbornly remain in place (Berrisford, 2011). Therefore, against the above-mentioned statement, the focus of the post-apartheid spatial planning in South Africa has mainly been on various legislations that inform and influence planning. According to Van Wyk and Orange (2014), the first legal expression of the transformative post-apartheid spatial planning system was the Development Facilitation Act, 67 of 1995 (DFA). As a tool to redress the legacy of apartheid spatial planning, the DFA contained the idea of efficient, integrated and sustainable land development in the interest of all inhabitants. Although it was put in place to redress negative impact of the apartheid planning system, DFA was ruled unconstitutional as it was found introducing extraordinary measures to facilitate and speed up the implementation of reconstruction and development projects and programmes relating to land (Berrisford, 2011). Hence, some of the barriers caused by DFA includes the fact that it ended up limiting the power of local government to perform its functions as stipulated by the constitution.

Some few years later after the DFA, South African government came up with a White Paper on Spatial Planning, Land Use Management and Development (Department of Land Affairs, 2001). This sought to envision a new era of South African spatial planning which would be driven by principles and norms with more emphasis on spatial integration, inclusivity, equity,

justice and redress. Another important era of the South African government's efforts to undo the negative impact of apartheid spatial planning has been undertaken in the form of Integrated Development Plan (IDP) and Spatial Development Framework (SDF) under the Municipal Systems Act of 2000. According to Laldaparsad *et.al* (2013), these mechanisms were legislated to empower local municipalities to overcome the legacy of apartheid spatial planning through shared, sustainable and equitable development. The SDF as an integral component of the IDP has mainly focused on spatial translation of the aims of the IDP. The SDF plan in the post-apartheid era also focuses on infrastructure planning and development to promote integration. This also promote the principles of densification, mixed-use developments and development of the existing nodes and corridors. In short, the plan promotes spatial integration through decentralization of those nodes into where the majority reside to undo the spatial legacy of apartheid planning. The figure below shows the structure of the post-apartheid city with a variety of nodes within the former townships (which was not the case before).

Figure 3.1.6 (a): The Structure of the Post-Apartheid City

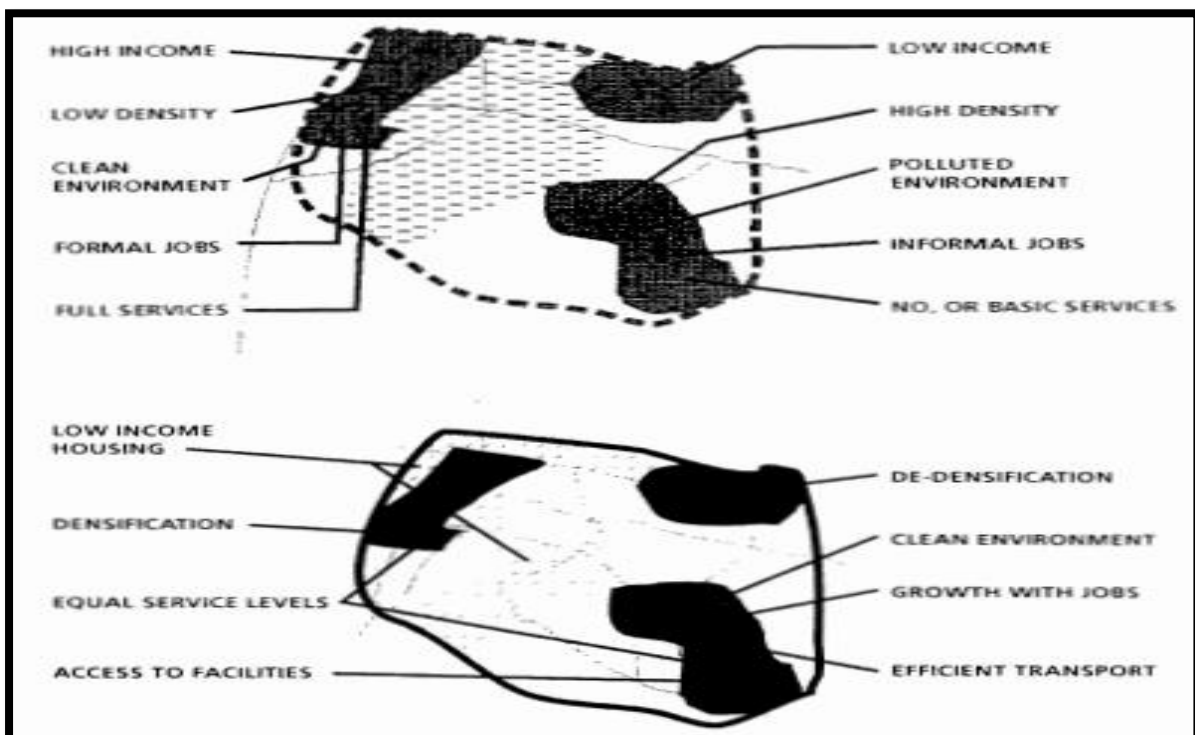


Source: Google images (22/06/2017)

According to Planact (1998: 10), Integrated Development Plans should be based on three principles:

- **Equality:** The planning of new cities must be based on the constitutional principles of equality and the guarantee of certain human and socio-economic rights.
- **Effective use of resources:** The new planning should make decisions about the city which ensures the effective use of our finite resources.
- **Participation:** Integrated Development Plans must ensure that every citizen participate in the planning of the new city. The figure below distinguishes between apartheid and integrated city.

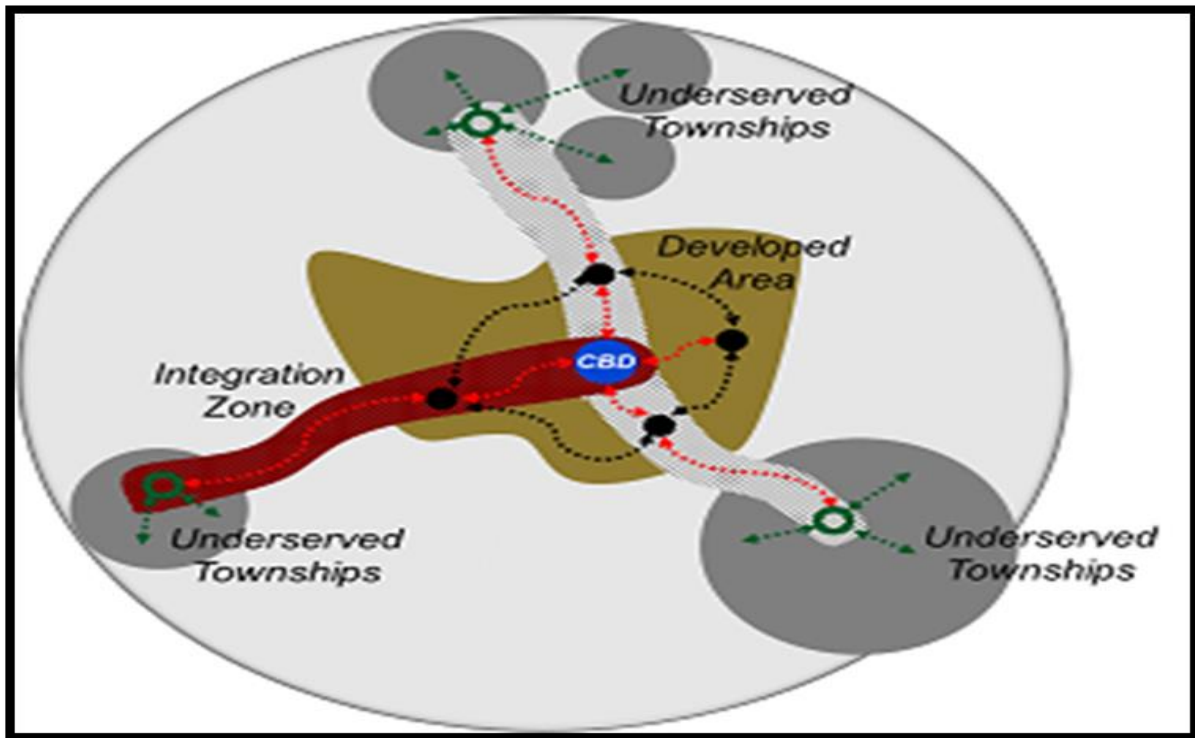
Figure 3.1.6 (b): Apartheid City Vs Integrated City



Source: *Planact (1997)*

The last wave of the South African government's efforts towards a post-apartheid city has been attempted through the recent National Development Plan (NDP). According to the National Planning Commission (2012), the NDP highlights the fact that apartheid planning consigned the majority of South Africans to places far from work where it is difficult to access the benefits that urban living provides. As a response, the NDP has introduced the Urban Network Strategy which fosters the creation of urban networks or town centres to reshape the spatial form of the former South African townships. However, this strategy basically aims to fill the gaps that was opened by the Apartheid planning, this includes lack of economic infrastructure or centres in the townships. Therefore, this is a decentralisation of economic centres to unlock economic potential of those areas while reshaping the urban fabric to achieve spatial integration. The figure below shows the abstract structure of the urban network strategy.

Figure 3.1.6 (c): Urban Network Strategy as part of the Post-Apartheid City



Source: *National Treasury (2016)*

3.2. Growth Pole Theory

3.2.1. *Preamble*

An observation of the growth process of different regions and countries shows that development does not appear everywhere at the same time, when the process starts, some areas are favoured while others are neglected. This is a case in the South African context, where the former homelands and townships were neglected in the provision of economic infrastructure and other services during the previous planning system. The researcher decided to use the growth pole theory in this research to clearly understand the spatial distribution and allocation of economic infrastructure in the South African urban areas. Growth pole theory is one of the theories coherently explaining polarization of development which ultimately leads to spatial disparities among regions.

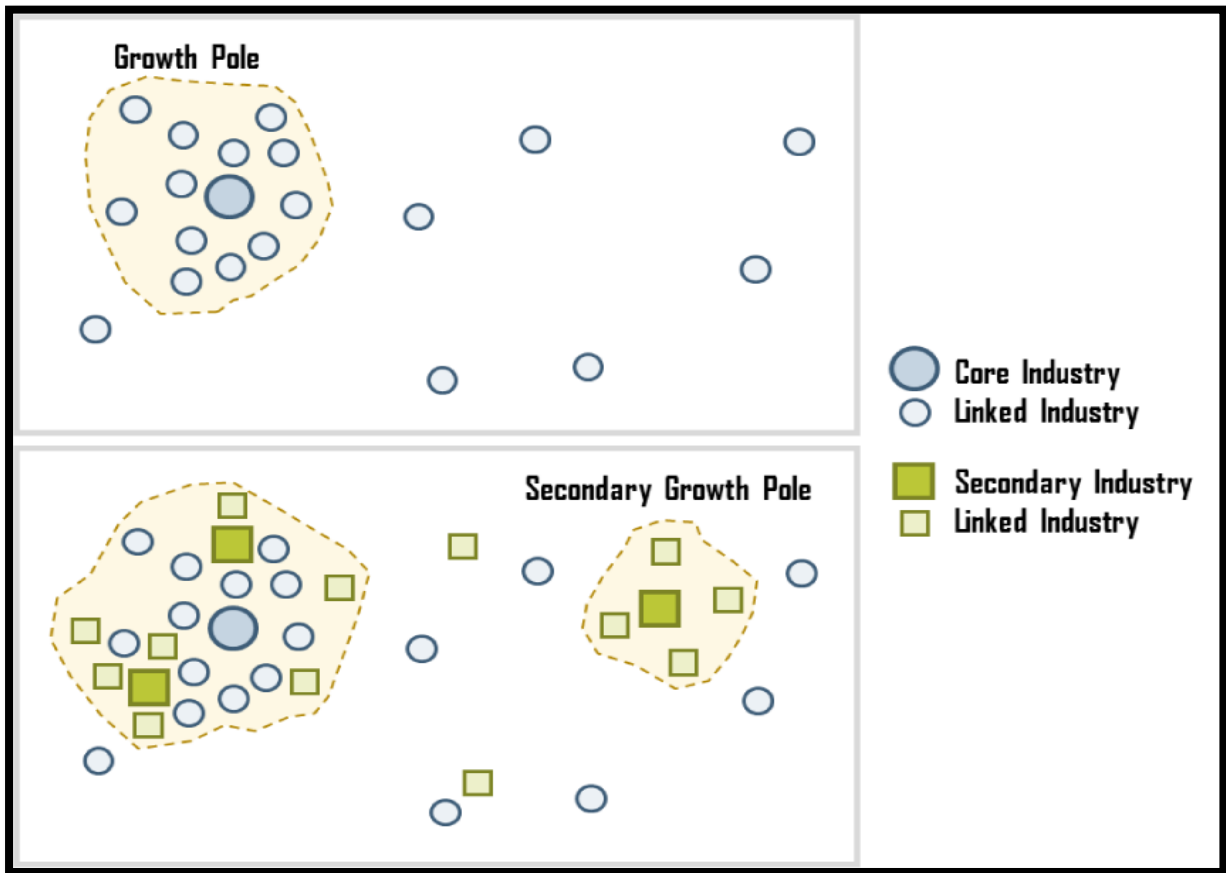
3.2.2. *A Historical Overview of Growth Pole Theory*

According to Gantsho (2008), growth pole concept originated from the British Economist, Sir William Petty (1623-1687), who was concerned about the high growth in London during the 17th Century and noted that strong urban economies are backbone and motor of the wealth of nations. However, Growth pole theory was formally developed by French regional economist

Francois Perroux (1955) is always credited with formalizing elaborating on the concept. He was concerned with the phenomenon of economic development and with the process of structural change. He attempted to explain how modern process of economic growth deviated from the stationary conception of equilibrium growth. According to Perroux (1955), growth does not appear everywhere at the same time; rather, it appears at points or poles of growth with varying intensity. The growth then spreads along various channels and with differing overall effects on the whole economy. The core idea behind this theory is that economic development is not uniform over a whole region but it only occurs around a specific pole.

Wojnicka-Sycz (2013: p,19) argues that growth pole is a regional and industrial planning model for a “set of expanding industries located in an urban area and inducing further development of economic activity throughout its zone of influence”. However, this is the product of agglomeration economies in a leading, dynamic industry or sector that serves as an “engine” for development, creating forward and backward linkages and promoting diversified production and consumption for a growing local urban population and for other growth points throughout the pole’s area of influence. In this manner, an emerging dynamic centre diffuses technological innovation and socio-economic growth throughout the periphery, and urban hierarchy it stimulated (Hite 2004, 54). Rodell (1975) distinguished between growth pole and an economic centre. In his argument, he believes that growth pole is a single enterprise or industry, while an economic centre should consist of a variety of firms. However, this is basically a geographic unit located around a pool of producers. The figure below diagrammatically shows the concept of growth poles depicted in different sizes.

Figure 3.2.2: Growth Poles



Source: *Google Images* (22/08/2017)

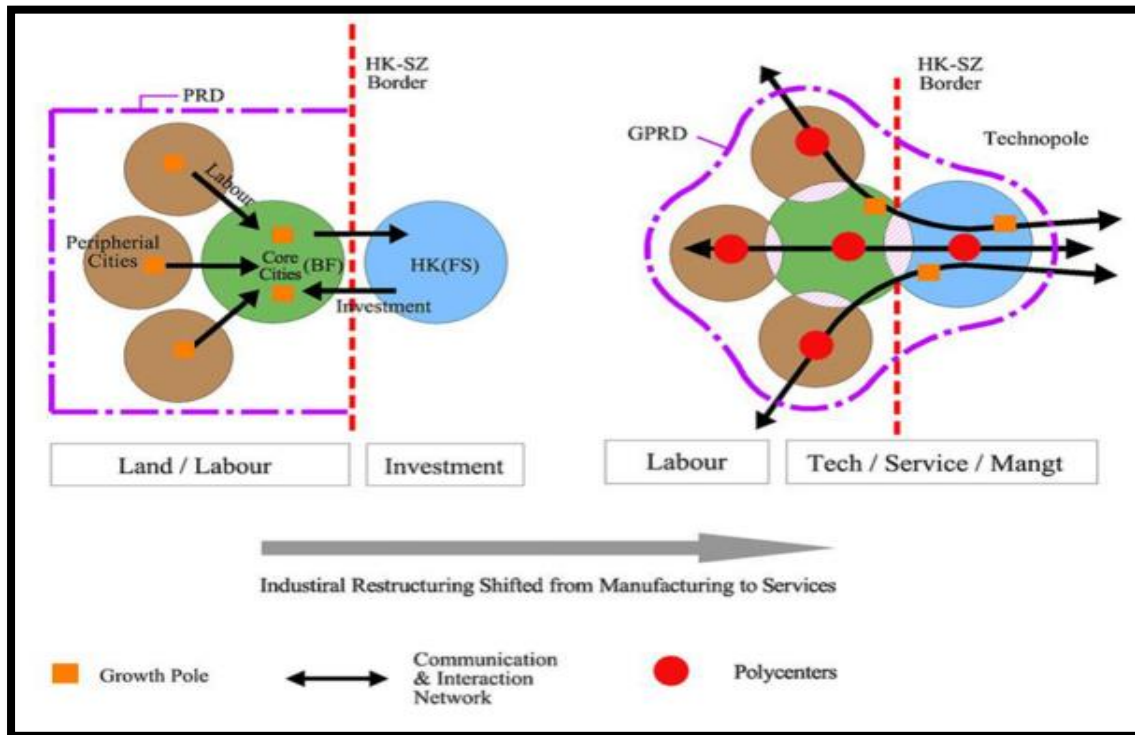
3.2.3. The Impact of Polarization on the Hinterland

Dawkins (2003) notes that Professor Hirschman modified the growth pole theory and stated that, economic growth does not take place everywhere at the same time and once development starts, powerful forces would make for a spatial concentration of economic activities and development of the regions which have initial advantages. Thus, he suggested the concept of the emergence of growing points or growth poles in the process of development, because interregional imbalances in the development are inevitable to growth. Hirschman (1958) discusses how polarized development may benefit both the growing region and the surrounding hinterland. In his argument, he states that surrounding hinterland may benefit from what he calls 'trickle-down effect' which has a lot to do with trade between core and the periphery. Wojnicka-Sycz (2013) on the other side states that economic growth in the form of innovations, is spread throughout the periphery of the growth centre to lower-order cities and localities nearby. Moreover, innovations and knowledge once generated in a certain central location are expected to spread among regions from one locality to its neighbours. However, Hirschman

(1958) also holds that 'polarization effect' resulting from competition and trade barriers erected by the developed region may produce high levels of spatial disparities with a negative impact on the periphery.

Even though growth pole theory has been praised by various scholars in encouraging investments in economic infrastructure and reduced spatial disparities, the theory has been subject to criticism. In the 1970s, the academic trend surrounding the growth pole strategies was completely changed. As mentioned in the introduction, most of the regional economists started criticising the growth pole strategies and governments turned their back on the growth pole strategies as a policy option of regional planning. This change was caused by the fact that a lot of regional policies known as "the growth pole strategies" resulted in unsatisfactory and sometimes unfavourable outcomes (Miyoshi, 1997). This was based on the assumption that growth pole strategies could not bring development to the hinterland. Stohr and Todtling (1977) argued that the growth pole strategies may have been successful in reducing interregional disparities, but as local spread effects were weak; they had at the same time caused intra-regional and rural-urban disparities. Figure 3.2.3 below provides an illustration of growth poles in relation to the periphery.

Figure 3.2.3: Growth Poles and their Spatial Relationship to the Core and Periphery



Source: Google Images (22/08/2017)

3.2.4. Special Economic Zones in South Africa as Example of Growth Pole

As stated above, the growth pole theory stipulates that growth does not take place at the same time, it occurs in the process of polarization through which other areas become more developed than the others. In South Africa, the ANC-led government has put more emphasis on industrialization as a strategy for economic development. However, this has been undertaken in the form of well-known Special Economic Zones (SEZ). In this case, the researcher used the South Africa's SEZs to discuss the growth pole theory.

Furthermore, Nel and Rodgers (2013) argue that spatial economic planning in the context of growth poles has been taking place for decades in South Africa. This is confirmed by Tomlison and Addleson (1987) who discuss that this spatial intervention of growth points commenced as early as in the 1950s with what was commonly known as Regional Industrial Development Programme (RIDP) which supported the establishment of approximately 80 'growth points' across the country in which manufacturing firms benefited from the available infrastructure. Equivalent to the growth poles in the current situation in South Africa are the country's Special Economic Zones. In South Africa, SEZs are officially defined as geographical designated areas

of a country which are reserved for a specific economic activity which are then supported through special arrangements and support systems (Department of Trade and Industry, 2012).

As the theory of growth pole stipulates that growth points become the secondary economic centres, the SEZs in South Africa have become the points where growth is concentrated and have been strategically located near the existing cities such as the location of Dube Tradeport to Durban in the province of Kwa-Zulu Natal. Correspondingly, Speakman and Kovisto (2013) admit that growth poles in Africa are emerging as a key instrument to overcome barriers to investments and to support the agglomeration of economic activity. In their argument, they note that the growth poles simply bear some resemblance but not precisely like SEZs which are comprised of different zones such as export processing, economic processing, agro-processing and *inter alia*. However, despite this; SEZs better explain the idea behind the growth poles specifically in the case of South Africa where they have become the strategic secondary growth points to attract investments. The following figures display the images of Dube Tradeport and COEGA which form part of the SEZs in South Africa.

Plate 3.2.4: Dube Tradeport and COEGA as Examples of Growth Centres



Source: Dept. of Trade and Industry (2012)

3.2.5. Edendale Town Centre as a Future Growth Centre

The use of the growth pole theory in this research has provided the researcher with a spatial perspective to understand planning guidelines and standards that municipalities use to allocate economic infrastructure in cities. The growth pole theory as originally formulated gives insight

that infrastructure is polarized in geographies called nodes and corridors (Gantsho, 2008). To support this, Todes (2008) notes that nodal economic development corridors are most common in the South African context to address urban spatial fragmentation. The theory argues that growth does not appear everywhere at the same time, but it manifests itself in points where there are opportunities for growth. This applies to this study which is primarily concerned about the role of spatial planning in addressing spatial inequalities of economic infrastructure in Edendale Township. In that instance, growth or provision of economic infrastructure never began in Edendale but it only took place in Pietermaritzburg. Therefore, it is expected that the proposed Edendale Town Centre will serve as a secondary centre of economic growth and development for Edendale and the surroundings. Similarly, Bhandari (2006) confirms that the theory has been the major source of economic and infrastructure development in developed countries such as Britain. However, developing countries with no exception of South Africa are beginning to invest in economic infrastructure development as a gateway of escaping spatial inequalities.

Practically, this theory endorses nodes as suitable if not conducive points to deliver economic infrastructure and it acknowledges the need for technological innovation to sustaining the same. According to Gantsho (2008), urban areas are continuing to be the backbone and motor of the wealth whilst supporting rural population with job opportunities. As the theory of Hirschman suggests, it is expected that the development of the proposed Edendale Town will ensure spatial integration in the area while importantly having a socio-economic impact to the surrounding areas or rural hinterlands such as Vulindlela. Furthermore, the growth pole theory insists that it is informed to examine guidelines and standards for the size, location and level of facilities to deem an area as suitable for investment (Campbell, 1972). Likewise, in the South African context, the National Development Plan (NDP) came up with what is commonly known as the Urban Network Strategy which choose strategic locations in which both public and private sector investment can occur to promote economic development of those areas. This is almost like the growth pole theory which is rooted on the fact that for an area to be referred to as a growth pole, there should be public facilities and private industries.

The theory also applies to this study when deeply scrutinizing the location elements. Equally as tenets of the growth pole theory, the guidelines and standards for allocating services as per the CSIR (2011) put emphasis on the scale of facilities to map nodal points. The manifestation of the theory can also be viewed on the location of Kwa-Mashu and Umlazi Town Centre. The selection criteria for the development of Kwa-Mashu and Umlazi Town Centre which are level-

two on the eThekweni Social Facility Node Hierarchy have considered points with existing services along the Integrated Rapid Public Transport Network (IRPTN) close to points of social integration (CSIR, 2011). The population threshold of 400 000 or more within a 20 minutes travel time was an additional criterion to direct and decide on the allocation of such nodes (CSIR, 2011). It is to this effect that the researcher argues that there is consistency on the principles of the growth pole theory with the guidelines and standards for the planning of economic infrastructure in cities and particularly when examining the town centre initiatives that are planned as part of the urban network strategy.

3.3. Marxist Urban Theory

3.3.1. *Background of the Theory*

Marxist perspective and interpretation on spatial inequalities began to form around the concept of uneven development (Gyuris, 2014). This theory is a product of Karl Marx's theory, a German Sociologist who was concerned about unequal relations between workers, which he termed 'proletariats', and owners of the means of productions or 'bourgeoisies'. This approach was not actually found in the works of Marx although his ideas were more concerned about spatial disparities. David Harvey (1985) is generally regarded as the main proponent of Marxist urban approach on spatial inequalities. Marxian urban theorist condemn capitalism for subjecting other segments of society to poverty and fragmented spatial form. They believe that current trends of underdevelopment and uneven development have been caused by the capitalist system that fostered development on those well-resourced areas while neglecting poverty-stricken areas. However, Marxist also criticize massive urban developments because they end-up fulfilling the needs of the capitalists.

3.3.2. *Marxist Perspective on Spatial Inequalities and Fragmentation*

Harvey (1985) interpreted spatial inequalities through introducing a theory of uneven geographical development. In explaining this, six interconnected principles or theses were discussed. These include spatial concentration, spatial dispersal, surplus absorption, uneven geographical development, political theses as well as state connection. A point of departure in Harvey's theory is that uneven development is because of the capitalist mode of production. Therefore, spatial inequality of economic infrastructure including industrial and shopping centres can be better explained in the context of capitalism. Todes (2008) argues that in many African countries mainly in South Africa, infrastructure development is private sector driven. This involves the state tendency to give a platform to private developers which ends up focusing on those areas with resources while neglecting those areas with less or no resources.

Such spatial organisation of the urban environment leaves visible patterns of uneven development.

However, Dawkins (2003) articulates that Marxist theories of uneven growth and spatial fragmentation place the roots of uneven development crisis particularly in the context of capitalist system. Smith (1984) defines uneven development as the geographic expression of the contradictions of capital. In that regards, Marxist proponents believe that the existing spatial inequalities and fragmentation is a result of unequal economic opportunities and the concentration of development to the areas of those who are more economically stable and politically powerful, and this apparently results to uneven development as stated above. Therefore, the Marxist theorists examine urban and regional economic change as caused by historical evolution in a society's dominant mode of economic production. Based on this argument, it can be interpreted that the current fragmented spatial form and trends of underdevelopment can only be understood in terms of historical development of the capitalist mode of production.

Marxist perspectives on spatial inequalities can also be understood through the argument of Castells (1972), who states that current underdevelopment trends reflect the exploitation of particular regions by previously developed capitalist regions, through colonial, industrial and financial domination. This leaves a legacy of peripheries that are disadvantaged in terms of higher transport and distance costs and weak agglomeration advantages (Kuhn, 2015). The notion of core and periphery is a good example of the model explaining spatial inequality as the core represents the main city or town, which is dominant in terms of both political and economic power; thus, exploiting the periphery which involve those areas on the outskirts of the core. Kuhn (2015) also notes that many Eastern European capitals such as Bratislava, Warsaw, Budapest and Prague are undergoing rapid expansion as well. The downside of these centralization dynamics, however, is that a growing number of towns and regions are increasingly "left behind". This is true of sparsely populated rural areas, but also the old industrialized regions of Europe (e.g. Northern France, Northern England, Ruhr, etc.) and many smaller and secondary cities. Marx (1885) explains an increase in spatial disparities due to economic turnover. On other side, Marx and Engels (1884) (cited in Gyuris, 2014), argue that capitalism established unequal power relations between different regions and resulted in differentiated relationship between towns and cities.

3.3.3. *Marxist Theory in Urban Planning*

The general role of urban planning is more concerned with the improvement of the quality of life for urban dwellers. Foglesong (1986) argues that urban planners are just ‘agents of state that facilitates the accumulation including the development of physical infrastructure, land aggregation and development’ so that bourgeoisie can maintain social control. Since planners have shifted from public good to serve the private interest; urban issues such as spatial inequality, fragmented spatial form, unemployment and lack of infrastructure have become prevalent in many urban areas. Harvey (1976) argues that forms of built environment including roads, houses, economic centres, parks and inter alia have become politicized because of conflict arising out of their being collectively owned and controlled, or because of the ‘externality effects’ of private decisions concerning their use. According to Fainstein and Fainstein (1979), Marxist urban planning criticizes the bourgeois society in exploiting and neglecting the needs of the working class.

In addition, Foglesong (1986) on the other side argues that Marxist urban planners perform a set of functions in a capitalist society that help to mediate the relationship between the state on one side and capitalist developers on the other hand. They organise the collective interests of capitalists by rationalising urban development. In that regards, that kind of a planner would make sure that whenever they plan for economic growth for instance, there would be some methods to benefit the lower classes of the society rather than only the private interest. Moreover, in a Marxist planning point of view, the economic infrastructure would not be planned along the major corridors such as along the freeways only as to satisfy the private interest rather, it would be directed into where most of poor people live so that they could find means to derive their livelihoods. This will ultimately balance the private interest of profit-making with public good. Even though the plans and strategies from the national government might promote the interests of corporate bourgeois, local governmental planning units and advocacy in planning can play a role in swaying the investment interests to benefit the previously disadvantaged and poor segments of society. Gleeson and Low (2000) note that in the case of Australia, the Melbourne Planning Authority during the 1880s was successful in preventing large American style development of free-standing malls that would have only benefited the bourgeoisie by constraining the expansion of metropolitan area to 15 existing regional centres. However, this supports the Marxist argument that planning should be practiced for the benefit of those who were previously disadvantaged and poor to improve the quality of life.

3.3.4. *Marxist Take on South Africa's Spatial Targeting*

Based on the above argument, the Marxist theory best applies to a South African context and generally to the study of spatial inequality. The Marxist perspective speculates that the current spatial form and trends of underdevelopment resulted from the previous political and economic system. In that regards, it is quite clear and coherent that inequalities in a global context are exacerbated by the capitalist system that favours unequal distribution of wealth, leaving other areas marginal and disadvantaged. The most suitable example of the relevance of Marxist approach in a South African context would be the one of apartheid industrial decentralization policy, and spatial targeting (Luiz, 2003). Industrial decentralization in the case of South Africa was envisaged as a means where unemployment could be reduced, urbanization curbed and the problems associated with rapidly growing cities could be addressed. One of the examples of decentralization was growth pole strategies which according to Luiz (2003) aimed at promoting regional growth by stimulating industrial activity in a few large urban centres. The reason behind this is that it was deemed impossible to develop everywhere simultaneously. Planners therefore needed to select key priority areas (both spatial and sectoral) so as to concentrate resources and build up agglomeration effects. The post-apartheid spatial targeting interventions in the South African context includes the Spatial Development Initiatives (SDI). Likewise, Bek and Taylor (2001) discuss that the SDI was a South African government's policy to create development in areas with underused potential. Moreover, such spatial targeting was an attempt to identify and then facilitate economic potential in particular locations in South Africa by enhancing their attractiveness for investment to create job opportunities and stimulate growth.

The spatial targeting is critiqued by some Marxist scholars such as Todes (2013) who notes that most of the previous spatial targeting interventions by South African government rarely achieved their objectives as they mostly taken the form of area-based development, often focusing on particular nodes of different sizes. In that regards, only those areas with sufficient resources were targeted while poor segments of the society were ignored. The South African government's concern with this mega-project at the expense of local communities is part of an international trend where forces of 'globalisation' have overtaken 'development' (Collins, 2000, p. 11). The emphasis is on making South Africa internationally competitive at any cost with local needs only featuring at a subordinate level. Reconciling these international pressures with local needs is an important challenge if governments want to effectively address poverty levels. However, Marxist perspective can be applied in the case of South Africa where the government has introduced major spatial development projects such as SDIs to attract

investments and create job opportunities. In that regards, Marxist form of planning criticize these projects as they end-up only satisfying the needs of private developers while the country remains the victim of underdevelopment characterised by spatial inequalities.

3.3.5. Shortcomings of Marxist Urban Theory

In spite the Marxist perspective's success on explaining spatial inequalities, it can be noted that the argument is controversial as it just referred to the issue of spatial inequalities at several levels. Additionally, Gyuris (2014) also notes that the argument does not give a clear overview of the reasons for and temporal changes of inequalities in space. Moreover, Marxist perspective is also controversial in the sense that it does not suggest whether capitalism reduces, reproduces or increases spatial inequalities. The theory also treats capitalism as the 'scapegoat' for the existing spatial inequalities while in some other countries funds generated by the capitalist system could be utilized to develop those areas which were marginalised as to promote balanced development. This can also include funds to develop economic infrastructure towards an integrated and sustainable urban development.

3.3.6. Lessons for South African Urban Planners

In as much as the Marxist theory applies in South African context, there are lessons one can learn from it. Firstly, the theory explains clearly that current trends of spatial inequalities exist because of the previous political and economic system that subjected other groups to poor urban environments. This according to this theory has led to uneven development which is prevalent in South Africa. Through the work of Marxist theorists, one can learn that rural-urban divides occur because of unequal distribution of economic development opportunities as well as state-bias policies that favours urban areas while subjecting rural dwellers to poor socio-economic services.

After all, one can relate this to South African context noting that status quo relating to poor housing and decaying infrastructure in some urban areas may have occurred because of unequal distribution of powers. South Africa has undergone a long period of segregation which led to unequal and uneven development. Therefore, this pose a huge work to the urban planners to undo the legacy of the previous system. In that regards, Marxist beliefs and principles can be better applied in this situation, since Marxist urban planners believe in equal distribution of resources and services. If such can be mastered, South African citizens will eventually enjoy a regime with reduced spatial inequality, equitable and balanced development as well as sufficient economic infrastructure to cater for their needs in urban and rural areas. Therefore,

it should be encouraged that urban planners in South African municipalities adopt Marxism as part of their agenda to undo the legacy of apartheid planning towards an integrated urban development.

3.4. Urban Justice Theory

3.4.1. *About the Theory*

During the 1970s, a group of theorists who were influenced intellectually by Lefebvre (1974) and practically by the uprisings that occurred in European and American cities during the preceding decade broke away from the types of analysis constituting the mainstreams of their disciplines and applied a political-economic epistemology to the study of urban development. Underlying their investigations was antagonism to the injustices arising out of capitalism, especially as it affected urban development. Hence, urban justice theory was constructed because of the perceived spatial inequalities persisting in the urban settings.

The use of urban justice theory in this research has provided a researcher with a good understanding that citizens have rights and that also involves the right to access basic services such as the economic infrastructure that is planned for the use by the local people. The urban justice theory is embedded on a belief that every citizen has the right to the city. This theory adopts the academic work of David Harvey (1973) who wrote a book on ‘Social Justice and the City’; John Ralws (1971) who introduced ‘A Theory of Justice’ as well as the most recent work of Susan Fainstein (2010) who came up with ‘Just City’. Fainstein (2013) argues that during the 1990s, scholars began to be more explicit about the concept of justice. Three main approaches to urban justice were developed: (1) communicative rationality; (2) recognition of diversity; (3) the just city/spatial justice. The urban justice theory was developed as a response to ordinances and policies that promoted minimal access of some racial groups and classes to the city centre. This theory of urban justice also maintains the view that just cities are the ones that are integrative, inclusive and equal (Fainstein, 2010).

3.4.2. *Addressing Spatial Inequalities through Promoting Urban Justice*

In ‘Social Justice and the City’, Harvey (1973) who is generally considered to be the most prominent geographer of the latter half of the twentieth century describes how he moved away from more conventional analysis to a focus on the relationship between urban space and the social situation of residents. He argues that space, social justice and urbanism must be understood in relation to each other. Furthermore, he discussed that urban planning was almost an adverse and desperate territory because it was an interface of both social and spatial analysis.

In that regards, he suggests that social scientists should theorise some other ways to understand the city in a way that brings together the social processes and the spatial form. In this argument, a concept of 'spatial consciousness' is proposed; which enables an individual to recognise the role of space around them. It also allows them to realise the relationship that exists between them and their neighbourhood.

Galland and Enemark (2013) note that the spatial planning system that allows its policies and practices to lose spatial consciousness is less likely to produce plans that matter. Accordingly, they further noted that in the case of Denmark, spatial consciousness has been replaced with a pursuit of a spatial agendas rooted in the influence of growth-oriented and sectoral policy strategies. However, this reduces urban justice as growth-oriented plans only focus on the economic part of the community while ignoring the needs of the ordinary people. This further generates spatial inequalities. Harvey (1973); on the study of spatial inequalities among richer and poorer neighbourhoods of a city and its implications on spatial forms of the city, discovered that jobs tend to be in suburban areas whereas low-income housing; where most poor stay is in the inner core of the city. However, this is extremely discouraging to the poor because they needed to travel longer distance to their places work. Hence, the study has also used the apartheid city model to discuss how this has taken place in the context of South Africa. Marcuse (2009) recommend that to promote urban spatial justice, any overall strategy for dealing with urban systems must include policies designed to transform the spatial form of the city and the social processes. This basically means that spatial objects including housing provision, employment opportunity locations and transport links must align with social structures and activities that link people with organisations.

Garret (2005) argues that Rawls's theory of justice provides a framework that explains the significance in a society assumed to consist of free and equal persons of political and personal liberties of equal opportunity, and cooperative arrangement that benefit the more and the less advantaged members of society. In his theory, Rawls (1971) proposes two principles of social justice. The first principle of social justice asserts that each person is to have equal right to the most extensive basic liberty which is equal to others. The second principle includes that social and economic inequalities are to be arranged so that they are to be of the greatest benefit to the least-advantaged members of society. Marcuse (2009) further discuss that the first principle proposed by Rawl has a lot to do with equal liberty for all residents in the urban setting. Furthermore, this may translate to the freedom of access by urban residents to the centres of economic, social and political opportunities. The second principle then means that a society

may undertake the projects that require giving some persons more power, income, status and so forth. Hence, those projects would promote spatial equality through giving residents access to useful economic infrastructure for their employment opportunities. Such projects also raise living standards of everyone in the community and empowering the least advantaged persons to the extent consistent with their well-being.

The theory of urban justice also quotes from the works of Susan Fainstein. Fainstein (2010) coined the concept of 'just city' where she criticized the comprehensive planning particularly in the context of London and Paris, stating that this form of planning was undertaken to attract capital investments while ignoring the adverse impact on low-income groups. According to Fainstein (2010), the just cities are characterised by three principles namely: equality, democracy and diversity. Fainstein believes that urban policy should be devoted to justice for all residents, especially low-income people, and that scholars can help to find the right path. In testing the three principles of just cities, she examines recent projects in New York, London and Amsterdam. Among the three principles of justice, she puts most emphasis on the way planning projects promote equality and enhance the lives of low-income residents. It is no surprise that New York does worse in this respect and Amsterdam is portrayed as the heaven of redistribution policies because of the social housing schemes. Moreover, London is somewhere between, coming from a similar tradition as the Netherlands, but moving more towards the American system. Therefore, Fainstein concluded that Amsterdam is the most equitable and democratic of the three cities.

Throughout the scholarly arguments on urban justice, one can note that for the urban planners and other development professionals to promote urban justice, there are principles that need to be promoted. Such principles include liberty, access, equality, diversity and democracy. It is believed that through the promotion of such principles, there will be high levels of justice in our cities. In the case of Greater Edendale Township, urban justice would be equivalent to the provision and the development of the proposed Edendale Town Centre for the local people. Therefore, in this study, it is argued that efforts of promoting urban justice would turn out to reduce perceived spatial inequalities while also reshaping the spatial form to integrate the previously disadvantaged townships.

3.4.3. Urban Justice in South Africa

Urban justice theory suitably applies in the South African context when considering the history of the country. In that regard, urban justice can be explained through tracing back into the

apartheid planning era where particular racial groups were not allowed to have access to the city centre and other productive centres of the society. Harvey (1973) was concerned about the long distance between the places of work and residence for low-income groups as stated above. This is almost similar to what has been happening in South Africa, where jobs were far away from the townships in which low-income groups used to stay. Currently, the theory still applies as most urban residents are still compelled to commute longer distances to the places of work under very expensive transport costs. Urban justice theory also relates to the situation of South Africa since the country had once undergone a system of racial segregation which also influenced the way towns, cities as well as townships were planned. There was generally no democracy and equality since blacks had limited access to the centres of social, economic and political opportunities; thus, this scenario links to Fainstein's concept of 'Just City'.

However, critics of urban theory of justice state that this theory neglects the conflict that is taking place in social and political systems. Maroufi (2012) challenges the theory of urban justice proposed by Fainstein by stating that Fainstein's theory addresses more the public officials than planning practitioners. In her view, the intervention of higher levels of government is necessary to fulfil the three elements of justice. Secondly, the same theory does not suggest clear guidelines for implications, instead; focus more on what should be done rather than how this criterion should be applied. Moreover, the general theory of urban justice does not give urban planners a mandate on how justice can be achieved in the urban setting.

3.4.4. Urban Justice: A Lesson for Urban Planners

The urban justice theory would be more significant if one understands it from a planner's perspective since it enables a planner to consider various factors that impacts on people's lives across the space. Firstly, it should be noted and understood that urban policy and urban planning are generally concerned with the management of urban areas and they are the most important activities influencing investment decisions in the city (Fainstein, 2012). In that regards, for a city to have good planning, there should be proper urban policy and that depends on the coordination amongst the decision-makers or urban planners. Therefore, achieving urban justice in a planner's perspective requires a conscious decision-making and a good understanding of the social, economic, environmental as well as spatial processes affecting people's lives. Through urban justice theory, a planner would learn that in order to achieve high levels of well-being amongst the residents, there should be an integration of social processes and spatial forms.

As urban justice theorists argue that in the past, particularly in some parts of Europe, there was no justice in the cities where you could find that low-income groups were located far away from the services they would need such as employment centres. The theory gives planners a framework on how integrated development planning should be undertaken through stipulating that socio-economic services should align with spatial form of the area. In the case of the previously deprived apartheid townships in South Africa, urban justice can be highly achieved through channelling networks of economic infrastructure to where the people live to address the issues of spatial fragmentation and unemployment. Urban justice in South Africa can be further achieved through planner's efforts in enabling the citizen's participation in the proposed plans such as the IDP. Lastly, through reading the theory, one would understand that principles such as equity, democracy and diversity should be applied, hence everyone should be given equal access to the city centre.

3.5. Defining Concepts

3.5.1. *Spatial Inequality*

Spatial inequality implies a situation where there is an unequal distribution of resources or services in a particular geographic space (Kuhn, 2015). This results in other locations having a better access to the centres of political, social as well as economic opportunities. Spatial inequalities according to Kim (2008) may range from disparities in income, health, education, poverty and water and sanitation; thus, this present political and economic challenges for the governments of many developing countries. According to Kanbur and Venables (2005), spatial inequality determines the overall inequality when spatial and regional divisions align with political and ethnic tensions to undermine social and political instability. In this study, spatial inequality is just zoomed into the form of inequalities of economic infrastructure. Such spatial inequalities are believed to be reduced through a proper spatial planning that will encourage the development of shopping centres and other commercial centres to integrated previously fragmented areas.

3.5.2. *Economic Infrastructure*

Infrastructure investment, especially in the context of South Africa, is currently dominating the policy and public debate. This is proved by its existence in various policies including the recent National Development Plan (IDP). Fouri (2005) argues that 'infrastructure' has a variety of definitions and interpretations. The reason for the various definitions is related to infrastructures various impacts and incidences. In that regards, economic infrastructure is

defined as the type of infrastructure that promotes economic activity such as roads, highways, rail roads, airports etc. as opposed to social infrastructure which promotes health education and cultural standards (Fouri, 2005). In this research, when the researcher discusses about spatial inequalities of economic infrastructure, the focus is put on the availability of activity corridors, shopping centres and the general economic centres (industrial and commercial) where urban dwellers can derive their livelihoods.

3.5.3. Spatial Fragmentation

According to Altinok and Cengiz (2008), spatial fragmentation refers to the discordance of urban land use and physical properties of the space, spatial atomization and general lack of integration of the city. That includes increasing separation of functions like housing, business, recreation and shopping over the urban space. In the South African context, spatial fragmentation mainly occurred during the Apartheid era, where there was a separation of land uses such as places of residences and work mainly amongst the black population. Dewar and Todeschini (2004) note that blacks had to travel long distances to access work places. However, infrastructure planning and development is one of the measures defined by the South African Government to achieve spatial integration. Edendale Township is one of the previously spatially fragmented townships in South Africa, this could be seen in the incompatibility of land-uses such as residential and places of work.

3.5.4. Spatial Planning

This concept refers to the strategies and approaches that are utilised by both the public and private sector to regulate and influence the distribution of people and various activities across the space. Spatial planning has a lot to do with the coordination of practices and policies that affect spatial organization. According to Taylor (2010), spatial planning involves an understanding of how settlements function and the role of planners in attending to the land use activities that underlie outward physical form and the way those land uses are inter-connected by various modes of transportation or other means of communications. In the case of Edendale Township, spatial planning in the form of planning for and development of economic infrastructure is believed to make a difference in reducing spatial inequalities while restructuring the area.

3.5.5. Spatial Integration

Spatial integration expresses the opportunities for and level of economic, social and cultural interaction within and between areas that have were previously fragmented and may reflect the

willingness to co-operate. Warnich and Verster (2005) recommend that in spatial integration, more importance should be given to horizontal and vertical spatial linkages and this does not mean locating different activities in different regions, but the hierarchical location of economic development at different levels. Moreover, this also indicates for instance, levels of connectivity between transport systems of different geographical scales. Spatial integration may also involve some cases of distribution; promoting integration between those areas that were segregated, through various development initiatives such as corridors in the case of South Africa (Todes, 2008). Spatial integrated planning is thus an important lever for promoting sustainable development and improving quality of life. The growing commitment to sustainable development in many countries and the increasing interest in spatial planning systems and policies means that there is currently considerable opportunity to reshape and strengthen spatial planning systems across the countries. In the case of Edendale Township in which the previous planning system encouraged separate developments, the proposed Edendale Town Centre is hoped to integrate Edendale to other surrounding poor as well as wealthy areas. This will ensure spatial restructuring in the post-Apartheid era of planning.

3.5.6. Spatial Transformation

The relevant spatial transformation in South Africa is that of urban spatial transformation, where the municipalities are undertaking projects for the development and upgrading of areas that lack progress and the areas that were previously disadvantaged due to apartheid planning. The Department of Human Settlements (1999) defined urban spatial transformation as integrating housing and other forms of development. In this regard, urban transformation involves construction of new housing and the upgrading of existing urban settlements; the development and upgrade of infrastructure services; the establishment of industrial and business estates; the promotion of investments for local economic development as well as the promotion of public involvement in decision-making.

3.5.7. Township

The term township is an apartheid construct, which was used in planning ordinances to define the set of areas or land parcels that guarantee rights and title on individual owners in a specific urban setting. During the Apartheid regime, the term was used to specifically refer to non-white areas; those which were designed exclusively for black or Africans. Many townships expanded after 1950 because of the enforcement of the Group Areas Act (No. 41 of 1950), and racially engineered town planning legislation, which the government implemented to force the entire non-white urban population to live in townships areas. Such areas were developed without any

elements of urban development such as public services, recreation, green spaces industry and proper transport networks.

3.5.8. Urban Reconstruction

Urban reconstruction is a process that includes redevelopment and rehabilitation of the urban area. This process also involves construction of up to date building or adding features to complement the existing land-uses. According to Huan and Lei (2010), urban regeneration in the South African context includes the development and reconstruction of townships that were previously neglected by the Apartheid government into sustainable, economically stable, integrative, habitable as well as inclusive urban environments. Likewise, Edendale Township is one of the urban areas in which current government tries to rehabilitate them through promoting and encouraging both public and private sector investments. This have been carried out through developing existing economic nodes for local economic development.

3.5.9. Integrated Development Planning

According to Patel (2000), Integrated Development Planning is a process through which all municipalities in South Africa prepare a strategic development plan for a period of five years. This is a post-modern approach to planning that involves the municipal officials and residents of those municipalities to find the best solutions to achieve positive long-term development. The IDP formulation process acknowledges residents as people who best know what they need. The Integrated Development Plan (IDP) is a product of the integrated development planning process. According to the Municipal Systems Act of 2000 (Act 32 of 2000), all municipalities (Metropolitan, District as well as Local Municipalities) must undertake an integrated development planning process to produce a plan (IDP). As the IDP is a legislative requirement; it has a legal status and it supersedes all other plans that guide development at local government level.

Mzimela (2013) argues that integrated development planning is perceived as a shift from traditional approaches to planning such as Apartheid approaches to spatial planning. The integrated development planning is relevant in the South African context which has undergone a segregated planning era under the government of the National Party. The approach envisions South African municipalities with a strategic, integrative, responsive, inclusive and performance driven in character (Allebiosu, 2005). Furthermore, Mogaladi (2007) emphasise that integrated development planning is an approach designed to address poor planning of the past to ensure sustainable rural development and provision of infrastructure. Furthermore, the

integrated development planning was introduced as a strategic approach to deal with spatial inequalities left over by the Apartheid form of planning. The aim of integrated development planning is to integrate rural and urban communities in one economy while linking poverty-stricken neighbourhoods into the mainstream economy (Allebiosu, 2005).

IDP is a comprehensive plan which includes other sector plans within the municipality. Spatial Development Framework (SDF) is one of those sector plans which play a role in translating the objectives of the IDP in a spatial form. The SDF promotes the development of infrastructure as one of the initiative to escape widespread spatial inequalities in previously fragmented areas. In that manner, rehabilitation of the existing nodes and corridors is taking place in most of the South African Townships to unlock the socio-economic potential of those areas. This form of spatial restructuring ensures that those areas which were neglected in the Apartheid era are taken care of.

In local governments, integrated development planning employs a compact development approach and transportation planning system to integrate the previously marginalized areas (McClinton and Zuberi, 2006). This can be testified by the incorporation of the transportation plans in the initiatives to develop and plan for economic infrastructure in municipalities such as eThekweni Metro and Msunduzi Municipality which have begun to adopt an Integrated Rapid Public Transport Network (IRPTN). In the case of Edendale Township, IDP as stated above is the supreme plan that directs and coordinates development within the municipality. Such plan promotes integration through development of infrastructure, hence the proposed Edendale Town Centre is one of the economic infrastructure that is planned to integrate Edendale into other wealth and poor areas of Pietermaritzburg.

3.5.10. National Development Plan

The National Development Plan (NDP) refers to national imperative of eliminating poverty and reducing inequality by 2030 that was developed by South Africa's National Planning Commission in 2011. The NDP realises that Apartheid planning led to the fragmentation of the urban fabric. Therefore, according to the National Planning Commission, NDP is regarded as a strategy to address the challenges of Apartheid geography and create the conditions for more humane and environmentally sustainable living and working environment. It is proposed in chapter 8 of the NDP that all spatial development should conform to the following normative principles and should explicitly indicate how they would meet the requirements of these principles:

- Spatial justice
- Spatial sustainability
- Spatial resilience
- Spatial quality
- Spatial efficiency

Through the Presidential Infrastructure Coordinating Council (PICC), government recently adopted an Infrastructure Plan that is intended to transform the economic landscape of South Africa, create a significant number of new jobs, strengthen the delivery of basic services to the people of South Africa and support the integration of African economies. In the case of Edendale Township, the NDP best applies as the area reflects all the elements of Apartheid planning; being separated and segregated from the central part of the municipality, an area lacking in many infrastructure services including economic infrastructure, an area deficient in nearby employment opportunities, and an area lacking in many social services particularly of higher order types. The NDP identified the Greater Edendale area for township renewal and through the establishment and development of an Urban Hub (Edendale Town Centre) seeking to advance the transformation and regeneration of the Greater Edendale area. Such initiative of the NDP have been carried through the National Development Partnership Grant (NDPG). According to National Treasury (2013), the NDPG's purpose is to fund, support and facilitate the planning and development of neighbourhood development programmes and projects that will be catalysts for further development in these areas.

3.5.11. Urban Network Strategy

The Urban Network Strategy (UNS) forms an integral part of the NDP and the NDPG. During the financial year 2011/2012, the NDPG was evaluated and this evaluation resulted in the new strategy for urban planning and development management at a national level, known as UNS. According to National Treasury (2013), to be able to respond to the requirements of the NDP, one needs to understand the intention behind the national government's decision to invest in urban hubs. Investment in urban hubs is a core of the UNS, and this is a strategy to enable the long-term spatial restructuring of our larger urban settlements. The UNS approach sees our cities as two distinct but interdependent networks. In that way, at the centre of the primary network is the CBD of the city (and there may be a few within a multi-nodal urban system) which functions as the anchor access precinct. At the centre of each secondary network is a set

of significant urban hubs. These hubs function as portals between the secondary networks in a township or group of townships and the primary network of the city, as they offer access to the primary network via a combination of higher order public transport links, the most important of which is rail (understood to be the backbone of the public transport network). They can be regarded as gateways to the broader urban region.

Amongst other previously disadvantaged urban areas in South Africa, Edendale Township was identified by the National Treasury as part of the UNS. The Greater Edendale Township was identified for township renewal and through the establishment and development of an urban hub that seeks to advance the transformation and regeneration of the Greater Edendale area. The merits of identifying Edendale are evident based on the areas historical and current development challenges and comprises most of the municipal area previously designated under Apartheid. One of the development challenges is the insufficiency of economic infrastructure that would play a role in unlocking socio-economic potential of the area while also promoting spatial integration. However, according to National Treasury (2013), the UNS provides a systematic approach to leverage private sector investment in strategic locations through infrastructure investments. This is aimed at creating a network of strategically located centres of economic and social activity (mixed-use hubs) accessible to all communities via efficient public transport and well-located land for new human settlements in activity corridors on the urban network. Therefore, the proposed Edendale Town Centre forms part of the Urban Network Strategy.

3.5.12. Spatial Planning and Land-use Management Act

The South African Spatial Planning and Land-use Management Act (SPLUMA) of 2013 (Act no 16) is a national legislation introduced by the South African government to regulate and coordinate land development applications and land use management schemes. The act promotes and endorses the role of local government (municipalities) in addressing spatial inequalities. Furthermore, it promotes integrated spatial planning and compatible land uses. This Act intends to address and bridge the racial divide in spatial terms. SPLUMA stipulates policies, principles, and procedures for spatial development planning and land use management. The Act provides a framework for the monitoring, coordination and review of the spatial planning and land use management system. This act is effective in the formulation of the SDF as it provides guidelines in terms of land use location. However, under the SPLUMA, it is listed that one of the SDF principle is spatial justice. This means that planning instruments such as the IDP's, SDF's as well as land use schemes should play a role in

promoting spatial integration. Moreover, the act promotes the development of nodes and economic development corridors as a way of dealing with spatial inequalities and spatial fragmentation in the post-Apartheid era.

3.6. Conclusion

The aim of this research was to examine the role that spatial planning can play in addressing the spatial inequality of economic infrastructure in the former Townships. However, this chapter has unpacked various theories that support the study. Before getting deep into the theories, the researcher began with discussing the apartheid city model which influenced the South African spatial planning during the apartheid era. In so doing, the researcher was interested to find the real roots for spatial inequality that is still engulfing the South African townships even after the demise of apartheid. After discussing theories such as growth pole, urban justice, and Marxian urban theory; a diversity of concepts used in the study were defined. The following chapter reviews the previous literature and presents the precedent studies.

4. Chapter Four: Literature Review and Precedent Case Studies

4.0. Introduction

This chapter focuses on reviewing and discussing the previous literature regarding the spatial inequality, spatial planning and economic infrastructure. This is the chapter in which spatial inequality, more especially in the context of economic infrastructure is discussed, looking at it in a global perspective. The initial part of the chapter focuses on discussing spatial inequality and its causes through looking at different countries of the world. This section also discusses how spatial planning can respond to the spatial inequality of economic infrastructure. In that regards, the section suggests that linking spatial planning to infrastructure is the best way to address spatial inequality especially in developing countries. The last part of the study focuses on discussing international and local precedents. Such precedents provide an example of government initiatives and projects that attempt to address the issue of spatial inequality.

4.1. Understanding Spatial Inequality and its Causes

Spatial inequality implies a situation where there is unequal distribution of services, resources and facilities across the space (Kuhn, 2015). The history and root causes of spatial inequality may have resulted from various systems ranging from economic to political systems and this varies from one country to another. In a developed world, there also exist some patterns of spatial inequalities particularly in those so-called 'global cities'. The causes of spatial inequalities in developed countries may differ from the ones in developing world. Kuhn (2015) states that because of economic globalisation, transformation of welfare states as well as fiscal crisis, socio-spatial inequalities in Europe has increased. In London for instance, the existing spatial inequalities regarding the fragmented spatial form are the negative consequences of the industrial revolution (Lupton and Fitzgerald, 2015). According to Lupton and Fitzgerald (2015), industrial revolution in London left those areas for working class deprived in terms of access to water and sanitation and this posed some health dangers. Additionally, the spatial form of those areas was fragmented as there was a separation of land-uses. However, concerning spatial form, the change is very slow with other parts of the city and surrounding areas facing housing issues and decaying economic infrastructure since there is a period transition to a post-modern economy.

According to Kuhn (2015), socio-economic inequalities has become increasingly apparent at almost all international, national and local scales in Europe. In that way, many European countries are characterized by a polarization between dynamic, growing metropolitan areas and

rural or old industrial regions experiencing processes of shrinkage and decline. The Territorial Agenda 2020 of the European Union (EU) states clearly that the core-periphery division is still present and that it is important to avoid polarization between capitals, metropolitan areas and medium-sized towns on the national scale. Kuhn (2015) also argues that a polarization between capitals, metropolitan areas and medium-sized towns on the national scale is to be avoided. This is to be avoided through striving for polycentric and balanced spatial development. However, increasing inequalities are also ever more apparent within the prosperous metropolises and have led to a growing gap between rich and poor neighbourhoods. In some cases, a spatial concentration of socially marginalized groups occurs.

Germany as one of the most robust economies in the Developed World experiences some patterns of spatial inequalities. As argued by Kuhn (2015), spatial inequality in the developed countries exist in the form of core and the periphery. This can be explained through the experiences of German Town (Johhangeorgeenstadt). According to Wirth *et.al* (2016), this town previously experienced high population growth along with booming economies from the mining sector. This included highly developed economic infrastructure such as industrial areas where local people could be employed closer to their residential areas without any high transport costs. However, this town faced massive economic decline in the 1990s as the state shifted its focus to privatising state owned companies as new economic growth approach. This led to the closure of industries in the rural towns; leaving the area subject to economic decline and underdevelopment.

On the other side, Kuhn (2015) also explain spatial inequalities and its causes in Stendal city in Germany. It is argued that the city had a good history as it was properly planned in closer proximity to the residential locations where it could cater for the needs of the local people. The city was also planned in closer proximity to the major trade routes so that it soon became the largest city in the Mark Brandenburg. The city was also industrialised as the local people could be employed within their community, thus, Stendal became the major railway node in the area. Nuclear Plant was one of the major employer in the area, and through the availability of these industries, one can realize that economic infrastructure could play a role in spatial restructuring. However, with the German reunification, the city's peripheralization began. Indicators of this state include the drastic decline in population numbers and decaying of the previously useful economic infrastructure such as the industries. This has left the area with high levels of spatial inequalities with local people being compelled to travel and seek employment opportunities outside of their original locations.

Having discussed spatial inequality and its causes mainly in developed countries, it is worth noting that realities and causes of spatial inequality in developed countries may not be like the ones in developing countries as discussed above. The history and the cause of spatial inequality may be attributed to economic system as Kim (2008) also states that in most African countries spatial inequality is influenced by location decisions of the state. This is similarly articulated by Todes (2008) when arguing that most developments are influenced and spearheaded by private developers at the expense of the poor. Private sector-led developments results in spatial inequality, particularly in the form of economic infrastructure as those agents focus on the productive segments of the country while neglecting those areas perceived as unproductive. In some Asian and Latin American countries such as Mexico and China, the trends in spatial inequality seem to have fluctuated over time until the late 20th century when overall inequality rose sharply in both countries. In the context of China for instance, spatial inequality rose highly during the Cultural Revolution period between 1967-1976, but subsequently fell during the period of rural reform (Kim, 2008). The lowering spatial inequalities in this regard can be attributed to the efforts of Chinese Government in encouraging investors in rural settings through developing massive infrastructure that will be utilised by the locals in accessing job opportunities.

4.2. Colonial Spatial Planning and Spatial Inequality

In understanding spatial inequality, it is imperative that spatial planning is traced back from the colonial era. Diamantini (2010) notes that the spatial organisation of African towns and cities is not like any spatial configuration of any European town and cities. Moreover, to comprehend this appropriately and coherently, lesson can be drawn by referring to two types of bad practices; that in the 20th Century led to the planning and construction of colonial cities. The first instance is the one of the scheme that was proposed by Le Corbusier in Adis Ababa in which the traditional settlements were destroyed by redesigning the city according to the colonial urban planning norms and standards. The second example is the adoption of zoning as a planning tool which marginalized the entire African population. Diamantini (2010) further discusses that many of the approaches and techniques used during colonial era such as zoning for instance remain totally unchanged and it is easy to produce similar results as the ones in the colonial era even while intending to follow a different approach.

According to Njoh (2009), an important feature of colonial towns is their spatial location. In that regards, the spatial planning of those colonial towns involved their location on the highest elevation and they were mostly separated by a considerable distance from the residential areas

of the indigenous population. Such cities include for instance, the location of cities or human settlements such as Abidjan in Côte d'Ivoire; Hill Station (Freetown) in Sierra Leone; Buea Station, Bamenda Station and Yaounde in Cameroon; Brazzaville in the People's Republic of Congo; Niamey in Niger; and Bamako in Mali (Njoh, 2009). However, spatial inequality, particularly regarding the travel distance was an integral part of the colonial cities and towns which in some countries persist even today. Moreover, spatial inequalities should be addressed after having studied the impact of colonial spatial planning in the cities and small towns.

4.3. Rural-Urban Divide as a Form of Spatial Inequality

According to Dunford (2010), spatial inequalities massively takes place in the form of rural-urban divides and this is usually the case in most developing countries. In China for instance, rural-urban differences go deeper than the numbers suggest due to relatively more favourable government treatment of urban as compared with rural residents. Government expenditure on water, transport and energy infrastructures per capita is lower in rural areas. Rural welfare benefits are fewer than urban benefits as not enough was done to put the former on a new footing after the replacement of the communes. Moreover, the separate residential status of the rural and urban populations limits the access of rural-urban migrants to welfare services while the prices at which the government purchases farm output are relatively unfavourable (Dunford, 2010).

According to Boansi and Amoako (2015), Ghanaian urban settings and cities are subject to spatial inequalities, particularly concerning the provision of infrastructure and social services which tend to favour the southern parts of the country while also influencing spatial distribution of population. Furthermore, this has its roots from the colonial system which strategically focused on the development of mineral rich parts of the country to serve the interest of their metropolitan development. Boansi and Amoako (2015) also articulate that scattered spatial development of cities in the north may have contributed on the rising levels of spatial inequalities and this situation makes the location of social services in areas with few residents uneconomical. Notwithstanding this, areas in the northern parts lack facilities including retail and industrial centres.

Furthermore, Tsikata and Seini (2004) note that the main form of spatial inequality in Ghana is the rural-urban divide. This urban bias provision of services reflects specific class and gender interests, as services were established to cater for a particular group. However, the process of stratification in social space also become the process of stratification in geographic space.

Therefore, this to a large extent explains the rural-urban contradictions and the class and gender contradictions within urban and rural spaces. In order to make some conclusion on spatial inequalities in Ghana, colonialism is the result of the persisting patterns of inequalities through its tendency to focus on some areas while ignoring others. This however, resulted in rural-urban divide.

In the context of Nigeria, Adeyink *et.al* (2014) note that the uneven distribution of natural endowments has translated to unequal economic opportunities. This can be used to explain the spatial inequality in the concentration of manufacturing industries, government institutions, transport terminus, housing and other socio-economic services to some areas while limited to others. Hence, such unequal distribution of economic services has increased levels of unemployment, pressure for infrastructural facilities, as well as weakness of development potentials.

4.4. Spatial Inequality and Spatial Planning

Having briefly discussed that spatial inequality has a lot to do with the unequal distribution of services, resources and facilities across the space; both spatial planning and spatial inequality affect and influence each other. Firstly, it is crucial to understand that spatial planning utilises natural systems and the built environment to promote integrated development, sustainable and inclusive economic development as well as the overall improvement in the quality of life. Moreover, spatial planning usually focuses on long-term strategies and investments since it deals with a wide-range of assets such as land, natural resources as well as infrastructure. According to Taylor (2010), spatial planning involves an understanding of how settlements function and the role of planners in attending to the land use activities that underlie outward physical form and the way those land uses are inter-connected by various modes of transportation or other means of communications.

While regional planning needs to ensure that metropolitan systems work efficiently, promote sustainable economic growth and improve public health and safety, the choices we make on where to allow or encourage different types of housing and commerce, where to build new train lines or roadways, how to redevelop existing communities or business districts and how to use and preserve scarce natural resources have a profound effect on who benefits from these decisions (Regional Plan Association, 2015). In that regards, depending on where one live; such choices can make it either easier or difficult to commute to work and find job, live in descent housing and breathe clean air. Based on the above-mentioned statement, it comes

clearer to one's mind that spatial inequality predominantly arises as a result of unconscious urban development decisions that favour some class or racial groups over others. Therefore, to address the existing levels of spatial inequality, spatial planning interventions and the actions that planners take today need to account for past policies that resulted in spatial inequality and overall disparities between economic classes and racial as well as ethnic groups.

4.5. Economic Infrastructure and Spatial Planning

Before discussing the interrelationships that occur between spatial planning and economic infrastructure or the role of spatial planning in addressing the spatial inequality of economic infrastructure, it is of highly important to explain the concept of economic infrastructure as the focal point of this study. Economic infrastructure is understood as the type of infrastructure that promotes economic activity such as roads, highways, rail roads, airports etc. as opposed to social infrastructure which promotes health education and cultural standards (Foura, 2005). In this study, when the researcher discusses about spatial inequality of economic infrastructure, the focus is put on the availability of activity nodes and corridors, shopping centres and the general economic centres (industrial and commercial) where urban dwellers can derive their livelihoods.

As per the report by the South African Cities Network (2013), the role of spatial development planning is to achieve the optimum use of resources to meet the environmental as well as socio-economic needs of the present and future generations. However, this cannot be achievable having not considered the space economy of a country. Therefore, spatial planning should be linked to economic infrastructure as to improve the overall economic activity of a country. According to Magni (2013), strategic spatial plans are recognised internationally as a tool to guide and locate economic development outcomes within a given jurisdiction, particularly local government. Morphet (2009) also supports Magni's argument by stating that the role of spatial planning is to realise the provision of infrastructure at a local government level. This gives hope that strategic spatial planning can address the South Africa's long inherited spatial inequality of economic infrastructure. Yet despite this affirmation of the role of strategic spatial plans in service infrastructure provision, the experience in the past ten to twenty years is that plans are not guiding infrastructure delivery (Magni, 2013).

Achieving economic infrastructure development through a proper spatial planning has been a case even in other countries such as in the United Kingdom, Australia and Indonesia (Dodson, 2009). In that regards, the three countries viewed linking strategic spatial plans to development

projects as an important initiative to address economic and spatial inequality. Despite this, the challenge arose in reconciling the outcomes of the spatial plan to the projects that were not implemented. The main reason behind this included the lack of administrative coordination between planners, budget officials and developers, contradictory policies and unnecessary political interference (Magni, 2013). However, linking spatial planning to economic infrastructure should prioritize cooperation between government officials and the private developers as well as the ordinary citizens so that the economic infrastructure responds to the real needs of the society.

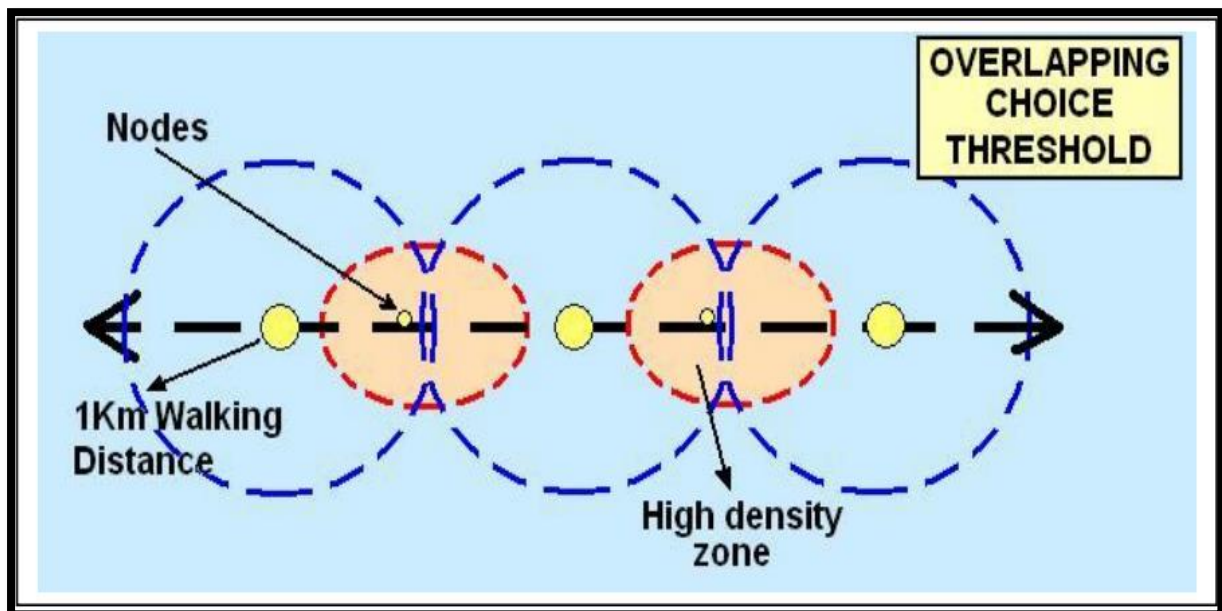
4.6. Development Corridors and Nodes as tools for spatial integration

According to Harrison *et.al* (2008), in the South African context, linking spatial planning and infrastructure has relied on a set of concepts that make assumptions about the relationship between organisation and economic activity. This involves the use of the common terms of nodes and corridors. These are the common examples of economic infrastructure that are usually deployed to achieve spatial integration. For instance, in the post-apartheid era, South African planning system has encouraged the development of nodes and corridors as a way of addressing the challenges of economic infrastructure. Such initiative is primarily underpinned by SPLUMA legislation's principles particularly the one that speaks of spatial efficiency. Such principle endorses spatial planning that promotes spatial efficiency through the development of the already existing nodes and corridors to connect the areas that were fragmented during the apartheid era of planning. In so doing, the corridors and nodes promote spatial integration as they are comprising of mixed-use developments and well-developed transport networks which also increase the levels of access to those developed economic infrastructure. The idea behind this initiative is that urban dwellers can access these network of economic centres within a walkable distance. Todes (2008) also states that infrastructure planning with its own spatial logic is more powerful in shaping the spatial structure of cities.

Warnich and Verster (2005) note that in the case of the City of Cape Town where low-income residential are located at the edges of the city, the development of metropolitan corridors seem to present an effective planning strategy towards restructuring spatial inequity of the city as well as encouraging economic growth points in close proximity to low-income communities. Moreover, this puts it coherently that economic development corridors play a dual role in restructuring the urban setting. This will include the role of these networks of economic infrastructure to integrate fragmented areas into more wealthier areas as argued by Priemus and Zonneveld (2003) that these development corridors consist of the networks of infrastructure

that link two or more areas which has a long history in spatial and urban planning. Another contributing factor would be their role in socio-economic development and this would be mostly important amongst the urban poor. Development corridors as the forms of economic infrastructure this study focuses on directly support the principles of urban integration, intensification and containment of urban sprawl (Warnich and Verster, 2005). Moreover, this is the main form of economic infrastructure that is deployed by South African local government and mainly tools used by planners to ensure sustainable urban management and the creation of quality urban environments. Corridor development also comprised of major nodes around movement channels as shown in figure 4.6 below thus, this also promotes densification of land-uses.

Figure 4.6: An example of a corridor with connected nodes



Source: Warnich and Verster (2005)

Economic infrastructure such as these development corridors and nodes can be effective if planned mainly for the urban poor. According to Todes (2012), spatial planning of this sort has mainly focused on densification in certain areas and infrastructure planning had to follow spatial planning. Furthermore, it has been quite clear that infrastructure development has occurred in a way that bypass spatial plans. However, despite that economic infrastructure has proven to be effective in addressing the issues of urban spatial fragmentation and spatial inequality, some argue that this form of development is usually spearheaded and satisfy the needs of private sector. Todes (2008) argues that linking spatial planning to infrastructure

development has been dominated by property market and that has shifted away from the real needs of the urban poor. In addition, Todes (2008) further insists that private sector and developers driven development has not contributed much in addressing spatial fragmentation, rather it has continued to favour those areas which are strategically located such as those along the freeways. Todes (2012) further states that spatial planning should recognise the livelihood strategies for the urban poor. Hence, the researcher insists that economic infrastructure such as economic nodes and corridors must be concentrated between previously disadvantaged areas to achieve spatial integration.

4.7. Linking economic infrastructure with Spatial Planning to achieve spatial integration

A strong form of planning need to respond to a variety of urban challenges that many cities are facing. One of those challenges include high levels of spatial inequalities and fragmentation of the urban form. Since South Africa's urban fabric has undergone spatial fragmentation with insufficient economic centres to satisfy the need for township dwellers while also addressing inequalities, spatial planning can play a role in undoing the negative impact of the previous planning system. Likewise, this argument is supported by Todes (2008) who believes that linking infrastructure planning and development to spatial planning can reduce spatial inequalities in South African cities while also integrating the previously fragmented areas.

Internationally, there is a growing argument for linking spatial planning to infrastructure (UN Habitat, 2016). In Australia for instance, the plans that were developed are centred on land-use transport linkages and that is a good example of transport-oriented development (TOD) which also plays a big role in bridging the gap between two or more fragmented areas, those spatially divided areas end up sharing facilities and amenities and that is preferably (Todes, 2008). In the developing world, there are also several initiatives, which link spatial planning and infrastructure planning as the best way of promoting spatial integration between different geographic areas. One of the most recent examples is that of corridor development in South Africa which is recommended by Dewar and Todeschini (2017) as a tool for reducing spatial inequality.

In contrast to master planning and apartheid planning in South Africa, the form of planning that link spatial planning with economic infrastructure amongst other types of infrastructure can play a role in shaping the spatial form of cities at a local and macro scale. Todes (2011) articulates that linking spatial planning and infrastructure implies the design and redevelopment of local areas more especially those previously denied access to opportunities. Linking spatial

planning and infrastructure development can have a positive impact in the case South African fragmented urban spatial form. However, such urban areas can be equal and restructured spatially since spatial planning play a role in directing development of economic activities and centres towards previously neglected areas.

According to Todes (2003), infrastructure planning can promote access to economic opportunities for urban dwellers. Therefore, this research emphasises that beyond the role of economic infrastructure in catering for economic needs of urban residents, such infrastructure intervention ensures spatial integration through encouraging compaction and mixed land-uses in between the previously fragmented urban spaces. Benit *et.al* (2005) discuss that poor location of low-income households as inherited from apartheid planning, central location of economic activities has made it difficult for low-income workers particularly domestic workers to cope. In undoing the legacy of that regime, Todes (2003) further suggests that spatial planning must put into consideration the low-income households and their livelihood strategies. This includes linking spatial planning to infrastructure planning. Bierman (2003) on the other side supports this idea by arguing that there must be a location of economic activities on the periphery to address such spatial inequalities.

Notwithstanding the effectiveness of linking spatial planning and infrastructure planning and development, this intervention requires careful planning. This would ensure that the planned economic infrastructure promote inclusivity and able to integrate the previously disadvantaged communities into wealthy neighbourhoods. Dewar and Kaplan (2004) were concerned about the careless planning of the Cato Manor Development Project (CMDP) in Durban. In their argument, they insist that planners involved never considered the concerns of other classes as those corridors planned ended too expensive for the low-income group while also failing to accommodate the middle-income groups.

In the post-apartheid era in South Africa, spatial planning has slowly begun to encourage compact urban design and integrated cities to address spatial inequalities. However, this has emphasised the special interventions to link spatial planning and infrastructure such as in the case of Johannesburg City where Growth Management Strategy (GMS) is used to facilitate such an initiative (Todes 2012). Therefore, linking the two ensures high levels of spatial integration and provides a gateway for escaping prevalent spatial inequalities as Todes (2012) further stipulates that transport systems utilities, and socio-economic infrastructure play a key role in shaping the spatial form of the city.

4.8. Socio-economic impact of economic infrastructure on urban dwellers

The researcher has discussed the role of economic infrastructure mainly the development corridors and nodes in achieving spatial integration and reducing spatial inequalities. This kind of infrastructure can play a big role in improving socio-economic conditions of the low-income groups. Warnich and Verster (2005) note that with the development of the networks of economic infrastructure in the urban setting, higher densities are suggested in various planning proposals which indicate their capacity to facilitate economic activity. In that regards, the high densities are likely to provide for necessary threshold to support formal and most importantly informal economic activities. This plays a role in undoing the negative impact of apartheid planning which neglected the informal economy and its impact on the lives of low-income urban dwellers.

Ramparsad (2015) argues that the aim of promoting economic growth through increased economic opportunities in disadvantaged areas is to emanate favourable impacts on the surrounding areas. In that regards, the proposed Edendale Town Centre is expected to have a positive economic impact to other neighbouring areas such as Vulindlela which is a low-income semi-urban community. However, corridors as the main forms of economic infrastructure in the low-income urban areas in South Africa provide a key location and space for Small, Micro and Medium Enterprises as well informal traders as briefly discussed above. Moreover, due to accessibility, costs for poor are meant be reduced and this includes transportation costs.

Ramparsad (2015) further argues that accessibility is measured by the linkages to a route which influences the amount of people moving through the route thereby creating more opportunities for investment of and access to social and economic opportunities. In that regards, it can be argued that when informal traders for instance have easy access to economic centres where they could find wholesale outlets, the cost of buying produce and transporting it back to the point of sale is lower. However, where there is no easy access, flexibility is reduced, supply costs increase, profit decrease, and costs to the consumer rise. Another key indicator is the spin off investment within a corridor. This includes public and private sector investment (commercial and residential).

4.9. Improvement of economic infrastructure and public transport interventions

Transportation is generally acknowledged as the strategy and tool for economic development and it is believed that transportation plays a key role in structuring land use interaction. For this

reason, transportation is an important precondition for economic infrastructure development. Okeke (2013) argues that transportation promotes a strong linkage between the various nodes and the corridors and this help to strengthen levels of competitiveness amongst businesses. According to Harrison and Todes (2015), transportation interventions play a role in improving access of low-income groups to urban advantage (which is economic infrastructure in this case) comprised of jobs and livelihood opportunities, urban services and other amenities. In addition, major instruments supported internationally for improving greater access (with the co-benefits as mentioned) is greater urban density, or increased intensity of land use, promoted together with investments in public transport systems. The development of public transport systems and networks is an important and inevitable part of the infrastructure planning and development. Ramparsad (2015) also states that development nodes and corridors promote sound public transport systems and efficient public transport strengthens the forces that underlie the development of corridors. However, spatial planning of economic infrastructure in South Africa in the post-apartheid era has tended to promote the connection of infrastructure to the Integrated Rapid Transport Networks (IRPTN).

4.10. Spatial Inequality of Economic Infrastructure and Spatial Planning in South Africa

Spatial inequalities in the South African context can be traced back from the impact of the planning ordinances that were imposed by the apartheid government. This argument is supported by Nel (1999) who argues that apartheid planning left a legacy of inequality and underdevelopment on a spatial template already marked by regional inequality in terms of access to resources and economic centres which had also emerged in the colonial period. The most prevalent and famous patterns of spatial inequalities mainly occur in bigger cities and particularly in townships that were established as a result of the Group Areas Act. Similarly, Green (2015) argued that even after the demise of apartheid in South Africa, old homelands remain subject to high levels of spatial inequalities with high levels of infrastructure deprivations including lack of economic centres. Todes (2011) also notes that the areas reserved for African people showed limited or no economic base as well as low incomes. Hence, such townships inevitably suffered from low levels of infrastructure and services. Noble *et.al* (2014) on their study on inequalities on space; developed criteria for spatial inequalities in the South African context. Such measures including material deprivation, unemployment, lack of access to services centres of economic opportunities. However, the study showed that spatial inequalities persist mainly in the former homelands in South Africa, and this is

accompanied by poverty and hardships in land ownerships particularly in Kwa-Zulu Natal and Eastern Cape Province.

Through the establishment of black towns and townships, the apartheid government ensured that township dwellers had limited access to the centres of political, social as well as economic opportunities. As Pieterse (2004) argues that South Africa still faces high level of spatial inequalities particularly regarding the long distances between workplaces and residential areas. This testifies that there is a limited economic infrastructure in the townships where locals may not be compelled to travel to cities, rather take advantage of the existing infrastructure to unlock economic development potential. Chobokoane and Horn (2014) argue that South African cities are fragmented and there is a huge separation of areas of work, shopping centres and public facilities. Correspondingly, Green (2015) further notes that cities in the post-apartheid era in South Africa are sprawling settlements where poorest live furthest away from work opportunities. However, this problem is partly due to apartheid and post-apartheid policies that separated different racial groups by moving blacks and coloured households away from areas close to the CBD. Thereby, high commuting cost may contribute the high rates of poverty, lower productivity and less time spent. Du Plessis (2013) also expresses the view that South African cities are segregated almost in a similar way they were segregated at the dawn of the democratic era.

Nel and Rogerson (2014) state that after 1994, the post-apartheid government recognised the need to address the development challenges for the entire country and those of the poorest areas such as townships. There are various spatial policies and legislations that have been enacted at the dawn of democracy, specifically to deal with spatial inequalities such as Reconstruction and Development Programme (RDP), Development Facilitation Act (DFA), as well as the NDP and the SPLUMA. Harrison and Todes (2011) suggests that those policies should focus on providing access to the opportunities which are provided by the towns; thus, densifying areas near urban services such as centres of employment and livelihood opportunities. Nel and Roger (2014) further note that most of the spatial interventions to address spatial inequalities undertaken during the first decade of democracy functioned only on an ad hoc and often decentralised basis, with the (unintended) consequence that ultimately the most well-resourced (mainly large urban) areas benefited the most, whilst less well-off areas of South Africa experienced little or no change.

4.11. Precedent Studies

4.11.1. *Introduction*

The persistence of spatial inequality within countries has served as a drive for spatial transformation, and this has focused mainly on establishing manufacturing industries to encourage in ‘growth points’ within deprived areas or in those areas experiencing economic setbacks. According to Nel and Rogerson (2009), one of the most famous government interventions to reduce spatial inequalities has been one of European Union Regional Development Fund, which was aimed at narrowing GDP gap across various regions of Europe. In the post-modern era, various governments of different countries around the world have been committed to redress the negative impact of modernist planning to promote spatial integration on those spatially fragmented areas.

This section focuses on presenting international as well as local case studies in which similar development interventions to address spatial inequalities have been undertaken. The reason behind this study adopting international case studies is based on a belief that South Africa may draw some lessons on how such reconstruction projects were undertaken to address spatial inequality. Through looking on how other countries address spatial inequality; South Africa may learn from the successes and failures of policies that underpin those development interventions. The international case studies that are presented in this section include Integrated Spatial Development Projects in Netherlands (developed), Regional Development and Growth Corridors in Malaysia (developing) as well as Integrated Land use and Transport System in Brazil (developing).

4.12. Learning from International Precedents: Netherlands (Developed)

4.12.1. *Background*

Netherlands is located in the continent of Europe. The country covers 33,893 square kilometres of land and 7,650 square kilometres of water, making it the 136th largest nation in the world with a total area of 41,543 square kilometres. The Netherlands was founded as a distinct and original nation in 1581. The population of Netherlands is 16,730,632 (2012) and the nation has a density of 494 people per square kilometre. Amsterdam is the capital city of Netherlands. It has a population of 741,636, and is located on a latitude of 52.37 and longitude of 4.89. Amsterdam is also the political centre of Netherlands, which is considered a Constitutional Monarchy, and home to its Ceremonial head of state.

Figure 4.12.1: Locality Map of Netherlands



Source: GraphicMaps.com

4.12.2. The Integrated Spatial Development Projects

The concept of spatial integration has been presented to deal with spatial inequality, such as in the case of Netherlands where integrated spatial development was introduced as a new planning tool to deal with several planning issues such as high levels of spatial inequalities (Van Straalen, 2012). In this case study, over the last decades, the government has implemented several large-scale regeneration policies in disadvantaged neighbourhood to address spatial inequality related to economic infrastructure and spatial fragmentation. According to Zwiers *et.al* (2015), main instrument of regeneration was housing diversification through the demolition of social housing and the construction of more expensive rented and owner-occupied housing with the main goal of changing the population composition in deprived neighbourhoods. Although such projects were regarded as a failure, but they played a role in integrating low-income housing with other mixed land use developments to promote densification and reduce spatial inequalities relating to long distances to the places of work (Zwiers *et.al*, 2015).

The integrated spatial development came up with different infrastructure development projects to promote spatial integration. Under these projects, different land uses were combined as to promote mixed land use developments to promote spatial integration and to stimulate the economic potential of such regions. In addition, after the Second World War, large (affordable) high-rise housing estates were constructed as a response to the enormous housing shortage. These housing estates were located at some distance from the city centres and initially functioned well in the local housing markets with high levels of resident's satisfaction with both dwellings and neighbourhoods.

Additionally, Van Straalen (2012) notes that a couple of researchers have incorporated the notion of integration in spatial planning in the context of Netherlands. In that regards, the concept of spatial integration has been presented through the goals of national government which introduced integrated spatial development as a new planning process to deal with several planning issues such as high levels of spatial inequalities. The Dutch provinces have played a role in ensuring spatial integration since the 1920s when regional economic infrastructure became a planning objective. Effective policy-making and planning projects during the 1990s can be attributed to decentralization of tasks and responsibilities from national to provincial government level.

In the Dutch context, concerted efforts towards balancing spatial form of the urban environment is greatly attributed to infrastructure planning. In reducing spatial inequalities, Dutch has massively focused their planning objective through ensuring the planning of economic infrastructure as praised by Todes (2006) since it ensures that there is a balance between two or more fragmented areas. Due to the investments in infrastructure planning, those areas end up being integrated by economic infrastructure such as commercial and industrial land-uses and so forth. Van Straalen (2012) admits that despite the successes of integrated spatial development projects in trying to promote integration and shaping the spatial form in Netherlands, these projects were under-budgeted. In that regards, most of those projects failed because of economic challenges and in particular, they failed due to their integrative, large-scale, time-consuming, risky and therefore costly. In addition, such approach, if involves careful planning can yield much success. Their strengths include densification of land-uses; hence, this is widely known for integrating the fragmented spatial form.

4.12.3. Policy Framework underpinning Integrated Spatial Development Projects

Spatial planning in Netherlands is guided and coordinated by the Spatial Planning Act (WRO) which sets down how the spatial plans of the state provinces and municipalities are to be affected. An example of such spatial plans is the municipal land-use plans. The land-use plans are regarded as the most important tools in Netherlands as they play a role in making a spatial decision making such as determining the most strategic and suitable location for construction projects. The integrated spatial development projects are also guided by the land-use plans as mandated by the Spatial Planning Act.

The government of Netherlands realized that in addressing spatial inequality across regions and making the country competitive, accessible and integrated; an effective approach that would clearly prioritize investment and link spatial development and infrastructure was needed. In responding to that, the National Policy Strategy for Infrastructure and Spatial Planning was introduced by the Netherlands Ministry of Infrastructure and the Environment (2011). However, since the year 2012, the same policy intervention represents a strategic agenda for spatial planning policies; setting out a list of national priorities to be followed by the central administration. In addition, under this policy, the decentralization of functions to sub-national government tiers reinforced the role of provincial governments in spatial planning, regional development as well as transport planning and development. As discussed above, the policy and legislative framework support the integrated and spatial development projects in the case of Netherlands is the Spatial Planning Act as well as the National Policy Strategy for Infrastructure and Spatial Planning.

Integrated spatial development projects and underpinning policies may serve as a lesson for South African government which is also undertaking the development of infrastructure to address spatial inequalities left over by the previous planning system. The first important lesson is that economic infrastructure in these projects is encouraged and developed in the form of mixed-use developments. In that way, South African government must ensure to promote such interventions so that legacy of apartheid in townships is reversed. Another important factor that led to the success of the projects is the decentralization of task and responsibilities to the local structures of government and the cooperation between various stakeholders. Therefore, for such initiative to be successful in the case of South Africa; there should be a synergy between private and public actors.

4.13. Precedents from Developing Countries (Malaysia)

4.13.1. Background

Located in Southeast Asia, just north of the Equator, the exotic, tropical islands and lands of Malaysia contain some of the most beautiful beaches on the planet and a collection of unrivalled rainforests and national parks. Archaeological evidence indicates that human beings began to inhabit the general area well over 40,000 years ago. The Malaysia evolved into the dominant race by the first millennium AD, and established small states that were influenced greatly by Indian culture.

Figure 4.13.1: Location of Malaysia



Source: GraphicMaps.com

4.13.2. Regional Development and Growth Corridors

Malaysia is also amongst the variety of developing countries experiencing spatial inequalities particularly relating to the fragmentation of urban land-uses as it has been the case in South Africa. However, the most prevalent spatial inequality and fragmentation in that case are occurring mostly at a regional scale. As a response to such spatial inequalities, the country's government introduced the regional development as a policy intervention tool to escape spatial inequalities and promote spatial integration amongst those fragmented areas. According to Ngah (2015), the plan included strategies to develop land in new 'frontiers', upgrading of rural settlements or 'in-situ' rural development as well as the dispersal of industries towards the less

developed regions. Furthermore, strategies of regional development policy encouraged ‘place-based prosperity’; speeding up development in places where people lived. This form of decentralised industrial development is preferable because it promotes local economic development, thus enabling local people to access opportunities such as employment at a walkable distance.

In addition, Ngah (2015) also articulates that another major strategy to reduce spatial disparities in Malaysia is the development of economic growth corridors. The aim was to ensure the improved standard of living and to drive socio-economic development across regions and states. According to Malaysian Economic Planning Unit (2014), five economic corridors were initiated under the Ninth Malaysia Plan to address development imbalances throughout the country while pushing forward the country's economic growth using public private partnerships (PPP) approach. The corridors also focused on accelerating the movements towards high-value, knowledge-driven economic activities and high-income economy while also promoting improvement in social conditions of residents. The movement was ensured through developing a wide range of transport networks along the corridors as to promote access and efficiency as well as choice for all income groups (Ngah, 2015). The images below show the example of growth corridors in Malaysia.

Plate: 4.13.2: Example of Malaysian Growth Corridors



Source: Google Maps (24/05/2017)

4.13.3. Underlying Policy Framework for Malaysian Spatial Planning

As other developing countries, Malaysia has its spatial planning policies and strategies that guide development. The country has its National Physical Plan (NPP) and other national

strategic spatial planning policies and measures which are drafted by the Federal Department of Town and Country Planning under the provision of Section 6B of the Act 172 (Hamnett, and Forbes, 2011). The NPP is reviewed every five years in tandem with the review of the National Five-Year Development Plans. Moreover, the revised NPP (NPP-2) which was endorsed in 2010 focused on the establishment of an efficient, equitable and sustainable national spatial framework to guide the overall development of the country towards achieving spatial integration and the goals articulated in the vision 2020.

The implementation of vision, policies, measures and land allocations formulated in the NPP are conducted primarily through a collaborative process between the federal government and the state by utilizing the State Structure Plans. The State Structure Plan is accompanied by maps and illustrations which provide policies on development and use of land in a state. Consequently, Local Plan is drafted at the local level outlining detailed and site specified development facilitation and control. Also, another form of local level plan named is the Special Area Plan which provides detailed planning of areas needing special reconstruction interventions. However, the spatial planning of projects such as the one that is discussed above (Regional Development and Growth Corridors) is coordinated and managed as part of the NPP.

4.13.4. Learning from Malaysian Growth Corridors

The Malaysian Regional Development and Growth Corridor Development is one of the biggest initiative in the developing world to improve the spatial form and reduce spatial inequality. However, Ngah (2015) notes that despite its progress in attempting to integrate various land-uses such as improved transport networks, housing and industrial areas, the approach hardly achieves its stipulated objectives due to the size and the number of the projects. Even though the Malaysian spatial planning has mainly focused on a regional development which is more of a macro scale compared to South Africa's urban development, there are lessons that South African government can learn and emulate from the Malaysian Growth Corridor development.

In trying to address the spatial inequalities, mainly the ones concerning the economic infrastructure and housing, South African government must ensure the provision of all services, facilities as well as amenities required for urban development. For instance, in Malaysia, the government never only focused on informal settlements upgrading but also ensured the availability of infrastructure that would play a role in catering for the needs of the communities. Another one is that in Malaysia, growth corridors are also implemented near rural areas as to stimulate economic potential of those areas. The Msunduzi Municipality in the South African

context may also learn a lesson from that through trying to attract investors in areas surrounding Edendale Township such as Vulindlela which is a semi-rural area lying on the western parts of the study area.

4.14. Precedent of Brazil (Developing)

4.14.1. *Background*

Curitiba is the capital city of the state of Paraná, one of the three states that comprise the Southern part of Brazil. The Metropolitan Region of Curitiba is comprised of 26 cities, has 3,307,945 inhabitants in a 432 square kilometre area, and with an estimated annual growth rate of 2.02% (Investor Guide Book, 2010). Curitiba is situated approximately 400 kilometres from the city of São Paulo, which is considered the largest economic centre in Brazil. The Investor Guide Book (2010) describes Curitiba as a city that is ahead of future demands through its urban planning, with the community member central to its policy making. Since 1970, the city has been a role model for urban management, public transport and successful urban environments adding quality of life to the population of Curitiba.

Figure 4.14.1: Locality Map of Brazil



Source: Google Map (07/13/2017)

4.14.2. *Integrated Land use and Transport System in Curitiba*

In responding to urban problems caused by master planning such as uneven development and general spatial inequality, Brazilian government has initiated various projects. One of the initiatives is the integrated land-use and transport system initiated in Curitiba. According to United Nations (UN) (2009), the integrated land use and transport system mainly focused on the plan and development of bus rapid transit (BRT) along residential zones. The main aim behind this project was to reduce spatial inequalities and promote access to the city by the residents in the areas that were previously marginalised. Through this project, there is an integration between different land uses and transport networks promoting high intensity developments. The most important aspect of the integrated land-use and transport system is the provision of large shopping centres between Curitiba and peripheral areas in which poor live. In addition, this involves the provision of incentives to developers to increase residential density closer to transit corridors as well as the development of transit terminals with a wide range of facilities both public and private sector (UN Habitat, 2016).

Plate 4.14.2: *Integrated Land use and Transport Systems*



Source: *Google Images (24/03/2017)*

4.14.3. *Integrated Land-use and Transport Policy*

In the case of Brazil, the underlying policy that supports the projects discussed above is the integrated land-use and transport policy. Curitiba also possesses a “Master Plan” in which the

integrated land-uses and transport systems are included. The Master Plan is under an agency called IPPUC which has the responsibility to monitor, implement and update the plan. The key features that form the integral component of the Brazilian land-use and transport policy include:

- Integration of land-uses such as residential, commercial and transport land-uses.
- Promotion and establishment of pedestrian movements (short-walk distances to the transit facility).
- Densification of land-uses (marrying mixed commercial-residential uses).
- Provision of incentives to developers to increase residential density close to the transit corridors.
- Improvement of infrastructure.

However, Curitiba land-use and transport interventions serves as one of the most influential spatial planning approach to integrate various land-uses and promote densification of the urban landscape. Through mixed-use developments, spatial inequality is reduced as this approach ensures that all land-uses are densified to promote spatial decentralization and densification. In that regards, South Africa also need to learn a lesson or two from Curitiba as Okeke (2011) suggested that Msunduzi Municipality needs to invent an improved urban transport system that will realize the needs of the residents. However, another lesson that South Africa can learn from Curitiba is that of encouraging developers in increase residential land-uses along transport systems through provision of incentives.

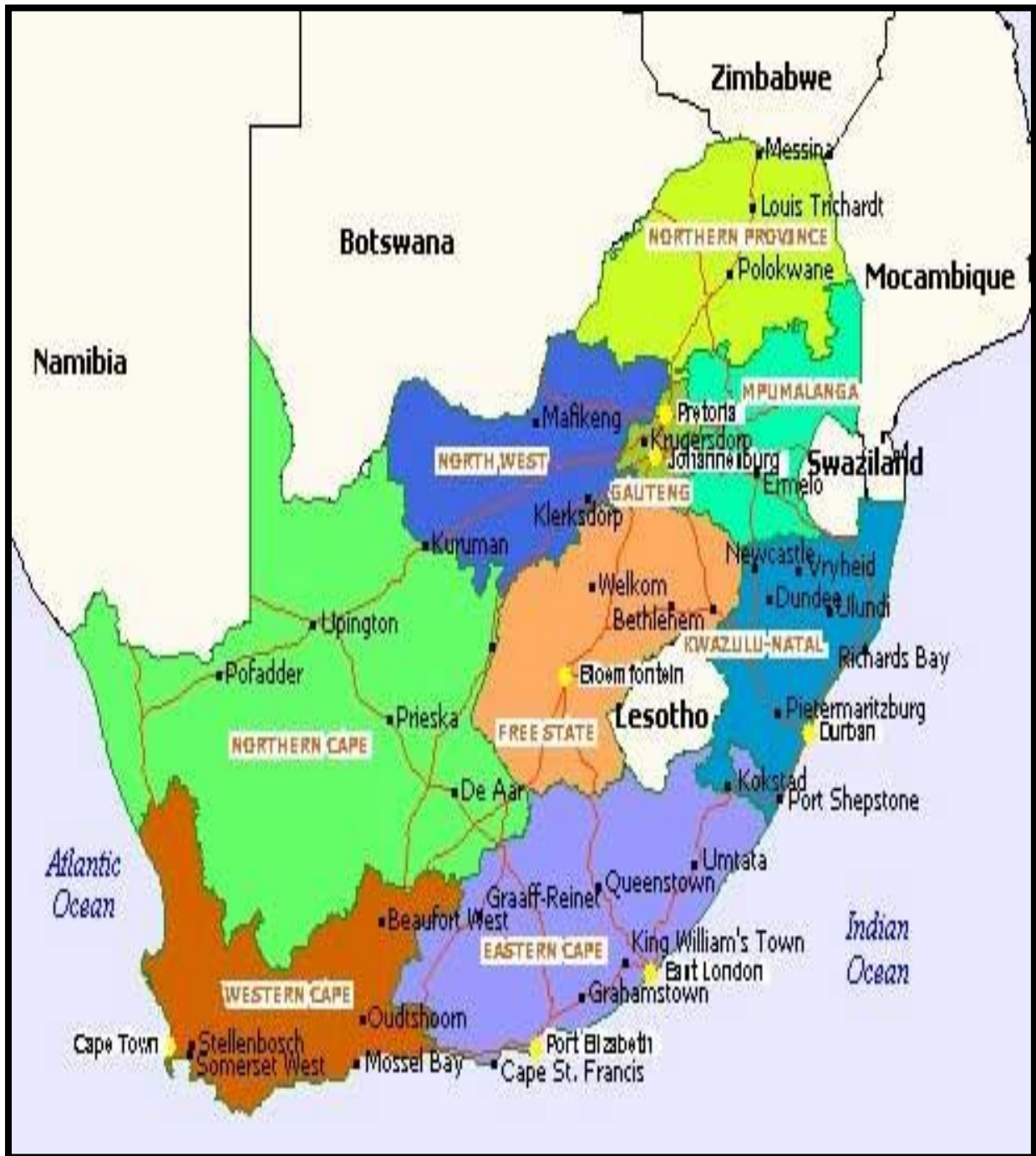
4.15. Local Precedents

4.15.1. *Introduction*

In response to the legacy of apartheid planning, South African Government found a reason to redress some of the spatial inequality facing urban environments. Todes (2006) notes that spatial integration in the South African context has been promoted through corridor developments where networks of physical and economic infrastructure are encouraged in urban areas in closer proximity to transport networks. In achieving a goal to redress spatial inequalities, the democratic government of South Africa have introduced a wide range of interventions that aimed at promoting employment, addressing development backlogs, empowering local government, promoting spatial integration as well as creating opportunities for the previously disadvantaged urban areas (Todes, 2006). Below are some of the concerted efforts to address spatial inequalities related to economic infrastructure and spatial fragmentation in the South African context. These involve various urban redevelopment

projects/initiatives such as Phoenix, Inanda Ntuzuma, and Kwa-Mashu Development Initiative (PINK), Cornubia Integrated Housing Project and Alexandra Urban Regeneration Project. These local precedents were chosen to show some of the areas in South Africa in which economic infrastructure has been prioritised as a strategy for addressing spatial inequality.

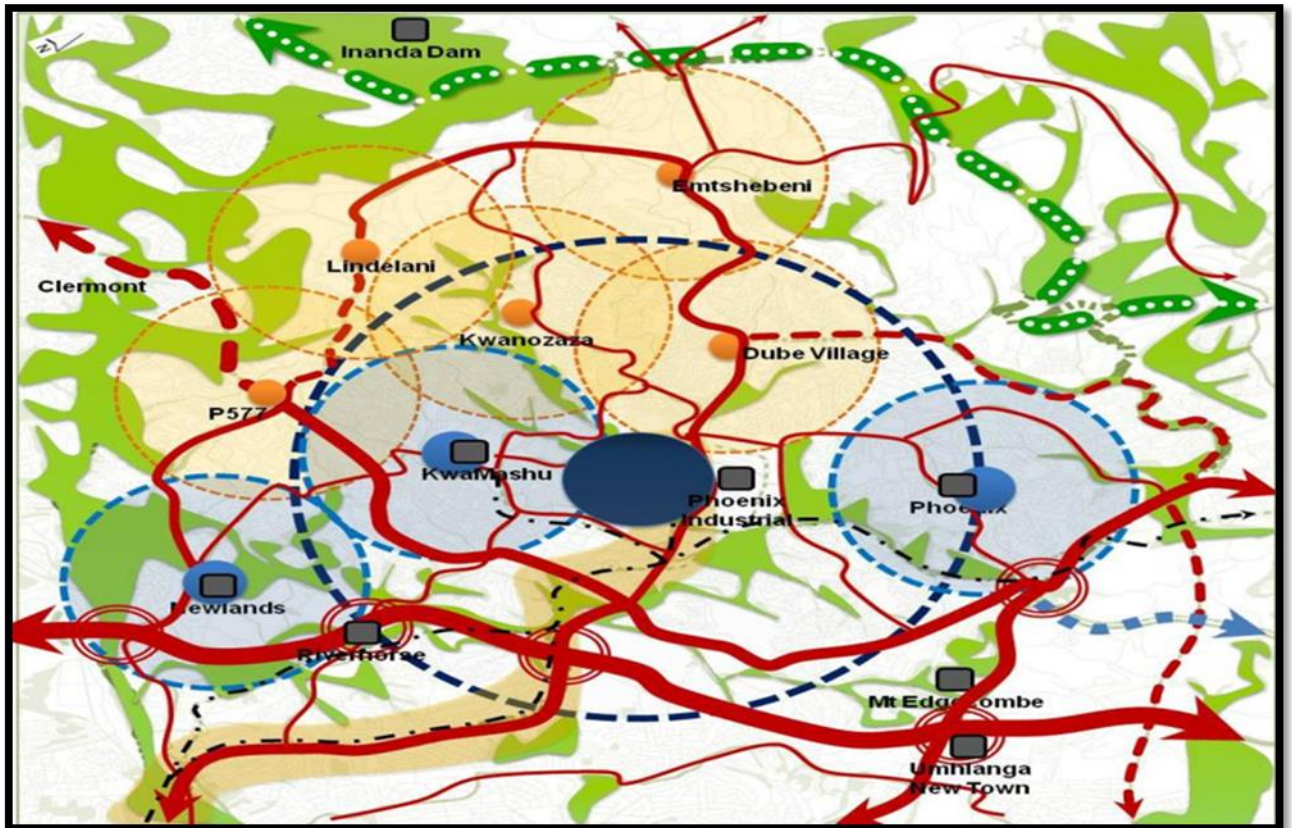
Figure 4.15.1: Locality Map of South Africa



Source: Google Maps (13/07/2017)

4.15.2. Phoenix, Inanda, Ntuzuma, Kwa-Mashu Development Initiative

Figure 4.15.2: Spatial Initiative in the Context of PINK Development



-  Interchange
-  Regional Mobility
-  Metropolitan Mobility
-  Metropolitan Access
-  Proposed Metropolitan Access
-  Proposed Transit Oriented Multi-Modal Spine
-  HPPTN
-  Railway
-  Consolidate Sub-Metro Node
-  Consolidate Local Urban Nodes
-  Establish New Neighbourhood Node
-  Open Space
-  UDL

Source: eThekweni Municipality (2010)

Phoenix, Inanda, Ntuzuma and KwaMashu (PINK) area is situated 30 km north of the eThekweni city centre and comprises a mix of formal residential townships and informal settlements which are home to approximately 510 000 residents. According to eThekweni

Municipality (2012), PINK area was identified as a critical development node as part of the Urban Renewal Programme intended to co-ordinate, facilitate and align development delivery as rapidly as possible. This was initially known as INK area, and later the project incorporated Phoenix, which is the neighbouring town.

Given the fact that these three urban areas were substantially neglected by the apartheid government, the overall aim of the PINK Development Initiative was intended to co-ordinate, facilitate and align development delivery as rapidly as possible. Key to this mission was to create connectivity between these former black townships and white suburbs such as Umhlanga Rocks that is not too far from the PINK. Spatial integration in the PINK area is highly promoted through major investments in infrastructure planning. This is evident on the availability of nodes and corridors such as Bridge City Mall, Dube Village Mall and the Kwa-Mashu CBD among others.

According to Mngadi (2013), these nodes and corridors within PINK play a big role in promoting Local Economic Development (LED), and to undo the PINK area's historical legacy of marginalisation. They also play a role in addressing low economic growth, poor access to urban services and amenities. The PINK also focused on ensuring connectivity between previously fragmented areas. This was done through development and reconstruction of road networks that run through those areas. This includes routes such as M25, which connects Inanda, Phoenix, Kwa-Mashu and Umhlanga. Another special connectivity route is M21, which connects Kwa-Mashu and Durban North. Some of the initiatives within PINK which promote connectivity is the newly built Bridge City Rail Network.

4.15.3. Cornubia Integrated Human Settlement

Cornubia is an integrated human settlement project located on the Northern parts of Durban, which was initiated by eThekweni Municipality working together with Tongaat Hulett Development. The project is set to be the Municipality's and the Province's largest sustainable integrated human settlement initiative. The project is estimated to cost about R25 billion and covers over 1300 hectares. Under the Apartheid form of planning, human settlements (former townships) were planned in isolation with other land uses such as commercial, recreational and other land uses that are compatible. This led those townships to suffer from poverty because there were no opportunities for local economic development. In contrast, the Cornubia project is such a very good example of the local government initiative that seeks to address the spatial imbalances of the past. According to eThekweni Municipality website, the Cornubia project

will consist of mixed-use, mixed income development, incorporating some 2,5 million m2 industrial and commercial bulk, residential and open space uses. Cornubia is planned with high levels of connectivity as it links Phoenix, Ottawa and Umhlanga. Cornubia shopping mall is one of the main economic infrastructure that is planned at the centre to be of inclusive use by these neighbourhoods. Unlike the former townships which were planned without considering transport networks while being located at the outskirts of the city and distant from opportunities, one of the key component of this project is the provision of public transport which will be planned as part of the Bus-Rapid Transport to Link Umhlanga to Phoenix and Dube Tradeport in the North. Image below depicts Cornubia developments.

Plate 4.15.3: Cornubia Integrated Human Settlements



Source: Google Images (25/05/2017)

4.15.4. Alexandra Renewal Project (ARP)

Another South African government's projects to reduce spatial inequalities is that tries to integrate Alexandra into Gauteng's most affluent areas including Sandton and Johannesburg. According to Harrison et.al (2007), Alexandra Renewal Project was launched in 2001 under the leadership of the former President Mbeki, and is a well-known and ambitious South Africa's post-apartheid interventions to escape spatial inequalities that were left over by the apartheid system. The project has also incorporated rental housing with housing programmes, reduce plot size and increase densities through innovative design, integrate township and hostel communities, redesign hostels to improve security and communal life, and to relocate residents of shack settlements into formal housing using temporary accommodation in transit village.

According to Onatu and Ogra (2013), the Urban Renewal Programme included the integration of 'Old Alex', East Bank, the Far East Bank, Marlboro Industrial Area, Wynberg, Kew, Marlboro South and Marlboro Gardens. The need for this was because the industrial and retail areas have been declining and Alexandra is dislocated from the surrounding economy, which includes Sandton CBD, Midrand high tech-belt and Kempton Park as well as Johannesburg CBD. The Pan Africa Mall in Alexandra as in the sense of this research can be regarded as one of the kind of economic infrastructure planned to shape the spatial form of the low-income residential areas in Alexandra while also giving resident an access to opportunities.

Plate 4.15.4: Connection of London Road and Pan Africa Mall



Source: *Onatu and Ogra (2013)*

4.16. Conclusion

This chapter has focused on reviewing the literature on spatial inequality of economic infrastructure. In this chapter, it has been discussed that in developing world, such spatial inequality occurs in the form of rural-urban divides and this has resulted to spatial fragmentation since there seems to be a separation of land-uses such as employment centres and residential areas. The chapter has also discussed that causes of spatial inequality in developing countries may not be the same as those of developed countries. In some countries, such spatial inequalities are occurring at a regional scale, as a response; development corridors have been planned in between those areas as to promote compactness, densification as well as spatial integration. In the South African context, interventions by the government to address spatial fragmentation and inequalities has focused on encouraging investment in infrastructure

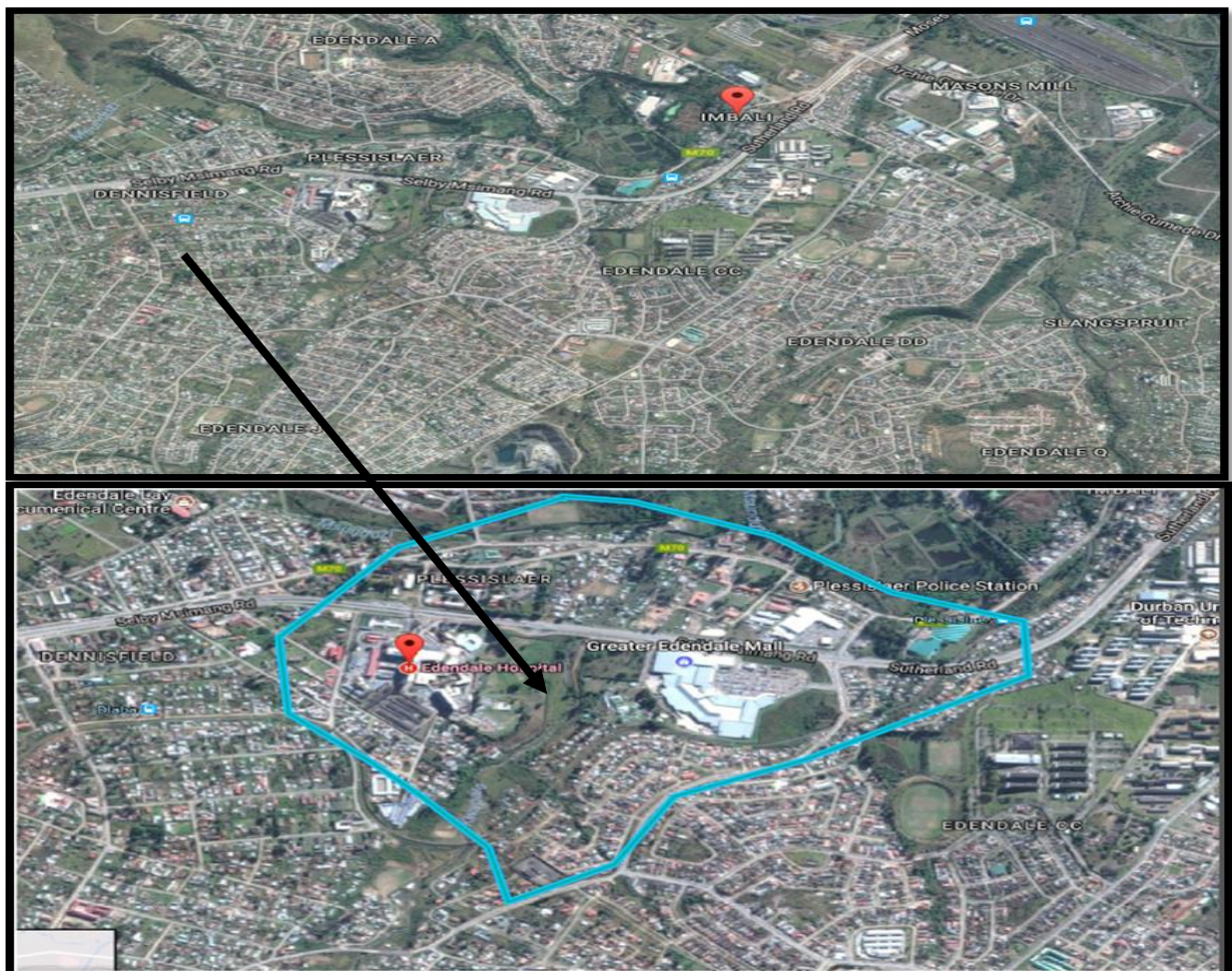
such as the nodes and corridors within the previously disadvantaged areas. However, the following chapter provides an overview and the context of the Edendale Township and the Town Centre.

5. Chapter Five: Greater Edendale Town Centre Study Area

5.0. Introduction

This study examines the role of spatial planning in addressing the widespread spatial inequality of economic infrastructure in Edendale Township in Msunduzi Municipality. It specifically looks at the role of economic infrastructure; including economic centres such as development corridors and nodes in promoting spatial integration. This chapter focuses on describing the case study of Edendale Town Centre. To coherently understand this, the chapter also discuss the context of Edendale Township in full details. This includes geographical context, demographic analysis, socio-economic status as well as environment analysis of Greater Edendale Township.

5.1. Location of Greater Edendale Township



Source: Google Map (17/10/2017)

The Msunduzi Municipality (Incorporating the Greater Edendale Area) is the second largest urban centre with the KwaZulu-Natal province and is the main economic hub within

UMgungundlovu District Municipality. Its location has a strong influence on the regional channels of investment, movement and structuring of the provincial framework for growth and development. The Edendale Area is situated 8 km away and lies southwest of the Msunduzi city centre. The two areas are linked by a dual carriageway, which is more popularly known as the Edendale Corridor. These routes serve not only as path for economic growth but also as a connection between various outlying rural areas such as Vulindlela, which lies on the north.

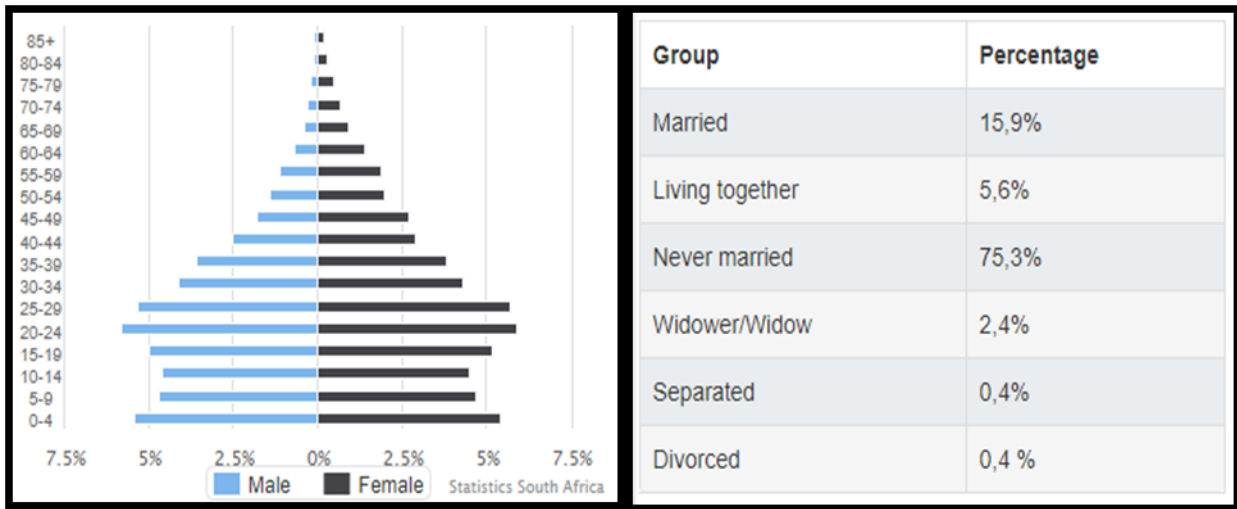
The township was formally established in the 1930s but people had been living in the areas prior to this under extremely bad conditions. After many decades of no rubbish collection, no sewers, no housing standards, no regulations on animals, and no government support for good land husbandry, much of Edendale was a mess (Epprecht, 2010). The Greater Edendale is divided into two areas. The first of which is categorised as traditional area of Edendale proper, where virtually all land is privately owned. The second area however, is regarded as the more contemporary area of Edendale and it is here that all land vests within the ownership of either the state or the provincial government. Much of Greater Edendale Area is densely developed with both formal and informal housing, supported in some areas by ancillary land-uses and facilities. The current population is about 300 000 people which comprises of approximately 36 per cent of the city's population.

5.2. The Context of Edendale Township

5.2.1. *Demographic Analysis*

According to Census (2011), Edendale Township is comprised of a total population of 140 891. However, the population density is 2937 persons per square kilometres (km²). Out of the total population; blacks make up 95, 5%, Whites 0, 1%, Indians 0, 1%, Coloureds 0, 3% and the other population groups also make up 0, 1%. The figures below illustrate sex and age distribution and marital status in Edendale Township.

Graph 5.2.1: Sex and Age Distribution Edendale

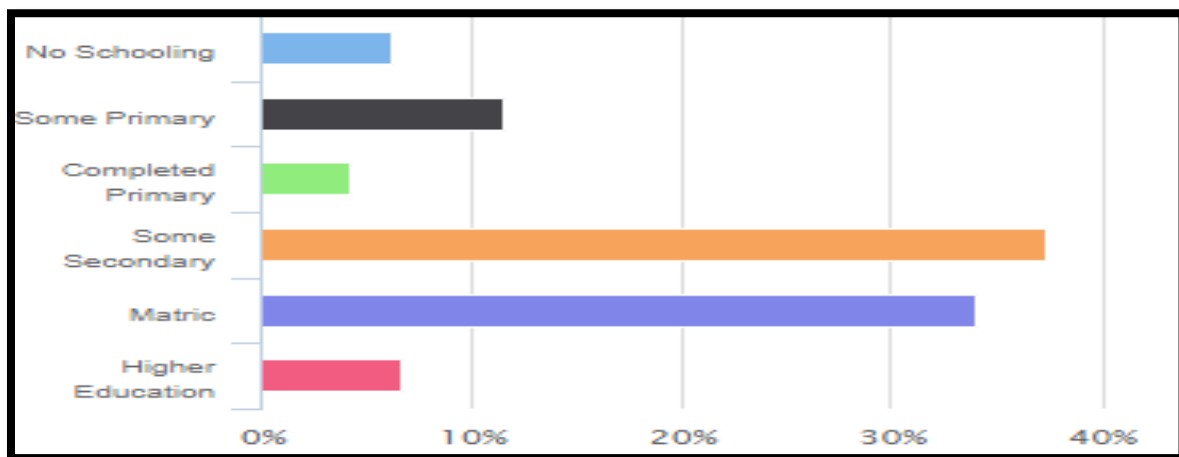


Source: Census (2011)

5.2.2. Education Profile

The 2011 education profile of the study area is illustrated in the figure below. These figures illustrate the education levels of the persons over the age of 15 years and therefore falling into economically active categories of the population. The figures suggest a relatively low and literacy levels within the study area with as much as 6.2 % of the population have indicated that they have not undergone any formal schooling and only 11.5% have completed primary schooling, 37.4 % of the adult population indicate to have some secondary education with only 34.0 % of the population indicating to have completed Grade 12 and only 6.7 % of the population have undergone some of post-matric/tertiary education training.

Graph 5.2.2: Highest Educational Levels in Edendale



Source: Census (2011)

5.2.3. Settlement Patterns in Edendale Township

According to the Msunduzi Municipality IDP 2017-2022, much of the population in Greater Edendale is located to the east and south east of Edendale Road. Older areas on either side of Edendale Road comprise of a mix both formal and informal settlement patterns, mostly located on older cadastral layouts. Settlements on the south east are a mixture of traditional and formal settlements. The residential in the central and eastern portions of the site are dominated by more recent formal settlement patterns.

5.2.4. Unemployment Profile

According to Barker (2003), the 1996 and 2001 census results indicate that the unemployment rate in South Africa is increasing. It was also found that the unemployment rate in Msunduzi Municipality increased from 33.4 % in 1996 to 40.5 % in 2001 and that Greater Edendale Area is the worst affected area. This is close to the 41 % unemployment rate noted in the Imbali mixed-use investment *status quo* report (Isibuko se-Africa, 2009). According to the recently released 2011 census data, the unemployment rate in Msunduzi Municipality declined from 48.25 % to 32.99 % (Statistics SA, 2011). However, the Greater Edendale Area still has the highest unemployment rate at 48.5 (Statistics SA, 2011).

5.2.5. Transportation

The 2001 census data indicated that the daily modal split in the Msunduzi Municipality was 62 % by public transport and 38 % by private vehicles. The Msunduzi Municipality IDP 2017-2022 found that public transport is dominant in the western and southern regions of the municipality, with higher levels of private vehicles usage in the central and north-eastern regions. Cordon counts by uMgungundlovu District Municipality (UDM) 2007 indicates that the percentage of public transport person trips by minibus taxi had increased from 85 % in 2005 to 88 % in 2007, with trips per bus reducing from 15 % to 12 %. In Edendale Township and other western as well as southern areas of the municipality, the high dependency on public transport and the high level of pedestrian activity places a focus on the need for high standard public transport services throughout the municipality, with attention on non-motorised transport (NMT) integrated with public transport system. The Edendale Road corridor is the main arterial linking Edendale and the city centre, with several connecting routes and other modes of transport like rail. In the case of the study area (Edendale Town Centre) it is quite clear that the project was influenced by the integrated rapid public transport network (IRPTN) project. As Okeke (2013) identified some transport challenges in the study area, it is expected that the project will drastically transform the municipality through bringing a range of

transportation, land use and increased densification opportunities and becoming a major structuring device in the Greater Edendale Area.

The IRPTN project is about the integration of various forms of public transport to realise a more efficient and reliable transport network. In general terms, it is an integrated system of high demand public transport corridors, referred to as truck routes fed by a comprehensive system of feeder routes. As a system, this provides effective coverage and frequent service for all users of the network. According to the IDP 2017-2022, the objectives and goals of the Msunduzi Municipality IRPTN are as follows:

- Create a transformed city with a high level of mobility for accessibility to employment, education, hospitals, etc.
- Modernised/ Vibrant Transport System with a high-quality priority network, a modern reliable fleet, architecturally pleasing infrastructure, and convenience, safety and efficiency.
- Increased Environmental Responsibility.
- Economic spin-offs such as job creation, investment, and business opportunities.
- Visual awareness of the city's commitment to the poor and marginalised.
- Increased in-house technical skills and capacity.
- State-of-the-art transport modelling tools.

5.3. Edendale Town Centre as part of Urban Network Strategy and Neighbourhood Development Partnership Grant

The Edendale Town Centre was identified and targeted as part of the Urban Network Strategy under the Neighbourhood Development Partnership Grant (NDPG). The Urban Network Strategy is a strategy of the National Development Plan (NDP) aiming to reshape the urban spatial form and is the new strategic direction based on spatial development approach that builds on urban network model which is a transit-orientated precinct investment planning, development and management approach aimed at strategic spatial transformation. The NDPG promotes that future economic development opportunities should be channelled into activity corridors and nodes that are adjacent or linked to main growth centres. As such, infrastructure investment and development spending should primarily support localities that are earmarked to become major growth nodes. The main purpose is to achieve spatial transformation in order to optimise access to socio-economic opportunities of township residents whilst creating an

enabling environment of private and other public-sector investments. However, the primary objective of the Edendale Town Centre initiative as part of the NDPG is to develop an urban hub in Edendale township to address economic development challenges as well as the spatial inequalities inherited from the apartheid era. This also sought to restructure the urban form of Greater Edendale through integrating the township and the surrounding into more developed areas of Pietermaritzburg.

According to the Msunduzi Municipality Edendale Town Centre Action and Work Programme, the primary focus of the grant is to stimulate and accelerate investment in poor underserved areas by providing technical assistance and capital grant financing for municipal projects. The NDPG is also structured in the form of conditional grant and its purpose is to support and facilitate the planning and development of neighbourhood development programmes and projects that provide catalytic infrastructure to leverage 3rd party public and private sector development towards improving the quality of life of residents in targeted underserved neighbourhoods (townships generally).

Edendale Town Centre is planned to become the major activity node in the township where it will also attract private investors, promoting employment and local economic development opportunities for Edendale township residents and the surroundings. One of the driving forces behind this Edendale Town Centre was the Integrated Rapid Public Transport Network (IRPTN) project which is expected to be implemented in the next few years. It is expected that the project will drastically transform the municipality through bringing range of transportation, land-use and increased densification opportunities and becoming a major structuring device in the Greater Edendale area.

5.4. Experience with Spatial and Development Planning Initiative

5.4.1. *Msunduzi Municipality Spatial Development Framework (SDF)*

The Spatial Development Framework (SDF) is a long-term plan that translate the ideas and priorities of the Integrated Development Plan (IDP) into spatial vision. This is a plan that was introduced as the integral component of the IDP to redress the negative legacy of the apartheid planning. In that regards, the SDF sought to transform the current spatial form to be inclusive and integrative. The principles of the SDF promotes integrated development, balanced spatial form, compactness, densification, inclusive economic growth and development to favour even those who were previously disadvantaged. This is done through encouraging development of existing the nodes and corridors to promote spatial efficiency. The previous SDFs in the Msunduzi Municipality such as the one of 2009 identified various activity nodes and corridors that had a potential to integrate and restructure the city while also bringing economic opportunities to the places of residence. This mainly includes the identification of the Edendale-Northdale Corridor in which most plans and investments have been concentrated. The Msunduzi SDF 2009 states it clear that the Greater Edendale Area ABM had been identified as one city's areas of priority spending with initiatives already underway to support this namely; the Greater Edendale Development Initiative (GEDI) (which is now GEVDI-to include Vulindlela) and Edendale-Northdale Corridor.

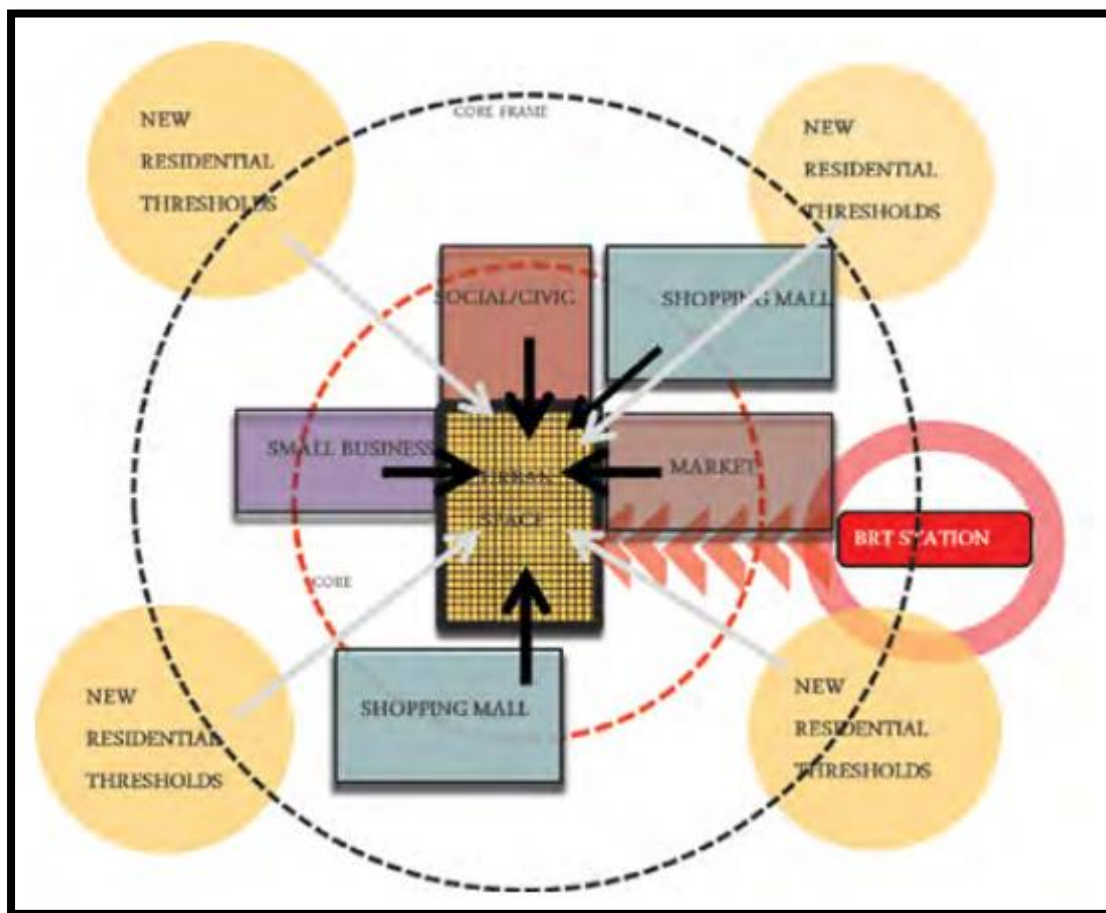
5.4.2. *Edendale Town Centre Initiative*

As briefly discussed above, Edendale Town Centre is one the Msunduzi Municipality's major spatial planning and development initiative aiming to undo the legacy of the apartheid form of planning. This is the core of this study and a good example of the South African government initiative aiming to transform the urban spatial planning given that much of the apartheid spatial context and patterns still exist today with marginalised community in Edendale township and surrounding areas such as Vulindlela far from economic, social and recreational opportunities. The initiative is expected to address the prevalent spatial inequalities that are persisting in the South African townships such as the unavailability and lack of economic infrastructure to satisfy the needs of the residents. This is also expected to transform the urban spatial form in the study area as to achieve high levels of spatial integration.

According to the Msunduzi Municipality Edendale Town Centre Work and Action Programme, the implementation of the urban hub is geared toward realisation of one of the following strategies within a short, medium and long-term projection:

1. Planning approval and implementation set up;
2. Establishing the Hub-support and grow the informal economy and government precinct;
3. Promote the building of diversified service industrial/ manufacturing sector;
4. Develop mixed-use retail/ office and residential opportunity;
5. Enhance the quality of life of the Hub by rehabilitating existing open spaces;
6. Address infrastructure capacity.

Figure 5.4.2: Proposed land-uses in the Edendale Town Centre



Source: Spatial Development Framework (2015)

5.4.3. Greater Edendale and Vulindlela Development Initiative

In responding to challenges relating to spatial inequality of socio-economic services, the Msunduzi Municipality introduced Greater Edendale Development Initiative (GEDI) which later became to involve Vulindlela; hence Greater Edendale and Vulindlela Development Initiative (GEVDI). The GEVDI is a revolutionary transformative approach from the apartheid form of spatial planning and development of historically repressed and neglected township into

an urban Pietermaritzburg place of high quality, representing the single biggest investment in the city's future. The initiative seeks to achieve this through undertaking various projects that aims to bring about sustainable development in the area. GEVDI spatial and physical projects involve Edendale Macro Physical Development Strategy, Edendale Corridor Development Project, Spatial Development Framework, Physical Development Framework Plans, Housing Delivery Facilitation, Edendale-Northdale Transportation Corridor Plan, and Planning and related Projects. However, the Edendale Town Centre project also falls under the responsibility of GEVDI office as it deals with spatial planning and development within Greater Edendale and Vulindlela.

5.5. Existing Nodes and Corridors

According to the Msunduzi Municipality IDP 2017-2022, the main objectives of development corridors are to achieve spatial integration, improve access, and promote investment opportunities whilst addressing the spatial imbalances inherited from the apartheid planning system. In addition, it is believed that using these development corridors; previously disadvantaged areas can be connected and have better access to economic opportunities as it was not the case during apartheid era. The proposal of the Edendale Town Centre is driven by the availability of economic infrastructure such as various activity nodes and corridors in the study area. This includes the Greater Edendale Mall which exists parallel to the Edendale shopping centre along Selby Msimang Corridor.

The Msunduzi Municipality (2009:60) states that the application of nodes and corridor concept in the municipality is influenced by the need to create polycentric city which will decentralize economic centres across the municipality to redress apartheid imbalances. According to Okeke (2013), several studies on the GEA indicate that the spatial landscape of the city is driven by a polycentric city modal with priority given to nodes within the Edendale section of the Edendale-Northdale Corridor (ENC). Various nodes with mixed-use activities have been identified along this section of the corridor. The Ekhrosini node has been also identified as a proposed livestock market and centre for retail development which will function as part of the Edendale corridor section to boost economic growth and job creation (Isibuko se-Africa, 2009:2). This includes nodes such as Georgetown where Edendale originated. According to the study undertaken on the ENC by the Iyer Rothaug Collaborative (2005), the existing Georgetown Town Centre node will be revitalized as a primary node. Thus, this node will function as mixed-use and multi-use development with several retails, institutional, service and light industry, and residential uses. Within this node a transport hub (park and

ride) is to be considered at the northern edge of the town centre. This will reduce the number of private cars travelling into the Pietermaritzburg CBD (Msunduzi Municipality, 2006: 63).

Plate 5.5: Greater Edendale Mall along the Edendale Corridor



Source: Researcher (2017)

5.6. Conclusion

The chapter has provided an overview of Edendale Town Centre and the context of the entire Edendale Township. Edendale Township as established in the colonial era and developed under the influence of Apartheid planning has been left with a negative impact and legacy of this system such as the separation of land-uses, spatial fragmentation, unplanned urban growth, overcrowding as well as the insufficiency of economic infrastructure for the local people. The area has also found to experience unemployment and transportation issues. Against all these issues, the Edendale Town Centre proposed by the Msunduzi Municipality is expected to address the prevalent spatial inequalities that are persisting in the South African townships such

as the unavailability and lack of economic infrastructure to satisfy the needs of the residents. This is also expected to transform the urban spatial form in the study area as to achieve high levels of spatial integration. This initiative is believed to be relevant in the case of Edendale Township since the area was left with apartheid legacy of spatial inequalities. The area is also suitable for this initiative since there is existing nodes and corridors which needs to be redeveloped as to promote spatial efficiency. The following chapter presents research findings and data analysis.

6. Chapter Six: Research Findings and Analysis

6.0. Introduction

This chapter presents the data collected. The overall aim of this study was to assess the potential role of spatial planning in addressing the legacy of the insufficiency of economic infrastructure in the former townships. To coherently understand that, the researcher examined the impact of the proposed Edendale Town Centre in responding to the existing spatial inequalities. The key findings of this study were obtained using mixed-methods (qualitative and quantitative). To collect the quantitative data for this study, a survey was conducted amongst the residents of Edendale Township. The first section of this chapter briefly describes the study area and presents the quantitative data obtained by the researcher during a survey. The qualitative data was collected amongst the key informants where semi-structured questionnaires were utilised. However, the second section of this chapter presents qualitative data of this research. The last part of the chapter is based on analysing the data presented.

6.1. Study Area: The Edendale Town Centre

The Edendale Town Centre is a precinct (800m radius) within the Edendale Township which was identified as part of the NDP to revitalise the previously disadvantaged townships. One informant from the National Treasury Department defined the Edendale Town Centre based on the Urban Network Strategy (UNS). In her explanation, she stated that Edendale Town Centre has been identified as an urban hub. “An urban hub is according to our terminology defined as a precinct within the marginalized peripheral township that is at a point of maximum connectivity, clustered around a transport hub”. These are envisaged to serve as town centres to the townships in which they are located.

These urban hub precincts were identified as part of the NDP based on a number of criteria including:

- Metros and Secondary Cities only (higher order urban areas).
- Population in urban township cluster of approximately 125 000 people.
- Distance of 7.5km or more from CBD.

It is one of the spatial interventions that encourage the channelling of economic development opportunities into activity nodes and corridors where many people live. The structural elements of the Edendale Town Centre involve the primary network stretching across an entire urban, with activity nodes such as the Pietermaritzburg CBD, establishment of urban hubs and primary nodes to be supported/ established in the township and being connected to public transport

linkages. The Edendale Town Centre is generally focused on the creation of urban hubs as a way of supporting the establishment of anchor points in the urban structure of the township. The creation of urban hub is expected to serve as the town Centre for the entire area as well as to the surrounding areas while also providing access to the rest of the primary urban network.

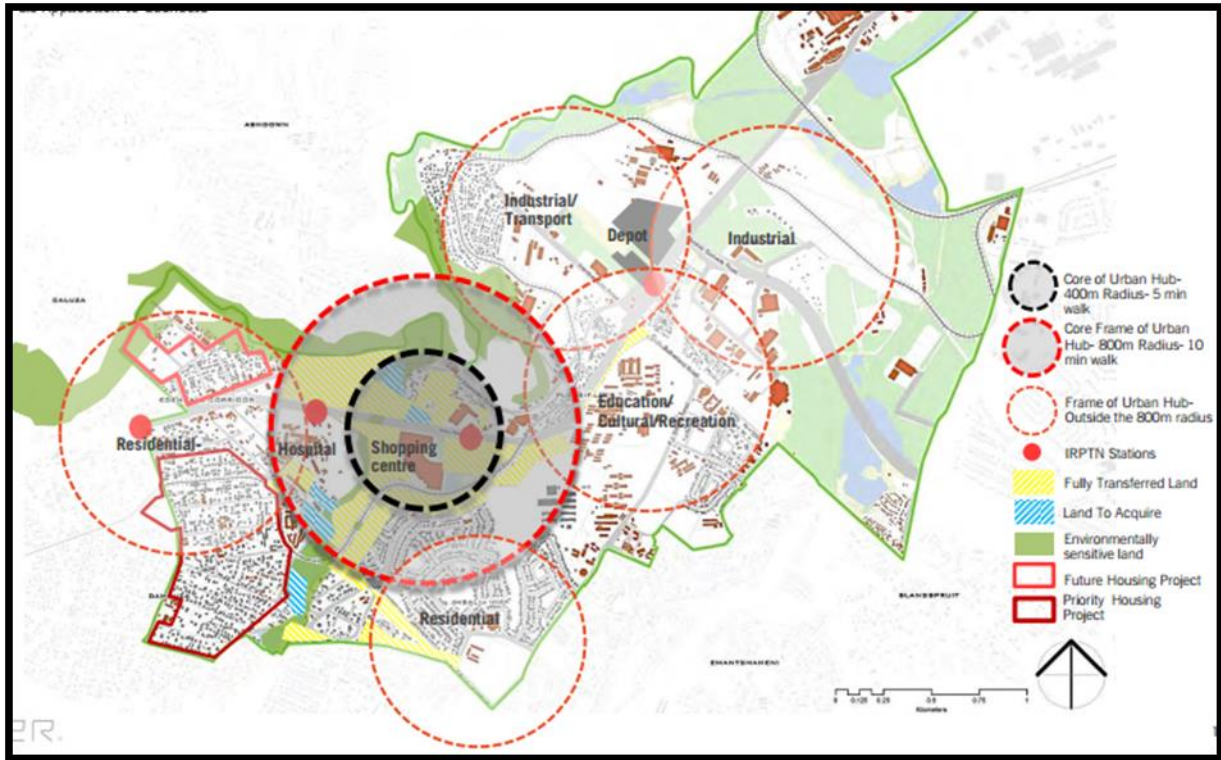
The Edendale Town Centre is also identified by the amalgamation of the urban hubs that are planned to integrate the area into other neighbouring areas such as PMB CBD, Ashburton, and other areas in the countryside including Vulindlela. According to Iyer Urban Design (2014), the first urban hub is the one that is planned to link the secondary urban network within the townships with the established primary network of the rest of the urban area. Basically, this one is proposed on the western section of Imbali hero's precinct where there are existing nodes particularly the Edendale Hospital located along the then Edendale Road.

The Msunduzi Municipality (2016) also reveals that the second urban hub as part of the Edendale Town Centre is located close to the existing shopping centres within Edendale and was chosen due to it being highly accessible and currently serves as a landmark and destination oriented zone. In this hub, the major land uses are already established and therefore the hub will begin to consolidate what is already there in a more structured manner to achieve spatial integration through the densification of land-uses. The primary goal for this one is to ensure that a vibrant set of land uses are proposed to activate the urban space. This hub is planned to be integrated to the proposed BRT Stations. One of the driving forces based on the researcher's personal observation is that around this hub there are many informal traders who are subject to extreme weather conditions under poor infrastructure. Therefore, the proposed market is hoped to address such challenges.

The third hub which also forms an integral part of the Edendale Town Centre is located within the Imbali Heroes precinct further east of the hospital in the Masons Mill area. Much like the other 2 sites, the Centre of this potential hub is also situated at one of the proposed BRT stations (Iyer Urban Design, 2014). However, the plan below shows the location of each of the potential hubs of the proposed Edendale Town Centre within the Imbali Heroes Precinct. Each possible location has a 400m and 800m buffer around the future BRT bus stations. However, the roles and responsibilities for the Edendale Town Centre are performed by Greater Edendale and Vulindlela Development Initiative (GEVDI) Office. This is an area based management responsible for performing any spatial planning activities for Edendale Township as well as

Vulindlela. The figure below is the plan for the entire Edendale Town Centre made up of 3 hubs.

Figure 6.1: Different Hubs within the Proposed Edendale Town Centre



Source: Iyer Urban Design Studio (2014)

6.2. Section A: Data from Survey

6.2.1. Socio-economic Status of Respondents in the Study Area

For the researcher to avoid biasness of the data collected and to achieve the balance of information, the situation was compelling to survey the residents within Edendale Township around the proposed location of the Town Centre, as well as interviewing the key informants. The researcher in this section presents quantitative data obtained during the survey, hence the data entails the socio-economic status of residents who participated in the survey.

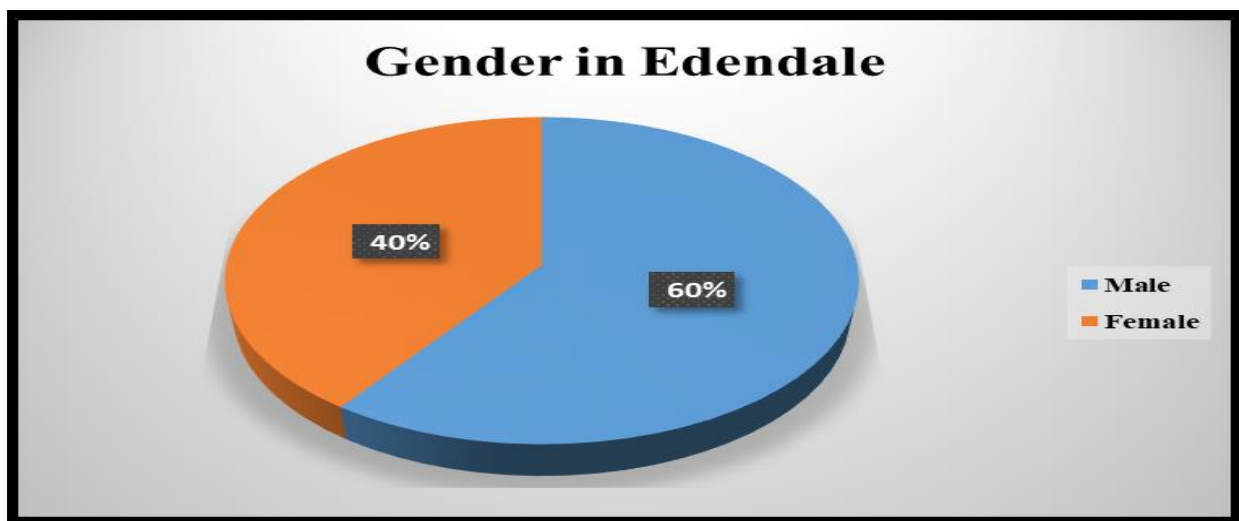
Table 6.1: Gender of Respondents

Gender	Number of Respondents	Percentage
Male	18	60
Female	12	40
Total	30	100

Source: Researcher (2017)

During the survey, the researcher was recruiting participants randomly through clustering different groups of households around the proposed Edendale Town Centre. In that process, gender equity was also taken into consideration. *Table 6.1.* above shows gender profile of the respondents during the survey in Edendale Township mainly around the Town Centre. Out of 30 respondents participated only 60 % are males and females constitute 40 % of the study. All participants formed part of the study are African. Below is the pie chart (6.1) which clearly illustrates the gender of the respondents in relation to the table above.

Pie Chart 6.1: Gender Profile of Respondents Around Edendale Town Centre



Source: Researcher (2017)

Table 6.1.1: Age Groups of Respondents

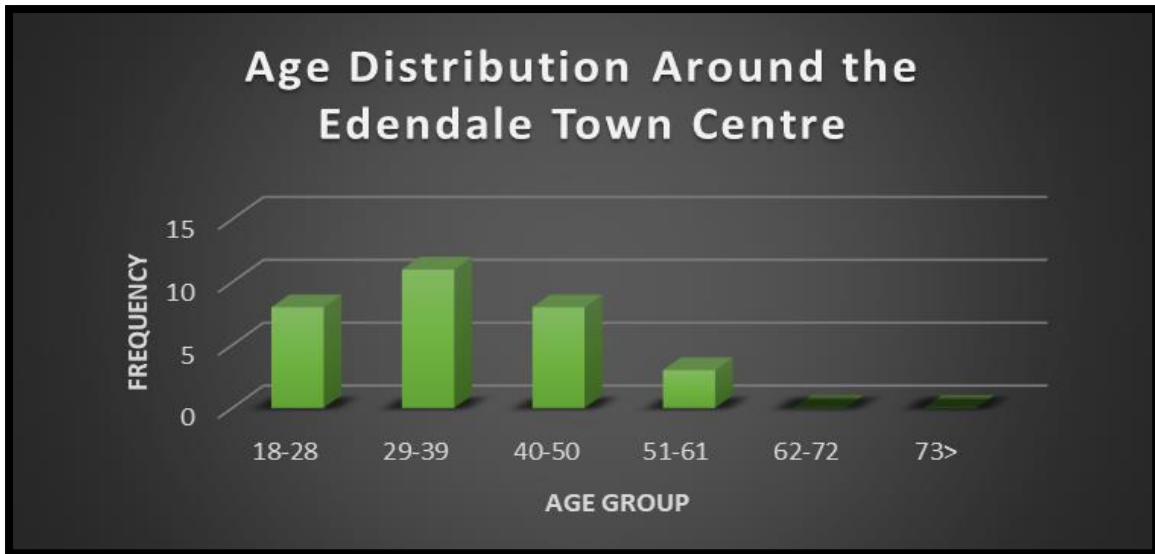
Age Group	No. of Respondents	Percentage (%)
18-28	8	26.6
29-39	11	36.6
40-50	8	26.6
51-61	3	10
62-72	0	0
73>	0	0
Total	30	100

Source: Researcher (2017)

Table 6.1.1 above shows the percentage of respondents according to their age groups. During the study, the researcher made sure that all those who participated in the survey are 18 years and above since they meet the criteria for Statistics South Africa. The researcher found that age

group between 29-39 is the majority in the study area as it forms 36.6 % of the study. Those who are between 18-28 form 26.6 % of the study which is also equivalent to the population age between 40-50. The last age group participated is between 51-31 constituting 10 % of the population. Below is the bar graph (6.1) depicting a clear illustration of the population age groups who participated in the study.

Bar Graph 6.1: Age Groups of Respondents



Source: Researcher (2017)

Out of 30 participants, 26.6 % of them are married and 73 % of the study participants were categorised as not married. *Table 6.1.2* below is showing the marital status of respondents.

Table 6.1.2: Marital Status of Respondent

Marital Status	Number of Respondents	Percentage
Married	8	26.6
Not Married	22	73
Divorced	0	0
Widowed	0	0
Total	30	100

Source: Researcher (2017)

The levels of education of the population is also one of the cornerstone determinant and indicator of socio-economic development. Table 6.1.3 below shows the levels of education amongst the sample of 30 participants interviewed during the survey. Many of the participants (66.6 %) are believed to fall under secondary level of education. The 13 % of the sample only possesses primary level of education while tertiary makes up only 20 % of the sample. Below is the table showing education levels of the participants.

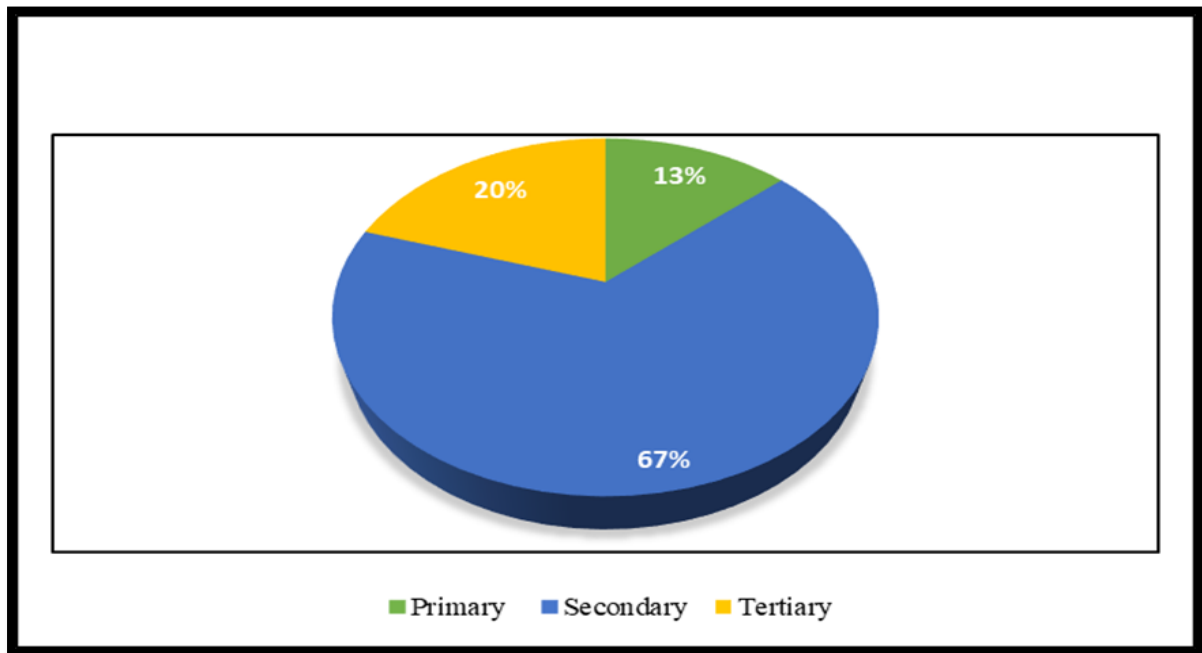
Table 6.1.3: Educational Levels of Respondents.

Education Levels	Number of Respondents	Percentage
None	0	0
Primary	4	13
Secondary	20	66.6
Tertiary	4	20
Total	30	100

Source: Researcher (2017)

To coherently show the levels of education of the participants, the researcher made of the pie chart as depicted in *Pie Chart 6.1.1* below. The pie chart consists of figures that correspond with the one in the table above showing educational levels of the respondents.

Pie Chart 6.1.1: The Levels of education of Respondents



Source: Researcher (2017)

Considering the responses from the survey participants, it is quite clear that there is high unemployment rate in the study area as unemployment is the national issue in South Africa. *Table 6.1.4* below presents employment status of the respondents. Out of 30 respondents who participated in the study, only 23 % of them are employed. Unemployment in the study area makes up to 66.6 % while the other group derive their livelihoods from informal trade (10%).

Table 6.1.4: Employment Status of Respondents

Employment Status	Number of Respondents	Percentage
Employed	7	23
Unemployed	20	66.6
Informal Traders	3	10
Total	30	100

Source: Researcher (2017)

The *Bar Graph 6.1.1* below illustrates the employment status of respondents around the proposed Edendale Town Centre.

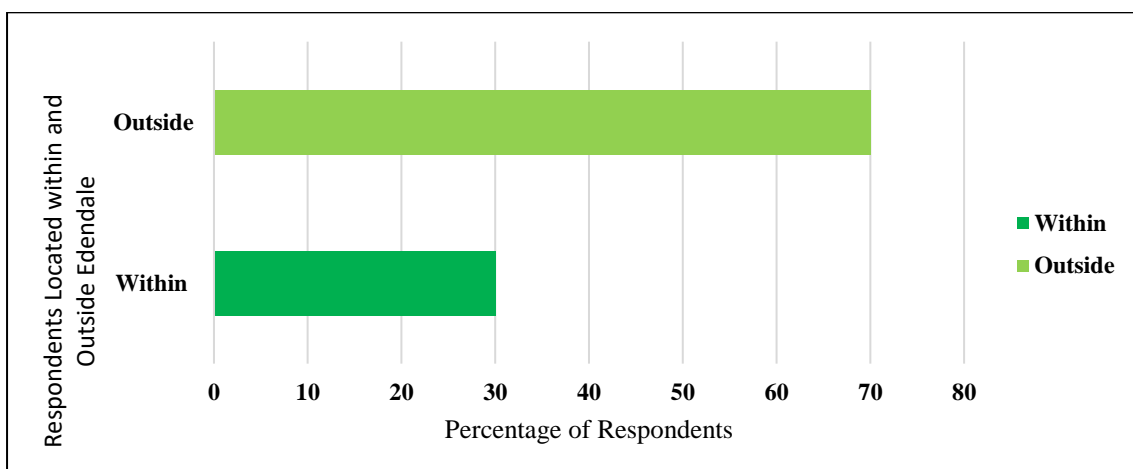
Bar Graph 6.1.1: Employment Status of Respondents in the Study Area



Source: Researcher (2017)

Since the aim of the study is to assess the role of spatial planning in addressing the plight of spatial inequality, it was important for the researcher to find statistics on a number of residents employed within the Edendale Town Centre Precinct in order to determine the level of spatial inequality. Out of those who are employed, only 30 % are employed within the Town Centre Precinct while the other 70 % travels to their work places. *Bar Graph 6.1.2* below shows the number of respondents working within the Town Centre Precinct and those working in other areas. These results suggest that the Town Centre is still left with a huge responsibility of opening other employment opportunities within the urban hubs.

Bar Graph 6.1.2: Respondents Working within and Outside Town Centre Precinct



Source: Researcher (2017)

Having presented the employment profile of the study area, *table 6.1.5* below shows the income status of the population that is employed. About 17 % of the population earn more than R4000 while 3 % earn between R3000-R3900 which is equivalent to the population earning R2000-R2900. However, 10 % of the participants earn between R1000-R1900.

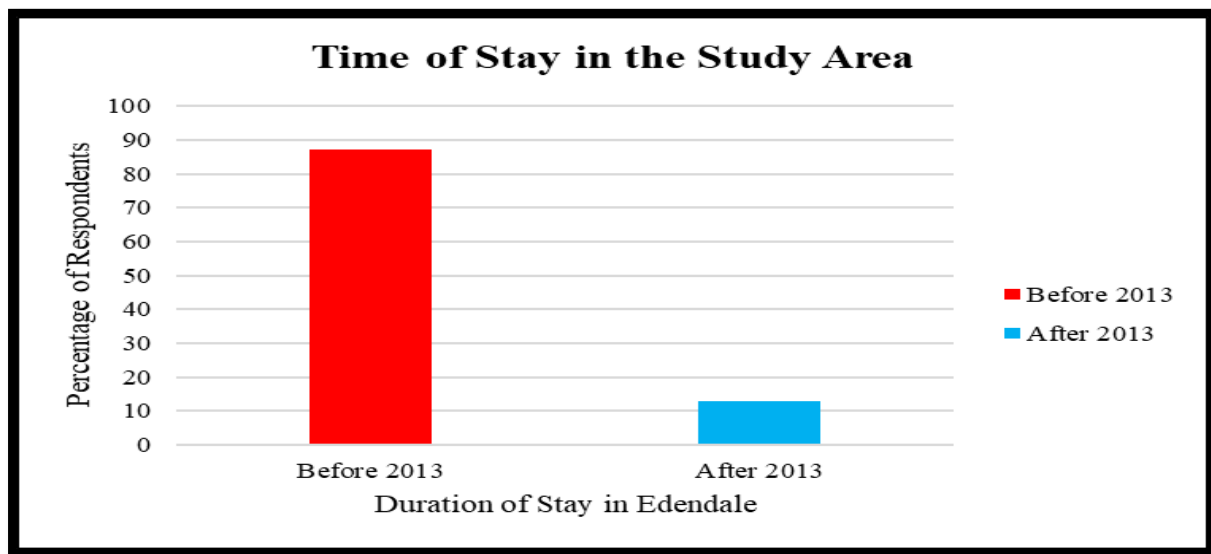
Table 6.1.5: Income Status of Respondents

Income Status	No. of Respondents	Percentage
R500-R900	0	0
R1000-R1900	3	10
R2000-R2900	1	3
R3000-3900	1	3
R4000>	5	17
Unemployed	20	67
Total	30	100

Source: Researcher (2017)

The *Bar Graph 6.1.3* below illustrates the period that the respondents have stayed in the study area. The motive for this graph is for the researcher to determine if there is a change concerning the development of economic infrastructure. The results show that many of the respondents have occupied the area before the year 2013 and that means the urban hub (Edendale Town Centre) initiative was introduced while the majority were already living in Edendale. The graph below shows that 87 % of the population began staying in the study area before 2013 while only 13 % came to stay after 2013.

Bar Graph 6.1.3: Duration of Stay in the Study Area



Source: Researcher (2017)

Public transport also forms the basis component of socio-economic development. According to UN Habitat (2016), transport has a profound and personal impact on individual lives. Moreover, in many cases, transport involves choice whether to move or to stay in a place, whether to walk, cycle, take public transport or a private car. Some respondents particularly the informal traders indicated that they face transport issues such as traffic congestion. To curb that, the municipality is currently upgrading Mount Padridge Road which is within the Town Centre precinct. *Table 6.1.6* below shows the community satisfaction regarding the transport in the study area. The results show that 60 % of the respondents are positive about the transport while 40 % is not.

Table 6.1.6: Satisfaction of Public Transport

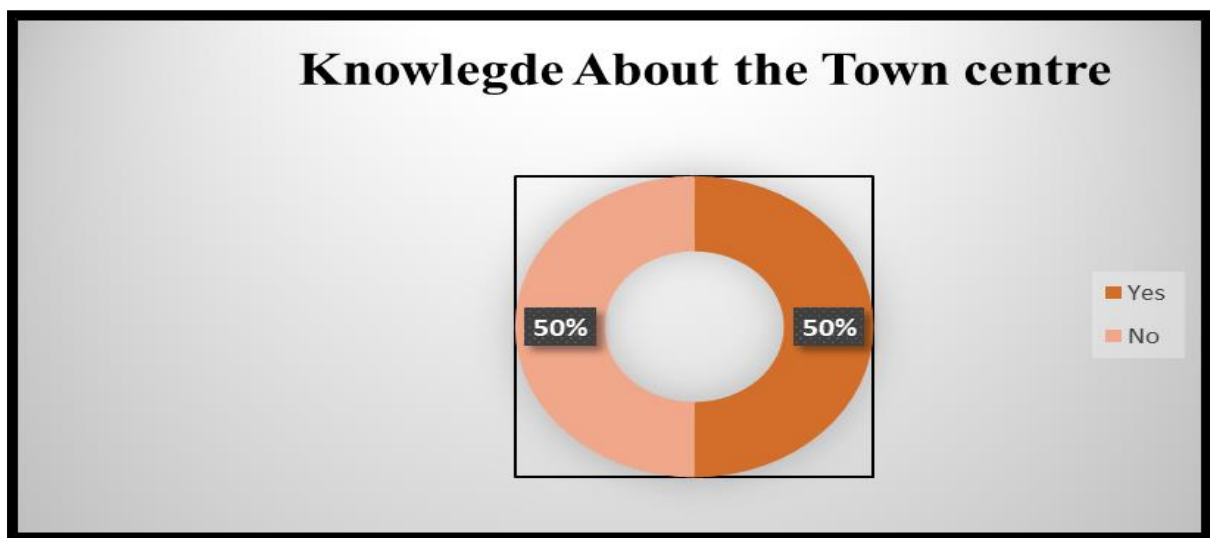
Satisfaction Regarding Public Transport	No. of Respondents	Percentage
Yes	18	60
No	12	40
Total	30	100

Source: Researcher (2017)

Community participation is the intrinsic requirement for sustainable urban development. It also indicates a reduced levels of spatial inequality amongst the citizens. The researcher found that

there is a low level of citizens participation within Msunduzi Municipality as some of the respondents were either never knew about the Edendale Town Centre or had a very limited information regarding this project. The figure below shows citizen’s knowledge about the Edendale Town Centre. The municipality is still obliged to ensure high level of participation for its citizens, thus giving them full access to information about the municipal projects and programmes.

Doughnuts 6.1: Knowledge about the Edendale Town Centre



Source: Researcher (2017)

Below is the community satisfaction regarding the existing economic infrastructure. Having discussed the employment status of the area, it comes clear that the existing economic infrastructure in the study area is not sufficient for the employment needs of the residents in the study area. The Edendale Corridor is the main and only area with a cluster of economic centres where employment can be seeked. However, 13 % of the respondents indicated that they were happy with the existing economic infrastructure. Over 70 % of the respondents indicated that they are negative towards the existing infrastructure while another 13 % was neutral. The *table 6.1.7* below shows the community feeling about the existing economic infrastructure in the study area.

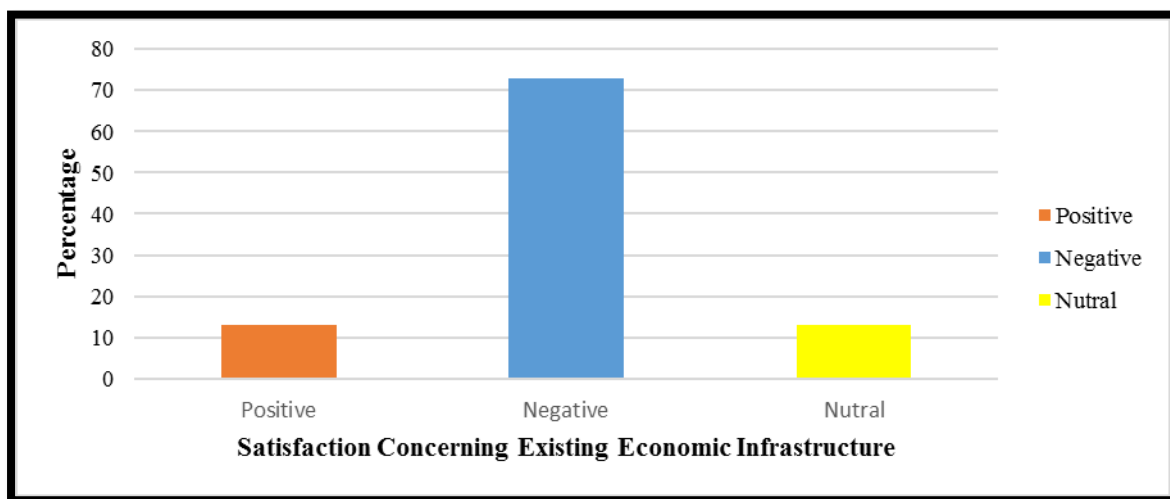
Table 6.1.7: Satisfaction Regarding Economic Infrastructure

Satisfaction Regarding Economic Infrastructure	No. of Respondents	Percentage
Positive	4	13.3
Negative	22	73.6
Neutral	4	13.3
Total	30	100

Source: Researcher (2017)

The *Bar Graph 6.1.4* below illustrates the respondent’s satisfaction towards the existing economic infrastructure in the study area.

Bar Graph 6.1.4: Satisfaction about the Existing Economic Infrastructure



Source: Researcher (2017)

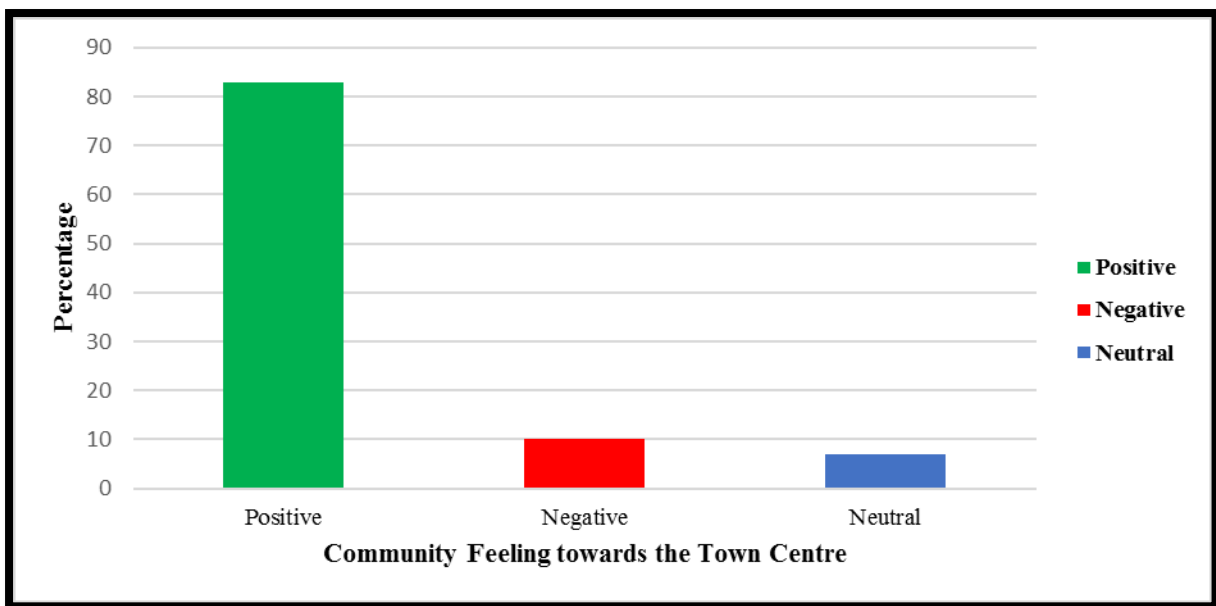
The illustrations below [table 6.1.8 and bar graph 6.1.5] show the respondent’s feelings towards the proposed Edendale Town Centre. The researcher found that residents in the study area no longer trust the Municipality regarding service provision. One of the respondents argued “we are unemployed and most of the people working in the malls are not staying within Edendale, therefore we don’t trust the Edendale Town Centre”. Despite that, 83 % of the participants were positive with the Edendale Town Centre in addressing the spatial inequality of economic infrastructure which included their credence and hope in accessing services and facilities in closer proximity to their residential areas. Out of 30 participants, 10 % were negative with the Edendale Town Centre and 7 % were neutral.

Table 6.1.8: Resident’s Feelings towards the Proposed Edendale Town Centre

Trust towards the Town Centre	Frequency	Percentage
Positive	25	83
Negative	3	10
Neutral	2	7
Total	30	100

Source: Researcher (2017)

Bar Graph 6.1.5: Resident’s Feelings towards the Proposed Town Centre



Source: Researcher (2017)

6.3. Section B: Key Informants Interview

This section presents the qualitative data that was collected by the researcher during the key informant’s interviews. The data from the informants was collected so that the researcher could gain the understanding of spatial integration in the context of Edendale Township. The data also includes the projected socio-economic impact of the proposed Edendale Town Centre and its role in shaping the spatial form of the area in response to spatial fragmentation as a result of apartheid planning.

6.3.1. Understanding Spatial Integration in the Context of Edendale Township

Since spatial integration is an integral part of this research, one of the consultants (Gounden, 2017) argued that “it is primarily concerned about access to opportunities i.e. social, cultural,

recreational and economic for people that were previously disadvantaged due to political, spatial location, radical policies or through other mitigating factors”. It is about all people living together and enjoying equal benefits. Before getting deep into spatial integration in the context of Edendale township, it is crucial to remember that Pietermaritzburg as a city has emerged over the past 150 years being influenced by economic forces and infrastructure alignment, more significantly colonial and apartheid policies such as the Group Areas Act shaped the City. Hence, the area has long ago inherited fragmentation because of the apartheid planning.

Despite all the initiatives that have been proposed and implemented under the post-apartheid government, there is still a lack of integration and equality which suggests the impact of apartheid policies is still evident in the current spatial distribution of the municipality. To undo these negative impacts of the previous planning system and integrate the previously fragmented landscape, the Greater Edendale area was identified for a Township Regeneration Strategy with the aim of ensuring that the development of an urban hub within the Greater Edendale area will assist with the transformation and regeneration of the area and that the spin-offs of this would contribute to the improvement of the surrounding areas. The UNS focuses on incorporating the township of Edendale into the Msunduzi Municipality by means of an integration zone whereby the Edendale Town Centre will form an anchor linked to a public transit spine with the Pietermaritzburg CBD. Targeted policy, planning, budgeting and urban management will be achieved within this zone. Therefore, through the creation of the urban networks within the PMB area, spatial integration would be achieved.

6.3.2. Promoting Densification and Compactness in the Edendale Town Centre

South Africa has since democracy in 1994, developed a variety of spatial policies and frameworks that attempt to achieve densification towards a more compact, liveable as well as efficient urban environments. Accordingly, Fataar (2015) states that considering South Africa’s planning history, densification and the effective use of both vertical and horizontal space in a city with the aim of improving urban sustainability and integration after apartheid would prove to be a challenging concept.

Even though densification has been difficult to achieve in South Africa, spatial integration in the case of Edendale Town Centre has mostly focused on densification of land-uses. This is accompanied by encouragement of mixed-use developments and placing more focus on the role of public transportation and quality urban design. Generally, density and compactness lead to complexity allowing higher level of mix of land-uses, shared space as well as reducing cost

of infrastructure. This in turn practically explain the theory of urban justice which refer to spatial equity as the era in which citizens have access to basic services within which they stay. The goal is to promote a particular pattern of fine grain urban form which is complex in profile and which reduces the negative impacts of sprawl. In the study area, mixed-use development is hoped to increase the choices available to people having the ability to live and work in an area. The two stations that are planned along the Right of Way and service the two major land uses, the Edendale Hospital and the Shopping Mall are believed to increase levels of integration in the area. The Chief Planner and Project Manager for the Town Centre (Singh, 2017) insisted that “in order to ensure that the Town Centre is kept vibrant and active, mixed-use sites have been identified”. These sites are meant to respond to market demand and therefore a mixed-use zoning has been identified to allow this flexibility. This is how spatial integration in the Town Centre is proposed to be achieved.

6.3.3. Existing Economic Infrastructure in Edendale Township

The first objective of this study is to understand the current situation concerning the economic infrastructure in the study area so that the socio-economic impact of the Edendale Town Centre can be projected. The current situation regarding the space economy of the Edendale area will also bring further understanding on how spatial planning can stimulate the economic development of the area and spatial integration.

The majority of economic infrastructure in the Edendale Township is clustered along the Edendale section of the well-known Edendale-North-dale Corridor (ENC). The contextual analysis of the existing land-uses and facilities along this corridor section shows that the Greater Edendale Mall, Edendale Crossing Shopping Centre and the Dick Whittington Shoes (Pty) are the major landscape and economic infrastructure in the study area. According to Nwagbo (2013), the Edendale Corridor is comprised of three primary nodes that had been identified which are spaced along the corridor being connected to secondary and tertiary nodes. However, other centres which also increase the concentration of people in the area is the Edendale Hospital which exists within the demarcated area of the Town Centre. The existing situation regarding the economic infrastructure in the area does not leave aside other economic centres located near the proposed Town Centre. Not too far from the study area exist other land-uses which according to the researcher can be classified as economic infrastructure. Such land-uses include the Manson Mill area which is an industrial hub located along the Imbali area. *Plate 6.3.3 (a)* below shows the view of the Edendale Corridor along which the main economic infrastructure in Edendale Township is clustering.

Plate 6.3.3 (a): Edendale Corridor



Source: Researcher (2017)

However, taking into consideration the issue of widespread unemployment and poverty in the study area, it can be said that the current situation concerning the existing economic infrastructure in the area needs further spatial interventions as the area has long inherited apartheid spatial planning. To address such challenges that the area is facing, the Edendale Town Centre is the last hope for the municipality to attract investors so that unemployment and poverty issues are combated. The *plate 6.3.3 (b)* below show the Dick Whittington Shoes (Pty) and Edendale Crossing Shopping Centre located along the Edendale Corridor.

Plate 6.3.3 (b): Dick Whittington Shoes, Edendale Mall and Edendale Crossing



Source: Researcher (2017)

6.3.4. Proposed Land-uses within the Edendale Town Centre

There are various land-uses that are proposed to be part of the Edendale Town Centre. As the aim of this research is to assess the role of spatial planning in redressing the spatial inequality of economic infrastructure, the Edendale Town Centre has various land-uses that are planned to address the previous imbalances. The Edendale Town Centre will serve as the “Main Service Centre” for the surrounding township of cluster of townships and provide access to the rest of the wider urban area. It will be planned and developed as a high density, mixed use precinct that contains a variety of land uses, services and activities. Such land-uses include retail, recreation, offices, banking, community facilities and government services, hospitality/ tourism, leisure and high-density housing will be located around the core within an urban

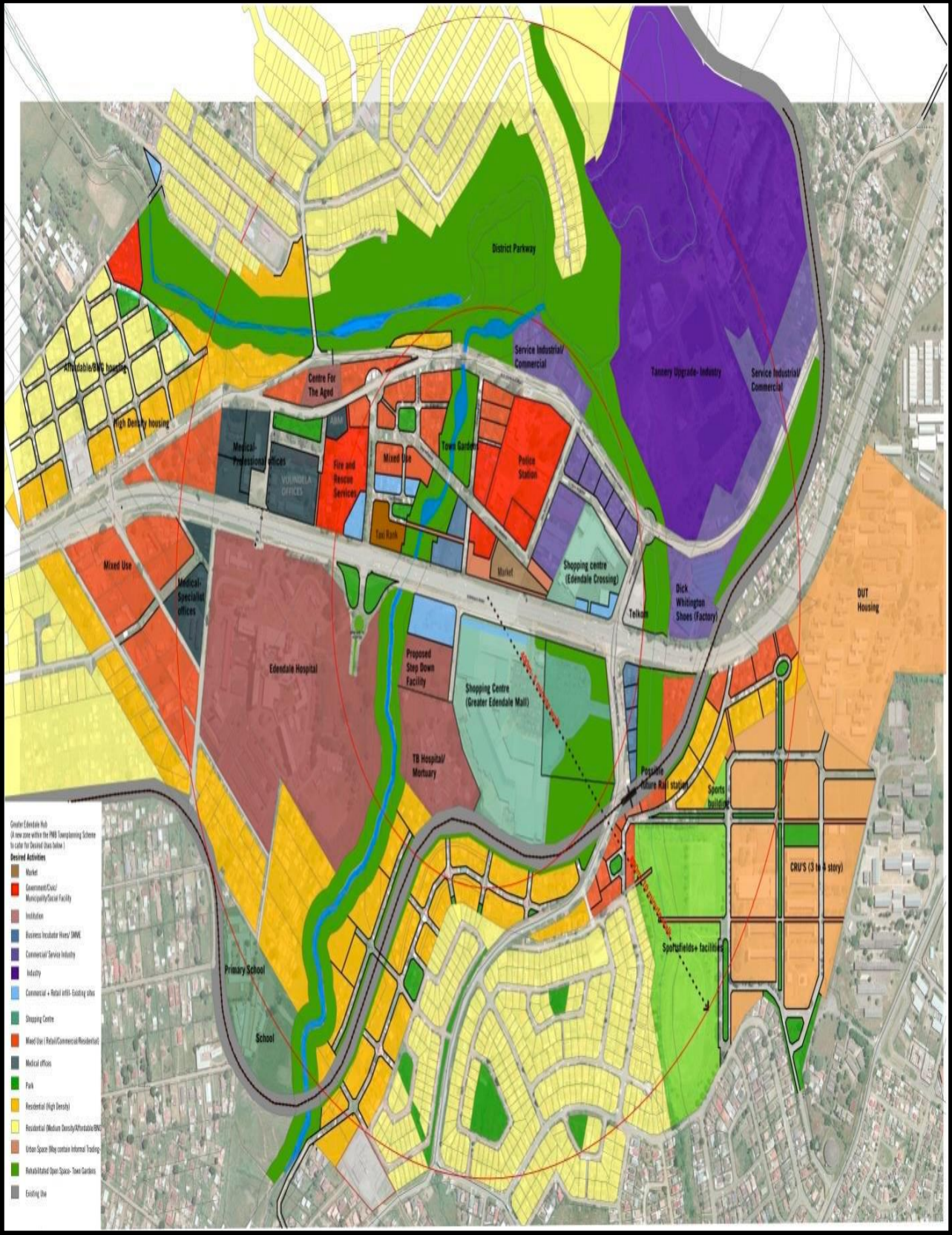
design framework that promotes a vibrant sense of place in which to live, work and play. However, land-uses and activities are planned near public transport to promote efficiency.

These land-uses are proposed around the central area of the Town Centre to promote the sense of place, densification and compactness. According to the Msunduzi Municipality LED Forum Report (2016), the total GLA for the entire hub is estimated around 80 904 m² which is allocated as follow:

- 1171 m² for Small Medium and Micro-Enterprises (SMMEs)/ informal sector.
- 27878 m² for formal commercial land-uses.
- 413345 m² for residential land-uses. However, approximately 699 units at an average unit's size of 55m² are proposed within the hub.

The objective is to create centres of activity and 24/7 occupancy levels through high density, mixed land uses and achieve vibrant and sustainable urban environments which is currently lacking in the townships. In that way, the Edendale Town Centre would be responding to the insufficiency of economic infrastructure in the area, hence the study aims to assess that. The *map 6.3.4* below gives an illustration of land-use plan for the Edendale Town Centre which indicates the facilities, amenities and well as services planned within the proposed Town Centre.

Figure 6.3.4: Land-use Plan for the Edendale Town Centre



Source: Msunduzi Municipality LED Forum Report (2016)

6.4. The Driving Forces behind the Development of the Edendale Town Centre

The second objective of the study was about understanding the driving forces and approaches behind the establishment of the Edendale Town Centre. Therefore, in the Edendale Town Centre and Precinct Plan by the Msunduzi Municipality, it is noted that the increasing spatial fragmentation of cities into wealthy and poor enclaves undermines the equitable distribution of public goods and services. This trend creates serious problems of exclusions with worsening social tensions, which is often escalated by the marginalization of neighbourhoods. In South African context, unique forms of exclusion have arisen. Thus, township areas “excluded by design” have been created as a direct and deliberate consequence of apartheid policy.

Based on the abovementioned statement, there is a variety of driving forces behind the establishment of the Greater Edendale Town Centre. Firstly, it is of paramount importance to note that the Edendale Town Centre was chosen as part of the NDP. Moreover, a need was identified by the NDP to follow a focussed approach and spatial targeting was used to identify approximately 28 urban hubs across South Africa by means of a selection process. The Neighborhood Development Partnership Grant (NDPG) as part of the NDP was announced by the Minister of Finance in his budget speech on the 15th of February 2006. According to the National Department of Treasury (2007: 3), the primary focus of the grant is to “stimulate and accelerate investment in poor, underserved areas by providing technical assistance and capital grant financing for municipal projects that have either a distinct private sector element or an intention to achieve this”. This mainly involves townships established during the apartheid era. Due to past development practices, the area reflects all the elements of apartheid planning including an area separated and segregated from the central part of the city; an area with insufficiency of many infrastructural services; an area deficient in nearby employment opportunities; and an area lacking in many social services, particularly of higher order types.

Based on the above-mentioned criteria, the NDP identified the Greater Edendale area for a Township Regeneration strategy as it meets all the criteria as a disadvantaged area with the aim of ensuring that the development of an urban hub within the Greater Edendale area that will assist with the transformation and regeneration of the area. The core of this research is based on the role that spatial planning can play to address spatial inequality of economic infrastructure. In that regards, the Edendale area was chosen for the implementation of the Town Centre initiative based on the perceived and evident situation of insufficiency of economic infrastructure to support the rapidly growing population. Therefore, this led to the proposal of the urban hub that would restructure the area while opening economic opportunities

for the residents. One of the respondents argued that other reasons for implementing Town Centre initiative in Edendale was based on the poor performance by previous urban renewal strategies which resulted in the dispersal of land-uses. In that regards, Edendale Town Centre is driven by the implementation of urban networks which practically execute the concepts of nodes and corridors as well as densification to promote a network of economic centres in the urban landscape.

Another consultant also added that one of the reasons which led the area to be identified is that there is infrastructure such as the already existing Greater Edendale Mall which currently serves as a landmark and destination-oriented zone. It has become a centre of influence and serve as a landmark for the people within this area. Therefore, since our current spatial planning interventions promotes the densification of land-uses; a Town Centre initiative would be the best practical example of densification in the former Townships as in Edendale hub 2 of the Town Centre is planned near the Edendale Mall.

6.5. Approaches and Strategies Underpinning the Edendale Town Centre

Edendale Town Centre is a core product of the NDP which realized that infrastructure development in the previously disadvantaged areas is the best way to redress the widespread spatial inequality inherited from the previous system. As part of the NDP, the NDPG is one of the strategies which supports the development of the Town Centre as it provides funds for the entire Edendale Town Centre projects. Urban Network Strategy also supports the Town Centre as it encourages municipalities to adopt a polycentric approach to spatial development planning. Apart from these national policy interventions underpinning the Town Centre, there are other strategies at a local level that have played a role in facilitating the development of the Edendale Town Centre.

The key tools used to ensure investment within this area include:

- A land use budget to set land use and density goals for the long-term investment in the area.
- An intergovernmental project pipeline to ensure that a pipeline exists for the implementation of projects across government sectors.
- The precinct plan will be further enhanced by means of a Precinct Management Plan to ensure that stakeholders are involved and to encourage investment not only in infrastructure but also in the management and maintenance of public spaces.

- The Msunduzi Spatial Development Framework (SDF) as part of the IDP also underpins the Town Centre as it is the plan giving direction to spatial development within the municipality. In the recent Municipal SDF, the Town Centre is included as one of the catalyst projects.
- The SLUMA also supports the development of the Town Centre as it promotes the development of the existing infrastructure including activity nodes and corridors to achieve urban spatial efficiency.

6.6. Ensuring Accessibility and Connectivity in the Town Centre and to other surrounding Areas

The third objective of the study questioned the issue of accessibility and connectivity in the Town Centre. As briefly discussed above, most South African cities and former townships have inherited a dysfunctional urban spatial form with huge service infrastructure challenges. Therefore, for South African municipality to reach a situation with a balanced uneven geography and addressed spatial inequality; it is important that current spatial planning is transformed to undo and reverse the spatial legacy of apartheid planning. Central to contemporary spatial planning is the dire need to create a new urban spatial form that connect and integrate the previously fragmented and disadvantaged areas with well-established neighbourhoods. This include rejection of low-density, fragmented and mono-functional settlements. It is also worth-noting that the current road infrastructure within PMB exhibits “radial like” patterns focusing on the CBD as the main hub of economic opportunity. This radial pattern limits the movement of people that live on the outskirts of the CBD. Greater Edendale today, like so many other townships must deal with the spatial challenges inherited from apartheid such as sprawl, fragmentation, poverty, inequality, unemployment but must overcome this within a context that is characterized by steep topography which poses many challenges with integration.

To reshape the spatial form which will ensure high levels of accessibility and connectivity, the Edendale Town Centre also adopts a transit-orientated precinct investment planning and management approach. In that way, the Edendale Town Centre, effectively reinforces the Integrated and Rapid Public Transport Network (IRPTN) and Right of Way (ROW) servitude and gives reliance to the amalgamation and integration of transportation and land use planning. The Right of Way traverses the Town Centre and is supported by two bus stations and taxi ranks.

The connectivity is proposed to be achieved through improved infrastructure and facilities that will ensure that access is at the doorstep of Edendale public, easy access to government services and private economic and service centres. The movement network within the Town Centre is designed with the deliberate intention of creating four visual links to key landmarks within the Hub. These include Edendale Hospital, the Bus Rapid Transit (BRT) station opposite Edendale crossing, the proposed District Park and Market. The purpose of these visual connections is to enable the user to identify and orientate themselves within the hub. Newly improved linkages were proposed south of the Town Centre and the overall aim is to improve greater efficiency and access to the Town Centre. Other transport routes include the newly upgraded Mount Padridge Road which runs northern part of the Edendale Mall and is expected to reduce traffic congestion. Below is the image showing Mount Padridge Road upgrades.

Plate 6.5: Newly Upgraded Mount Padridge Road



Source: Researcher (2017)

6.6.1. *The impact of the IRPTN and Right of Way (ROW) Movement on the Edendale Town Centre*

Future improvement of access to the area will be achieved through the development of the IRPTN as briefly stated above. This is the major advantage of the Town Centre being near and adjacent to an identified primary transportation corridor where the municipality has identified the Northdale Edendale Corridor as a primary ROW for the IPRTN project. This will link the Hub to the Pietermaritzburg CBD in the North-east and Vulindlela in the west. Therefore, pedestrians will have a dedicated underpass to access the adjacent drop-off facility with ramps, stairs and lift to access the hospital above (Iyer Urban Design Studio, 2014). This in turn will increase levels of accessibility to the Town Centre by residents from surrounding areas.

Included in the concept of the Town Centre in Edendale is a Taxi facility to serve the immediate needs of the surrounding community as well as the concept does not close out the option of a rail service to the Town Centre as and when needed. Additional Non-Motorized Modes of Transportation (NMT) linkages have been proposed to improve the pedestrian connectivity to the Town Centre. The Right of Way movement is believed to have a positive impact on the functioning of the Town Centre. In that regards, the Town Centre will become the major point that ROW cuts through. It involves highly developed and extended road network which is about 17.2 km in length; running from Georgetown to Edendale and meanders to the CBD and Northern suburbs. The ROW is planned to be the spine of the entire movement system of the city. Therefore, the development of the economic hubs within the Edendale Town Centre is planned along and will correspond to the existence of ROW. The image below shows the proposed IRPTN route and its design.

Plate 6.5.1: Proposed IRPTN Route and the Built Form



Source: Researcher (2017)

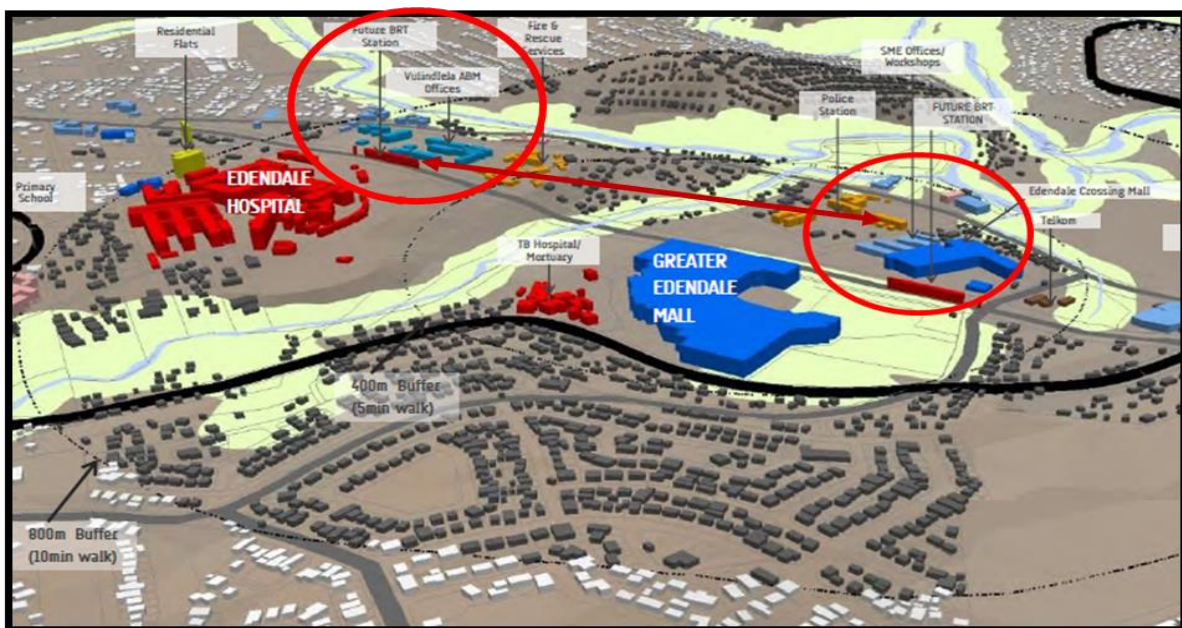


Source: Iyer Urban Design (2014)

6.6.2. The Influence of BRT and the Rail on the Town Centre

Improved transportation is planned for the precinct as there have been serious discussions between the Msunduzi Municipality and the Edendale Taxi Association; emanating from these discussions, the BRT will be introduced. The aim of the Town Centre is to channel the movement of people to where there are sufficient service centres. Central to that is the development of the BRT as briefly stated above. According to Iyer Urban Design (2014), the plan reflects the proposed positioning of two BRT stations as part of the future IRPTN project. In that regards, there is a 700-meter distance between the two bus stations which equates to approximately a 10 minutes' walk. Therefore, this shows how accessible the area will be in the future. The Edendale road and Mt Partridge intersection is an area of high convergence within the hub. This is because of the high level of commuter activity taking place at the intersection, as people access public transport as well as the malls at this intersection. It is anticipated that this area will become even more active in the future when the BRT comes on line. Besides the development of BRT, the rail is planned to be improved which will link the city and the Edendale Town Centre. The existing rail infrastructure presents an opportunity for rail to be used as a mode of public transportation that compliments the hub in the future as it is currently active although it predominantly transports timber. Below is a 3-D Town Centre model showing the co-existence of future BRT stations and their influence on the Town Centre.

Figure 6.5.2: 3-D Model showing the Impact of BRT Stations on the Town Centre



Source: Iyer Urban Design (2014)

6.7. The Anticipated Socio-economic Impact of Edendale Town Centre in Edendale

Township and other neighbouring areas

The fifth objective of this research aimed at questioning the socio-economic impact of the Edendale Town Centre. There is a socio-economic impact that is expected from the development of the Town Centre in Edendale. Most residents during the survey indicated that they are expecting employment opportunities since there is high levels of unemployment. There are also expectations for a less reliance on the CBD for access to opportunities. In other words, the Town Centre will become one of the growth centres for socio-economic opportunities. Walkable environment, reduced private transport and improved public transport is expected. The municipality expects great spill-overs in other neighbouring areas such as Northdale, Imbali and Vulindlela. It is believed that spatial targeting and the encouragement of private sector investment supported by investment in public infrastructure within focused precincts will create opportunities for employment and spatial transformation. Below is the expected socio-economic impact of the Edendale Town Centre mostly in reducing unemployment and promoting the robustness of the informal economy.

6.7.1. The Edendale Town Centre and Employment Opportunities

Msunduzi Municipality is striving to address high levels of poverty, inequality (including spatial) and unemployment within the context of widespread and deeply entrenched imbalances due to apartheid planning within its area of jurisdiction. Given the long years of neglect that should be reversed, the transformation challenges that face the city are formidable. Unemployment as one of the concerning and pressing challenges for the Greater Edendale area remain the major concern of the Town Centre.

The municipality via the Town Centre seeks to present the consolidation and adoption of a multi-faceted and multi-disciplinary approach to place the economy on a production-led trajectory drawing on various models including the Keynesian economic model. For that matter, the City Development Strategy (CDS), IDP and the SDF including the UNS are aligned in support of the development of the economy which specifically address and consolidate an economic predisposition on: jobless growth, bridging the gap between the first and second economy, promoting the informal trade economy, strengthening and the development of poorly performing sectors, business expansion and retention, expanded income revenue streams, skills development programme and so forth.

As far the municipality is concerned, the Town Centre proposal is not a stand-alone project and as previously indicated; a system approach is adopted where all elements are interlinked, interwoven and intertwined. In so saying, the municipality has embarked on the revision of its local economic development strategy where the Town Centre and its elements are a priority and feature predominantly. In so saying, the following studies have been commissioned to add value to the Town Centre and its composition and role in stimulating local economic development (LED), which include:

- The revision of the LED strategy with emphasis on banking borrowing schemes, saving clubs, bulk and competitive buying, supply of fresh produce to municipal market and preference;
- Possible satellite market and agro-processing;
- Co-operative and Small Medium and Micro-Enterprises (SMME) development;
- The municipality has also embarked on various other initiatives to compliment and reinforce the Town Centre such as
- The extension of the inform trade economy chamber into Edendale;
- Skills development and training initiatives and

6.7.2. The Role of the Edendale Town Centre in Accommodating Informal Traders

The Town Planning Scheme of the area has been relaxed to promote the development of street traders and the informal economy in the area. The informal economy is prioritised within the Town Centre based on a proven reality that it employs a big number of unemployed citizens. Having discussed in the recent chapter that there is insufficiency of infrastructure for informal traders in the study area; the proposed Edendale Town Centre has an inclusive plan to accommodate both formal and informal business in the designed urban hubs. The key aim of the Town Centre is to ensure that a vibrant set of land uses are proposed to activate the urban space. Land-uses such as a market, informal trading and the development of business hives are possibly the triggers that will open new opportunity in the precinct. This is hoped to respond to access issues as one of the informal traders interviewed along the Greater Edendale Mall argued, “we face transportation challenges on daily basis and that subjects us to decreased profits”. As such, the emergence of the informal economy within the Town Centre is considered in terms of the outcome of structure, function and process.

The main public spaces proposed for the site are the market and the main urban space covering a combined area of 7000 m² and a proposed GLA of 5000m² regarding the market and 557m²

on the Public Square. The economic system assessment highlighted the need to improve SMME opportunities through incubator units for small businesses, the precinct plan provided approximately 2600 GLA (m²) of Incubator Hives/ SMME's at an average of 40m² per unit. The trading stalls for informal business have been considered along main urban spaces at an average of 10m² per stall. With the development of the market and SMME incubators, there is a hope that the Town Centre will have a positive impact on the informal traders. Below is the built form plan for the informal traders' market and SMME incubators.

Plate 6.7.2: Proposed Informal Market and SMME Incubators



Source: Msunduzi Municipality (2016)

6.8. Challenges Hindering the Progress of the Edendale Town Centre

There are several challenges identified which may impact on the success of the Town Centre. It is said that the area is comprised of existing incompatible land-uses such as industrial which are already established within the exact Precinct which may limit the transformation of the area into a Town Centre. As one of the concerning challenges to South African urban development, the Edendale Town Centre is also intimidated by the prevalence of the informal settlements existing within and surrounding the precinct. Below is a detailed list of the challenges that may hinder the successful implementation of the Town Centre.

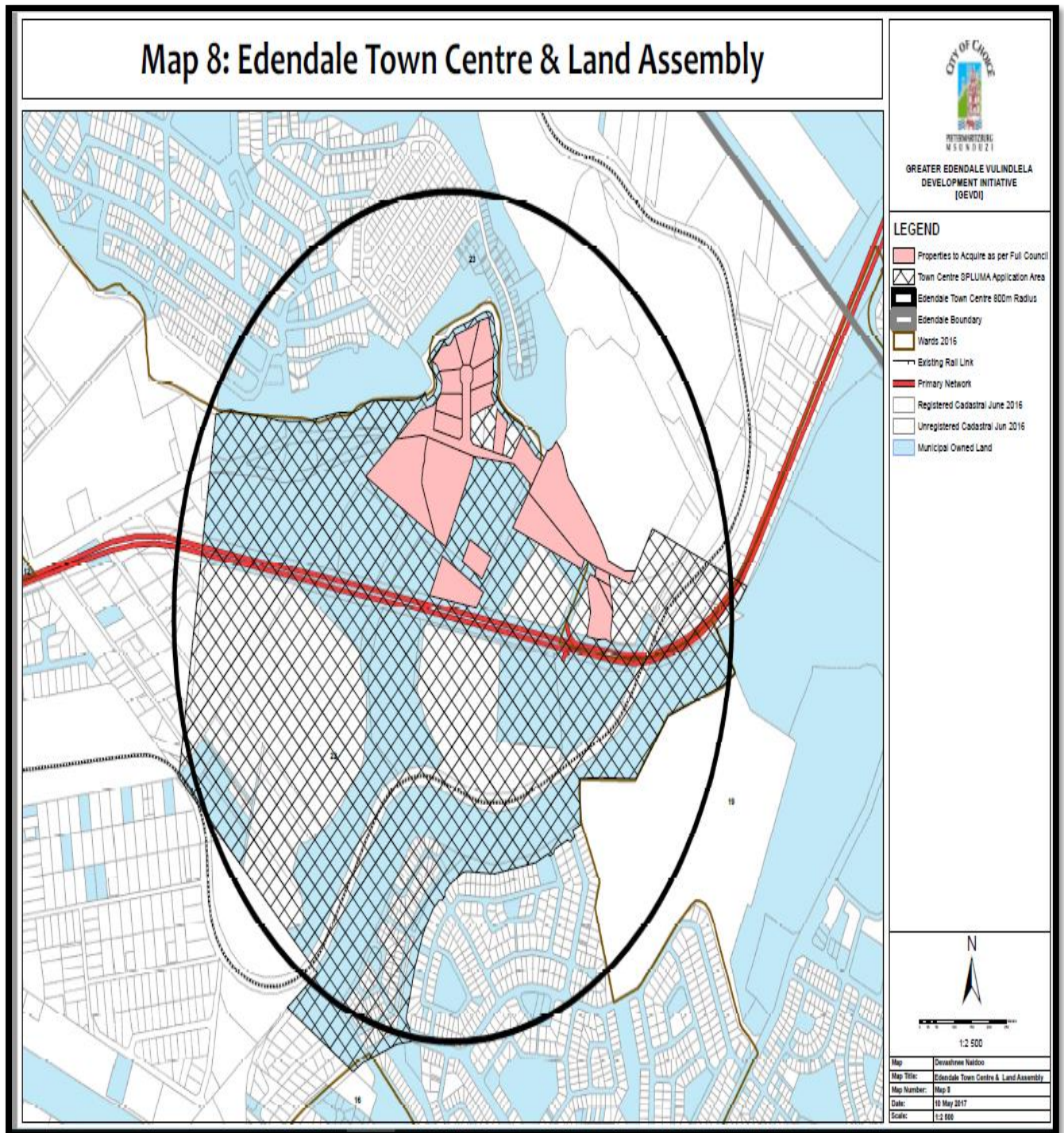
6.8.1. Land Ownership and Assembly

Land ownership is one of the major challenges that threatens the success of Town Centre development. There are various properties dispersed within the area of the proposed Town

Centre which are required to be assembled under municipal ownership to give effect to the intended and planned land-uses. The resistance by the landowners dictates that the municipality in public interest must now expropriate the land. This exercise is both costly and time consuming and would impact on the roll out programme of the Town Centre. Sale of land by owners as unregistered subdivisions to occupants is one of the big challenges. These are cases where owners have sold off their land as unregistered subdivisions and without township establishment services which further compounds the problem and which does not allow for a quick win nor solution. Within the Town Centre, there are illegal sub-leasing on municipal owned land. There are repeated cases where people have built on municipal land within the Town Centre and are sub-leasing. They have manipulated this gap due to the poor law enforcement of the municipality and its resolution is likely to be hostile.

In addition to land issues, it is recorded that a large proportion of the owners were long deceased and where their estates have not been wound up or, as in generally the case, not even reported to the masters' office. Land invasion of the Town Center to leapfrog housing waiting list and queues is also seen as one of the factors limiting progress. In that way, with the looming Town Centre; there has been a progressive invasion of land to jump the housing waiting list to qualify for housing, which creates a tense and unsettling environment. With regards to land legal issues; there are also matters relating to tenure rectification, tenure conflict and so on. This resulted in tenure insecurity, poor land administration and the inability of government in general, particularly the municipality to provide basic services in the Greater Edendale complex. Lastly is the prevalent conflict between landowners and tenants where tenants have now taken over private properties while the landowners are still liable for rates and taxes and have been disenfranchised. Below is the map showing land assembly in the Town Centre. *Figure 6.8.1* below shows the land assembly within the Edendale Town Centre. The map also shows registered as well as unregistered land parcels within the proposed Edendale Town Centre Precinct.

Figure 6.8.1: Land Assembly in the Town Centre

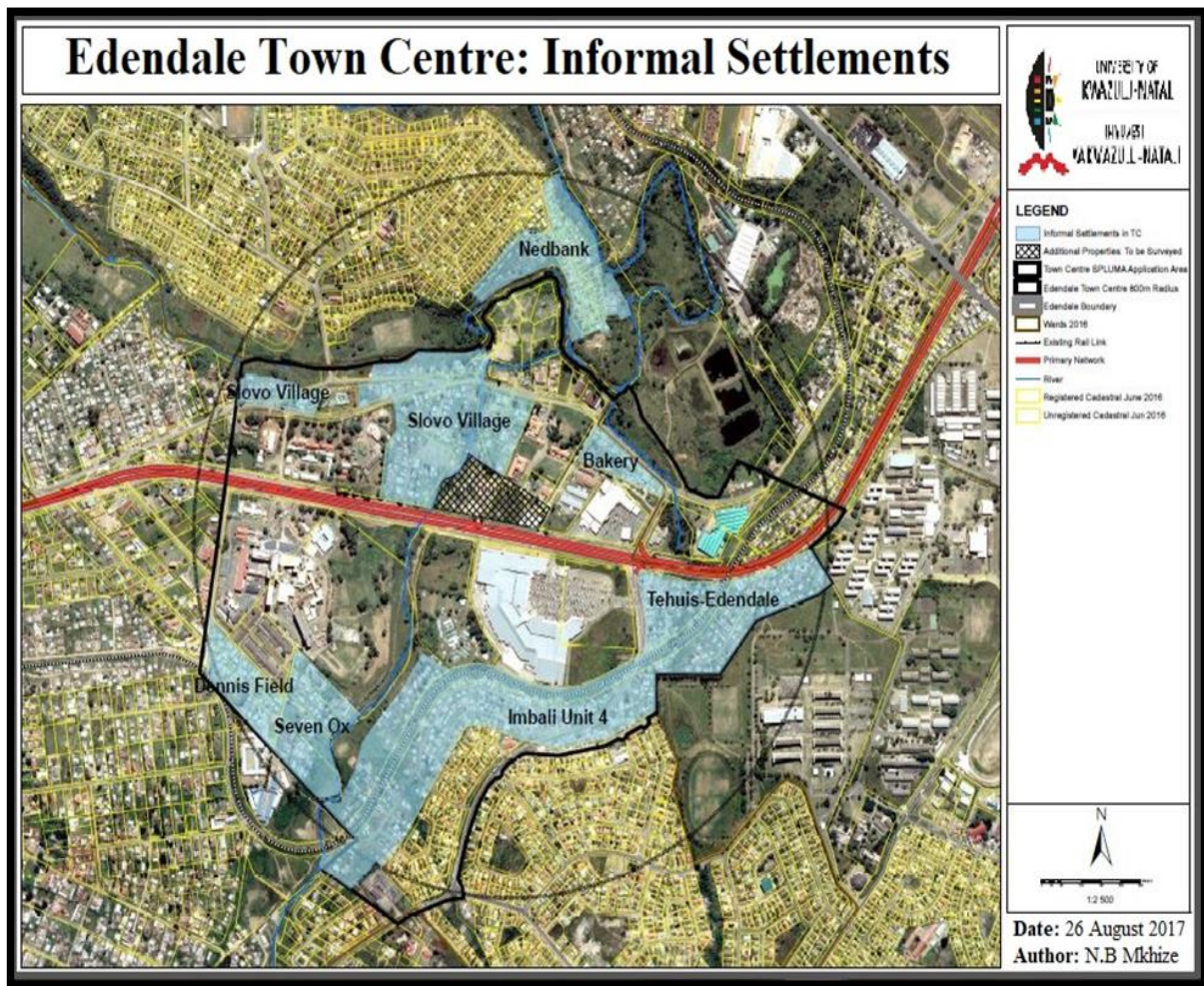


Source: Msunduzi Municipality (2017)

6.8.2. *Relocation and Upgrading of Informal Settlements*

The prevalence of informal settlements in the study area limits the progress of the Town Centre. There are many informal settlements within the Town Centre area which are required to be relocated and removed. General resistance by community residents, mainly informal settlements dwellers will have a serious and significant impact on the Edendale Town Centre. During the survey done by the researcher; the participants voluntarily put it clear that they are not prepared to relocate as they have ties in the area and speculated that relocation will move them away from the opportunities that the area offers. Several informal occupiers have built structures of block and mortar and are claiming compensation. These structures have been built illegally and not in compliance with national building standards. No budgetary provision has been made or reserved for compensation. Instead, the alternative by the municipality is a subsidy quantum of R 110 000 and a title deed. However, the matter of compensation is subject to dispute and may create a volatile environment. *Figure 6.8.2* below shows the prevalence of informal settlements within the Edendale Town Centre Precinct which is believed to threaten the success of the Town Centre.

Figure 6.8.2: Informal Settlements in Edendale



Source: Researcher (2017)

6.8.3. Statutory Compliance Matters

While the municipality goes about its business in assembling the land, though by expropriation, it is unable to lodge the SPLUMA, and Water Use Licence Act (WULA) application in compliance with statutory legislation as it is not the registered owner for all portions of land within the proclaimed Town Centre area. This could effectively set back the project by 24 months.

6.8.4. Institutional Delegation - Powers and Authority

The community has requested that they become part of the plan making process and demanded to be involved in all decisions relating to the town center including procurement matters. This requires careful deliberation and capacity building in so far as it relates to the definition of both administrative and political decision-making protocol, procedure and processes within the

prescripts of the Municipal Structures and Systems Act. One of the informants reported that the major challenge facing the city is the rejection of alternative accommodation and options by some community residents to be accommodated in multi-storey walk ups as opposed to single service sites would undermine the densification and structural/compact intent of the Town Center.

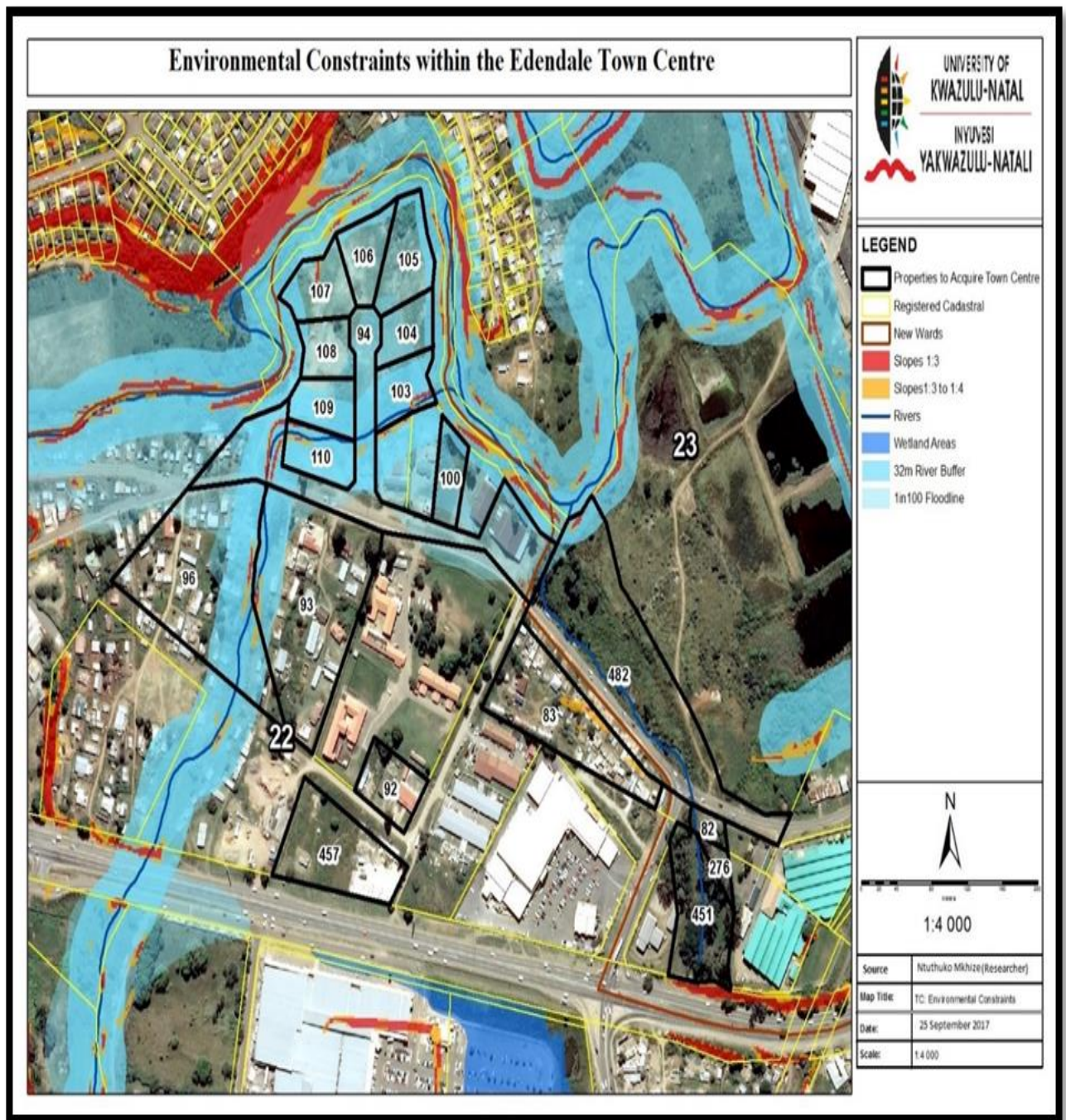
6.8.5. Affordability Levels and Exclusion

The Edendale Town Centre and due payment of rates and services may render it unaffordable and out priced to many accompanied by slow take up (occupancy) and consequential displacement. Such challenges may be addressed through considering executing an element of choice in housing typologies and in services provided for instance. In so doing, this would be complying to one of the five elements of the city which is choice; as proposed by Lynch (1960) in his 'Image of the City'. Other than tangible challenges, other challenges entail the participation of the local people in the Town Centre. During the survey, the researcher found that some people had no idea about the Edendale Town Centre and even those who had; they were not too aware on what is it all about. This reflects that there is a limited scope of citizen's participation in municipal programmes and projects within Edendale area.

6.8.6. Environmental Constraints

In specific sections, the area is subject to steep slopes, flooding and other environmental constraints which diminish the real value of return and places erroneous conditions on the development of the land. One of the major environmental constraints is the wetland existing opposite the Greater Edendale mall and flood lines that may also impact negatively on the existing and proposed infrastructure. *Figure 6.8.6* shows the environmental constraints within the Edendale Town Centre precinct which may impact negatively on the infrastructure if poorly planned and constructed. *Plate 6.8.6* is the wetland which is behind the Edendale Mall and apparently within the Edendale Town Centre Precinct.

Figure 6.8.6: Environmental Constraints in the Study Area



Source: Researcher (2017)

Plate 6.8.6: Environmental Constraints (Wetland) in the Study Area



Source: Researcher (2017)

6.8.7. Political Interests versus General Edendale Public Interest

As the project falls within Ward 22 of the Msunduzi Municipality, the Councillor and Ward Committee maintain they have full autonomy over the project notwithstanding its scale and magnitude serving the entire Edendale public and residents interest. As a result, there ends up a conflict of interest between public and political actors. To address as such conflict, there needs to be a division of task and responsibilities as well as cooperation between the politicians, citizens and municipal officials.

6.8.8. Instability and Administrative Regime

The constant changes in the top echelons of the municipality erodes business confidence and stability and impact on decision making in terms of a place to be business in and impacts on service delivery. This in turn disrupts the development and the entire progress of the Town Centre.

6.8.9. Rejection of the IRPTN by Taxi Association

IRPTN as the integral component of the Town Centre has been subject to quite a lot of disputes between the municipality and the taxi industry. This factor may cause the entire system to fail

or compromise the sustainability of the system. Other challenges include already established railway line which runs through the precinct. However, it was considered by some officials to remove the rail infrastructure as it is currently underutilized. Therefore, the project team has recommended leaving the rail as it could become a future asset. Concepts were developed by the planners to show how the rail could link with the Town Centre in the future. *Plate 6.8.9* shows the existing rail line within the Edendale Town Centre Precinct.

Plate 6.8.9: Existing Rail within the Edendale Town Centre Precinct



Source: Researcher (2017)

6.8.10. Circulation and Leakage of Capital

There is limited circulation of capital in the area where the national chain stores provide for the exodus of capital from the area and as such the area is unable to grow organically and its asset value and balance is depleted. The failure to address these challenges is likely to result in economic decline, falling living standards, rising competition for resources and social tension. Persistently high levels of poverty will prompt social instability, leading to a rise in populist politics and demands for short-term measures that lead to further tension and decline. Msunduzi must avoid such a destructive cycle. Difficulties abound, but alignment around a common vision, with a determination not to be put off by short-term challenges will produce results beyond most people's expectations.

6.9. Municipal Approach to Address the Challenges Faced

6.9.1. Informal Settlement Relocation Strategy

Since any challenge faced needs an approach or a solution, there are various strategies in which the Msunduzi Municipality is attempting to address the challenges that limit the progress of the Town Centre. To address the challenges and advance the project, the Msunduzi Municipality has established an internal NDPG unit. The establishment of the NDPG Unit has meant different things for the municipality. This has made sure that any challenges pertaining the Town Centre is resolved and dealt with accordingly since Edendale Town Centre is an integral part of NDPG. Having reported that some of the challenges that are delaying the progress of the Town Centre include the relocation of informal settlements dwellers. However, to deal with that, the Msunduzi Municipality has recently introduced informal settlement relocation strategy. In that regards, a survey was used as an effective research tool to gain information from the ground that would assist the municipality to make informed and wise decisions.

6.9.2. Communication Strategy and Liaison Plan

The preparation of the Communication Strategy and Liaison Plan is pursued as an integral component of a broader corporate strategic development agenda in the reconstruction and development of the Greater Edendale Area. By way of the Communication Strategy and Liaison Plan, public relations and communications are now presented as a formal functional business area of the work of Greater Edendale and Vulindlela Development Initiative (GEVDI) and a dialogue for change and transparency. It may be expressed as a voice in championing the development of a new product which adds a compelling dimension to GEVDI. However, GEVDI as an area-based management and spatial planning unit for these designated areas has coordinated the Communication Strategy and Liaison Plan to ensure high level of stakeholder engagement and participation.

6.9.3. Land Acquisition and Ownership

For the municipality to swiftly and smoothly undertake all the Edendale Town Centre projects, there should be the availability of land. Most parcels of land need to be acquired as it either belong in the hands of private sector, individuals and small portion to the Traditional Authority (TA). Ownership and land availability are important issues in the Town Centre projects as they can influence whether a project can or cannot immediately be released for implementation without the long land legal processes required to secure the land (Iyer Urban Design, 2014). In addressing land issues, the Msunduzi Municipality has been involved in a process of identifying and acquiring potentially strategic parcels of land deemed to be suitable for

development. Funding has been made available for this process and a considerable amount of land has been acquired thus far. Such means to acquire land have included strengthening public-private partnership.

6.9.4. Political and Administrative Intervention

In a constructive manner, to address the various challenges full council has adopted several resolutions to activate the Town Center and introduce a Land Use Management System which may be presented as a single, uniform, but flexible system, which can be applied across the municipality and refers to all the actions required by a municipality to manage land. This intervention is also believed to coherently set up the division of roles and responsibilities to avoid internal conflict. To respond to lack of participation, the municipality should try to promote and encourage a community-based planning approach. This would mean a more involvement of citizens in plan-making and implementation. However, community-based planning methodology provides municipalities with the means to strengthen the participatory aspects of their IDP. Therefore, the IDP as part of the Msunduzi Municipality development approach tries to open a space for the ordinary citizens to have a say on the type of development they seek.

6.10. Data Analysis

This section is based on analysing the data that is presented above. In analysing this data, thematic analysis is used where the data is discussed and put under different themes. In this chapter following themes are discussed: existing economic infrastructure in Edendale, policies and strategies underpinning the Town Centre, accessibility and connectivity in the Town Centre, socio-economic impact of the Town Centre as well as challenges limiting the progress of the Edendale Town Centre.

6.10.1. Existing economic infrastructure and Community Satisfaction in Edendale

The first objective of the study was to identify the existing economic infrastructure in the study area. Such objective was extended to determine if the existing economic centres satisfy the needs of the local people. Based on the researcher's personal observations and responses obtained during the survey, it was quite evident that the economic infrastructure is not sufficient in the area considering the size of the area. With the very least percentage of local people employed, this suggest that the existing economic infrastructure still needs to respond to the needs of the local people such as employment as acknowledged by Hassen (2000) that the

provision of infrastructure concentrates economic activity spatially, thus supporting backward and forward linkages.

The employment profile of the respondents shows that only 23 % is employed while the other 66.6 % is unemployed. In addition to the employment status of the respondents; 70 % travel to the places of work while the rest is employed within Edendale Corridor. Out of the number of respondents employed within the study area, most of them are self-employed falling under the category of informal traders. These employment statistics suggest that Edendale Township is an area where investments in infrastructure still need to be prioritized. In addition, respondents were asked whether the existing infrastructure satisfies their needs. In response, 70.6 % were negative while 13.3 % were positive and the other 13.3 % gave neutral responses. This suggests that residents from Edendale are not satisfied with the existing economic infrastructure.

Spatial planning interventions are crucial to curb unemployment and inequality of economic infrastructure. In that way, Magni (2013) believes that strategic spatial plans guide and locate economic development outcomes within a given area, particularly local government. Morphet (2009) also supports that, arguing that the role of spatial planning is to realise the provision of infrastructure at a local government level. In the case of Msunduzi Municipality, spatial planning has adopted a polycentric approach to supplement the existing economic centres in the area. This approach is generally rooted on the premise that to shape the urban spatial form in the area to respond to fragmentation and spatial inequality, economic centres should be developed in different parts from the city centre. This in turn reduces reliability and many trips to the CBD (Angel and Blei, 2016). Therefore, Edendale Town Centre is the execution of the polycentric approach by the Msunduzi Municipality through channelling investments to where most people live. In further attempt to achieve this objective, more information was obtained through personal observation. Therefore, the researcher found that there is existing economic infrastructure in Edendale and hence the Town Centre will supplement the already existing infrastructure to achieve integration and improve the socio-economic status of the area.

6.10.2. Understanding Factors Influencing the Edendale Town Centre

There is a variety of factors that influence the establishment of the Town Centre in Edendale Township. Given the fact that South African urban spatial form has long been dictated by apartheid planning, different forms of spatial inequality and exclusion have taken place, thus Edendale is no exception. One of the factors that led the area to be chosen for Town Centre initiative is based on its history of exclusion and spatial fragmentation as the NDP prioritize

such areas (National Planning Commission, 2013). Deprivations including limited infrastructure and opportunities is one of the reason why the area was undoubtedly identified for urban renewal. Like it was the case in almost all the former townships, the area has been associated with separation of land-uses such as work and residential. However, this compelled the residents to travel to the places of work.

Therefore, based on government policies to integrate and densify the townships in South Africa; Edendale could not be left out as it satisfies the criteria for NDP's network strategy to create a polycentric urban development. At the centre of these factors that influence the Edendale Town Centre establishment is a whole lot of policies that support that. The NDP is regarded as one of the main plan or policy under which the Town Centre falls under. The NDPG and UNS are also the components of the NDP for Town Centre initiative. Moreover, at a local level; there are also other plans that support the development of the Edendale Town Centre such as the Msunduzi Municipality IDP and the SDF which give spatial direction to development projects within the municipality.

6.10.3. Accessibility and Connectivity in the Town Centre

According to Behrens and Watson (1997), urban development and design should promote the location of facilities along main public transport routes to make them as accessible as possible. Moreover, there should be an integration of land-uses with the surrounding road networks to improve the levels interconnections. Likewise, the proposed Edendale Town Centre and its plans have relied entirely on the role of transportation interventions to promote accessibility and connectivity. This involves the role of the IRPTN which is planned in association with the Town Centre. In that way, Selby Msimang (Edendale Corridor) as the proposed route for the IRPTN cuts through the Town Centre precinct. This will improve access to the Town Centre by the residents thus linking and spatially connecting it to other nodes including the CBD and other northern and western suburbs.

The connectivity is also proposed to be achieved through improved infrastructure and facilities that will ensure that access is at the doorstep of Edendale public, easy access to government services and private economic and service centres. Such land-uses include retail, recreation, offices, banking, community facilities and government services, hospitality/ tourism, leisure and high-density housing will be located around the core within an urban design framework that promotes a vibrant sense of place in which to live, work and play. Moreover, BRT is also one of the interventions to ensure that the Town Centre is accessible and connected to the

surroundings. With the introduction of BRT, there is a hope to promote and encourage pedestrian movement as there is a minimal distance which is walkable for about 10 minutes between the two proposed BRT stations. Under this theme, all the respondents managed to respond to the objective as they raised the importance of the transportation initiatives planned along the Town Centre to promote accessibility and connectivity.

6.10.4. Projecting the Socio-economic Impact of the Town Centre

The Edendale Town Centre as other development project the municipality is implementing is expected to have an effective socio-economic impact in the study area. The Town Centre is important given the fact that the area is facing high levels of unemployment, as the data collected during the survey indicates that only 23 % is employed amongst those who participated and 66.6 % unemployed. Therefore, with the development of the Edendale Town Centre, the municipality hopes to address wide spread unemployment. Also, with the development of the Town Centre; the private sector is expected to invest in the area as a way of improving the socio-economic status of the area. In the recent Msunduzi Municipality's IDP, it is specified that the municipality is willing to target the concerning socio-economic issues such as poverty, unemployment, and inequalities. Therefore, through the Town Centre, it is hoped that the above-mentioned issues will be addressed. The Edendale Town Centre is planned to accommodate the informal traders. In that way, through the development of the SMME incubators and the informal trader's market, it is hoped that the socio-economic profile of the area will be improved as informal economy is one of the robust sectors employing many people particularly in the urban areas. This supports what is argued by Ngudu (2010) who maintains that proper monitoring and support for informal trade can play a role in alleviating urban poverty. Henceforth, this will automatically lead to the improvement of quality of life and the standard of living in Edendale Township.

6.10.5. Challenges that may threaten the Progress of the Edendale Town Centre

From a researcher's point of view, it is promising that the development of the Edendale Town Centre will contribute in addressing the widespread spatial inequalities in the Greater Edendale Area. However, such cannot be fully achieved if the challenges the municipality is facing remain unaddressed. The last objective that the study aimed to achieve was to understand the challenges that may hinder the success of the Edendale Town Centre. Amongst the other challenges, land ownership has been described as the most hindering set back since much amount of the land in the study area is not municipally owned and hence this may hinder the success of the Town Centre projects and has made it difficult for the municipality to lodge legal

applications such as SPLUMA and WULA. Land ownership being the major challenge for the development of the town centre; it is of paramount importance as according to Mkele (2016) to note that access to land and land resources is central to creating opportunities, reducing inequality and improving the livelihoods of the most vulnerable.

Other challenges that key informants believed may delay the success of Town Centre is the informal settlement relocation. According to Isandla Institute (2016) citizens must be given an opportunity to exercise full citizenship and participate in planning and governance in matters related to informal settlements relocation to avoid delays of development. There is also a situation where the citizens want to take full control of the project while having not have the sufficient capacity. The Town Centre initiative has also lead to clashes between the politicians and the municipal officials creating a tense situation for progress. Environmental constraints existing in the Town Centre are also categorised as major challenges limiting the progress. However, some other challenges may threaten the sustainability of the Edendale Town Centre such as the levels of affordability and limited circulation of capital. Therefore, if these challenges are not attended to, they may cease the progress or delay the development of the Town Centre.

6.11. A Summary of Respondent’s Interview Answers

A synopsis of the responses received from the researcher’s personal observations, residents of Edendale Township and officials is presented on the table below. The responses are grouped according to appropriate themes and in correspondence with the answering of the research objectives/questions outlined in chapter one.

Table 6.11: A Summary of Interviews Respondent’s Answers.

Key Objectives	Responses
1. Existing economic infrastructure in Edendale Township and community satisfaction.	<ul style="list-style-type: none"> • Researcher’s personal observations: Least economic infrastructure exist but lot more need to be done to shape the spatial form of the area. • Community members: Residents believe that high level of unemployment indicates insufficiency of the necessary economic infrastructure. Residents are not satisfied with the existing economic infrastructure

	<p>because out of all residents employed; very few of them are employed at a walkable distance.</p>
<p>2. Understanding factors that influenced the development of the proposed Edendale Town Centre.</p>	<ul style="list-style-type: none"> • Officials: To stimulate and accelerate investment in poor, underserved areas as part of the NDP towards addressing fragmentation created by apartheid planning. • Consultants: To execute effectively the concepts of nodes and corridors as well as densification to promote a network of economic centres in the urban landscape. • Community Members: To address socio-economic challenges and to bring services such as work, live and play closer to the people.
<p>3. Ensuring accessibility and connectivity in the Edendale Town Centre towards to achieve spatial integration.</p>	<ul style="list-style-type: none"> • The municipal officials, town planners, and consultants maintained that the Edendale Town Centre adopts a transit-orientated precinct investment planning and management approach to ensure accessibility and connectivity. • This includes the development of the IRPTN, two BRT stations, improvement of railway line and the RoW and this gives reliance to the amalgamation and integration of transportation and land use planning.
<p>4. Understanding the socio-economic impact of the proposed Edendale Town Centre in Edendale and surrounding areas.</p>	<ul style="list-style-type: none"> • All respondents are aware that the area is engulfed by high levels of unemployment so they believe that Edendale Town Centre will be able to address that. • Municipal officials: Development of the SMME incubators would be the effective move to accommodate informal traders and this will improve the socio-economic status of the area.

	<ul style="list-style-type: none"> • The town planners and officials responded that the Edendale Town Centre would be the best option for municipality to improve its revenue base to widen the scope of service delivery.
<p>5. Key challenges threatening implementation of the Edendale Town Centre and municipal responses to them.</p>	<ul style="list-style-type: none"> • Town planners: Land ownership is one of the major challenges that threatens the success of Town Centre development. • This makes it difficult for the municipality to lodge necessary legislations such as SPLUMA and WULA. • Relocation of informal settlements is also another factor that may cause delays. • Municipal Officials: Msunduzi Municipality has been involved in a process of identifying and acquiring potentially strategic parcels of land deemed to be suitable for development. • Informal settlement relocation strategy is being facilitated by the consultants to assist the municipality to deal with the situation smoothly and effectively.

Source: Mkhize (2017)

6.12. Conclusion

This chapter has focused on presenting the main findings of the study. The study was based on examining the role of spatial planning in the context of Edendale Township; specifically, the role of the Edendale Town Centre in addressing spatial inequality. The main form of spatial inequality that the researcher focused on is the economic infrastructure; referring to corridors and nodal developments as well as general economic centres through which people can be employed. With the development of the Edendale Town Centre in the Edendale Township, there is a hope that apartheid planning legacy can be reversed as the Town Centre is planned to decentralise economic infrastructure towards the places where most people live. Spatial planning in this sense has promoted densification and compaction of land-uses to avoid spatial

fragmentation. Accessibility and connectivity within and across the Town Centre is believed to be achieved through a wide range of transportation interventions that will in turn influence the Town Centre. Such transportation interventions include the Right of Way and the IRPTN. There are also two BRT Stations proposed within the Town Centre Precinct. The following chapter provides recommendations and conclusion for the study.

7. Chapter Seven: Recommendations and Conclusion

7.0. Introduction.

The aim of the study was based on assessing how spatial planning can respond to the legacy of spatial inequality of economic infrastructure in Edendale Township. The study specifically focused on the role of the proposed Edendale Town Centre in promoting integration and improving the socio-economic status of the area. This chapter focuses on recommendations and the conclusion. Prior to that, the chapter presents the overview of the findings as well as the lessons learnt by the researcher to determine if the objectives were met.

7.1. Overview of Research Findings

The study has manifested that spatial planning can be trusted as a tool to address spatial inequality in South African townships particularly in the case of Edendale. More common form of spatial planning in the study area has relied on the execution of the concept of ‘polycentric’ development; channelling the economic infrastructure/centres towards close location to residential areas or ‘creating a city within a city’. The Edendale Town Centre is a promising spatial planning intervention to address the insufficiency and deprivation of economic infrastructure/centres in the study area as the project is expected to unlock the economic potential while densifying and intensifying the area to promote spatial integration. The role of spatial planning in addressing spatial inequality of economic infrastructure is evident as the Town Centre is planned to be developed into an intensive mixed-use node that provides a new focal point for existing and future local communities in the growing Edendale complex. It is also planned to create a high quality built and natural environment with multi-functional public spaces that support pedestrians, markets, social engagement, access to public transport, adjacent commercial and community facilities, higher density housing.

The significance of the study was discussed in the first chapter along with research aim, objectives and questions. The study in the previous chapters also presented theoretical and framework, the literature review was presented and fairly discussed how spatial planning can play a role in ensuring equal distribution of economic infrastructure. In chapter three of the study, the concept of economic infrastructure was explained and how it relates to the aim and objectives of the study. The precedent studies were presented based on their similarity to the study. Most of them showed how spatial planning can be linked to infrastructure planning, and most in particular the economic infrastructure which is the basis of this research.

The hypothesis of a researcher was based on exerting and asserting that spatial planning can play an effective role in addressing spatial inequality of economic infrastructure/centres in the study area. As reckoned in the hypothesis, the research findings have revealed that through spatial planning interventions such as densification, intensification, compactness as well as linking transportation to land-uses; the Town Centre will reverse the legacy of spatial inequality in the study area. The research findings also revealed that the Edendale Town Centre will promote transformation in the way the area functions; as the residents will be able to work, live and play within their local communities and this will reduce their dependence to the CBD. Moreover, the proposed expansion of the existing economic activities (shopping centres), offices and the development of the SMME incubators is hoped to create employment opportunities for the residents. Furthermore, the vision of the Town Centre in linking land-uses with the proposed IRPTN, ROW and the BRT station is expected to ensure accessibility to the Town Centre while connecting it to the surrounding neighbourhoods.

Despite the expectations from the proposed Edendale Town Centre, there are challenges that may threaten the success of the project. The researcher found that land ownership is one of the biggest challenges the municipality faces within the Town Centre precinct. There is also a very limited information about the proposed Edendale Town Centre amongst the residents, therefore; the researcher recommends that the municipality must increase the scope of participation in the Edendale Town Centre project.

7.2. Lessons Learnt

Spatial planning in the South African context has long been critiqued by the many scholars such as Todes (2008) that it has focused on placing economic activities such as shopping malls along the freeways to satisfy the needs of the rapidly growing property market. Currently, the South African spatial planning is slowly evolving to respond to the real needs of the previously disadvantaged groups. The NDP through its urban network strategy has manifested how spatial planning can respond to spatial fragmentation and limited economic activity in the Townships. Another lesson that a researcher learnt is that linking spatial planning to economic infrastructure as well as transportation will increase the levels of accessibility and connectivity. Therefore, other development and redevelopment in South Africa and in any other developing world should emulate this as to increase accessibility.

7.3. Recommendations

7.3.1. Law Enforcement to Protect Municipal-owned Land

Given the fact that the municipality is facing land issues within the Town Centre precinct, a cooperation between the municipality and land-owners should be framed. This include holding meetings between these actors to resolve issues and increase the level of understanding regarding the importance of land to the socio-economic development of the area. It is also important to note that the municipality cannot lodge necessary statutory applications while not being the registered owner of the land. Since there are cases where people invade municipal land illegally; the municipality must take a responsibility to review its land policy that will be implemented to protect land parcels within the Town Centre Precinct. The town planning department within the municipality must also strengthen its standards as some people sell-off their land as unregistered subdivisions and without township establishment services.

7.3.2. Spatial planning to increase the Scope of Community Participation

The role of the local beneficiary community and their active consultation and participation is critical to the success of any development initiative. Projects should also contribute to an improved sense of place and community. Spatial planning in the case of Edendale must be fostered to promote citizen's involvement in plan making, monitoring and implementation. This will play a role in community buy-in to the Town Centre project. The findings reflect that some of the residents around the Town Centre precinct have limited knowledge about the proposed Edendale Town Centre. This suggest that there is a very limited scope of community participation in the study area. As a response; the researcher recommends that planning education can serve as an effective strategy in ensuring citizen involvement in the Town Centre.

7.3.3. Spatial planning to respond to the needs of the Low-income Groups

There is speculation that the Edendale Town Centre and due payment of rates and services may render it unaffordable by the local people. Planning in this context should try to accommodate different classes. It is also important to note that the targeted beneficiaries of the Town Centre are the people of Edendale and the surroundings which many of them are the low-income groups. Therefore, in any planning activity of the Town Centre; an element of choice must prevail. This include the type of services offered in the shopping centres. A choice in housing typologies should also be fully considered to ensure the sustainability of the Edendale Town Centre.

7.3.4. Informal Trading Policy Directive

Considering the lack of informal trading policy directive; one of the informants maintained that “a fundamental economic policy challenge is the need to enhance economic policy coordination, cooperation, and policy innovation within and across all policy terrains”. In terms of the above analysis, it will be recommended that the municipality considers establishing multi-disciplinary and multiple stakeholder policy innovation and development clusters with the objective of developing adaptive policy frameworks to inform strategic municipal programme development on all the policy fronts. There are no declared street trading clusters within the proposed Town Centre as prescribed by the Municipal by-laws.

7.4. Conclusion

This chapter has provided the overview of the research findings and recommendations. In the chapter, the researcher has also provided lessons learnt throughout the process of the study. Given the history and the impact of apartheid planning in South Africa, the NDP through the Town Centre initiative has provided an example of how spatial planning can respond to persistent urban spatial inequalities. Henceforth, the researcher believes that spatial planning should be linked to economic infrastructure and transportation interventions as a way to increase connectivity and accessibility while enhancing economic activity in the area. Furthermore, the researcher also believes that decentralisation of economic infrastructure will shorten distances to employment opportunities and this automatically responds to spatial inequality.

7.5. References

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List of Appendices

Appendix 1: Household Survey Questionnaire

Household Survey Questions

I am a registered Master's (Town and Regional Planning) student in the School of Built Environment and Development Studies at the University of Kwa-Zulu Natal. My supervisor is Dr. H. Magidimisha. I am conducting a survey for my research dissertation in Edendale Area. My Research is titled: '**Addressing spatial inequality of Economic Infrastructure through Spatial Planning: A Case of the Proposed Edendale Town Centre**'. The aim of this survey is to gain your views and your understanding about the role of the proposed Edendale Town Centre in restructuring the previously spatially fragmented areas in Edendale Township.

Demographic profile of the household

1.1. Gender

M	F
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1.2. Age

18-28	
29-39	
40-50	
51-61	
62-72	
73>	

1.3. Marital status

Married	
Not married	
Divorced	
Widowed	

1.4. Educational levels

Primary	
Secondary	
Tertiary	

1.5. Ethnic Group

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2. Household characteristics

2.1. Head of the household

Male	
Female	
Children	

2.2. When did you start living in Edendale?

Before 2013	
After 2013	

2.3. Are you employed?

Yes	
No	

2.4. Are you employed within Edendale?

Yes	
No	

3. Income.

3.1. How much money do you earn per month?

R500-R900	
R1000-R1900	
R2000-R2900	
R3000-R3900	
R4000>	

4. What do you know about the Proposed Edendale Town Centre?

5. What opportunities do you expect from the proposed Edendale Town Centre?

6. Is there any satisfaction concerning the provision of public transport?

7. What challenges do you face on daily basis?

8. How do you think those challenges can be addressed?

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9. Do you think is there any difference concerning overall improvement in the area concerning the economic infrastructure since 2013?

10. Do you believe that the Economic infrastructure is sufficient in the area?

11. Do you believe that the Edendale Town Centre will meet the needs of the community and reduce level of spatial inequality in the area?

12. How do you expect Edendale to be in the future?

Appendix 2: Municipal Officials and Cogta Questionnaire

Research Question 1 <i>To identify existing economic infrastructure in Edendale Township and to determine if it satisfy the community.</i>
1. What is the current situation concerning the existing economic infrastructure in Edendale?
Research Question 2 <i>To examine how the proposed Edendale Town Centre will promote access and connectivity in Edendale Township towards achieving spatial integration.</i>
2. What role will the Edendale Town Centre play in promoting connectivity and access in the area?
3. What transportation interventions are planned in relation to the proposed town centre and how will they influence spatial restructuring?
4. How the physical infrastructure development is planned to integrate Edendale with other neighbouring areas?
5. What is the vision of this development project in promoting integration and reducing spatial inequalities in the future in Edendale?
Research Question 3 <i>To identify spatial factors that influenced the establishment of the proposed Edendale Town Center.</i>
6. Why Greater Edendale Area was chosen as part of Urban Network Strategy for Edendale Town Centre?
7. What are the strategies and tools that you use to facilitate the success of the project?
8. How is the municipal IDP and SDF influence the project?
Research Question 4 <i>To explore and project the socio-economic impact of the proposed Edendale Town in Edendale and surrounding areas.</i>
9. How will the proposed Edendale Town accommodate informal traders?
10. How is this project planned to address unemployment issues within the area?
11. How the municipality hope to benefit from the project?
Research Question 5 <i>To identify the challenges that may hinder successful implementation of the Edendale Town Center and to understand how the municipality address them.</i>
12. What are the challenges that may threaten successful implementation of the Edendale Town Centre?
13. What solution does the municipality employ to address challenges?
14. How do you facilitate public participation?

Appendix 3: Questionnaire for Consultants

1. Can you please tell us about your understanding about spatial integration and how this will be achieved by the proposed Edendale Town Centre?
2. How will the proposed Edendale Town Centre address issues of access and connectivity in Edendale?
3. What transportation interventions and developments that align with the proposed town centre project in Edendale and how will they influence spatial restructuring of the area?
4. Why do you think Edendale was chosen as part of the Urban Network Strategy for the proposed Town Centre?
5. What do you think will be the socio-economic impact of the proposed Edendale Town Centre in Edendale and surrounding areas?
6. What do you think are the factors or policies that played a role in facilitating the success of the project and how?
7. What do you think are the important aspects of development that this approach left out and what do you think it should include in order to address further spatial inequalities?
8. How do you foresee the Edendale in the future in terms of integrating other areas that are close to Edendale to bring employment to people and people to employment?

Appendix 4: Questionnaire for National Department of Treasury.

1. What is the Edendale Town Centre and its objectives as part of Urban Network Strategy and NDPG?
2. How the Town Centre initiative is expected to address apartheid legacy of insufficiency of economic infrastructure in Edendale Township?
3. What is the vision of this development project in promoting integration and reducing spatial inequalities in the future in Edendale?
4. Why Greater Edendale Area was chosen as part of Urban Network Strategy for Edendale Town Centre?
5. How will the proposed Edendale Town Centre accommodate informal traders?
6. How is this project planned to address unemployment issues within the area?
7. What are the strategies and tools that you use to facilitate the success of the project?
8. What are the challenges that may threaten successful implementation of the Edendale Town Centre?
9. How do you attempt to resolve those challenges faced?