

*A Critical Analysis on the Applicability of Previously Established Theoretical  
Growth Models in Post-Apartheid South Africa: The Case of the Durban  
Metropolitan Area.*

By:

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A Thesis Submitted in Partial Fulfilment of the Requirements for the Master's  
Degree in Town and Regional Planning.

**November 2016**



## DECLARATION

I, Mbalenhle Precious Ngidi declare that the work presented in this dissertation is my original work and has not been submitted to the University of KwaZulu-Natal or any other university for the purposes of obtaining an academic qualification, whether by myself or any other party.

Signature .....

Date .....

## DEDICATION

*Vusimuzi, Ntombifikile and Jomo Ngidi*

## ACKNOWLEDGEMENTS

I would like to thank God Almighty for the strength to complete this dissertation. My sincere gratitude goes to my siblings (Manqoba and Zamahlomuka) “*BoNgidi, Hlomuka, Dlokwe Iwendlovu Mlalazi KaNoxhaka*” for all the support and encouragement throughout. I would like to express my humble appreciation to my supervisor Dr. Hangwelani Magidimisha for all the encouragement, mentoring and guidance, even outside of research. A huge thank you to all my friends and supervision group for keeping me motivated - wishing them all the best in their future endeavors.

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## ACRONYMS

BRT	Bus Rapid Transit
CBD	Central Business District
DCBD	Durban Central Business District
DMA	Durban Metropolitan Area
DPDC	Durban Point Development Company
DTP	Dube Tradeport
IDP	Integrated Development Plan
LUS	Land Use Scheme
MSA	Municipal Systems Act
NCBD	North Central Business District
PDA	Planning Development Act
PPP	Public-Private Partnerships
SDF	Spatial Development Framework
SPLUMA	Spatial Planning and Development Act
THD	Tongaat Hulett Development

## ABSTRACT

The history of the Durban Metropolitan Area (DMA) is embedded in the establishment of the Port of Durban, which is situated on the coastline that stretches from Umkhomaas (South of Durban) through to the Ballito area (Northern areas). This coastline has developed tourist attraction, from the beaches and the recreational activities surrounding this natural asset. Prior to this tourist hub, Colonial planning models were set to create an industrial city that formed the main import and export point for South Africa and other surrounding colonial regions. The city would accommodate laborers who came from as far as India to work at Durban's port as well as the sugarcane fields surrounding the Port area. To respond to the growing residential and infrastructural needs, foreign Theoretical Growth Models were replicated and utilized by the Colonial regime to respond to the need for more accommodative spaces. These models included the Burgess Concentric Zone Theory, the Hoyt Sectoral Theory and the Bid Rent theory, which represent the earliest planning tools used in the Durban Metropolitan Area. However, over the years the Durban Metropolitan Area (DMA) has experienced various shifts and development changes in the make-up of its urban realm. With globalization becoming a worldwide norm, its impact on population growth numbers is visible given the pressures for further development from the rate of urbanization. These changes have often associated the Durban Central Business District (DCBD), with negative connotations regarding its physical, social, environmental and political stance as a major node in the City of Durban. The city centre is known for crime, prostitution, haphazard buildings, pollution and business flight.

Contrary to that, the North of Durban is currently experiencing numerous major developments and slowly adjusting from a previously agricultural area to a flagship area of prestige landscapes and designs. Various new developments have mushroomed in and around the Northern regions of Durban, following the construction of the Gateway Theatre of Shopping and the relocating of Durban's International Airport from the South of Durban to the Northern suburbs. These adjustments to the spatial realm have seen decentralization of business from the Durban Central Business District to the Durban North areas. This study analyzes the development trends of the Northern suburbs by identifying the factors that have driven development out of the Durban CBD area to form what is seen as a sub-metropolitan area, or secondary nodal zone. The study informs the state of Durban's CBD area by analyzing the needs driving the current successful development patterns in the Northern suburbs of Durban. The identified needs will determine whether the previously used theoretical growth models are still relevant to the context and unique needs of South Africa.

# CHAPTER 1: INTRODUCTION

## 1.1.Introduction of chapter

The purpose of this chapter is to introduce the context of the paper and the various objectives and problems that guide the study. The history of Durban, as well as a background on three theoretical growth models used to guide the discussions around growth models, form the introduction of the study area. The study problem presented has a set of objectives, and research questions established by the researcher to guide the study. The chapter also further highlights the outline of each chapter in the paper.

## 1.2.Introduction of study area

The location of the city of Durban was the beginning of an enormous spatial development boom. These developments took shape through the various periods within South Africa's history including, Colonisation, Apartheid, the industrial period and the current patterns of decentralization to the North and West of the city (EThekweni Municipality, n.d). Replicated and evolved development patterns have been used to suit the social character of Durban.

In a reading by Alison Todes (2008) an understanding on the development patterns that are visible in Durban (South Africa) is provided, by comparing and contrasting the various factors that have affected development pre and post- 1994. Her reading is based on the need to shift from an Apartheid spatialized city to one that provides access to high-density housing units, which are in close proximity to places of work and home, mixed land use systems and encourage social integration. This ideal description of an enabling environment, drawn from the ideas of Jane Jacobs, advocates on creating socially relevant urban environments. Durban (South Africa) is one of the cities that seem to emerge and develop along the patterns of existing international spatial developments.

Urban policy is criticized for creating division, fragmentation and sprawl. McCann (2003) seeks to give insight on urban politics and the degree to which politics shape the urban environment. The writer highlights the various strategies and elements of the political environment that affect the scales of development. The article speaks of urban governance as a player in the shaping of development patterns and draws attention to two aspects, the privatization of policymaking power and the rise and forms of decision making. This paper examines the development patterns used to develop the Durban Metropolitan Area (DMA) and the extent to which these models still apply to the DMA. This chapter also highlights the prospects of development for this area, in attempt to shape a new development scope for the DMA.

### 1.2.1. Background of the Durban Metropolitan Area (Study Area)



Figure 1.1: Location of Durban. Image Source: Google Maps, (2015)

The city of Durban is situated in KwaZulu Natal (South Africa), along the South Eastern Coast of Africa (Figure 1.1). Known for its popular beaches and recreational activities in and around its shore, it serves to fulfil the interests of adventure enthusiasts. According to Statistics South Africa (2011), The Durban Metropolitan Area stretches over an area of approximately 2 297km<sup>2</sup> and has a population of 3 442 361 million people (StatSA, 2011). From 2001 to 2011, the population grew by 1.08 % as compared to the 2.34% growth between 1996 and 2001 (StatSA, 2011). The region itself extends up to Umhlanga Rocks (North), to Inchanga and Botha's Hill (West), and further outside Yellowwood Park (South) (SA-Venues, n.d)

(Figure 1.2). However, the location of Durban along the coast speaks of a history as a trade port, importing and exporting goods in and out of South Africa (EThekweni Municipality, n.d). The physical nature of Durban's spatial plans is guided by, and developed around the functions and dynamics of the port itself. Understanding these functions and dynamics gives a clearer understanding of the development of the Durban Central Business District (CBD), and the apparent decentralization of the city in an outwardly direction towards the North.





Figure 1.2: EThekweni Municipality (Durban Metropolitan Area)  
 Image Source: *(The Local Government Handbook, n.d)*

The discovery of gold in and around South Africa resulted in numerous booms in developments and economic networks. With an increase in foreign interest, the opportunity to export the resource out of the country marked the beginning of South Africa's economy and development. The period saw the further development of the harbour- that was primarily intended for the shipping in of settlers and labourers who were working on sugar cane fields (EThekweni Municipality, n.d). The increasing trade of gold saw the

functions of the Port increase dramatically, with marine industries mushrooming at the harbour as well as commercial uses including ship building, stevedoring (the loading and offloading of cargo) and chandling (the retail dealing of shop equipment) (EThekweni Municipality, n.d). In 1900, this port node began developing infrastructure services to harness the growth and liveability of the area. The development included transportation in the form of a railway system, transporting goods and people in and out of the city area. By 1932, residential units were visible and in 1935, Durban received a city status (EThekweni Municipality, n.d). Currently, some of the early residential spaces/units are still visible along the Point development area, which lies opposite the main Port harbour- that is under the jurisdiction of Transnet. By 1935, the land uses in the area included industrial, economic (commercial) and residential uses.

The spatial plans of the Durban Central Business District (CBD) were further fragmented by Apartheid (EThekweni Municipality, nd), where race and colour were seen as a determinant of the social make up of a specific area. Areas demarcated for whites were placed closer to the city's CBD area, which had employment opportunities, office space, recreational areas and commercial hubs. The Group Areas Act (1950) which also saw the evolution of townships- on the urban fringes- guided this as well as the creation of formal housing on the north and south of Durban. Post-apartheid, the spatial form of Durban changed with massive increase in informal settlements and land invasions- along the peripheries- as the

people flocked in search of opportunities. Housing subsidies began to mushroom around peripheral areas as a means of informal settlement upgrading and began moving closer to the city.

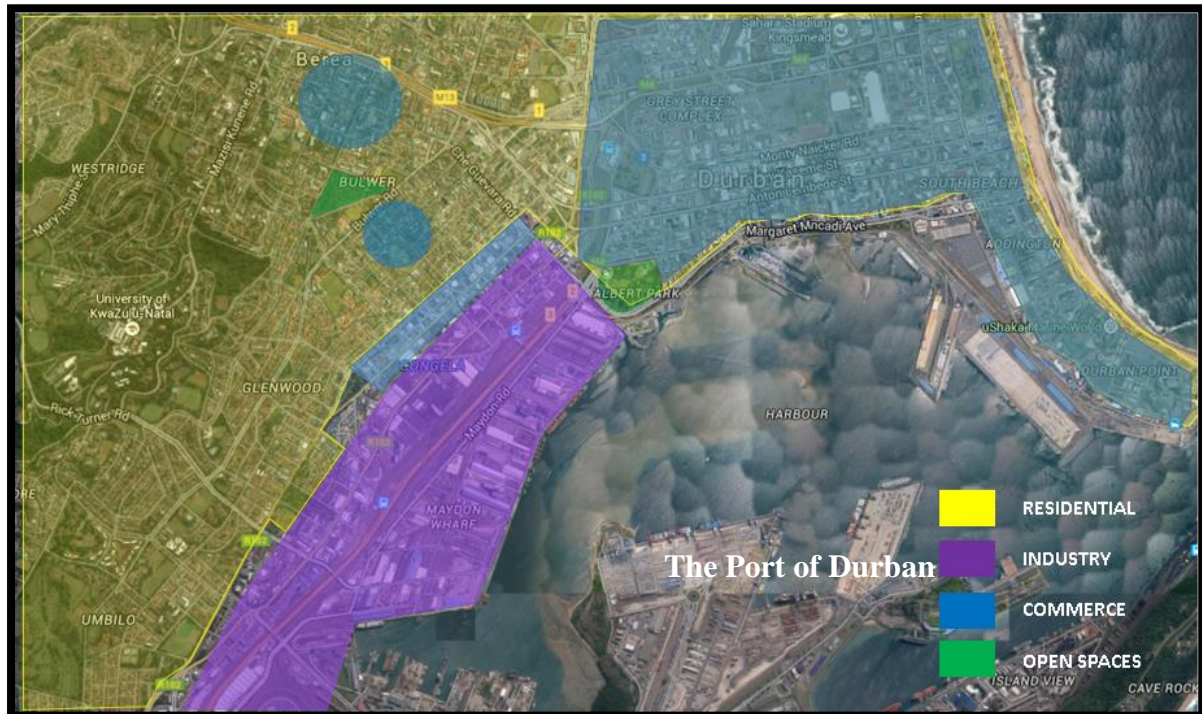


Figure 1.3: The Land Uses feeding off from the Durban Port. Image Source: (Google Maps, n.d)

Twenty-one years into democracy, land use models have shifted away from the conventional Modified Davies’ Apartheid City Model as well as other international models- Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory. With this change, there is an apparent outward shift of development towards the North of Durban’s main CBD area – which has become degraded – and developments follow various land use patterns that speak on compaction and integration (Cilliers, 2010).

New developments by private developers, including Tongaat Hulett Developments and Dube Tradeport, have resulted in massive decentralization patterns out of Durban’s CBD area. These new developments, coupled with residential growths, commerce, highways and lower land costs, have attracted a greater population towards this area. This development node includes a regional shopping Centre (Gateway Theatre of Shopping), entertainment complexes, golf estates, further high-income residential units and the new King UShaka International Airport. Previously, this compact integration development tool as a concept was declined following its critique for creating spatial division, since it creates individual centers in which developments sprout from. However, recently, this concept has been acknowledged for positioning Durban as a possible ‘World Class’ city. With that, the underlying concern is the future

of the urban areas that were created under the influence of the Colonial and Apartheid City Models. One of these is the Durban CBD area.

In a bulletin by the eThekweni Municipality (2011) emphasis is made on understanding the history of Durban as a means to understand the nature of the spatial layout of the city. In the late years of the 1860's, a young immigrant George Cato began plans to formally lay out the 'town' of "D'Urban". These layout plans included access ways (3 main streets), infrastructure development (sewerage system, water reticulation and hardened roads) as well as a transportation line (railway) (eThekweni Municipality, 2011). The development of civic spaces and connective routes between Johannesburg and Dundee attracted migration and the 'town' was given city status following the mushrooming of satellite suburbs around the town area. In the year 1910, D'Urbans' city centre was characterized by a sandstone City Hall (which presently still stands in the CBD area), inspired by a city hall in Northern Ireland (eThekweni Municipality, 2011). Further developments then began to thrive around the City Hall. The discovery of Gold in the Transvaal and coal in Dundee, boosted the economy of the port of Durban and the transportation modes in-between the areas led to the movement of people around these areas as laborers (eThekweni Municipality, 2011). This led to the need of creating livable space to respond to the large influxes. In creating a planned and controlled space, various growth models of development were developed, replicated (in some instances) and implemented by the Colonial City Council, as a strategy to control the development of the formal community (eThekweni Municipality, 2011). Often, these models strictly segregated the city into various zones of race, class and land uses (Shettar, 2013) which were coupled with inadequate access to infrastructure services, job opportunities and social facilities. Presently, the spatial implications and residual impacts of these growth models is widely visible in contemporary South African cities, challenged with the task of restoring a spatially and socio-economically fragmented urban realm (Cameron, 2000).

Chapter 3 will provide a cross sectional analysis of three of the many theoretical growth models that were used to shape the growth of the Durban CBD area- namely the Burgess Concentric Zone Theory, the Hoyt Sectoral Theory and the Bid Rent Theory (Davies, 1963). The Colonial and Apartheid City Model's is discussed, closely drawing on their residual impacts on the spatial and socio-economic state of the Durban Metropolitan Area.

### ***1.2.2. Background of the three Theoretical Growth Models used in the study.***

Shettar (2013) defines Theoretical Growth Models, also referred to as Land Use planning models, as guides that have been developed by various scholars in attempt to understand the patterns of development that are visible in various cities of the world. In implementation, these models are criticized for failing to understand the unique needs and environments of the cities in which they are being replicated in (Shettar, 2013). In the implementation of these models, it is very important to

understand that they should only serve as guidelines to and not ‘stencils’ of development. In the context of Durban, these growth models were previously replicated and used as ‘stencils’ to control the spatial development of the Durban Metropolitan Area (Davies, 1963).

For the purpose of this paper, three theoretical growth models, the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory are closely examined. Focus on these specific models is drawn by the relevance of their principles to the existent spatial form of the Durban Central Business District (CBD) as it stands today. The principles and limitations of these models are discussed to guide this paper and will be compared to current growth trends in Chapter 4, which will highlight the various changes that have occurred in the physical and socio-economic needs of the population.

### **1.3. Problem Statement**

Pre 1994 theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory were used as a template to guide and fulfil spatial requirements that were seen as necessary in creating a holistic environment. Post 1994 the Durban Metropolitan Area (DMA) has seen various changes in growth patterns that are coupled with a variety of needs -that are the factors necessary- in modern developments.

There seems to have been an extensive change from what originally sparked ‘holistic developments’ pre 1994 – which was physical developments – to a more socio-economic approach to development in the period between 2010 and 2015 (Post 1994). This study seeks to discuss and contrast between the three growth models (Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory) and the various growth trends that are currently shaping the development of the DMA.

A statistic by Vacchiani-Marcuzzo (2005) on the Urban Population of South Africa between 1911 and 2001 shows an increase of urban areas- with over 5000 people - increasing from 25 to 307. With an increase in the number of urban areas, there was a total 95.7% increase in the total urban population from 1911-2001. However, according to Turok (2012), there are debates around the accuracy of population indicators presented by the colonial and apartheid government prior to 1994. During this time, both governments did not attempt to collect census data on the black population, totally excluding a majority of the South African population from development indicators (Turok, 2012). It is can thus be assumed that the inaccuracy of development indicators may have given a false assumption on the spatial urban needs of the country- thus utilizing incorrect and insufficient growth patterns for the large population (Davies, 1963).

#### **1.4. Research Question**

Do the previously established theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory- still apply to the spatial development needs of post-apartheid (years 2001- 2016) South Africa? The case of the Durban Metropolitan Area (DMA).

#### **1.5. Hypothesis**

The growth dynamics of cities post-apartheid have resulted in modern developments seeking to fulfil more socio-economic needs than the previous sole fulfilment of physical needs. Further developments of the Durban Metropolitan Area (DMA) will thus continue to gradually shift towards the North following the developments of new prospects in this area that fulfil both physical and socio-economic needs.

#### **1.6. Objectives**

- 1.6.1. To determine the spatial limitations of the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory in the post- apartheid (2001- 2016) Durban Metropolitan Area;
- 1.6.2. To evaluate and compare the factors that sparked developments pre 1994 and those that spark development post 1994 (2001- 2016) in the DMA;
- 1.6.3. To determine new growth trends that are visible in the Durban Metropolitan Area (DMA) (from the years between 2001- 2016);
- 1.6.4. To explore policies that have been put in place to guide spatial development prospects in the DMA; and
- 1.6.5. To recommend/ predict a new growth scope for the future development of the DMA.

#### **1.7. Subsidiary questions**

- 1.7.1. What are the spatial limitations of the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory in the post- apartheid (2001- 2016) Durban Metropolitan Area?
- 1.7.2. Which factors sparked developments pre 1994 and post 1994 (2001- 2016) in the DMA?
- 1.7.3. Which new growth trends are currently visible in the Durban Metropolitan Area (DMA) between 2001- 2016?
- 1.7.4. What new policies and plans are put in place to guide the spatial development of the DMA?
- 1.7.5. What growth scope is recommended for future developments in the DMA?

## **1.8. Rationale**

This study seeks to inform the apparent mushrooming of new developments towards the north of Durban caused by the change in development patterns visible in the Durban Metropolitan Area (DMA). These changes are in concurrence with the development of a new set of growth needs, which go beyond physical development as the main tool for city growth. With that, the study seeks to investigate the applicability of previously used growth models – the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory – in the further development of Post-Apartheid Durban-observations based on the years 2001 to 2016. This analysis will be made by comparing and contrasting the factors that are currently spearheading new developments (as compared to previous factors) in the Durban Metropolitan Area (DMA) and the extent to which current growth trends are following these previously used growth models. The discussion seeks to explore the notion of African cities reshaping themselves to more relevant development trends that speak to the unique pressures and needs of the city. The variety of policies, regulations and frameworks formulated from region to region are an indication of the need for the creation of environments that are relevant to each region, thus responding to the various needs.

The importance of the study is to highlight and emphasize the need to create living environments that are relevant to the unique social needs of the period. Theoretical Growth Models are stencils or guidelines for development used to create spatially effective communities. The study discusses the factors that should be considered when developing an area, in attempt to create relevant environments that are long term orientated.

## **1.9. Chapter Outline**

*Chapter 1* seeks to give an introduction of the study as well as the study area. This is done by highlighting the problem statement, the main objectives, subsidiary questions, the rationale behind the study and a basic overview of the literature to be used in the study.

*Chapter 2* entails a detailed research methodology which showcases the various methods of data collection and analysis used to support the study. The chapter highlights and explains each method and the tools that used to collect the necessary data. A thematic data analysis process is introduced and explained in depth.

*Chapter 3* gives a discussion on the various arguments and debates of authors around the theories underpinned by this study. This is presented through the comparison of the various theories, concepts and models, where a look at an international, national and local context is used to analyze the practically of the literature found.

*Chapter 4* entails the results or data found in the fieldwork. The data is presented as findings and further analyzed, where various views from the various data is compared and contrasted. The discussions respond to the objectives of the study.

*Chapter 5* forms the concluding chapter that gives insight on the final thoughts, recommendations and major findings of the study. This chapter seeks to re-iterate the findings of the study against the objectives and gives final remarks on the study.

## **1.10. Conclusion**

The first chapter forms part of the introductory section of the study, giving a background of the study area and the factors that motivate the study as a whole. The chapter also seeks to define the research questions that used to guide the study towards the responding of the objectives. A hypothesis is also set out as the basis of this chapter and a number of objectives and subsidiary questions are set to guide the study. This introductory chapter sets out the main rationale of the study, accompanied by a chapter outline for each section.

# CHAPTER 2: RESEARCH METHODOLOGY

## 2.1. Introduction

The purpose of the research methodology is to collect and gather data used to compare and contrast the information found from various sources. It is important to gather information from various sources to encourage a variety of views and contributions in various forms. This encourages discussions around various themes that identified and discussed in detail in the following chapter. The various methods of data collection used to inform the discussions are identified and discussed in detail, in this chapter.

## 2.2. Data Collection

The purpose of the data collection methods used in this study was to find information which would inform whether current development patterns in the DMA reflect the theories of the previously used growth models- The Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and the Bid Rent Theory. Various aspects of the models are investigated to give an indication of current growth trends in the DMA. These include policy and regulatory adjustments that made in response to these changes, a review of the developments that have sprouted in the North Central Business District Area (NCBD) and the factors that have led to those developments been apparent. Therefore, Qualitative Research Methodology are used to inform this study, where an analysis on the data collected is used to support the discussions gathered around the literature found. Patton and Cochran (2002) explain qualitative research as a means of investigating or understanding (in words) social phenomena in life that cannot be numerically measured (Patton and Cochran, 2002). Hancock et al (2007) elaborates the importance of qualitative research methods as a means of the development of new concepts and/ or theories used to further develop phenomena (Hancock et al, 2007). Given that the study is based on theoretical frameworks, concepts and models, it must be noted that is highly literature based and informants are knowledge specific.

### 2.2.1. Secondary Sources

According to Church (2001), secondary data is data that has not been collected, or experimented on by those who are analyzing it. This analysis is done with the use of existing information in the form of statistics, tables, graphs, appendices and articles (Church, 2001). Existing information is used to guide this study and utilizes various secondary data collection methods including desktop information, statistics and Geographic Information Systems. Given that this study is based on theories and models, the analysis utilizes many existent graphical and visual data in the form of pictures and maps that represent the spatial growth of the study area.



#### *2.2.1.1. Desktop (Literature)*

In the collection of data, articles, scholarly papers, statistical papers, policy papers and existing spatial planning frameworks were used. The articles and papers found were used as an indication of informed discussions around the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and the Bid Rent Theory in the Durban Metropolitan area. Discussions in articles and scholarly papers- around development patterns, land uses and growth models in the DMA- were also investigated. The arguments in the various papers have been used to indicate whether there has been or if there is a need to shift to different development patterns.

#### *2.2.1.2. Desktop Information (Statistics SA)*

Statistical Papers from Statistics SA (Census) are used to reflect the patterns of demographics and economic subsistence in and around the DMA over the years (between 2010- 2015). Statistical articles regarding the history of the growth of the Durban CBD and the NCBD were used to show the quantitative growth of these two areas and thus an indication of the pace at which the NCBD is growing.

#### *2.2.1.3. Geographic Information Systems & Google Earth Images*

Geographical Information Systems (GIS) as well as Google Earth data were used to indicate the physical growth of the NCBD area over the past 5 years (2010- 2015) as compared to the area post 1994 (1989- 1994). Satellite images of the area give an indication of the growth patterns that are visible, pointing out the main developments in which current developments have mushroomed around. The images also indicate the various land uses that have accompanied the main developments, also informing the factors which are seen to be necessary in city development currently (2010- 2015).

### **2.2.2. Primary Sources**

According to Church (2001) primary sources of data enable one to collect data that is directly in line with the hypothesis for the study and thus enables the design of a more relevant experiment/ method to collect the data (Church, 2001). Primary data collected can then be used for further research (Church, 2001). This study utilizes two types of primary data collection, the one on one interviews and a straight observation.

#### *2.2.2.1. One-on-One Interviews*

One-on-one interviews were conducted with various stakeholders that have been involved in the development of the NCBD. These areas include the Tongaat Hulett Development and EThekweni Municipality (Spatial Planning Department) where three participants from each institution were

interviewed – giving a total of six interviewees. Due to an inability to contact Dube Tradeport, the responses for the questionnaire were obtained from available online papers and documents by DTP. The purpose of these one-on-one interviews was to find the main factors that have contributed towards the growth of the NCBD area as well as plans and policies that have been put in place to guide future developments in this area. This will assist in determining whether there is a future of the NCBD as a city on its own. Furthermore, the interview with the EThekweni Municipality is paramount in sourcing information on the Durban CBD area and the factors that guided developments in this area, over the years. A report on the impact of new developments – in the NCBD area – on the Durban CBD's development is gathered in the interviews with the Municipality.

#### 2.2.2.2. *Straight Observation*

Patton and Cochran (2002) state that the importance of undergoing an observation in a study is to compare what has been stated in an interview, to what is actually occurring practically on the ground. This process assists in uncovering behaviours in the environment that unknown to those being interviewed (Patton and Cochran, 2002). A straight observation is used against a checklist, to give insight of the Durban CBD (area around the Workshop Centre) and the Durban North Areas (area around the Gateway Theatre of Shopping). To ensure consistency in what is being observed, the two areas are compared using the place making principles of Bentley *et al.* (1985) as well as Behrens and Watsons (1996).

Bentley *et al.* 'Responsive Environments' (1985) and Behrens and Watson 'Making Urban Places' (1996) highlighted the different physical principles or factors that affect the manner in which an occupant relates or interacts with their urban environment. This is determined by the physical environments available in the area and the user friendliness of those factors to the residence. The seven principles identified by Bentley *et al.* (1985) include Permeability, Variety, Legibility, Personalization, Visual Appropriateness, Richness and Robustness. The Principles listed by Behrens and Watson (1993) include Place-making, Scale, Access, Opportunity, Efficiency and Choice. Accompanying the completed direct observation checklists is a set of comparative images and pictures taken during observation which are used to highlight the various elements that make up the 'centre' of each area. These images form part of the straight observation.

### **2.3. Sampling methods and ethical considerations**

The key informants for this study include Town Planners and Project Managers from three institutions or role players involved in the development of the Durban North areas as well as the redevelopment of the Durban inner city area. These role-players include Tongaat Hulett Development, Dube Tradeport

and the eThekweni Municipality. A selection of two informants per institution were randomly chosen, dependent on an internal and institution specific referral process. The information provided by each informant is compared against other key informants as well as literature found around the study. Given that, the study is based on theoretical concepts that are not generally common; the researcher opted to collect data from well-informed experts, professionals and role players in the field. With that, the ethical considerations made during the data collection from the professionals in the field included the need to uphold and maintain professional ethics and mannerism during interviews, the need to ensure punctuality for appointments and to prepare the key informants on the information required from them, prior to the interview date. This ensured that sufficient and relevant information was provided for the study.

#### **2.4. Data Analysis**

To analyze the data collected from the observations, interviews, GIS maps and photographs and the various literature, a thematic method of data analysis is used. A thematic analysis of data according to Braun and Clarke (2006) is a process used to analyze and scrutinize a set of qualitative data by organizing it and describing the data set in detail. Braun and Clarke (2006) also state that the importance of analyzing qualitative data by means of the thematic analysis approach is to allow accessibility and theoretical flexibility in the data analysis process. Here the various themes of the findings are used to guide and respond to the research objectives to represent or show the level of common meaning within the data found. This common meaning/ pattern then gives an indication of the findings of the data collection methods (Braun and Clarke, 2006).

The process of data analysis used adopts the guide presented by Braun and Clarke (2006) which is a guiding tool in a thematic analysis. This guide constitutes 6 phases that are used as follows (Braun and Clarke, 2006):

1. Familiarizing and organizing the data;
2. Creating codes for the data found;
3. Highlighting the various themes found;
4. Reviewing of the themes;
5. Defining and naming the themes;
6. Producing the report on the findings within the themes as the final analysis.

To ensure rigor and validity of the data found:

- The data collection process was personally conducted;
- The planned data collection method was carried out strictly;

- The process of data analysis identified, was followed through accordingly- within the parameters enlisted;
- The data was transcribed carefully;
- The themes were checked to ensure that they are concurrent, consistent and distinctive; and
- The data was analyzed sufficiently where extracts from literature and extracts from analytical narrative are balanced out and highlighted accordingly (Braun and Clarke, 2006).

## **2.5. Limitations of the Study**

Given the nature of the study which requires a strong theoretical basis based, it was difficult to undergo research within the general public, who may not be aware of the internal spatial logistics of the planning process. The research is thus highly dependent on secondary data and primary data from key informants within various institutions. Another limitation within the collection of data was the availability of the key informants from the various institutions. As a result of the inability to collect data from Dube Tradeport, desktop based information in the form of online proposal plans and documents from Dube Tradeport were used to remedy the situation. These documents were used to respond to the questions that were to be asked in the one-on-one interviews. Another issue was the lack of new information in the most recent Spatial Development Framework (SDF) of 2016/2017. The researcher found that both SDF documents (2012/2013 & 2016/2017) highlighted the same challenges, although there was a 4-5-year gap between the two documents. This made it difficult for the researcher to gather whether the proposed solutions of the years in-between 2012-2016 were effective enough to the identified development challenges. The researcher also found it difficult to source updated and relevant Geographical Information Systems (GIS) data. The data found or sourced was either outdated or there was missing data for the study area.

## **2.6. Recommendation's in improving the study**

In improving the scope of the study, it can be recommended that one have a private motor vehicle for the data collection process, which makes it more convenient to travel to the various institutions for interviewing as well as to the various areas for observations and photographs. The study can also be improved by having access to the contact details of the department head of an institution. This improves the efficiency of finding key informants from each institution. Studies aimed at improving planning policy and processes- such as this one- can be improved by ensuring that all policy documents are thoroughly amended and updated. This informs the researcher on the current status of local planning, to ensure that solid and relevant suggestions, proposals and plans can be recommended.

## **2.7. Conclusion**

The research methodology is one of the most important chapters of the papers as it puts forward the various research tools necessary to collect data for the study. This chapter highlights the main data collection tools used as well as presents a data analysis process that is used to analyze and discuss the main findings found. The limitations experienced by the researcher are also presented and the researcher suggests recommendations to improve similar studies. The purpose of this research methodology was to highlight the various methods that were used to collect information specific to this study.

## **CHAPTER 3: LITERATURE REVIEW**

### **3.1.Introduction**

The purpose of this chapter is to draw discussions around the topic, which are presented in theories and concepts presented by various literature and authors. This chapter focusing on two main sections, the Theoretical and Conceptual Framework and the Precedence and Literature review or discussion. The Theoretical Framework highlights the various theories that guide and inform the study and the Conceptual Framework seeks to identify the various concepts that inform the phenomenon formed from the Theoretical Framework. These theories and concepts identified, direct the rationale for the study. The Precedence and Literature Review draw on and highlight the cases of other cities in other international, national and local areas to inform to inform the study and draws lessons in the South African context.

### **3.2. Theoretical and Conceptual Framework**

The Theoretical and Conceptual Framework identifies the main discussions and arguments used to guide this study. The Theoretical and Conceptual Framework is been presented jointly to indicate the relationship between the theories in which developmental concepts have been extracted and/or materialized from. The theories and concepts assist to develop a set of ideas and discussions to develop realistic and relevant recommendations. In the next chapter, these theories and concepts, are compared and contrasted with data found on the field and used by the researcher to inform and respond to objectives.

#### **3.2.1. *Theories of Urban Development***

Land use theories are models or stencils that attempt to rationalize the layout of urban areas in effort to provide a clear understanding or conceptualization of realistic complex developments. McDonagh (1997) discusses that the importance of creating land use models is to enable planners and developers to analyze and compare the interrelationships and interactions of development patterns based on five conflicting factors including demographic, economic, sociological, legal and political (McDonah, 1997). He further elaborates on the roles played by each factor. The demographic, sociological and economic factors are seen to drive demand and the legal and political factors often drive the direction in which development will occur by establishment of the necessary framework (for the benefit of the society) (McDonah, 1995). Urban Land Use Models also known as Growth Models assist in the prediction of the shape in which future cities will take, by the analyzing and comparing their circumstances (McDonah, 1995) with similar cities whom are better established. McDonah (1995) makes a valuable conclusion based on the context of this paper that with migration, there is a foreseeable

demand for residential expansion accompanied by a combination of redevelopment and a gradual shift towards the North, West and South West or a change in location to satellite/neighboring towns. Factors that could determine the pattern in which development will occur include technological change, economic base, transport, shopping behavior, residential theory and Weber's<sup>1</sup> theories of transfer costs (McDonah, 1995). For the purpose of this study, McDonah's factors are expanded with focus on technology, Weber's theory, economic base theory, shopping theory and the residential theory.

### *3.2.1.1. Growth Models*

Mabin and Smit (1997) recapture the various adjustments of the spatial restructuring of South African cities over the various periods. The residual impacts of the Apartheid and Colonial City formations are still visible in the spatial planning of the city. The Colonial period introduced the Township Establishment Plan, which replicated British used development plans in the constructing of South African cities. Amongst many, the Burgess Concentric Zone Model, the Hoyt Sectoral Model and the Bid Rent Theory were used to shape the cities Post 1994. All three-growth models assume that the city has one urban core, in which the business district is and has various zones that vary in class in which society builds around. The introduction of the Apartheid era after the Colonial period, saw the unequal distribution of access to land uses amongst the various races, since the Urban Core areas were only restricted to the White, totally neglecting the majority. Davies (1963) argues that with democracy and the need for spatial reconstruction came the need for more land uses. The urban core with limited space can no longer fulfill the socio-economic needs of current developments and there has been a resulting shift in development patterns. The study seeks to introduce and discuss three of the many theoretical growth models used to guide the spatial planning of the Durban Metropolitan Area (DMA). The researcher introduces the Burgess Concentric Zone Model, the Hoyt Sectoral Model and the Bid Rent Theory that form a basis for the discussions on this study.

#### *The Burgess Concentric Zone Theory*

According to Bunyi (2010), the Burgess Concentric Zone Theory (Figure 3.1) is a model that used to explain the internal structure of the city as a pattern of social groups that are arranged in rings. Originally based in Chicago, the model assumed that Chicago's growth emanates from the center of the city and moves outwards in a series of rings. This outward movement is confirmed to a specific social structure of the city which follows the central CBD area (1); the transition zone of mixed residential and commercial uses (2); Low-class residential homes-inner suburbs (3); better quality middle-class homes-

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<sup>1</sup> This theory suggests that location is one of the main considerations that should be when it comes to the development of industries for the sake of the transportation of raw materials and markets or businesses (McDonah, 1995) which ultimately influences on the succession of the industry.

outer suburbs (4) and the commuter's zone (5a) (Burgess, 1925). The suggestion made by this model is that the lower class is most likely found closer to the city centre and the upper class population is found further away from the city centre, which is less dense as you move outwards. Since rent is cheaper closer to the centre of the city- and increases further from the centre- the city is able to accommodate the lower class who are in search for, and is thus denser (Bunyi, 2010).

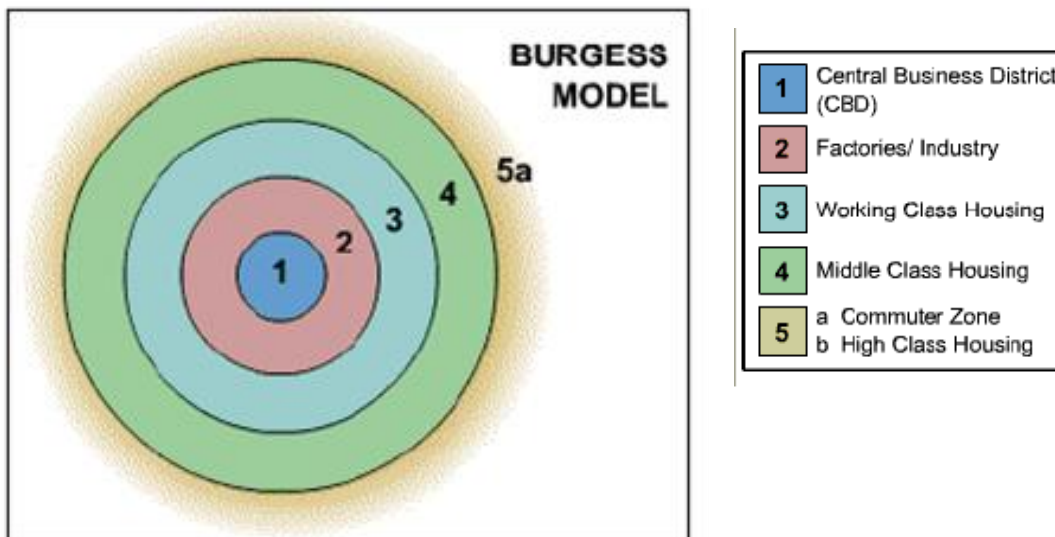


Figure 3.1: The Burgess Concentric Zone Theory. *Image Source: (Burgess, 1925)*  
*The Hoyt Sectoral Theory*

The Hoyt Sectoral theory (Figure 3.2) is believed to be very similar to the advocacies of the Apartheid Model of development. This theory suggests that the city grows in the formation of series or wedges in which follow each other according to class and class following a pattern of land uses- along communication (rivers, railways or roads) routes (S-Cool, n.d). It was found in most cases that the industrial zone would be followed by the lower class developments, which was separated from the upper class zone by means of developing a middle class zone in the middle as a physical barrier. Like the Burgess Concentric Zone, this theory suggests that there is an urban core (CBD) in which all development mushrooms around (S-Cool, n.d).



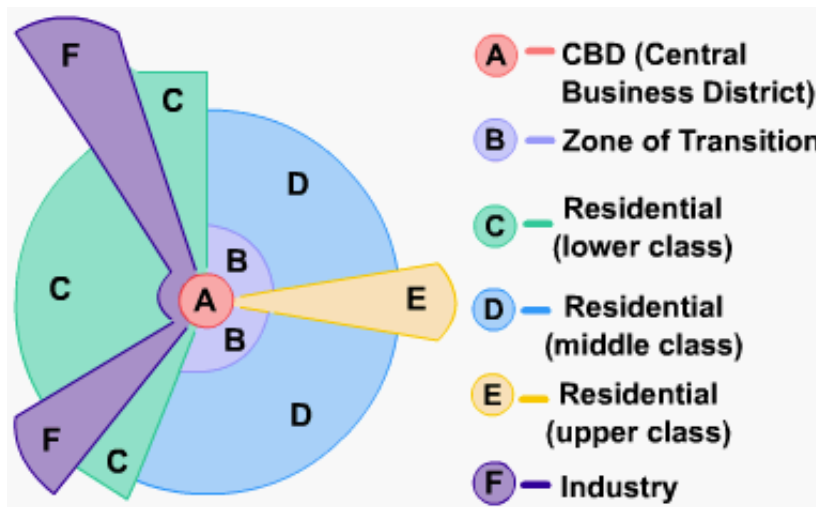


Figure 3.2: The Hoyt Sectoral Theory. Image Source: (S-Cool, n.d)

### The Bid Rent Theory

The Bid Rent Theory speaks on the price phenomena that land closer to the CBD area is more expensive than land that is closer to the urban peripheries (Cilliers, 2010). This is due to issues around accessibility to the CBD, which is the core of the city in which transactions, and swapping of goods and services is done. Rodrigue (2009) discusses the bid or land rent theory as one that is the result of ‘rent-paying ability’ of the various land uses in urban areas (Rodrigue, 2009). Thus, there is competition between the land uses to ensure that they are closer to the CBD area in order to cut costs of transportation when travelling to or from the cities CBD (Cilliers, 2010). The theory also states that there is competition for land that is in close proximity to transportation routes, thus also ensuring accessibility. Residential areas are usually developed away from the CBD- along transportation routes- areas to ensure that they are away from the noisy and polluted city centre (away from industry) (Cilliers, 2010). Therefore, the rationale behind the theory is that land is expensive if:

1. It is located closer to the CBD area;
2. It is located along transportation routes.

Factors related to the physiographical (environmental), historical (tourism) and social landscape of an area, are known to have an influence on the curves of the bid rent model (Rodrigue, 2009).

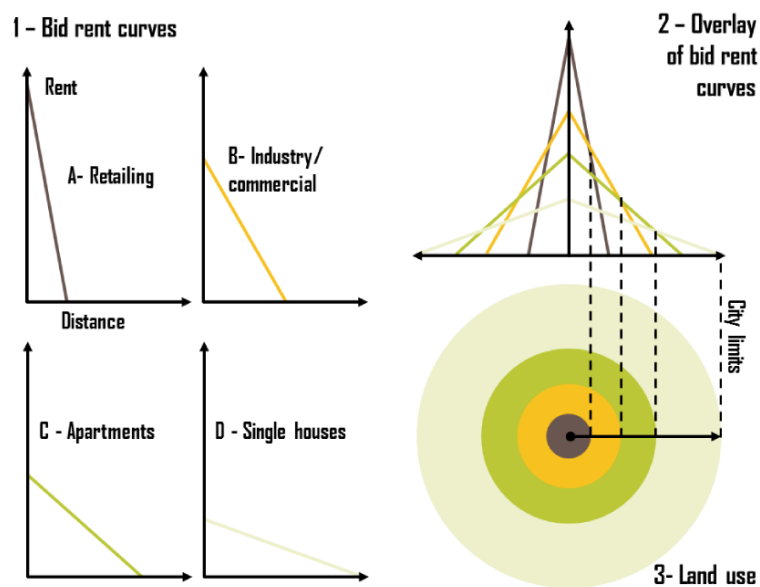


Figure 3.3: The Bid Rent Theory. Image Source: (Rodrigue,n.d)

The main purpose then becomes ‘accessibility’ (Cilliers, 2010). This means that urban growth is expected to grow outwards in the direction of the cities peripheral areas (horizontally ribbon growth) or alternatively to grow along transportation routes. In its name, the Theory implies that the highest buyer/bidder attains the most favourable land that is closer to the city, however benefits in the long run with transportation being cut down (Cilliers, 2010). The expected pattern of land uses in the Bid Rent Theory follows a city centre in the centre of the middle, followed by retail, then industry/commercial, residential apartments in the third ring and lastly, single houses being the furthest distance from the city centre (on the city limits/ peripheries).

### 3.2.2. Globalization

According to Kivikkokangas-Sandgren (2005), globalisation is a term used to describe interregional flows, interconnectedness and interactions within the various realms of society that enable the sharing of ideas and knowledge globally. The term has also been seen to allow the sharing of social, political and economic ideas amongst various regions and countries (Kivikkokangas-Sandgren, 2005). Globalisation is also seen to promote social and economic networks and interconnectedness that has led to the expansion of human activity locally, nationally and regionally (Cuterela, 2012). With that, globalisation is believed to have shrunken the world, shortened distances and has bought things closer to each other (Larsson, 2001).

According to Cuturela (2012), globalization, in terms of connectivity, has spread across the entire world with the economic and cultural life increasing throughout the centuries. It is believed that the current state of our economy and cultural diversity is much different from what it was before. Some of the factors that have outlined this current state include the magnitude of the communication and various exchange rates and the complexity and sizes of the networks herewith (Cuturela, 2012). Other factors include the extent to which trade occurs, the various interactions involved in trade as well as the risks of trade. It is believed that economic interconnectedness has led to various political changes where the poor are hugely dependent on the central economies usually found in the inner city (Cuturela, 2012). Globalization has also introduced the rise of the 'brand' (Cuturela, 2012). This is a term used to describe multinational powers owned by one particular state or corporation in various other states. The circulation of knowledge and networks has enabled these interactions to occur (Cuturela, 2012). Cuterela (2012) highly speaks of the dimensions of globalisation being economic, political, cultural and social. These dimensions represent the impacts of globalisation and two particular dimensions- economic and social- will be looked at specifically, in the context of this paper.

According to a study on the 'Spatial Impacts of Globalization' by Banu Işil Işık (2010), the spatial changes of a city are the result of the contributions of globalization. The evolution of the city gives a clear indication of the relationship between globalization and the city (Isik, 2010). His study highlights the evolution of a city and the historical periods that caused a transition from the industrial city to postmodern city formations. Decentralization of industrial activities from the city center to the urban periphery- in sought of cheaper and bigger expansion space with the growing economy- then became apparent in the 1960's (Isik, 2010). This process was known as 'deindustrialization' and gave way to the rehabilitation of inner city areas (Isik, 2010). The rehabilitation of these inner city areas gave opportunity for commercial activities to respond to the growing economic globalization pressures. This economic boom introduced the need for a more polycentric city form/shape as opposed to a concentric form that had one specific central area (monocentric urban form) (Isik, 2010). This change in city shape was driven by advancements in technology, motorage and transportation networks which no longer forced the population to depend on transit methods of mobility. Economic globalization introduced great volumes of spatial restructuring including business districts and lavish residential areas which began to mushroom around these business areas (Isik, 2010). Amongst many, these business areas including cooperate headquarters, bank head offices and financial firms (Isik, 2010). The proximity of these business areas to shopping malls, amenities and residential units thus made these areas favorable to the society accessing these places of opportunity. With that, it goes without say that Economic Globalization has impacted and sparked Social Globalization in the form of Migration. This shift is known as Urbanization.

### **3.2.3. Urbanization**

McCatty (2004) defines urbanization as the growth of towns and cities because of movement of people from rural areas to urban areas in search of jobs and a better standard of living. McCatty (2004) puts emphasis on the negative impact of this process on rural areas, which are left undeveloped with transformations in livelihoods and landscapes (McCatty, 2004). In addition to this McGranahan and Satterthwaite (2014) highlight the use of the word urbanization ‘loosely’ (McGranahan and Satterthwaite, 2014) to refer to a rural to urban transition that encompasses the population, land use, economic activity and or culture. He further adds that the term is used to describe changes in land use patterns that are often located on the urban peripheries. Other changes as discussed by McGranahan and Satterthwaite (2014) include changes in demographic, economic and environmental flows between rural and urban areas (McGranahan and Satterthwaite, 2014).

McGranahan and Satterthwaite (2014) bring a new view on urbanization by expressing that urbanization does not just occur in urban areas, but can be ‘spurred’ by changing rural conditions (McGranahan and Satterthwaite, 2014). Another main argument presented by Sabnis (2014) is that since there is no clear definition of the word ‘urban’ itself and a set of characteristics should be put in place to perhaps narrow discussions around urbanization into a particular context. In her definition of the word urbanization, she then defines urban areas to be areas of a certain population size, space, density and economic organization. Having identified the criterion that was used to define an urban area Sabnis (2014), the term urbanization was then defined as ‘a process by which large numbers of people become permanently concentrated in relatively small areas, thus forming cities’ (Sabnis, 2014). Internal processes of rural to urban migration result in increases in the number of people living in cities as compared to those in rural areas.

Urban areas have various advantages that contribute to the increasing of the standard of living of the general ‘urban’ population as well as the quality of life of those who migrated from the rural areas (Sabnis, 2014). This is due to the market potential- due to industry and manufacturing- that is available to the population because of the variety of shopping centers that are available to the population (Sabnis, 2014). This competitive nature forces storeowners to decrease their prices and promote longer shopping hours (Sabnis, 2014).

Urban areas also consist of a wide range of services including public transportation systems, water and sewage services, a variety of educational and recreational facilities, and larger and more specialized healthcare facilities (Sabnis, 2014). There is also a wide variety of accommodation to suit the individual needs of the population and these range from individually owned houses to high-density apartments and houses with open spaces in the form of playgrounds, schools, and community centers (Sabnis, 2014).

The population of urban areas also has a variety of ethnic groups and cultures that enable a means of multiculturalism and knowledge passing.

These attributes are not provided in rural areas and thus create attraction and large volumes of migration to the city and is what we then refer to as urbanization (Sabnis, 2014). However, McGranahan and Satterthwaite (2014) further elaborate on the limitations of urbanization that come with the advantageous attributes of life in the city. Urbanization has seen problematic and large amounts of traffic jams, infrastructure malfunctions, lack of appropriate (formal, safe and clean) housing, insufficient job opportunities and large impersonal institutions (McGranahan and Satterthwaite, 2014). Urban areas also have a large percentage of the homeless population in the downtown neighborhoods that consist of old, rundown buildings, empty stores, and substandard housing for the inner-city population (McGranahan and Satterthwaite, 2014). With this, a wide range of social issues including vandalism, crime, unemployment, pollution and poverty have been seen to characterize the city.

The Durban Point area is a case as such. This area is characterized by a high level of migrators (local and international), dilapidated buildings, crime, vandalism and various social issues (such as unemployment, drugs and prostitution) (Mather and Reddy, 2008). An Urban Renewal Project was run to attract investment into the Point Waterfront area, where middle- to high-income residential high rise buildings were built as well as various mixed land use zones (including commerce and recreation) (Mather and Reddy, 2008). However, as also noted by Sabnis (2014), although some downtown high-income renewal projects have been seen to be successful in other cities, they ultimately exclude the urban poor, who cannot afford to stay in the refurbished areas. The growing rate of urbanization also has a negative impact on land that has been reserved for agriculture (Sabnis, 2014). With an increase of the inner city population and a distaste towards the living conditions herewith, there is an increase of urban sprawl around the outer edges of city centers (Sabnis, 2014). This shift or migration out of the city center is usually seen amongst the middle to high-income earners who are in search of bigger spaces to build larger houses with quieter and safer suburban neighborhoods (Sabnis, 2014).

The Durban North Area has seen a gradual shift of large businesses to the area from the city center as well as the construction of large residential blocks and communities. This growth has forced the provision of utilities, road networks and social amenities to service this area. The high dependence on automobiles in this area has excluded the poor from interacting with these communities as well as seen an increase in pollution due to the frequent traffic problems evident in this area (Mather and Reddy, 2008).

### **3.2.4. Migration**

According to an article by the National Geographic Society (2005), migration is defined as the movement of people to various places for permanent or 'semi-permanent' residence (National Geographic, 2005). The history of migration dates back to the movement of the first humans from East Africa to other parts of the world (National Geographic, 2005). There are also various known types of migration which include permanent, seasonal and circular migration which are influenced by various factors including the economic crisis and economic growth (Krainara, 2012). The National Geographic Society further establishes other forms of migration including Internal migration, External migration, Immigration, Population Transfer, Impelled migration, Step migration, Chain migration, Return migration and seasonal migration (National Geographic Society, 2005). For the purpose of this study, the most common forms of permanent migration- internal migration and immigration- will be discussed and explored. Internal migration is described as the movement of migrants from their home to a new state or country within their original state (National Geographic Society, 2005). Whereas, Immigration is described as the movement of people into a new country (National Geographic, 2005). Both types of migration are influenced by job and educational opportunities in places where there is growth (Krainara, 2012); political forces (war) as well as environmental factors including climate and natural disasters (National Geographic Society, 2005). Urbanization is a phenomenon that is known as the catalyst of migration. These two theories are interlinked and have an impact on the spatial development of regions (Krainara, 2012).

Rural to Urban migration is a form of internal migration that is relevant in developed-developing cities (also known as second world countries) such as Thailand and South Africa (Investopedia, n.d). These countries are seen to be more established than 'third world' countries but less established than 'first world' countries (Investopedia, n.d). Rural to urban migration is the reality of industrialization and the resultant opportunities in and around various growth nodes or points that offer jobs and an overall increase in the standard of living (Krainara, 2012). In search of opportunities, large influxes and movements of people from the surrounding rural areas is seen. This type of migration is a contributor to the increase of urban population numbers (Krainara, 2012) in which municipalities struggle to provide for. One of the disadvantages of Rural to urban migration is that it has often resulted in the mushrooming of informal and dilapidated settlements in and around urban growth centers and has contributed to the growth of settlements such as the Kennedy Road informal settlement in Durban, South Africa (Cele, 2010). An advantage of this type of migration is that it draws on the realities of modern planning systems and their need to include the previously excluded into urban plans (Cele, 2010). In a study of Rural to Urban migration by Krainara (2012), the main issue around this type of migration was the need to find ways to effectively respond to the needs of the migrants. These needs include accommodation, education and employment amongst many (Krainara, 2012). The increasing

rate of rural to urban migrants exerts pressure on local government to provide more services, infrastructure, amenities and shelter to the influxes. Furthermore, with the extended increase in immigration numbers is the need to plan for the various types of individuals, from various areas. Migration in all its forms necessitates multiculturalism as a planning tool (Harper, 2011).

Kivikkokangas-Sandgren (2005) describes globalization as a means of sharing information, knowledge and ideologies through various technological networks and connections. Information and opportunities for work and education that were not previously made available have simply attracted individuals from around the world in search of better opportunities and an increased standard of living. However, according to a study by UN Habitat (2015) immigrants (often known as refugee's) are duty-bound by policies and laws that restrict or inhibit them to accessing adequate housing, social services and opportunities by law or circumstance to live in segregated, hazard-prone and poorly maintained residential areas. The majority that is lacking legal documentation for citizenship are vulnerable to a many social issues in which the UN Habitat (2015) identifies some including "abuse, exploitation, arrest and detention, restricted movement and face severe difficulties accessing justice, livelihoods, adequate housing and services such as health and education" (UN Habitat, 2015). With globalization and an increasing rate in urbanization, Harper (2011) speaks on the importance of creating policies and laws that protect migrants. These policies and laws should be in place to promote a multicultural and diversified living environment (Harper, 2011).

### **3.2.5. *Multiculturalism***

Multiculturalism is defined as the integration of a variety of cultures, religions and groups into common areas where equal respect and values are upheld accordingly (Harper, 2011). These may be driven by various institutional policies and laws that guide customary behaviours, cultural assumptions and values, communication lines and thoughts on one another (Harper, 2011), thus allowing the interests of the different cultures to be shared amongst the public. An example of multi-culturalism includes the development of areas that support mixed housing typologies in attempt to create diversified communities. Sandercock (1998) further describes Multiculturalism as a public philosophy that accounts for the various races and cultures in society so that they are sustained and expressed equally. She further insinuates that multiculturalism seeks to explain 'moving societies' in the sense that migration has evoked the need to diversify planning methods so that they accommodate the influx of people of a diverse nature. These influxes have created interruptions in familiar patterns of life- both positive and negative- to create what is known as multifaceted cities. Multifaceted cities begin to describe the ability to accept and adjust to difference as a transformative tool (Sandercock, 2000) that is driven by two other forces, post-colonialism and the rise of civil society. In her reading *Towards Cosmopolis* Sandercock (1998) relays the need to adjust institutional planning methods to those that

address and empower cultural differences. One way that this is done is through the incorporation and collaboration of various groups in society in planning process thus ensuring that plans are flexible, democratic and responsive to cultural differences.

Multiculturalism is directly linked to Collaborative and Advocacy Planning. Healey (1997) describes Collaborative planning as the involvement and consideration of different society groups and ideas in the planning of environments and their policies (Healey, 1997). Collaborative planning involves the inclusion of the social, economic and environmental factors that affect the process of planning. This is done on a participatory level where communities and groups are part of the decision making process. This is also the perception of planning being an interactive process in which the needs of a community are fully realised through these factors in planning. According to Healey (1997), the advantages of such developments is that:

- One is able to determine the planning and policy initiatives which will enhance the quality of places and territories;
- Such developments ensure that that planning is qualitative and is an integral part of community development and planning- through the creation of a stakeholder society which involves the organising of participants from all levels of development projects;
- They encourage community and stakeholder participation- transparency and fluidity amongst all relevant stakeholders (Healey, 1997).

Advocacy planning is the notion used to describe an attempt in planning to take in consideration the needs of a community in order to represent or plan in the interest of the public. Davidoff (1965) indulges in a new paradigm of planning that constitutes to social justice, very similarly to the advocacies of Jane Jacobs, who provided a rationale concerning the importance of developing an urban environment that compliments the needs of the society. The notions of collaborative and advocative planning are some of the necessary tools in the creation of a diversified and equal society. (Healey, 1997).

Davidoff (1965) argues significantly on a notion that different communities will have different needs and thus accounts for the need of creating different communities that vary in accordance with a community, thus a conventional system of planning should be utilised. Very often, especially in developing countries, there is a common interest in replicating foreign classical theories of planning, which confronted different spatial issues to those of South Africa. The common resultant factor to this is a failure of the implementation phase where there is the realisation of these differences (Davidoff, 1965).

Multiculturalism is a rather 'new' concept, whose origin is linked with the need for the creation of a multicultural society with new adjustments and new living strategies. Multiculturalism is a new concept can be linked to economic globalism- which involves the cross-border movement (importing and



exporting) (Qadeer, n.d) of goods and services, technologies, capital and knowledge across international borders. This increases worldwide economic, political and cultural interchanges due to the sharing of information across states (Wallace, 2000). Wallace (2000) speaks of globalisation and the pressures to uphold a standard of living (by keeping with international trends) as some of the many reasons in which the concept of globalisation came into play. In the globalising world, forces such as technology have allowed the sharing of information and perceptions amongst states, which has resulted in the evoking of an interest to either migrate or interact with different areas of the world. The various migration and traveling permits that are available today, allow people of different races to cross borders, the crossing of knowledge and thus the crossing of cultures and the resultant need to acquire and adjust to new cultures, norms and standards (Qadeer, n.d). In countries like Canada, migration plays a key role in the need for the rebuilding of an environment that seeks to serve all persons that reside within it. The need for change and cultural empowerment emerged following issues ranging from land use and full public participation in planning.

Drawing closer to home, observations on Xenophobia (Evans, 2015) have indicated that migrants still face issues of marginalization, violence and discrimination in developing countries like South Africa. South African born citizens become weary of the sharing of the country's minimal resources (employment, accommodation and recreational facilities) and thus have an increasing phobia towards the adjustment of the society. Migration is not an emerging concept or idea in society. However, the present rate at which migration has been occurring, compared to the past, has created a sense of uneasiness regarding employment opportunities and access to social services. In an article by the Pew Research Center (2007), immigration accounts for 53% of South Africa's national problems (Figure 3.4). These problems are linked to issues of unemployment (Figure 3.5) that the country is currently facing. With immigration accounting for 53% of South Africa's national problems, there is an expected increase of the population annually. An article by Writer (2015) projected that unemployment rates will not decrease in the next four years due to the 'pre-crisis growth levels'. With that, the main concern with the continued increase in immigration influxes is directly involved with the increase in population numbers and the ultimate demand and competition for the limited employment opportunities.

Top National Problems					
<u>Immigration</u>	%	<u>Emigration*</u>	%	<u>Drinking water</u>	%
Italy	64	Pakistan	53	Pakistan	70
South Africa	53	Bolivia	53	Morocco	66
Lebanon	50	Mexico	50	Ivory Coast	59
Palestinian ter.	49	Lebanon	49	Peru	57
Morocco	45	India	48	Italy	57
Spain	42	Palestinian ter.	45	India	57
Pakistan	42	Poland	45	Nigeria	57

Percent citing each as a "very big problem" in their country. Highest proportions shown.

\* "People leaving our country for jobs in other countries."

Figure 3.4: The top national problem in South Africa. Image Source: (Pew Research Center, 2007)

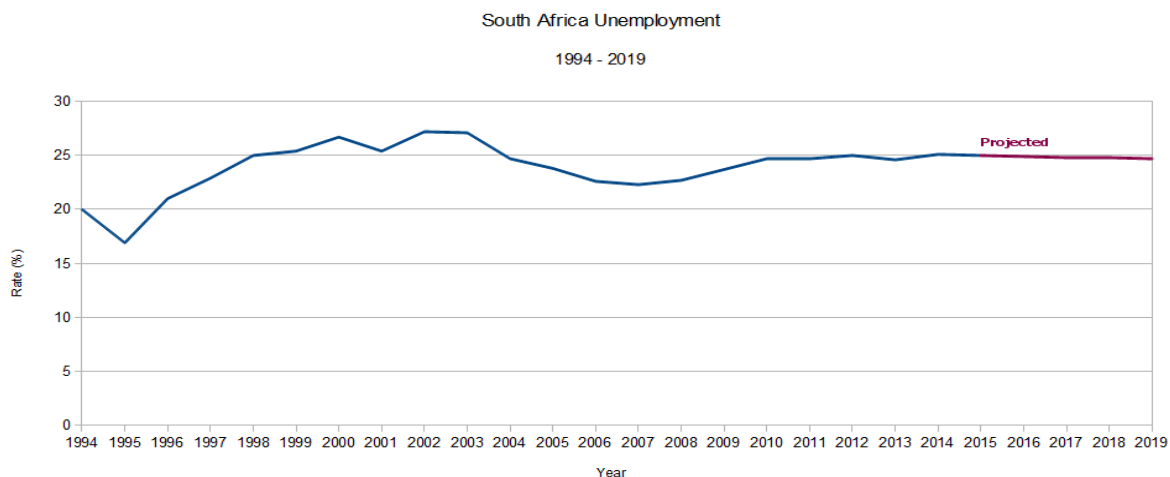


Figure 3.5: A projection of South Africa's unemployment rate by 2019. Image Source: (Writer, 2015)

However, the need to adjust and filter in migrants into the development streams of an area, has become part of modern planning practices. This is followed by the visible physical and social effects of immigration and migration on communities (Wallace, 2000) such as the Durban Point Road area which has been home to many foreign nationals as the CBD is their 'first port of call' as described in a report of the Durban CBD by EThekweni Municipality (n.d).

### 3.2.6. Monocentric and Polycentric Developments

Cilliers and Schoeman (2008), present a new development model called the Polycentric Development Approach that is key for South African cities currently facing the constraints of colonial development models that were enforced onto the cities. Polycentric development models present the possibilities of

the development of major economic nodes outside of the Central Business District as opposed to the monocentric design of formerly used theoretical growth models, The Burgess Concentric Zone Model, the Hoyt Sectoral Theory and the Bid Rent Theory. Greed (1996), presents the need for cities to adjust and adapt to various changes over time. These changes are no longer only dependent on physical changes but are dependent on the ever-changing socio-economic position of the city and includes increasing population growths, fluctuating markets, innovations and changing policy. In response to these changes, a concept called 'Out-of-town Retailing' began to reshape cities into polycentric town areas.

### ***Out-of-town Retailing***

Greed (1996) explains the phenomenon of new developments moving out of the city towards the urban periphery as a result of 'Out-of-Town Retailing'. Out-of-Town Retailing is the idea of the migrating and development of new business districts out of the urban core or Central Business District (CBD), followed by the mushrooming of land uses around the new developments (Greed, 1996). The mushrooming is coupled with new employment opportunity that attract residential developments closer to these new commercial arenas. With residential developments the need for an extension of land uses then rises, which respond to the growing socio-economic needs of the changing society. This development concept thus rejects the theoretical growth models –which were previously used- which are not flexible to adapt to changes in population, socio-economic needs and land uses (Davies, 1963). The Durban North area which is situated in the DMA is currently experiencing 'Out-Of-Town Retailing', where visible economic nodes have been developed in relation with Dube Tradeport and Tongaat Hulett Development, who have played a big role in the development of what seems to be the creation of a new Central Business District towards the North (NCBD). In 2012, an impact assessment was done by Tongaat Hulett Development to highlight the needs (supply and demand of the economic market) and desirability (socio-economic needs) of the development of a proposed Compensation Industrial and Business Estate (CIBE) development in the Durban North Area (THD, 2012). With this CIBE development some of the land uses that were proposed to accompany this development included industry, commercial, mixed use zone, residential, an open space system as well as a bulk infrastructure and services zone (THD, 2012: 3). Durban North is an example of the concept presented by Greed (1996) in the sense that it proves the moving out of land uses from the Urban Core as a result of the commercial industry moving towards the North (Green, 1996).

According to Rushby (2001), out-of-town retailing has various positive and negative impacts on the economy, society and environment of a city. The advantages and disadvantages of this type of development are shown in Table 3.1.

Table 3.1: Advantages and disadvantages of Out-of-town Retailing

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>- An increase in the customer base due to convenience;</li> <li>- An increase in the economy of the area- due to increased investment and spending;</li> <li>- An increase in employment opportunities;</li> <li>- Easy access to places of work and amenities, a safer environment and means less traffic for the city centre- since a percentage of the population utilizes the new shopping areas;</li> <li>- Increased choice for consumers; longer shopping hours;</li> <li>- More encouragement for recycling by shopping centres- since there are trolley systems in place that reduce the need for plastic bags etc. and;</li> <li>- Shopping convenience.</li> </ul>	<ul style="list-style-type: none"> <li>- Trade ability is taken away from the city, leaving smaller independent shops to suffer;</li> <li>- Consumers have less choice; excludes the large percentage of the population without cars;</li> <li>- Encourages the use of cars at the expense of public transport thus causing congestion and traffic in these areas;</li> <li>- In developing these centres there is also a huge loss of agricultural land to hard developments- thus reducing the agricultural ability for the city</li> </ul>

### 3.2.6.1. Sustainable Urban Form

Urban sustainability speaks to the ability of a city to sustain itself socially, environmentally and economically (Cameron, 2000). This is achieved through the ability to maintain the urban system of a city by balancing the three main components. Sustainable development is the development of the society to benefit human beings by meeting their needs at present without harming that of the future generations. This is done by utilizing natural resources rationally, replenishing and preserving those in existence, (Ceigis et al, 2009). Sustainable Development has commonly been associated with sustainable urban form and has been a restructuring tool in the rejuvenation of urban areas. In attempt to create these sustainable cities, a set of policy and regulations have been put in place in developing countries like South Africa to harness (Cameron, 2000) and ensure that modern cities materialize into Sustainable Urban Forms. Sustainable Urban Form seeks to move away from the conventional development of cities through the adopting of previously used growth models, which were simply replicated into South African spatial plans (Jenks and Burgess, 2000). Sustainable Urban Forms are attainable through city designs that promote compactness (Jenks and Burgess, 2000), where extra costs on transport, infrastructure, products and people are minimized by the ability to combine land uses into one common area (Econhist, n.d). Sustainable Urban Form thus describes the pattern of compaction

that South African cities are slowly transforming into (Adebayo, 2012), slowly moving away from formally used theoretical growth patterns, which separated land uses through various rings or zones thus restricting pedestrian movement and limiting access to recreational zones, which were not considered necessary. Sustainable Urban Forms are thus seen as highly densified since many activities are visible in a single common area (Econhist, n.d). Compactness as a sustainable urban form can be used to achieve urban sustainability and increased standards of living (Econhist, n.d).

#### 3.2.6.1.1. Compact Cities

The concept of Compact Cities is used to describe the notion of creating mixed-use urban environments that are compact (Jenks and Burgess, 2000). Here, urban activities and land uses are in close proximity to one another to accommodate and create a better quality of life for those living within the area (Econhist, n.d). The compaction and closeness of land uses enables convenience and easy access to other land uses which encourages walkability, cycling and more economical pooling of infrastructure services (Perry, 1929). The ultimate purpose of Compact Cities is to create communities that are compact and enabling to the society living within them. According to Jenks and Burgess (2000), Compact Cities are an important tool in attaining urban sustainability since the concept promotes the creation of balanced cities that consider social, economic and environmental elements in development (Jenks and Burgess, 2000). Compact Cities seek to promote environmentally viable neighborhoods that are also pedestrian friendly in the sense that the compaction of land uses in one common space allows and promotes walkability, cycling and transit as a form of accessibility to the various amenities. One particular concept that can be utilized to promote the principles of compact cities in South African cities is New Urbanism. The ability to reduce the use of motor vehicles in neighborhoods, enables for low car emissions and the creation of more green spaces and throughways, thus rejuvenating urban areas significantly.

#### *New Urbanism*

The concept of New Urbanism is the product of the notion of Compact Cities and seeks to create mixed used use as a tool to create spaces that are livable to those living within them. This movement-, which arose in America in the 1980s- ideally, advocates on the creation of compact neighborhoods that have land uses that are accessible to the general public through walkability, cycling and transit. The main order of this concept was to provide amenities- such as schools, churches and shops- in close proximity to each other to enable the creation of communities that are safe, comfortable and aesthetically pleasing to the pedestrians within it (Econhist, n.d).

### 3.2.6.1.2. The Edge City

Garreau (1991) introduced the concept of an ‘edge city’, which refers to the phenomenon of the development of ‘new cities’ or nodes outside of the Central Business District (CBD) areas. These developments he reasoned out to be a result of the decentralization of commercial entities out of the CBD due to large increases in crime, the introduction of technology and new real estate developments. The characteristics of an edge city as described by Garreau (1991) is an area with leasable office space covering just over 460 000 square metres; a space that has over 55 000 square metres of leasable retail space; and an area with more jobs than bedrooms. In a study by Rushby (2001), the edge city is criticized for having a negative effect on the inner city area. Inner city areas like the Durban CBD over years has been seen to be experiencing high levels of crime and a rundown of residential units (Pictures 3.1 & 3.2) with minority ethnic groups and the lower class inhabiting the dilapidated dwellings (Rushby, 2001). The social and economic conditions of Durban’s CBD have caused distaste and a resultant significant drop in the overall market value of the area (Rushby, 2001). In attempt to remedy the situation, the eThekweni Municipality partnered with private developers and embarked on an inner city revitalization strategy of the Durban Point Area. This project attempted to create an upmarket, mixed land use zone of residential, recreational and commercial activities, which were used as part of the urban regeneration strategy that was in place to increase the market value of the area (eThekweni Municipality, n.d).



*Picture(s) 3.1& 3.2: The state of Durban's Inner City South Beach Area which is characterized by dilapidated buildings, high density and minority and lower class groups. Image Source: (Bloom, n.d).*

#### 3.2.6.1.3. Apartheid and Colonial Cities

Mabin and Smit (1997), in a paper titled *'Reconstructing South Africa's Cities? The Making of Urban Planning'*, highlighted urban planning as a tool in structuring society. The Anglo Boer war was a period in which urban planning systems were influenced by state power and control over the land through the dictation of patterns of black settlements in urban environments as well as the regulation of land subdivision (Mabin and Smit, 1997). In the 1800's, urban growth was adjusted by capital seeking speculations and investment opportunities. Relocations of those who were seen as native began during this time as a land use planning tool. In 1905 the township establishment idea was established when the Transvaal Township Board was formulated. Shortly after South Africa was created as a country in 1910, pressures for a new approach to cities and towns emerged, as slums increased in numbers due to a housing shortage. This saw the creation of the Garden City movement in Cape Town (Mabin and Smit, 1997).

With the establishment of mines in the 1880's and 1890's, there was segregation of sexes in compounds, which created a model for urban segregation. The commission also began to view Africans as temporary residents of urban areas (which boasted of the wealth of mines) and thus ignited the planned separation of locations in and around Southern Africa. With industry growing high and slums increasing as a result, there was a greater need for experienced planners (Mabin and Smit, 1997). The Cape city council planners began to develop central Cape Town by introducing road networks and land use plans for industrial, commercial and residential land. The creation of greenbelts and parks as a barrier from other neighbourhoods had a profound impact on the creation of the apartheid era (Mabin and Smit, 1997). The apartheid government introduced a variety of laws and regulations as a means of urban segregation. With the whites situated near the inner city locations and the non-whites being situated on the peripheries of the city, close enough for them to provide themselves as labour to the city. 1976 saw the start of nationwide township political conflicts that drew international attention and caused international donors and investors to draw away from South Africa's unjust scheme (Mabin and Smit, 1997). This saw the introduction of democracy and planning schemes shifted to post-apartheid urban reconstruction which became a change agent. Provision of basic housing through the Reconstruction and Development Program (RDP) was then used as a development perspective that was absent in previous planning schemes (Mabin and Smit, 1997).

#### 3.2.6.1.4. African Cities

In a study by Cameron (2000) which highlights and attempts to give an indication of the future of South Africa, shows that the shifting of South African cities is purely a result of various economic, social, political, environmental and technological changes that have occurred over time and have impacted the direction in which development is to occur (Cameron, 2000). African Cities can then be described as

the phenomenon that seeks to explain the reformation and restructuring of previously colonized regions in and around the African continent, in a way that is suitable and viable to the society that inhabits it (UN-Habitat, 2014). African cities reflect the nature of Africa's rapid state of development. These cities have mixed designs and neighbourhoods as a result of historical colonialism and traditional areas. Current African cities remain mixed and made up of various influences (Davies, 1963) including the Apartheid model, European and American models which all attempted to 're-imagine African urbanism' (UN-Habitat, 2014). Currently, the impacts of these models, the increasing population numbers and the increase in urban growth, have indicated the inability of these previously used models to adjust to changes and growing spatial needs (Adebayo, 2012). Ultimately, the sense of cities recreating and reshaping their form rejects the theories of previously used growth models which were implemented on a replication basis and not to entirely suit the development needs of African cities. Post- 1994, various studies and debates around the possibilities of 'African Cities' as Sustainable Urban Form are underway by Jenks and Burgess (2000) where it has been noted that perhaps developing countries continue to remain developing countries due to their inability to adjust and replicate development models of developed countries (Jenks and Burgess, 2000).

### **3.3. Precedence and Literature Review**

The precedence and literature review section identifies and discusses cases from various countries and cities with experience of the various theories and concepts. The study utilizes International cases from a developed country (Britain) and developing country (India), a national City (Gauteng) and a Local experience from Durban (Point waterfront Development). The literature review draws on the various discussions, arguments and interrelationships between growth models, polycentric developments and urban regeneration as planning tools for the future of the DMA.

#### ***3.3.1. International Experience of a Developed Country***

##### **Britain: Retail Decentralization**

In a study by Greed (1996), a case study on the retail transition period of Britain (Cribbs Causeway-Northern edge of the Greater Bristol urban area) is highlighted in depth, mid- 1960s. During this time, the commerce industry began to peak out of the city CBD, thus creating employment opportunities that resulted in new residential developments out of the city. The increase in population numbers in these out-of-town areas then resulted in what is known as 'spatial transformation' (Thomas, 1993: 1). This period saw a huge decentralization from the traditional urban core or CBD to the 'urban periphery' where there was more development space and sites. The new shift also saw the introduction of various technology platforms that allowed for the increase of capital as result of the fulfillment of more consumer needs. This drew more business interest (and the creation of more business parks) to the new



areas. With the transition from transit based spatial development to the introduction of the mobile car there was the development of good road access (in the form of motorways and highways) and parking for consumers and the delivery of stock which became convenient and viable rather than accessing the CBD which is more densified and transit orientated.

With this, became the creation of Regional Shopping centers.

Greed (1996) further identified that the factors that sparked new development patterns included:

- The limited growth perspectives in the CBD due to space limitations;
- The introduction of the private car which increased traffic congestion and parking problems in the CBD for motorists- thus sparking resilience to shopping in the CBD;
- Increase in employment opportunities in these new developments- increasing consumer spending power;
- The introduction of the refrigerator sparked the same mobile consumer to purchase larger quantities of food at less frequent intervals thus encouraging more usage of Regional Shopping Centers which had parking space and trolley systems that made shopping in large quantities easier (Greed, 1996).

The responses made by Planning Policy were driven by the indications of an ever outward urban growth and a large population growth was projected. Therefore, appropriate measures had to be put in place to accommodate the expected growth over the next two decades. Although there were concerns around the decentralization and resulting devaluation of the city urban core, planning policy was forced to approve out-of-town node developments after failing to prove assertions of unacceptable impact of the new development plans, which actually strengthened the overall economy of Britain (Greed, 1996).

In 1998, Cribbs Causeway Shopping Centre (Picture 3.3) was established along the North fringe of Bristol located at the J17 M5 highway (Mallcribbs, n.d), replacing agricultural land which was used as farmland as well as residential land. The mall boasts 130 name stores, cafés and restaurants as well as recreational zones including a cinema, a fitness centre as well as the largest outdoor ice rink in the South West of Bristol. The shopping centre offers convenience (Mallcribbs, n.d) by offering long shopping hours, play areas, cash machines (ATM's), baby changing and feeding facilities as well as the provision of over 7 000 parking bays- which are accessible to the disabled- (Picture 3.4) and public bus lines to transport the population to the city centre as well as surrounding areas (Mallcribbs, n.d). These services are rarely provided in City Centre shopping facilities. Smaller retail complexes- within a walking proximity- for convenience purposes also surround the shopping centre (Figure 3.6).



*Picture(s) 3.3& 3.4: Inside and Outside of Cribbs Causeway Mall in Bristol (Image Source: Mallcribbs, n.d).*



*Picture 3.5: St. David's shopping mall in Cardiff's City Centre which was part of the regeneration project in the city. Image Source: (Okundu, 2014).*

### ***The Impact of the Cribbs Causeway on Development***

The impact of the Cribbs Causeway included its location (in close proximity) to the highway which increased accessibility; there was an increase in job opportunities and also attracted retail and property investment into Bristol; the leisure park encouraged longer shopping hours, in a safe and clean

environment which ultimately increased spending power (Mallcribbs, n.d). However, the establishment of the Cribbs Causeway Shopping centre led to the downfall of the Cardiff City Centre (Picture 3.5) which saw a need in the adjustment of government policy in order to manage the city centre (Treorchy, n.d). The City Centre was characterized with high unemployment levels due to:

- Economic deprivations (when large commercial businesses moved out of the city centre to the fringes
- An increase in crime levels;
- Studentification which is a term used to describe the migration of student residents into an area (due to affordability and convenience) (Treorchy, n.d) was apparent which is an indication of low/affordable property values;
- As well as a visible decline in inner-city property values (Treorchy, n.d).

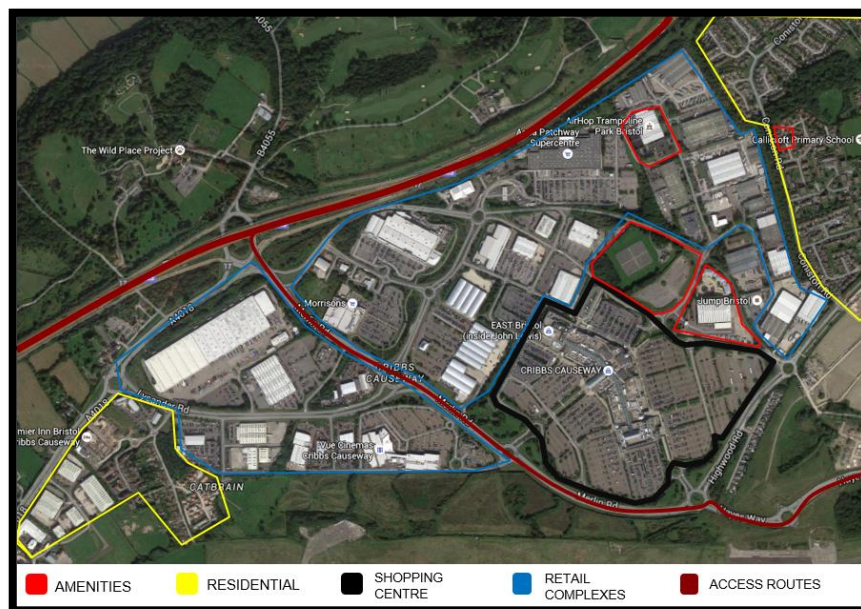


Figure 3.6: The Cribbs Causeway Mall and surrounding land uses as a result of the shopping centre  
 Image Source: (Google Maps, 2016)

Policy and management systems were put in place, to rejuvenate and redevelop the city centre through the renovation of the city centre mall, thus enabling it to compete in the economic market of Britain- which increased employment opportunities. The purpose of the rejuvenation was to also create a viable and safe environment for the population in close proximity to the city centre. This included the need to create pedestrianism through landscaping, street furniture and open street marketing which encouraged park and ride systems (Treorchy, n.d). There was also a need to improve public transportation facilities to service the large population that did not have access to private motor vehicles and parking access and control systems were put in place to encourage the use of public transport into the city- this ultimately

created a traffic management system (Treorchy, n.d). There was also the development of residential units/ apartments and hotels that were used to attract investment back into the city centre. Other satellite shopping centres redeveloped in the Cardiff city centre include the John Lewis shopping centre (Treorchy, n.d).

### ***Key Lessons of Cribbs Causeway Case in the South African context***

Regardless of the economic forces, it is of great importance to maintain the vibrancy and viability of retailing in the CBD (Treorchy, n.d). It is also important to understand that there is no complete decentralization out of the CBD, which still serves as a shopping node for those whom cannot access the out of town retailing options which are often at a distance to the community around the CBD (Treorchy, n.d). The redevelopment of the City Centre ultimately reduces crime and contributes to the economic welfare of the city as a whole through tourism and shopping experience thus contributing to employment and the improvement of the environment. Out-of-town retailing should be seen as a continuation of the city CBD instead of the creation of a new city within a city (Treorchy, n.d). In a study by Prinsloo (2013), South Africa began building shopping centres in the 1960's and was recorded to have 1785 shopping centres in 2011, with the largest shopping centre at a size of 154 840 square metres (Prinsloo, 2013). The increase in the shopping centre industry was driven by a need and an increase in decentralization to improve the retail experience of the customer (Prinsloo, 2013). The South African retail industry has also seen shoppers from various regions around the world, with Sandton City being visited by tourists from Europe, Eastern, Southern and Central Africa, Australia and North America to name a few (Prinsloo, 2013). South African shopping centres have contributed to the country's economy due to the retail industry's maturity, sophistication level and size (Prinsloo, 2013).

A new mall called the 'Mall of Africa', is situated between Johannesburg and Pretoria was opened in March 2016. This 120 000 square metre mall was built to serve the growing community of the Johannesburg Waterfall area node with economic opportunities and retail experience (Waterfall Estate, 2015). The shopping mall is situated along the N1 Highway (Allendale Road) and boasts its close proximity to transportation points (like the Gautrain station) as well as the OR Tambo International Airport, the Midrand Grand Central Airport and the Lanseria International Airport (Waterfall Estate, 2015). The mall also boasts secure and safe recreational areas, chain stores and parking. Various elements of the mall have also been designed with the influences of New urbanism, promoting walkability, mixed use and the use of sustainable building materials (Waterfall Estate, 2015). The mall has created an anchor node to Johannesburg's busy centre and services the growing community around the node (Waterfall Estate, 2015).

### ***3.3.2. International Experience of a Developing Country***

#### ***India: Work-Live City***

In 2011, according to a source by Johnson (n.d), India had a population of 1.19 billion. However, Worldometers (2016), confirms India's population to be currently standing at 1,332,970,942, with an estimated increase of 142,970,942 in a space of 5 years. The numbers are simply the realities of a fast growing urban environment whose population is expected to stand at 1,600,000,000 by the year 2025 (Johnson, n.d). The developing country is known to be the most populated country in the world, with a ratio of 1 in 6 people in the world, living in India (Johnson, n.d). The three largest cities in India- which include Mumbai, New Delhi and Kolkata (in largest to smallest population)- all boast a population of over 14,000,000 with the smallest cities carrying a population over 1,000,000 each (Johnson, n.d). India's urban area covers 32% of the total land (Worldometers, 2016) and given the rate of urbanization, India is expected to have at least 61 cities by the year 2026 (Johnson, n.d).

With the population numbers increasing with urbanization, India's government was faced with the challenge of providing the growing multitudes with transport, sewage and sanitation, housing and the creation of more job opportunities (Johnson, n.d). An increasing challenge was the need to create an environmentally viable and sustainable eco-city that is convenient and safe to those within it (Johnson, n.d). The city of Lavasa in India (situated 3 hours away from Mumbai) is an example of a secondary city to the capital city that has successfully transformed itself into an ecological city to improve the quality of life of those living in the city, through the concept of New Urbanism (Johnson, n.d).

#### ***The Concept of New Urbanism in Lavasa***

The city of Lavasa is also known as the 'Smart City', which is a term used to characterize the city as an e-friendly which is e-governed through various technological and electronic systems. MyCity Technology (2013) defines a Smart City as a city that has been intelligently planned to allow for municipal operations as well as local service delivery. These technological options are put in place to ensure that service delivery is faster, better and cheaper. The concept of smart cities has been done through the creation of a set of design principles influenced by the concept of New Urbanism. According to Econhist (n.d), the concept of New Urbanism is developed around a set of environmental principles of development that promote green, densified and convenient living environments. In the case of India, the Eco city was developed around 8 design principles that were based on the principles of New Urbanism (Nogja, n.d). Nogja, (n.d) identifies the concepts used and their impact on the development of Lavasa. The concepts used include:

- ✓ **Commuting:** this principle promotes walkability as a tool for convenience by ensuring that commuters travel a distance of no more than a 10-minute radius from home to places of employment;
- ✓ **Connectivity:** This design principle promotes the design of a solid road network that is characterised by boulevards and alleys that assist in permeability and traffic calming;
- ✓ **Mixed use and diversity:** The design element informs the need to create mixed spaces of commerce and residential units in neighbourhoods. This creates convenience and promotes walkability to various land uses;
- ✓ **Mixed Housing:** The creation of mixed housing units and facilities in areas of varying proximity to the central CBD area and pricing to promote integrated developments;
- ✓ **Quality Architecture and Urban design:** This design element promotes the development of areas of prestige and unique comfort. This element supports the need to create unique urban spaces that are relevant to the preferences of those within them;
- ✓ **Traditional Neighbour- Hood Structuring:** This element speaks to the design of more open spaced city centres that allow for the accommodation of a range of uses and densities into urban areas;
- ✓ **Planned Increased Density:** This element promotes the progressive densification of the city centre through a method of transect planning that ensures that the population decreases as it moves out of the city. This promotes city centres that are in close proximity to its population thus allowing convenience and avoiding the isolation of a part of the city due to distances from the centre;
- ✓ **Smarter Transport:** The element of transit orientated developments encourages the use of communal transportation modes to address the issue of high congestion levels in India;
- ✓ **Sustainability:** New Urbanism seeks to promote environmentally friendly methods of development that enable the same urban spaces to be utilised efficiently by the next generations. This element was used to design the eco-city;
- ✓ **Quality of Life:** The eco-city ultimately aims to inherit the principle of creating a better quality of living for those within it through these 8 principles.
- ✓ (Nogja, n.d)

With the concept of New Urbanism as a guideline, Lavasa enabled its commuter's convenience and close proximity to the city centre by densifying areas closer to the city centre to decrease density numbers as the city grew outward. The city was built around the concept of '*Live, Work, Learn, Play*' which is a phrase used to explain the convenience and enabling environment created by New Urbanism (Nogja, n.d). Mycity Technology (2013) further describes livable cities as cities that are developed with the correct technological tools and strategies to improve the urban environment. In addition to that, the

writer also identifies strategies that are useful in addressing issues around rapid urbanization in countries like India (Mycity Technology, 2013). These include strategies to:

- Revitalize and redevelop existing megacities;
- Manage and regulate neighbouring townships developed on the outskirts of the city;
- Improve the quality and standard of living in rural areas. This reduces the rural to urban migration rate; and
- Build smaller secondary cities that relieve pressures for services, amenities and opportunity on the main city centre.

(Mycity Technology, 2013)

These strategies are believed to ensure and allow livable environments, efficient economic drivers and effective government correspondence as opposed to attempting to achieve the same outcomes on mega scales (Mycity Technology, 2013). These strategies ultimately support the concept of Polycentric or multi-nuclei developments as a conducive development tool for fast pace urbanizing regions like India.

### ***Key Lessons of New Urbanism to the South African context***

The case of India is relevant to the South African context given that both countries are currently at their developing stages and experiencing great levels of urbanization and rural to urban migration (Tiwari et al, 2015). The historical background of both countries speaks of a colonial past with residual spatial imbalances and disparities because of the segregative nature of the model (Ofosu-Kwakye, 2009). The colonial model failed to account for the entire populous of both countries, thus acquiring an unpredictable growth pace over the years (Tiwari et al, 2015). New urbanism as a development concept used in Lavasa (India), is very much relevant to the Umhlanga Ridge (Durban) area- since both cities are secondary cities to the capital cities New Delhi and the Durban CBD. According to a study by Ofosu-Kwakye (2009), the Umhlanga Ridge Town Centre was created under the charter of New Urbanism. This charter promoted the creation of an area where commuters could live, work and play through various features including the creation of spaces that are well maintained, mixed use, accessible and pedestrian friendly. These features contributed to the responsiveness of the area to the society living within it (Ofosu-Kwakye, 2009). Although the rate of urban growth and population in India is at a faster and wider pace than South Africa, it is understood that South African cities and the development patterns visible herewith follow similar trends as those in India. Lessons can be learnt with regards to ensuring balanced development patterns in all directions of the main city centre.

### ***3.3.3. National Experience of Polycentric Developments and Land Use Planning***

#### ***Johannesburg Central Business District (CBD): The Expansion and Continual of the CBD***



*Picture 3.6: Johannesburg in the 1960's. Image Source: (Viewfromabove, 1960)*

According to a study on the decline and decentralization of the Johannesburg CBD (Picture 3.6) by Beavon (1998), the process of shifting towards a more neo-apartheid city had been evident for over 40 years in 1998. 18 years later, from the time of his publication we see many other South African city's taking the shape of Johannesburg's polycentric development form (Beavon, 1998) (Lauf, 1959). In the 1950's there was noticeable movement of the white residential area towards the north of Johannesburg's CBD area alongside movement of office areas which began to take shape in the 1960's. This was encouraged by the increase in private car ownership as well as the decentralization and new developments of shopping and business nodes (for expansion purposes) out of the CBD area (Beavon, 1998). There was also a shift of the city authorities' technical departments out of the city centre to Braamfontein Hill, which was a place of attraction for the many moving out of the CBD. During this time, there were various debates around whether Braamfontein (Picture 3.7) was an extension of Johannesburg's CBD or whether Johannesburg's CBD was to be declared a decentralized node (Beavon, 1998). These discussions followed the evident mushrooming of commercial activity in and around Braamfontein, which already boasted 7.1ha of headquarters (Beavon, 1998) of the administrative of Johannesburg as a city. This commercial activity grew after business rights were granted to Braamfontein by Johannesburg's Town planning Scheme, which zoned the area for commercial activities. The increase in commercial activities soon saw the building of infrastructure such as bridges and connective roads that ultimately increased the demand for the office spaces in the area (Beavon, 1998). Braamfontein was then characterized by high-rise buildings during the 1970's and



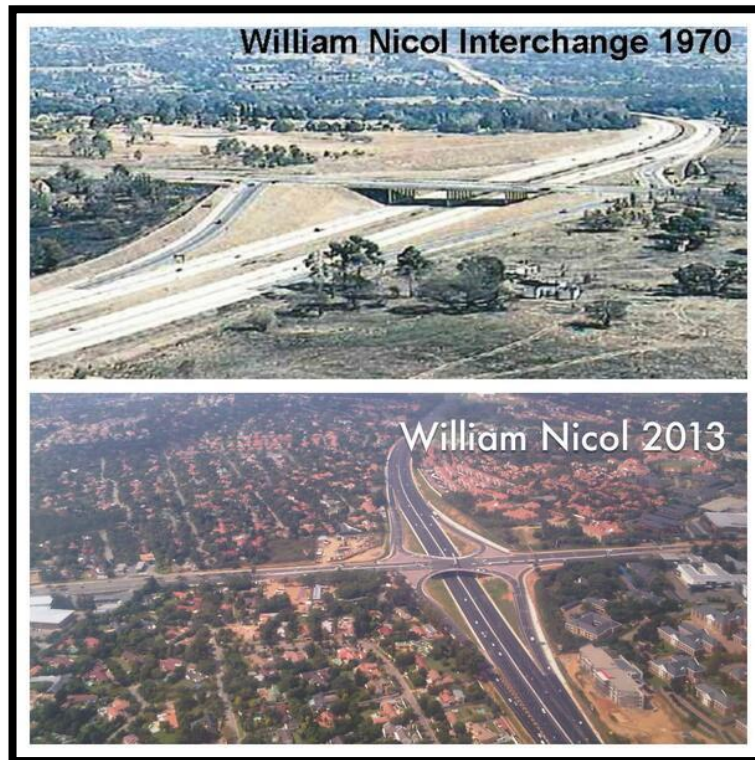
1980's and represented more of a CBD of its own than the continual of the Johannesburg CBD by the 1990's (Beavon, 1998).



Picture 3.7: Braamfontein in the 1960's when development had shifted to its direction.  
*Image Source: Viewfromabove, 1960).*

Beavon (1998) brings insight to some other decentralized nodes that began to occur besides Braamfontein. These included the middle and lower reaches of Hillbrow, which was characterized by 45000sq.m. of shopping space, which was mostly occupied by businesses and a third of the space being for convenience shopping (Beavon, 1998). Other Nodes included Rosebank (North of the JHB CBD), La Rochelle (South of the JHB CBD) and Auckland Park (West of the JHB CBD). According to Marshall (1959) the retail space outside of Braamfontein and the JHB CBD was calculated to amount to close to 180 000 sq.m. which spread over 15 suburbs (Marshall, 1959). The increase in the demand for goods created friction between the CBD and the various new nodes which competed for customer base.

In order to accommodate the expanding urban area during the 1950's, the Peri-Urban Areas Health Board, administered the development of the Johannesburg municipal area (Marshall, 1959) passed its northern boundary to form the town of Randburg in 1959 (Beavon, 1998). Following Randburg was the creation and establishment of Sandton (Picture 3.8) in 1969 as a response to a provincial commission of enquiry.



*Picture 3.8: The physical spatial adjustments visible in William Nicol in Sandton between 1970 and 2013 Image Source: (McLeod, 2013).*

The growth and expansion of Randburg and Sandton saw them as separate municipalities with their own CBD areas thus responding to the urbanising population and influx of the larger Johannesburg area which demanded residential areas (Beavon, 1998). The 3 areas, were connected to each other by a main route back towards the Johannesburg CBD. During the 1960's there were also a simultaneous retail developments of shopping centres (or 'planned suburban shopping centres' as termed) in these two areas. These centres included the Southdale Mall in 1963 and the Killarney Mall in 1966 which were followed by the plans of building the Sandton City centre in 1967 (Beavon, 1998). The next 10 years were characterized by new shopping centres in Sandton's suburbs Benmore, Hyde Park and Bryanston as well in neighbouring suburbs Brixton, Blackheath and Cresta (Beavon, 1998) (SAPOA, 1995). In 1970 there were two other malls built in Rosebank, the Mall of Rosebank as well as The Firs (Beavon, 1998) which contributed to the other malls' service to the high-income class, and marginalizing the middle- to low-income class who were left to utilize the decaying Johannesburg inner city region.

### ***Gauteng City Region: The Urban Development Boundary Concept***

Post 1994, Gauteng (South Africa) also saw a need to reshape city formation by moving 'out-of-town', towards urban peripheral developments. An article by Cilliers and Schoeman (2008) revealed the

purpose of the creation of multiple Urban Development Boundary Concept (Figure 3.7) which was developed to address issues of the urban settlement formation in the Gauteng City Region, which was seen as a more sustainable urban form. The main planning tool that was used to create this concept was to move from a monocentric type of spatial development to a polycentric development system. This included the creation of various nodal points of development around a main central node. New spatial development patterns alongside policy were used to guide the implementation of this new sustainable urban form. According to Cilliers and Schoeman (2008) the polycentric development approach used in Gauteng enabled the distribution of the economic sector amongst various nodes; better economic opportunities and social structures; created urban open spaces between the nodes; minimized traveling and congestion costs to one central node (Cilliers and Schoeman, 2008).

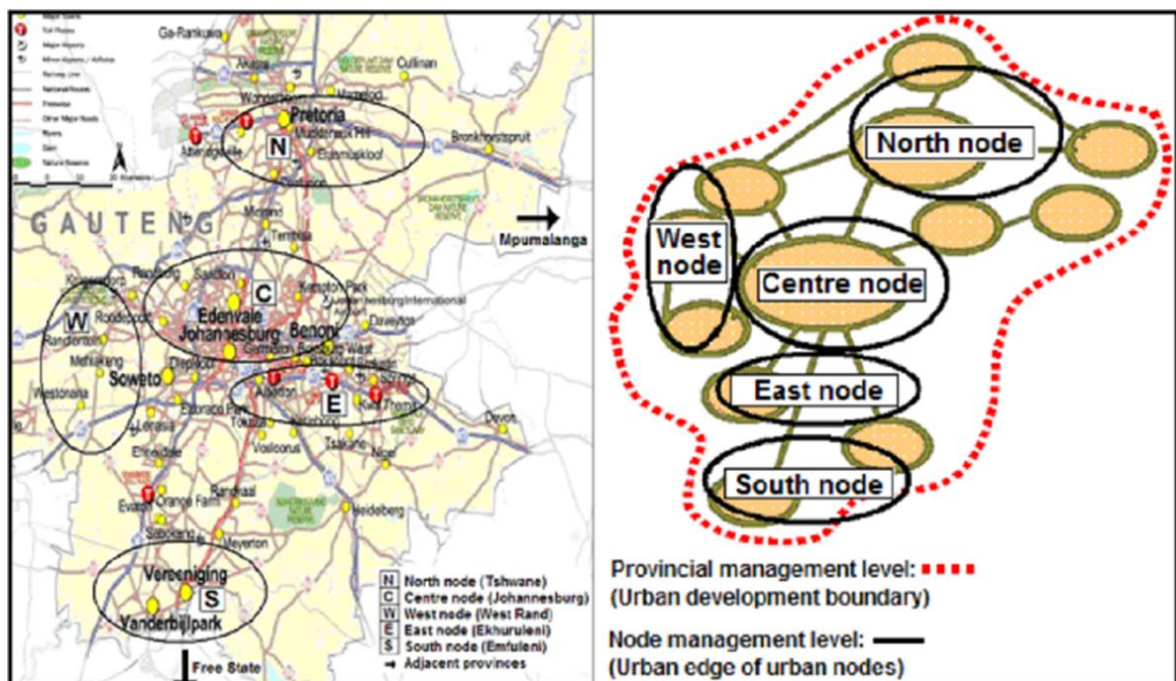


Figure 3.7: The proposed Polycentric development system for the Gauteng City Region.  
Image Source: (Cilliers and Schoeman, 2008).

Some of the defining factors that sparked the creation of this new development pattern included (Cilliers and Schoeman, 2008):

- The existence of larger road systems in Gauteng (such as major freeways) that enabled business and transport networks;
- The need for space as a tool for the development of new economic activities;
- The need for natural and cultural areas for conservation and quality of living- that don't exist in the highly densified city CBD;
- The need for the creation of employment areas closer to home, that are safe and provide social entertainment;

- The economic, social and environmental needs of the growing Gauteng population saw the creation of the proposed polycentric development pattern for the Gauteng City Region (Cilliers and Schoeman, 2008).

In the Response to the identified needs, the Gauteng City Region Planning policy responded by enhancing Town Planning Schemes. These schemes were set to:

- Encourage integrated development planning as a development tool;
- To create a development strategy that would be used at all structural levels (from the Provincial Management Level to the Node Management Level) in the creation and implementation of the proposed polycentric development system.

### ***Key Lessons in the South African Context***

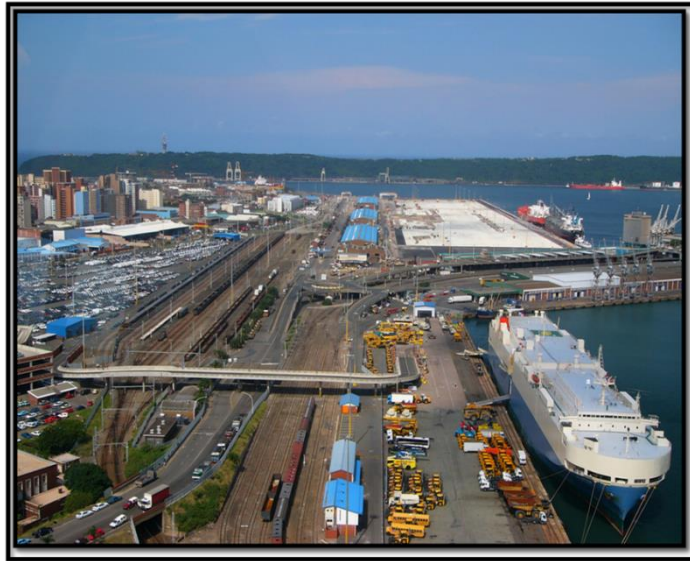
Although not clear from the beginning, the development of various CBD nodes in and around major CBD areas, promises good investment and economic growth that benefit the city as a whole in the long run. On the downside of the new developments promising multi-million turnovers for the economy of Johannesburg, the fast pace development left the Johannesburg CBD in dire decay and mismanagement, characterising the area with crime, decaying buildings, and environmental mismanagement (Beavon, 1998). In 1995 there was a precinct plan to revitalize the Johannesburg CBD are. The initial step towards the vision was to regenerate the public transport station, which included the moving of resident squatters who had migrated into the railway station to shelters inside and around Johannesburg. Instead, the clearing of squatters only gave space for new squatters to use the area (Beavon, 1998). This was a consequence of the large influxes into the city during the mining period and was only increasing post 1994 as the masses were in search of better standards of living. There was also a need for more transportation routes, facilities and various forms of transport, with the taxi industry increasing as a response to pressures from those who had no access too private cars.

In 1997, Thabo Mbeki who was the Deputy President of the time, together with national and local government officials established the Mayivuke Project (Johannesburg Awake) (Beavon, 1998) which aimed at revitalizing and controlling the central are of Johannesburg. The Metropolitan Council drew up plans to upgrade the transportation terminals and taxi ranks in order to create a better-managed transportation environment, which enabled hawkers to take advantage of the informal sector as well as creating policy that would upgrade the state of the inner city (Beavon, 1998). These policies included those which forced Municipalities to invest more capital or budgets centred around rejuvenating the city as well as the creation of safety measures (such as police stations, policing patrols, safety officers, CCTV cameras etc.) in and around the city centre (Beavon, 1998). Policy is also used to manage the development pressures within single areas by creating spatial growth guidelines such as the *The Urban*

*Development Boundary Concept*, which seeks to avoid high densification and congestion in singular areas, thus promoting polycentric developments as a solution to urbanization (Cilliers and Schoeman, 2008).

### ***3.3.4. Local Experience of Urban regeneration as a planning tool***

#### ***Durban Point Development: The Renewal of the Point Waterfront Development***



*Picture 3.9: The Port of Durban, serving as a major economic node for the city over the years. Image Source (Pienaar, 2014).*

Point Development is one of the areas in the Durban CBD that are currently under redevelopment through the processes of urban regeneration. The Point Waterfront represents an important genesis in the development of the City and Port of Durban (Picture 3.9) as it represented the arrival gateway for many early travelers by providing together with the Bluff a safe refuge off the ocean (Mather and Reddy, 2008). The Point became the first greeting of many “discoveries” and indeed a place for early colonialists, who in time would bring labor from India whom also arrived at the Point Harbor (Mather and Reddy, 2008).

The Point area thus served as a development point, which saw the mushrooming of residential units in and around it, which are still visible in the area (Mather and Reddy, 2008). The area however over the years- with decentralization towards the North and the West- began to deteriorate and is characterized by lost and wasted space (Picture 3.10& 3.11). An urban revitalization strategy was put into place by the eThekweni Municipality in conjunction with various private developers with the main vision of regenerating the city centre by utilizing the Point Development which stands as one of the city’s most historic and significant urban realms (Sher, 2009). The underlying redevelopment options was to create and develop brand new structures- meaning the existent structures were to be demolished to make way

for new developments- versus the renovation of existing structures with modern design principles. The regeneration of the area was an extension and continuation of the R735 Million development of UShaka Marine World (Sher, 2009). This development boasts a water reticulation and purification system which encouraged the creation of a ‘waterfront city’ within the Durban city where the canal system- where water is channeled back to the sea- which currently services UShaka Marine World was to form the central spine of the redevelopment of Durban’s urban area (Sher, 2009). This water frontage was to extend further out into the area thus contributing to the economic benefits of the city centre (Sher, 2009). There were also various criticisms around the regeneration of this area:

- Issues around the affordability of the units in this area- where it was seen to not be accessible to the middle income urban population but rather the high income whom lived out of the city centre; and
- Critiques on the environmental impact of the water canal reticulation and purification system- that were also seen to have a further negative impact on the state of the sea.

However, there was no doubt that the economic attraction and investment to this area would increase thus creating employment to the urban population as well creating a new sense of urban remaking.

**A**



**B**



*Picture 3.10& 3.11: The state of the buildings surrounding the Durban Point Waterfront: Vacant and vandalised. (Image Source: Author, 2015)*

The Point Waterfront Redevelopment plan (Figure 3.8& 3.9) was put in place to respond to various issues and challenges that the city centre was facing. These challenges included:

- The decaying Buildings -where the buildings along Point Road leading to the Point Development were seen to be in a state of decay- that led to the abandonment and vandalism of structures (resulting in the use of these buildings for illegal activities);

- There was an increase in crime levels where there were a number of illegal activities going on in the Durban point area, which caused socioeconomic issues. These included the usage and selling of drugs, violence and prostitution;
- Large influxes of illegal immigrants in search of better quality of living thus causing the area to be highly densified;
- Huge decline in property values of the Point area due to the surrounding social issues and state of the buildings.

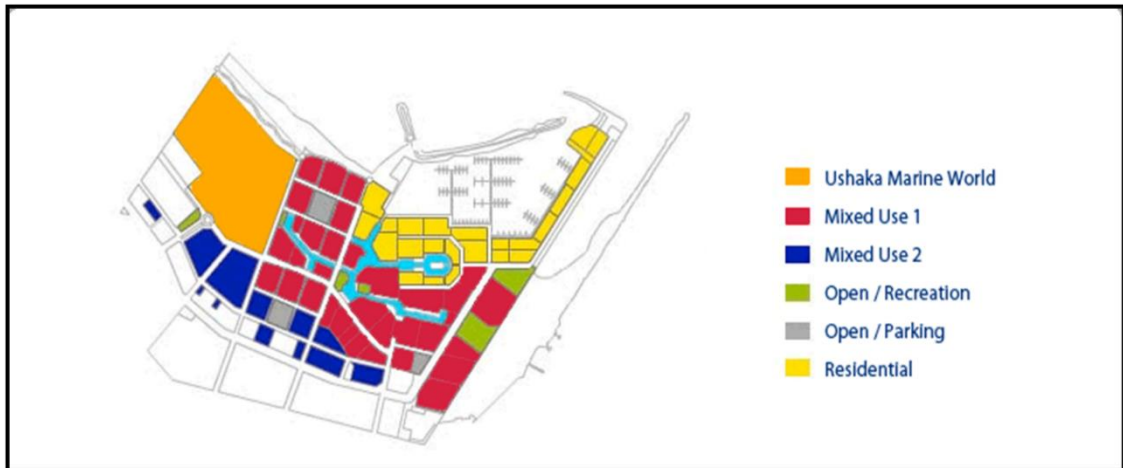


Figure 3.8: The Mixed Use Precinct Plan that was used to continue development at the Point Waterfront Area in conjunction to UShaka Marine World. Image Source: (DPDC, 2009).



Figure 3.9: A more detailed Precinct of the land uses that form the Point Waterfront Development. Image Source (DPDC, 2009).

These challenges saw a need to create and redevelop the Point Waterfront area for the sake of its longevity as well as to enable the area to contribute to the economic benefit of the greater city itself. The Point waterfront area was seen to have various linkages with adjacent land uses (eThekweni Municipality, n.d) which were considered in its development to avoid replications of existent land uses. These included:

### **Commercial and Recreational land use and linkages (to uShaka Marine World)**

In phase one of the development it was concluded that Ushaka Marine World should not be developed in isolation but it should be developed in parallel with Point development (eThekweni Municipality, n.d). This meant that there would be an increase in property investment in the Point Development and a huge tourist attraction. There was thus an increase in the economy of Ethekewini Municipality and also created various employment opportunities (eThekweni Municipality, n.d).

### **Industrial land use and linkages (Transnet)**

The Point developers suggested that in phase two of the point redevelopment the harbour mouth should be extended (eThekweni Municipality, n.d). The mouth extension was to accommodate new generation merchant shipping (wide-berth) and to allow ships to navigate the harbour freely, which would ultimately contribute to the economy of Ethekewini and more value to the tourist attraction (eThekweni Municipality, n.d).

### **Institutional land use**

This area had an existing primary school (eThekweni Municipality, n.d), a hospital, various places of worship and small supermarkets that serviced those residing in and around the area. Although these amenities were development constraints at the beginning of the project, it was concluded that they should remain in the area as they serviced the surrounding community (eThekweni Municipality, n.d).

### **Transportation linkages**

Transport system should also be included as it links the different land uses together and to transport the residents and the influx of people into the area. These transportation linkages would link the area with the rest of the CBD in the form of taxi's (minibuses) as well as the People Mover Bus system (eThekweni Municipality, n.d). Furthermore, the ships and boats will be used for entertainment and commercial activities.

### **Mixed use, commercial, residential land uses and linkages**

The design concept of the area included the development of hotels and residential areas that promote mixed usability, where ground floors are reserved for commercial usages (Sher, 2009). These areas will



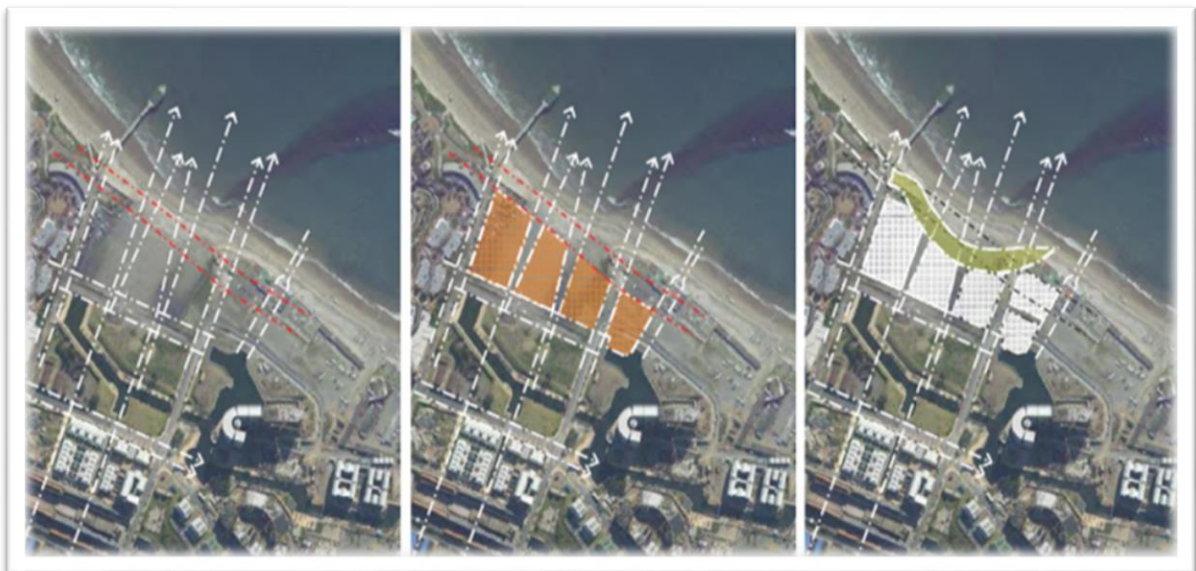
benefit residents in such a way that they do not have to travel far to shops thus lessening the level of traffic in the area (eThekweni Municipality, n.d). With that, the pavements were made wider to improve traffic flow and cycling as well as to accommodate the huge influx of tourists visiting the area (Sher, 2009).

### **The Urban Design Framework**

The area was also developed with various design concepts that were used as a guide towards the vision of the area as a whole. These included (eThekweni Municipality, n.d):

#### ***Prominent Crescent Shape and gridlines***

A structuring element that has been used in this development is by creating a crescent shape (Figure 3.10) that will create a relationship between the development and the beach.



*Figure 3.10: The Crescent shape that creates a relationship between the development and the beach. Image Source: (DPDC, 2009).*

### **Height Restrictions on Buildings**

Restrictions placed on having taller buildings/structures in the central area of the Waterfront Point Development precinct and the shorter buildings closer to the beach or shore line (DPDC, 2007) (Figure 3.11).

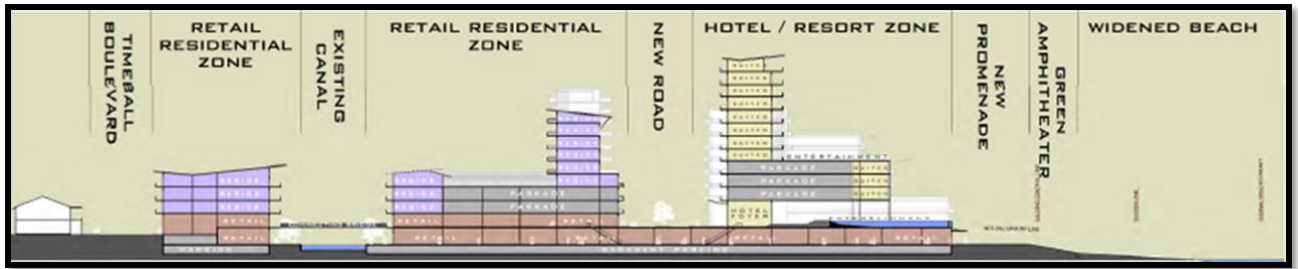


Figure 3.11: A guideline used to ensure that there are development restrictions on buildings for aesthetic purposes. *Image Source: (DPDC, 2009)*

### *Canal Edge Typologies*

As part of the overall aesthetic design of the development, various architectural street concepts have been included such as the creation of buildings that respond to sidewalks which link up with the edge of the canal (SkyscraperCity, 2005) (Picture 3.12& 3.13).



*Picture(s) 3.12& 3.13: The creation of a sense of walkability through various pathways and scenery. Image Source:(Author, 2015).*

### ***Layering of Uses/Activities***

The designs put in place allow for various activities to be possible in each development (DPDC, 2007). An example is the building of the Marine Point (Picture 3.14). This building has residential use on its higher floors/ levels and the lower ground floors (those that lack extensive views due to height factors) are used for commercial use.



*Picture 3.14: Marine Point is an example of a Mixed use building in Point Waterfront. Image Source: (Author, 2015)*

### ***Aesthetic Vision of areas***

Other general developments used to create a visual impact in the area, are the exterior designs of the roads, the pathways, the river canal, the public disposable bins, the streetlights, public parks/ sitting areas and bus stops (DPDC, 2007) (Picture 3.15& 3.16).



*Picture 3.15& 3.16: The various design elements included in the Point Waterfront Development. Image Source: (Author, 2015)*

### ***Key Lessons in the South African Context***

Although the revamping of the Point Waterfront Area and neighbouring land-uses appears to be one of the significant solutions for ensuring success of this project, this radical solution has proved to be very costly and requires intensified and strengthened relationships and realignment of efforts from both private developers as well as city management. Furthermore, research still needs to be conducted in this particular development regarding how it can be fast-tracked to enable to the rejuvenation and redevelopment of the greater city area. Furthermore, various policies and city management regulations should be put in place to encourage people of all classes to reside in this area such as standardizing rentals, reducing rates on properties as well as the development of lower square meterage units to enable affordability thus avoiding the marginalization of the low to middle class.

### **3.4. Conclusion**

This chapter introduces the various discussions from various authors around the study topic. These theories and concepts are presented in depth and their relationships and interrelationships are discussed and investigated to explain various phenomenon. The theoretical growth models, Globalization, Migration and Urbanization are set to be the guiding themes to various concepts including Multiculturalism and Polycentric Developments. These concepts present the various city types or concepts that guide current developments. Case studies and experiences from other regions of the world- including Britain, India, and Gauteng (South Africa)- are used by the researcher to indicate the applicability of the model in countries with similar characteristics as the Durban Metropolitan Area (DMA).

## CHAPTER 4: FINDINGS AND DATA ANALYSIS

### 4.1. Introduction

The purpose of this chapter is to analyze the data collected from the various direct observations, interviews, GIS maps and photographs and the various literature gathered throughout the study. A thematic method of data analysis is used to compare and contrast the data found. A thematic analysis of data according to Braun and Clarke (2006) is a process used to analyze and scrutinize a set of qualitative data by organizing it and describing the data set in detail. Braun and Clarke (2006) also state that the importance of analyzing qualitative data by means of the thematic analysis approach is to allow accessibility and theoretical flexibility in the data analysis process. Here the various themes of the findings will be used to guide and respond to the research objectives to represent or show the level of common meaning within the data found. This common meaning/ pattern will then give an indication of the findings of the data collection methods (Braun and Clarke, 2006). The process of data analysis used to inform this chapter (Figure 4.1) was guided by Braun and Clarke's (2006) thematic analysis tool and followed the 6 phases (Braun and Clarke, 2006):

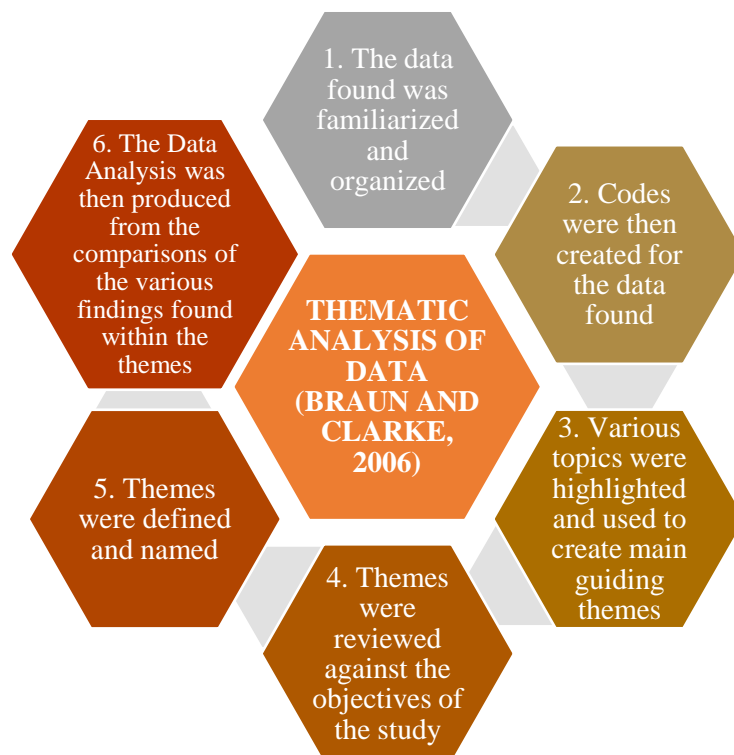
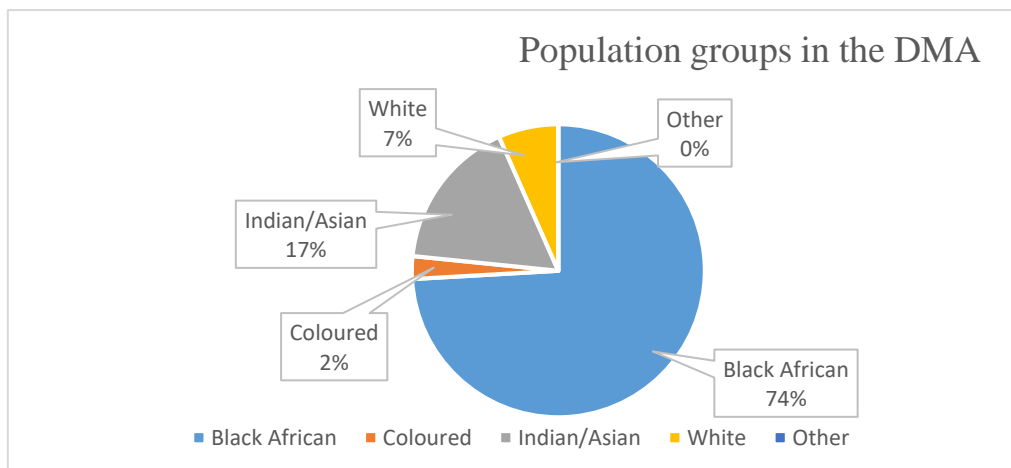
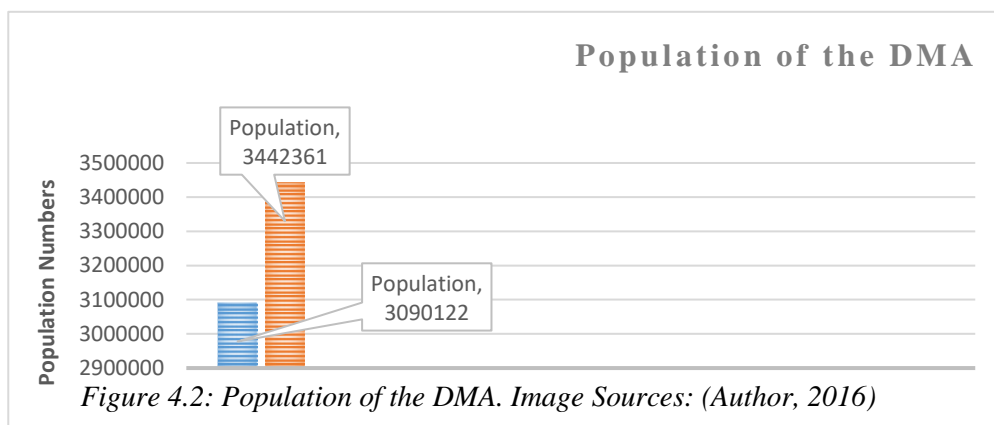


Figure 4.1: Thematic Data Analysis process used for this study. Image Source: (Author, 2016)

## 4.2. Background and Demographics of the Durban Metropolitan Area

The Durban Metropolitan Area (DMA)- also known as the eThekweni Municipality- is situated on the East Coast of the province of KwaZulu-Natal. Boasting a history of trade and commerce from its port the Metropolitan has significantly developed and increased in its numbers, which has increased the need to further develop the Metro area to accommodate the growing needs amongst the growing numbers. In 2011, the following demographics have been recorded by Statistics SA (2011), thus numerically representing the pace of growth of the Metro.

### 4.2.1. Population



In 2001, the population of the DMA (Figure 4.2) was at 3,090,122 and 3,442,361 in 2011 thus increasing by 352,239 in the space of 10 years (StatsSA, 2011). The population density of the DMA was recorded at 1502 people per square meter in 2011 (StatsSA, 2011). The various groups that made up the total population (Figure 4.3) in 2011 include Black African, Colored, Indian/Asian, and White with a 0,4% rate of Other ethnic groups (StatsSA, 2011).

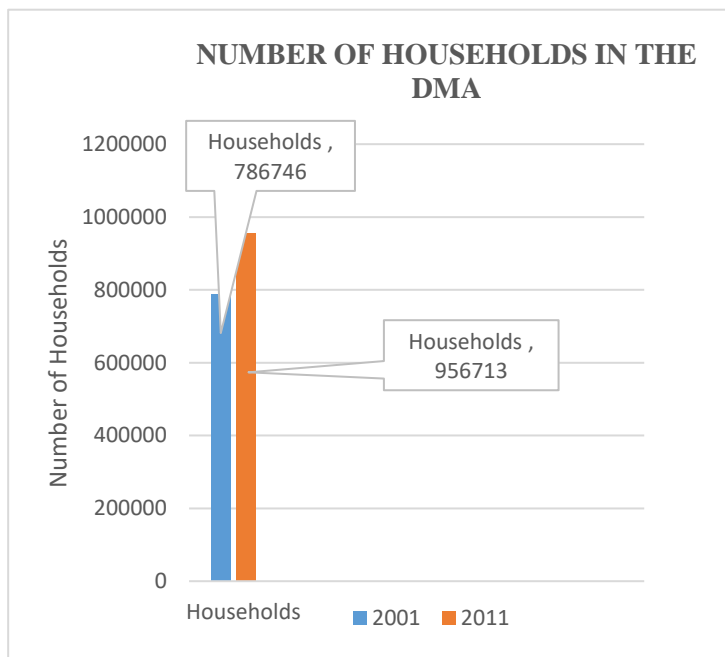


Figure 4.4: Number of households in the DMA.  
Image Source: (Author, 2016)

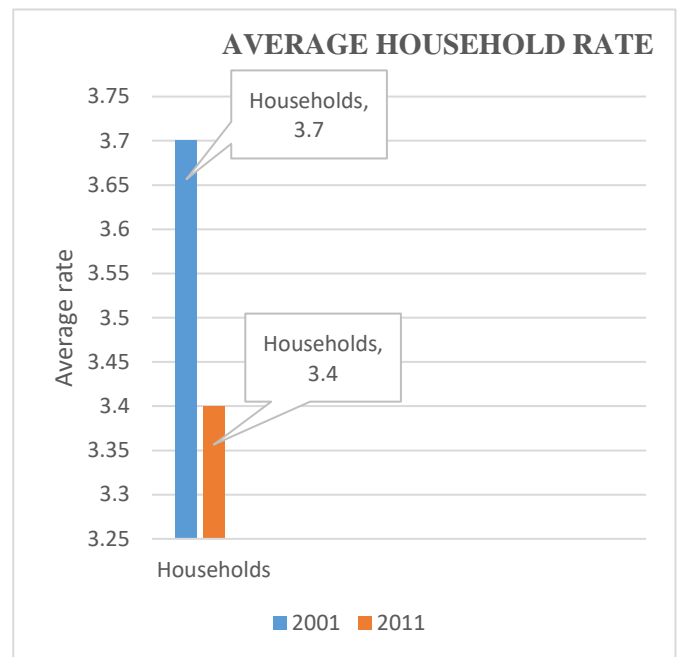


Figure 4.5: Average household rate.  
Image Source: (Author, 2016)

#### 4.2.2. Number of households

In 2001, the number of households in the DMA (Figure 4.4) were 786,746 and 956,713 in 2011. The total increase in the household numbers was 169,967 (StatsSA, 2011). This highlights the rate at which development is coupled with residential development to accommodate the growing population numbers. In 2001, the average household rate (Figure 4.5) stood at 3.7% per household. In 2011, the household rate decreased by 0.4% to 3.4% (StatsSA, 2011).

#### 4.2.3. Formal dwellings

The number of formal dwellings (Figure 4.6) increased (by 6.2%) from 72.8% in 2001 to 79% in 2011 (StatSA, 2011). This indicates that there is an increase in the formalization of households in the DMA. Figure 4.7 shows the settlement types in the DMA. 85% of the land in the DMA is categorized as Urban land, with 14% of the total land being Tribal land. Only 1% of land in the DMA is used for agricultural activities (StatsSA, 2011). This highlights the rate at which urbanization is outpacing itself in areas such as the DMA. The increase in these numbers adds pressure to the need to develop the metro spatially, in order to meet the needs of those within it.

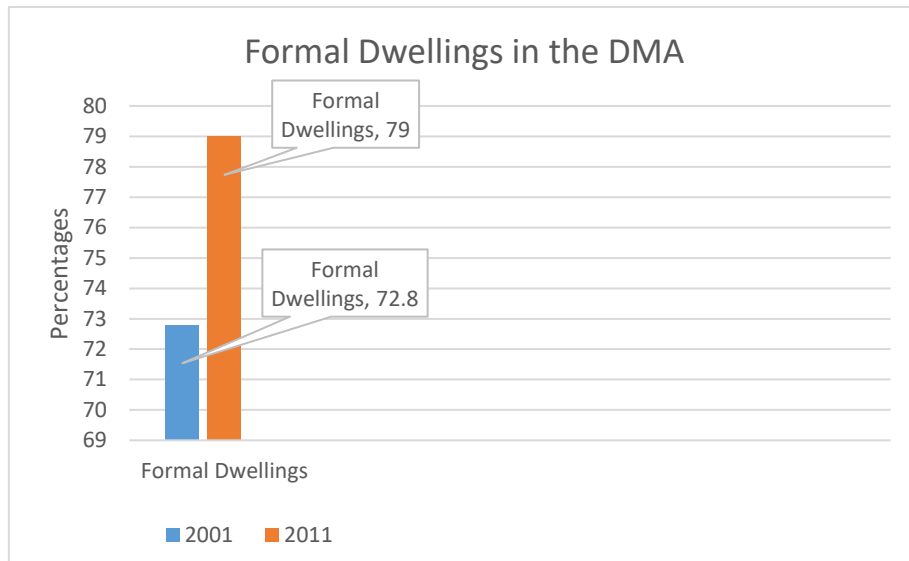


Figure 4.6: Number of formal dwellings in the DMA. Image Sources: (Author, 2016)

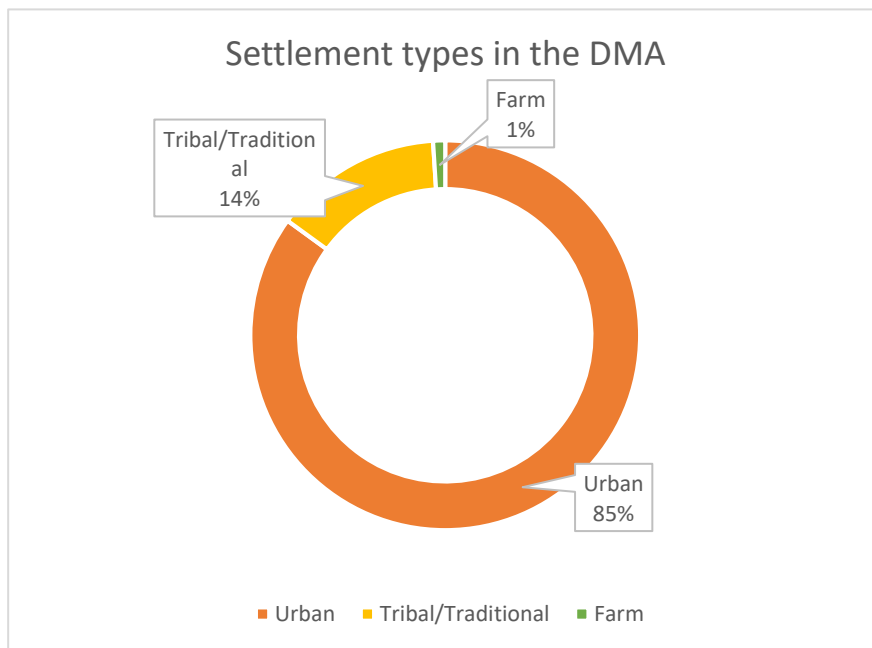


Figure 4.7: Settlement types in the DMA. Image Sources: (Author, 2016)



### 4.3. Physical Spatial Adjustments of various elements in and between the Durban CBD and Durban North Areas

The researcher analyzes the physical adjustments and changes of the Durban CBD area and the Durban North area. Here, aerial images are compared at various time intervals (a space of 5-10 years) and the physical changes are compared and contrasted. The purpose of these comparisons is to highlight and identify the various development zones and the changes that have occurred over the years to respond to development pressures in the various zones. The intent of the images is to depict the direction in which development seems to be heading, thus informing the possibilities of a new development model in the context of the DMA.

#### 4.3.1. Physical Spatial Adjustments of the Durban Business Area

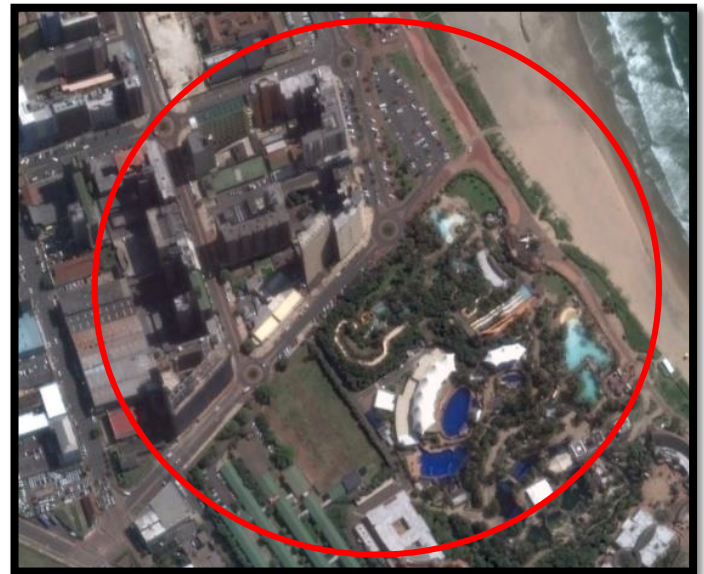
In the Durban Beachfront Area, between the years of 2005 (Figure 4.8 A) and 2016 (Figure 4.8B), aerial visuals indicate that minimal developments and/ or adjustments to the Durban Central Business area have been made. This is due to the physical form of the CBD area, which is built-up, ultimately restricting development in the area. Adjustments to the area have been restricted to refurbishment and improving of the area aesthetics through various elements including, road redesign as well as the development of the Promenade area - which stretches from the Point Waterfront area, South Beach and North Beach. The main means of developing this area is limited to demolition, refurbishment and reconstruction of existing spaces.

*Figure(s) 4.8*

*A*



*B*



*Figure 4.8: Aerial view of the changes that happened to the Durban Beachfront Area. A – 2005, B – 2016. Image Source: Google Earth (2016)*

### 4.3.2. Physical Spatial adjustments of the Durban North area.

#### *Umngeni Business District Area*

The Umngeni Business area, is situated in Durban along the N2 freeway leading to the North of Durban. The area around this freeway (Figure 4.9A) is characterized by light industry and manufacturing sectors and various formal and informal residential units have mushroomed around these sectors in sought of employment opportunities. Since the freeway connects the CBD and Western region to the North, it is characterized by large influxes of traffic, even during off peak times. With increased developments towards the North, the freeway was extended (Figure 4.9B) to accommodate the growing number of vehicles utilizing the route.

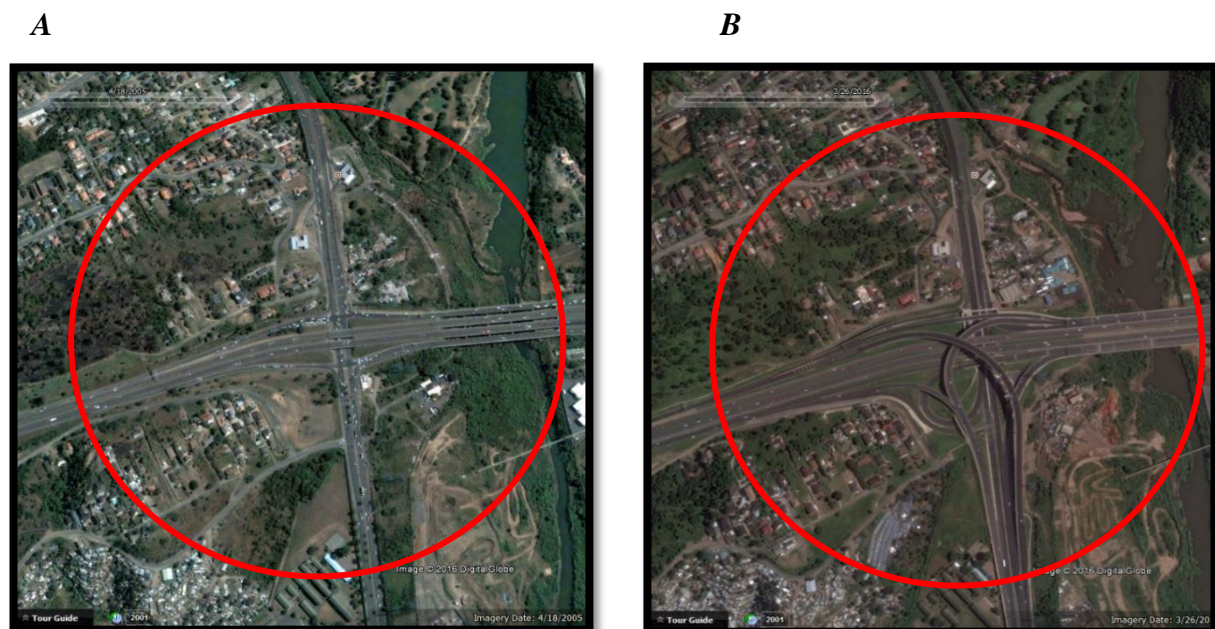
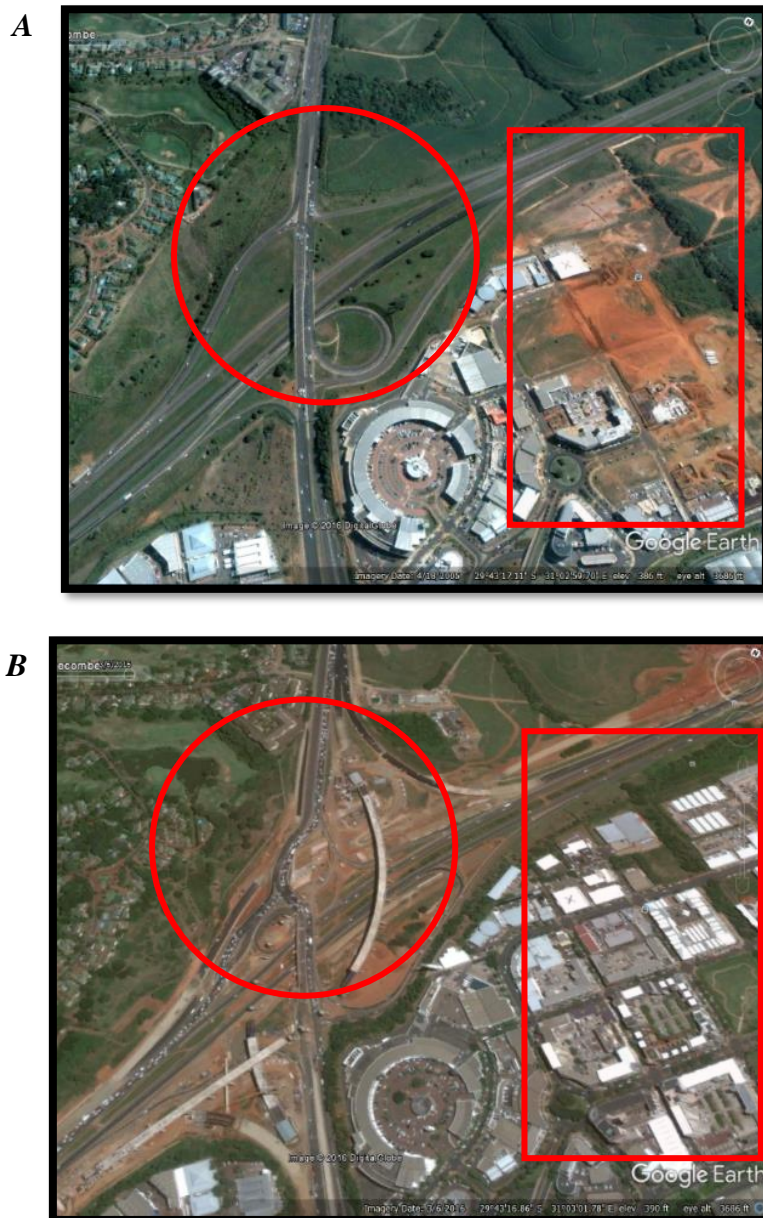


Figure 4.9: Changes over the N2 freeway leading to the North of Durban. A – 2005, B – 2016. Image Source: Google Earth (2016)

#### *Road Network*

Business developments around the Umhlanga Ridge areas, have seen large influxes into the area for places of work, schooling, shopping and recreational activities. The M41 roadway feeds off from the Durban N2 road, leading onto the Umhlanga Ridge areas (Figure 4.10A). Over the past 10 years (2005-2016), the intersection between M41 and the N2 has been redeveloped and expanded to accommodate the influxes (Figure 4.10B). With the development of roads at this intersection, extended development of the activities around the Gateway Theatre of Shopping Centre is visible.

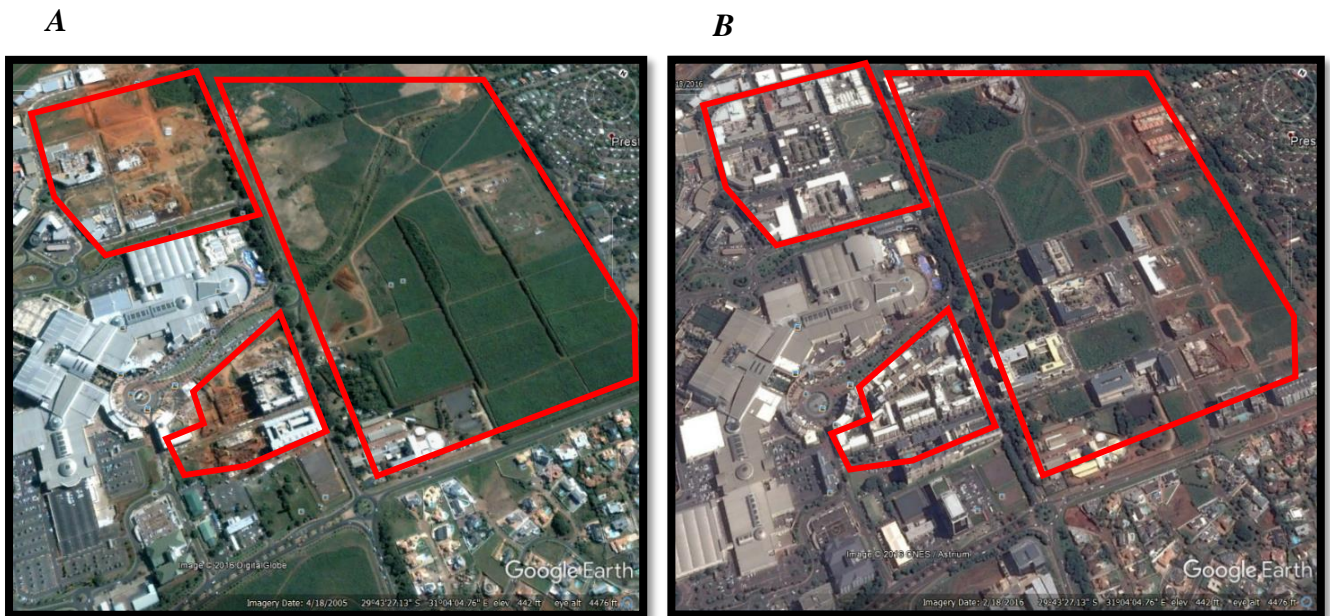


Figure(s) 4.10: Changes over the Umhlanga Ridge areas over a period of 10 years. A – 2005, B – 2016.  
 Image Source: Google Earth (2016)

### **Gateway**

The Umhlanga Ridge area has had extensive developments mushrooming around the Gateway Theatre of Shopping. These developments including office blocks, residential units, commercial activities, a hospital and a park all represent the concept of New Urbanism. Porous connectivity routes that promote a walkable environment characterize this area. The compaction of the mixed uses into one area creates a convenient environment where residents can work, play and pray in one common area. In 2005 this area was close to bare (Figure 4.11A), but has currently been a main attraction for small office space

and residents working around this area (Figure 4.11B) and has physically developed over the 10-year period.



*Figure 4.11: Changes that occurred in the period between A - 2005 and B - 2016 on the area where the Gateway Theatre of Shopping is located. Image Source: Google Earth (2016)*

### ***Izinga Estate***

Izinga Estate falls under developments that have been constructed under the supervision of Tongaat Hulett Development (THD) (THD, 2014). The gated high income development is situated in a neighbourhood that is accessible off Herrwood Drive on Umhlanga Ridge (Figure 4.12A). Currently, Izinga Estate is a uniquely vibrant, attractive, secured, integrated and well managed residential suburb. The development creates a living space for it's people, environment and promotes the diversification of communities through aesthetics (architectural style and indigenous landscaping) (THD, 2014). The estate is known for its well maintained landscape; its open space systems and its close proximity to the high-density commercial and retail areas around it (Figure 4.12B), and has extended the area further North. Among many other neighbourhoods, Umhlanga ridge has illustrated the importance of locating residential units in areas that are in close proximity to other relevant land-uses and amenities such as office areas and public spaces (THD, 2014). This has helped to create functional and sustainable living environments.

**Figure 4.12**

**A**



**B**



*Figure 4.12: Developments that occurred in the period between A - 2005 and B - 2016 around Izinga Estate. Image Source: Google Earth (2016)*

**Umhlanga Business Area**

The lower Umhlanga Ridge area (Figure 4.13A1 & B1) is zoned as a large business park area. Here, large business firms, headquarters, large banks and national offices, have mushroomed and taken advantage of the availability of large virgin land. Purchasing the serviced land from Tongaat Hulett Development, businesses are able to design their own unique buildings that respond to the unique needs of the business. Over the years (2005-2016), the area has developed along the M14, which connects the area to the M4 freeway leading to the Durban CBD (Figure 4.13A2 & B2). The close proximity of the business area to the M14 freeway (Figure 4.14A) which connects to the Durban CBD has created great interest from business owners in sought of land at high connectivity points- that assists in the convenient delivery of supplies. Large Offices have also emerged around this business node, which are prestige in size and design (Figure 4.14B).

**A1**



**A2**



**B1**

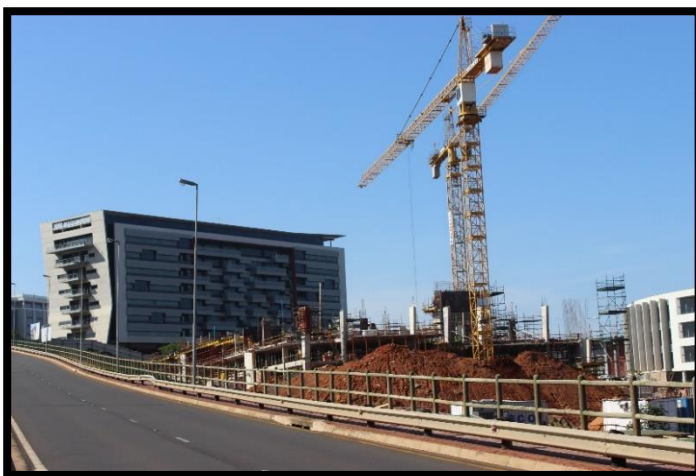


**B2**

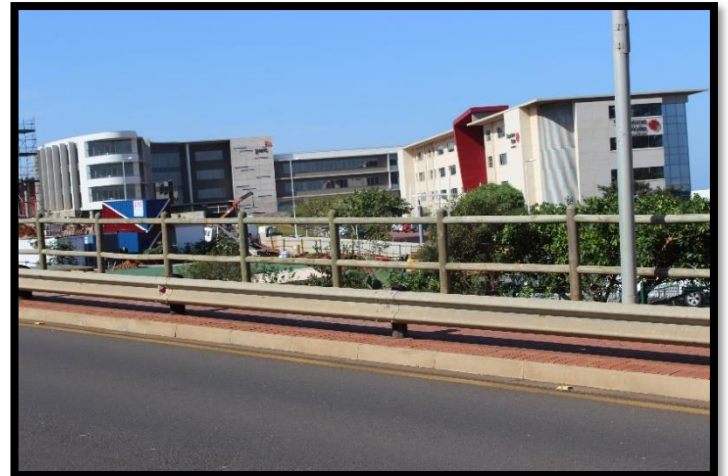


*Figure(s) 4.13: Developments that occurred in the period between 2005(A1 & B1) and 2016 (A2 & B2) around the Umhlanga Business Area. Image Source: Google Earth (2016)*

**A**



**B**



*Figure(s) 4.14: Developments that occurred in the period between A - 2005 and B - 2016 around the road connecting the Umhlanga Business and Office Area to the M14 Freeway to the Durban CBD. Image Source: Google Earth (2016)*

#### 4.4. Inadequacies of past spatial models and pressures to respond to socio-economic needs

The researcher analysed the various development and spatial trends that are relevant to the DMA by identifying the various phenomenon and/or pressures that have had an impact on the shape and the direction in which development is to occur. These pressures are identified, and discussed by the researcher, and the data found is compared and contrasted to the data collected during the one-on-one interviews. Understanding the various pressures for development creates a foundation in which unique solutions and development models are identified, to respond to the socio-economic needs of the DMA. Respondents from Tongaat Hulett Developments, Dube Tradeport and eThekweni Municipality, underwent one-on-one interviews, which are compared with literature found around the study. Table 4.4 shows the schedule of respondents used for this study:

*Table 4.3. Schedules of respondents of one-on-one interviews*

	<b>NAME OF RESPONDENT</b>	<b>INSTITUTION</b>	<b>PROFFESION</b>
1.	Bheki Shongwe	Tongaat Hulett Developments	Planning Executive
2.	Nonhlanhla Khoza	Tongaat Hulett Developments	Planning Manager
3.	Andile Mnguni	Tongaat Hulett Developments	Development Executive
4.	Emmanuel Lethebele	eThekweni Municipality: Framework Planning Branch	Senior Professional Planner
5.	Neela Naidoo	eThekweni Municipality: Framework Planning Branch	Town Planner

##### 4.4.1. Apartheid

Apartheid is considered the catalyst for the development of spatially and socially fragmented settlements in the DMA pre 1994. Respondent one from Tongaat Hulett Developments (THD) explained that the model itself aimed to create segregated settlements in order to control access to and from formally elite areas. “These Elite areas which included Umhlanga Rocks, Umdloti and Ballito (which were highly serviced) form part of the Durban North area which is characterised as a high economic node”. The residual impacts of the apartheid model include unequal distributions of incomes, infrastructure services, public facilities and access to employment. The respondent from THD further added that due to the remarkable supply of bulk services that were already available in the Durban North Area, the development of this region was found to be at a much quicker pace than other formally non-white areas.

#### **4.4.2. Urbanisation**

Post 1994, with the falling of the restrictive apartheid laws, there has been an overall shift in the development of the DMA. Between 2001- 2011, the growth rate of the DMA increased to 2,34% (StatsSA, 2011). The growth is a result of the development pressures of urbanisation that have seen large influxes of people into and around the Durban Central Business District (CBD) area; “in search of jobs and educational opportunities” respondent 2 from the eThekweni Municipality added. However, the spatial design of the CBD area restricts the ability of the CBD area to expand. Secondly, respondent one from THD highlighted that the nature of the CBD area as a built up node restricts the ability to recreate the area to respond to development pressures. The growth in the population numbers of the DMA also contributed to the need for space to accommodate the growing numbers. Analysing the regions of the DMA. The respondent further added, “The South of Durban has effectively been used as an industrial/ manufacturing area, thus not presenting opportunity to expand in this area. The DMA has thus seen development towards the Northern and Western regions of the Metro where there are large parcels of vacant land.”

Prior to the development of the Durban North area, this land was used for agriculture in which Tongaat Hulett Developments (THD) has the land holdings over. Respondent one from THD pointed out that Pre- 1989 a plan was compiled and recorded in a document called ‘*The Forum and Moreland*’ (McCarthy and Robinson, 2000) by the Planning Forum which included high end politicians, planners and academics. The purpose of this forum was to harness the spatial development of the DMA by focusing development towards the North (Umhlanga, Umdloti and Ballito) and West (Shongweni) of the region, in response to urbanisation pressures in the city. Presently, the plans of the forum have successfully been implemented following the rezoning of the Northern areas from agricultural land to economic and residential land.

#### **4.5. EThekweni Municipality’s Development Mandate**

According to Respondent one from eThekweni Municipality, the mandate of the eThekweni Municipality is “to provide the DMA with social services in an equitable manner as well as to create enabling environments for economic investment”. Respondent two noted, “EThekweni Municipality has the responsibility of ensuring that Durban is a functional and efficient city whose services are accessible and available to its entire population”. To ensure that the mandate is fulfilled, policies and guidelines have been put into place to ensure that the economic, social and environmental needs of the city are met. These policies and guidelines are in line with the mandate of national government. Given the nature of the ever-changing environment, there is a need to constantly change and adjust policies to respond to the unique needs of the city. Respondent two further explained that Post 1994, there have



been various adjustments to planning and spatial policy. “These plans remain as guidelines towards the attaining of the municipal mandate.”

#### ***4.5.1. Planning policy guiding developments in the DMA post-1994***

Pre-1994 planning policy was often segregative and restrictive in its nature. The policies formed were often used to benefit the minority and restrict the majority from accessing opportunities. Post 1994, policy aims to create more integrated and enabling communities. Respondent two from THD pointed out that this is done through creating and implementing precinct plans to strengthen and increase public transportation, infrastructure, economic activity and social facilities. Respondent one from eThekwini Municipality highlighted that in the DMA there are various plans to create multimodal transportation systems, to enhance the urban design of the region (through regeneration strategies) as well as to improve the functionality of the port area. “Given that the port is one of Durban’s most affluent economic activity, zoning plans are in place to extend the back of port area as well as to upgrade the cruise liner terminals”. These plans have attracted more investment into the city.

Respondent one from THD pointed out that the Durban North area is identified as an economic intensive zone, given the recent developments in and around the area including Gateway Theatre of Shopping in Umhlanga as well as the King Shaka International Airport in La Mercy. Various commercial and residential developments have mushroomed around these major developments and the Durban North area is characterized as “an anchor town to the CBD”. According to a respondent from THD the eThekwini Municipality- utilising various precinct’s, development plans and policy- guides and controls the development of the Durban North areas. Respondent two from eThekwini Municipality mentioned a ‘Basket of Legislation’ This basket represents guiding spatial policies that include the eThekwini Municipality’s Integrated Development Plan (IDP), the Spatial Development Framework (SDF) and the Land Use Scheme (LUS), which inform the Precinct and Local Area Plans (LAP’s) used to develop the Durban North Region. Policies around enactment and regulation of the schemes and plans include the formally used Planning and Development Act (PDA), Spatial Land Use Management Act (SPLUMA) and the Municipal Systems Act (MSA). These policies seek to provide platforms of engagement between municipal officials, private developers, private institutions and the community at large.

#### ***4.5.2. Land use planning in EThekwini Municipality***

Planning in the eThekwini Municipality is guided by a set of laws and policies that inform one another in a hierarchal form. These laws and policies are called a ‘*Package of Plans*’ and follow a process that speaks of planning in eThekwini from a generic broad tense to a more detailed and unique plan or scheme that focusses on practical implementation of plans featured in the IDP (eThekwini Municipality,

2016). This package of plans (Figure 4.15) guides the development of the Durban Metropolitan Area and forms the basis of land use planning in eThekweni.

**Figure 4.15**

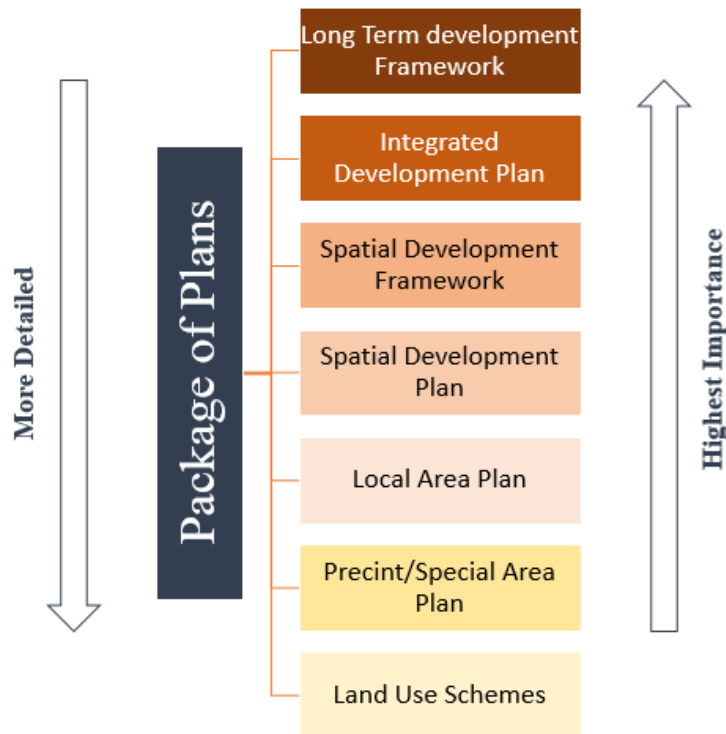


Figure 4.15: The Package of Plans which guides Spatial Planning in the eThekweni Municipality. Image Source: (Author, 2016)

### 4.5.3. Changes in land use plans between 2012- 2017

Land use planning is an ever-changing phenomenon that adjusts with various development challenges (eThekweni Municipality, 2016). The spatial vision of eThekweni Municipality is to have “by 2030 a socially equitable, environmentally resilient, sustainable and functionally efficient Municipality that bolsters its status as a gateway to Africa and the world” (eThekweni Municipality, 2012). With that, the various plans are reviewed annually, to ensure that they are still compatible with the scope of development for the municipality. Over the years, with new developments mushrooming around the Durban North areas, various spatial planning adjustments have been implemented, and have harnessed the growth of the area. Respondent one of eThekweni Municipality stressed that central spatial plans have also adjusted in the city centre through various means of rezoning to ensure and enable the regeneration of the city CBD area. These adjustments and new plans will be compared in this section to identify the various planning trends. The Spatial Development Framework’s used to guide developments between the years 2012-2017 will be compared and contrasted to assist in determining the foreseeable direction of development in the DMA. The challenges highlighted in the various papers

are identified and informed by the various planned measures proposed between the years 2012/2013 and the years 2016/2017. The following table was constructed utilising the Spatial Development Frameworks of the years 2012/2013 and 2016/2017 respectively.

**TABLE 4.1: SPATIAL DEVELOPMENT FRAMEWORK ANALYSIS BETWEEN 2012/2013 & 2016/2017**

(SDF)	2012/13	2016/17
<b>CHALLENGES</b>	<ul style="list-style-type: none"> <li>• Unequal distribution of connectivity routes for the poor to access places of job opportunities due to past, segregative spatial imbalances;</li> <li>• High level of commuting between home and places of work for the poor (inappropriate locations);</li> <li>• Climate change due to the pressures of development on the natural environment;</li> <li>• Minimum accessibility of goods, services and destination points to all residents of the municipality;</li> <li>• Unequal access to land, economic and social opportunity as well as land development;</li> </ul>	<ul style="list-style-type: none"> <li>• Unequal distribution of connectivity routes for the poor to access places of job opportunities due to past, segregative spatial imbalances;</li> <li>• High level of commuting between home and places of work for the poor (inappropriate locations);</li> <li>• Poverty, inequality and unemployment due to the poor quality labor intensive economy and poor education;</li> <li>• Climate change due to the pressures of development on the natural environment;</li> <li>• Minimum accessibility of goods, services and destination points to all residents of the municipality; and</li> <li>• Unequal access to land, economic and social opportunity as well as land development.</li> </ul>
<p><b>SPATIAL PROPOSALS AS OF THE SDF APPENDIX D</b></p> <p><b>Table Source:</b>  <i>eThekwini Municipality (2012) &amp; eThekwini Municipality (2016)</i></p>	<ul style="list-style-type: none"> <li>• Future Residential pockets are identified in the KwaMashu, Tongaat, Molweni and Hillcrest areas of the DMA;</li> <li>• A Future Business Park area is identified around the Dube Tradeport and Tongaat areas;</li> <li>• A Future Mixed Use development are proposed in the Umhlanga and Cornubia areas of Durban North as well as the Shongweni area in the Western areas of the DMA;</li> <li>• Future Industry areas are identified in South Durban Basin area as well as the Tongaat area in the North of Durban;</li> <li>• The Durban CBD area is seen as an urban economic node in which investment is drawn to;</li> <li>• The Inchanga area (West of Durban) is seen as a tourist corridor.</li> <li>•</li> </ul> <p>(Appendix D Map 4.1)</p>	<ul style="list-style-type: none"> <li>• A substation and cemetery is proposed as part of developments;</li> <li>• Industrial areas are identified in the Illovo area (further down the South), in the South Durban Basin (Back of Port), in the Cato Ridge area (Outerwest area) and Towards Verulem and Tongaat (Outer North);</li> <li>• Residential land uses have been proposed in various areas including Molweni (West), Umdloti, Tongaat (North), outside the Umlazi area (South) and around the Umhlanga area</li> <li>• A Landfill site is proposed in KwaXimba area (Outerwest area);</li> <li>• A Railway has been proposed in the Mpumalanga Hammarsdale area (Outerwest area);</li> <li>• Mixed use zones have been proposed in various areas including Hillcrest, Ballito and along the Umhlanga/ Dube Tradeport corridor.</li> <li>• Large pockets of Proposed business areas are visible in the Dube Tradeport/ Tongaat corridor and in Illovo.</li> <li>• An intense densification corridor runs along the central Durban area, expanding in a Northern and Western direction.</li> </ul> <p>(Appendix D Map 4.2)</p>

## **4.6. Umhlanga as a New Town Area**

Umhlanga Rocks is situated in the North of Durban, and has been identified as an intense development node in Durban. Respondent two of THD explained, “In 1989, plans were put in place to develop the region as a prestige and flagship area”, by introducing the concept of new towns into the development of the area. Respondent three of THD mentioned that the aim of the concept of ‘New Towns’ in Umhlanga was to create an area that would offer activities that would be complimentary to the CBD area and also offer opportunities to the population of the North. Respondent two of THD added, “The driving force behind this plan was due to the lack of economic and social activities for the population based in the North (these included areas such as Verulem, Tongaat and KwaMashu). This meant that people from the north would have to travel to the CBD for work, daily”. Development thus occurred because of the increased need to develop convenient and enabling living environments.

### ***4.6.1. The impacts of the availability of vacant land in the North***

Respondent one of THD mentioned that one of the main attractions to the Northern regions of Durban is the availability of “large parcels of vacant, virgin, serviced and cheap land in the area”. The availability of land in North creates opportunity for brand new developments in the area. The respondent added that “in the CBD area- due to the lack of large vacant land- businesses are forced to either demolish, renovate or refurbish existing structures to fit their unique needs”. However, vacant land has provided large businesses and firms with the opportunity of designing their spaces according to the unique needs of the business. The respondent added that large businesses, banks and regional offices have relocated to the Umhlanga Rocks area following the ability to build unique buildings with their own “architectural style and design elements”. These architectural elements often serving the purpose of creating a sense of prestige for the large head offices and banks. The availability of land towards the North resulted in what is known as ‘business flight’, Respondent two added. This is the relocation of businesses from the CBD area, often followed by residential and commercial activity. Respondent three from THD mentioned, “Over the years however, the cost of the formally peripheral land has increased significantly with demand and rates in the area have also increased simultaneously”. “The area has thus been classified as a high class area, benefitting those who saw the opportunity prior to the major developments”, said respondent one.

### ***4.6.2. Business Investment as a development tool***

According to Respondent one from eThekweni Municipality, the business flight of large firms, banks, regional offices and the International airport from the CBD to the Northern areas created an environment conducive to business investments. Respondent one from THD mentioned, “The growth of Durban

North is linked to the development of Sandton in Johannesburg which is also seen as a New Town area”. Both areas developed as a result of the availability of vacant land where precincts were developed to create an economic node to “support the CBD area”. “These two areas have become anchor towns to the CBD area as well as a strong economic source for the city,” he added. Following the shifting of business to the North, commercial and residential developments began to mushroom around the business areas, thus creating an enabling and liveable environment. Respondent one also mentioned, “The availability of space, controlled connectivity routes, parking space and supplier delivery zones (Picture 4.1) has also encouraged the migrating of large and prestige businesses and offices from other cities to Durban”. The developments have also seen the “return of businesses that had formally moved out of Durban due to space issues”. Umhlanga Rocks is presently characterized as a high-end business area and Respondent one of eThekweni Municipality mentioned that ‘the area has significantly contributed to the economic development of the city of Durban.’”



*Picture 4.1: Parking space in the Umhlanga Ridge area in Durban North.*

#### ***4.6.3. Convenience to amenities in Umhlanga***

Convenient areas are created through the inclusion of various elements into the design and spatial nature of a development. Tongaat Hulett Development (THD) has created convenient spaces through their concept of creating areas that encourage a good “quality of living” said Respondent one of THD. “These are areas that are developed with the intention of enabling live, play and pray in the same area,” said respondent two of THD (Map 4.3). The area encourages convenience to both those who reside in the area, as well as to those who visit the area. This is done through the creation of mixed spaces, where one finds residential blocks, shops, schools, office parks, recreational areas and a medical centre in close proximity to one another (within a walking distance in most cases) (Picture 4.2).

Umhlanga is also convenient to those who visit the area. Respondent one of THD mentioned, “given that the King Shaka International Airport is in close proximity to Umhlanga, the area also provides a range of hotel options, which are in close proximity to office blocks and shops in which visitors would use in the case where they would be visiting for work or meetings. These creates a wide business opportunity for the area due to convenience.”



*Picture 4.2: The Umhlanga Ridge area has various mixed spaces/zones that serve various purposes such as office space, recreational open spaces, commercial spaces and residential units within a walking distance from each other. Image Source: (Author, 2016).*

For the purpose of this study, convenience has been measured by comparing and contrasting the Durban North area to the Durban CBD area through direct observation. Here, principles from Bentley et al. (1985) and Behrens and Watsons (1996) have been used to rate the quality of both environments (Table 4.2).

**Table 4.2: Responsiveness of Durban CBD and North CBD*****Responsive Environments (Bentley et al, 1985)***

<b>PRINCIPLE</b>	<b>DURBAN CBD</b>	<b>NORTH BCD</b>
<b>1. PERMEABILITY</b>	Fair (Appendix C Picture 13&14)	Good (Appendix C Picture 1)
<b>2. VARIETY</b>	Fair (Appendix C Picture 15)	Good (Appendix C Picture 2)
<b>3. LEGIBILITY</b>	Fair (Appendix C Picture 16)	Good (Appendix C Picture 3)
<b>4. PERSONALIZATION</b>	Good (Appendix C Picture 17)	Fair (Appendix C Picture 4)
<b>5. VISUAL APPROPRIATENESS</b>	Poor (Appendix C Picture 16)	Good (Appendix C Picture 5)
<b>6. RICHNESS</b>	Good (Appendix C Picture 18)	Good (Appendix C Picture 6)
<b>7. ROBUSTNESS</b>	Poor (Appendix C Picture 19)	Good (Appendix C Picture 7)

***Making Urban Places (Behrens and Watson, 1996)***

<b>PRINCIPLE</b>	<b>DURBAN CBD</b>	<b>NORTH BCD</b>
<b>1. PLACE-MAKING</b>	Fair	Good (Appendix C Picture 8)
<b>2. SCALE</b>	Poor (Appendix C Picture 20)	Good (Appendix C Picture 9)
<b>3. ACCESS</b>	Poor (Appendix C Picture 21)	Good (Appendix C Picture 10)
<b>4. OPPORTUNITY</b>	Good (Appendix C Picture 14&17)	Fair (Appendix C Picture 7)
<b>5. EFFICIENCY</b>	Good	Good
<b>6. CHOICE</b>	Poor (Appendix C Picture 18)	Good (Appendix C Picture 11)



#### ***4.6.4. Managed areas as a new preference***

According to Respondent three of THD, the successes of the development of the Umhlanga region is a result of the implementation of the various plans and measures put in place to ensure that the spaces are “well managed and maintained”. “In and around the Umhlanga area, various means of public security are in place to ensure that the area is safe for those utilising it,” said Respondent three. These include surveillance cameras at various corners of the roads, streets and pathways (Picture 4.3) as well as security guards in public areas such as parks.



*Picture 4.3: Protea Hotel. Image Source: Author (2016)*

“The residential, commercial and office areas are fully secured with security houses and cameras at entrances to ensure that that the area is surveyed and secured 24 hours a day”, added Respondent three of THD. Respondent two of THD mentioned that the precincts used to develop the area of Umhlanga include designs to ensure that the area is “aesthetically pleasing to the eye”. This includes ensuring that roads, pathways and open spaces are well managed and landscaped so that they appeal to those utilising the area. “The aesthetics of an area can also assist in traffic calming methods that are more economically viable than the conventional robot system,” added Respondent two of THD. In Umhlanga, this is created through utilising boulevards and roundabouts to control traffic as well as pedestrian signs and speed limits that increase the pedestrian friendliness of the roads. The implementation of these pedestrian friendly zones has also improved the safety of pedestrians using the walkways and roads. “The ability to manage the development of Umhlanga’s urban area has attracted people and new businesses into the area,” added Respondent three of THD.

#### 4.7. The Aerotropolis as a future New Town Area

The concept of an Aerotropolis extends from the development of a city around an airport. “This phenomenon which is fairly new to the context of South Africa, developed itself following the movement of the King Shaka International Airport (Picture 4.4) to the North areas of Durban,” said Respondent one from eThekweni Municipality. This move was the result of the need for the expansion of the airport, “which over the years has seen various commercial and industrial land uses mushroom around the area” said Respondent one from THD.



Picture 4.4: The King Shaka International Airport in Durban (South Africa). Image Source:(DTPC, 2013)

According to Dube Tradeport (2013), the overall impact of the new international airport is measured by:

- The increase in connectivity (through the air, shipping, road networks and railway lines);
- The increase in social activity including access to jobs, housing, public facilities and intensified public transportation systems;
- Increase in logistics around the Durban area;
- Increase in need to encourage sustainability through greenery, managed energy usage and improved working conditions;
- Increase in residential capacity of the DMA; and
- Increase in the intensification of business and the industrial sector.

An opportunity to develop the land-, which is owned by Tongaat Hulett Development (THD) and Dube Tradeport (DTP) - came as a result of the existing elements that were already in the area including vacant undeveloped agricultural land, connections to the seaport, existing transportation infrastructure

and a connective development corridor feeding from Umhlanga (DTPC, 2013). The developments presented by Dube Tradeport provide a Dube Tradezone, a Tradehouse a Cargo Terminal (Picture 4.5) and an Ushukela development plan. These departments aim to increase the economy of the DMA through the provision of industrial and commercial opportunities that have attracted investments (DTPC, 2013). Further to these developments, DTP has increased the usage of the Air services as well as the intensified the Airoad, which is a freight, and logistics service provided by DTP. Furthermore, the establishment of the Dube City (Picture 4.6) has extended the residential, office, retail and leisure (hotels) of the DMA and is connected to Durban CBD through an enhanced road network (N2 and R102) connecting the North and South of Durban (DTPC, 2013). The Dube iConnect zone increased the technological base of the DMA to draw it closer to the concept of Intelligent Cities. The Dube Agrizone plan/precint has been developed to increase the industrial and commercial sector of Durban through the development of an agrilab, nursery and greenhouse that has contributed to the economic state of the DMA (DTPC, 2013).



*Picture 4.5: The Dube Tradeport Cargo terminals.  
Image Source: (DTPC, 2013)*

*Picture 4.6: The Dube Tradeport DubeCity.  
Image Source: (DTPC, 2013)*

#### **4.8. The new model of development**

The development of Umhlanga Rocks and its surrounding Durban North areas have shifted away from the conventional methods of spatial development. During the Colonial and Apartheid era South African cities took on the form and shape of previously established growth models such as the Burgess Concentric Zone Theory, the Hoyt Sectoral Theory and the Bid Rent Theory (Davies, 1963). All three theories assumed a single core area in which the city radiated from, in an outward circular motion. The theories assumed that the activity of a city lies in its core area, thus forcing those residing away from the core to travel back and forth for job opportunities, shopping and social amenities (Davies, 1963). However, post 1994 with the development of more integrative policy there has been visible spatial adjustments in the DMA given the high rate of urbanisation and migration to the city centre. The large influxes are a result of the ability of the previously marginalized to access places of work, play and pray

in what was known as ‘white areas’. “The pressures on development have thus seen a development shift towards areas in the North and West regions of the DMA”, said Respondent two of THD. In response to these needs, the development patterns in the DMA seem to have “shifted” from the previous models to create models that are more relevant to the unique needs of the population.

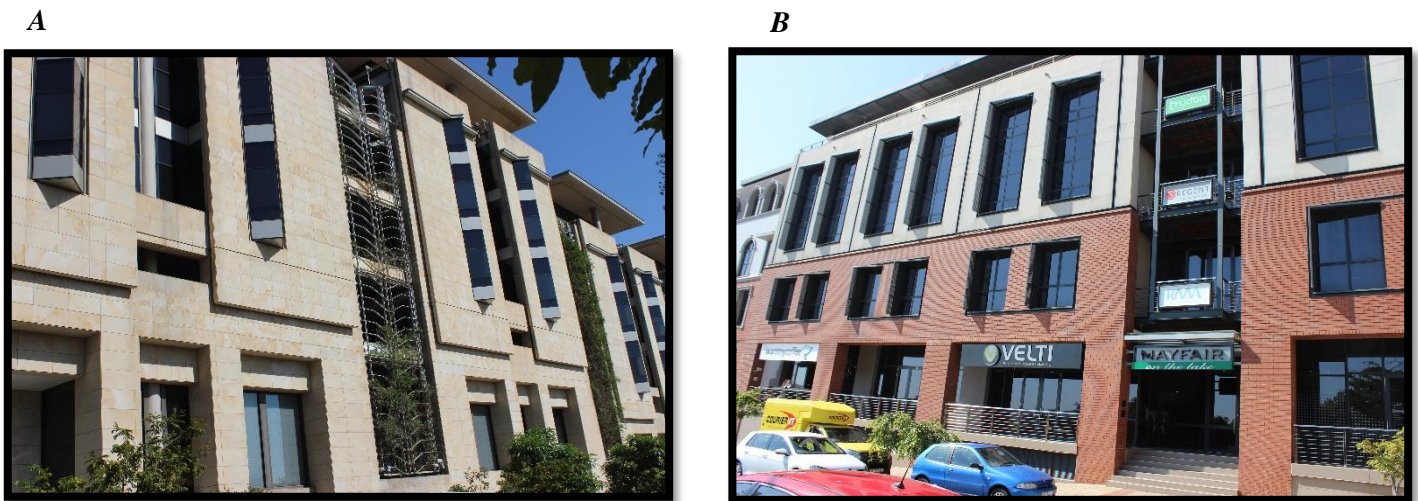
#### ***4.8.1. New Town Centres as the future of South African cities***

‘New Town Centres’ is a concept that is not only unique to the context of South African cities. Utilised in Britain in the 1960’s, the concept of creating various sporadic nodes within a single city, has been used to harness the development of urban areas that are convenient, well management and economically viable. The concept of a New Town Centre adopts its design and ideas from ‘Polycentric’ developments, which is a term that describes the development of a city through activities at various multi-nodal points. These nodal points are often commercial areas or spaces of interaction such as markets or shopping centres. Respondent one of THD pointed out “the conception of the Umhlanga New Town Centre was around the development of the Gateway Theatre of Shopping, followed by various activities such as commerce, residential developments, office spaces, large business areas and recreational facilities”.

New Town Centres should be seen as “anchor towns or a continuation of the CBD of the city – which in this case are translated into Umhlanga (Gateway Theatre of Shopping) and La Mercy (King Ushaka International Airport,)” said Respondent one of THD. Respondent two of THD mentioned, “It is almost impossible for these two economic nodes to override Durban’s CBD area. This is because the administrative of the city of Durban is located within the CBD, which is the main location of the DMA’s Municipal Offices”. “Although the land holdings of the Durban North area are largely owned by Tongaat Hulett Developments and Dube Tradeport, the rate base and developments of the two areas are controlled by the eThekweni Municipality who works in a Public-Private Partnership (PPP) with these institutions”, said Respondent one of THD. The respondent further added that eThekweni Municipality provides the land owned by THD and Dube Tradeport with bulk services, and the two institutions benefit the city through creating a high economic rate base. “Given the size and controls within Durban’s CBD area, the Durban North area is merely a satellite area to the main CBD”. Respondent two of THD added that the Umhlanga New Town Centre and the La Mercy Aerotropolis are thus support mechanisms to the Durban CBD area since they create economic intensive zones to feed investment into the city. “The creation of polycentric development zones/nodes is relevant to the context of South African cities who face development pressures and the need to remedy the spatial imbalances of the past,” said Respondent one of THD.

#### 4.8.2. *New Urbanism as a development concept*

According to Respondent, three of THD, the precinct plans used to guide the development of the areas in Durban North, are informed by existing policies and plans, maintained by the municipality. In creating these precinct plans, “various concepts such as New Urbanism have been used to inform the design and principles of Umhlanga’s precinct plans. The Umhlanga precinct plan advocates the inclusion of greenery into area designs (Picture 4.7A) in the form of open spaces and recreational areas,” said Respondent three of THD.



Picture(s) 4.7: *The Umhlanga precinct with vegetation (A) and mixed use (B) as part of the design plan. Image Source: Author (2016)*

The concept speaks to creating quality compact areas where land uses are mixed into one common space (Picture 4.7B), to enable convenience and close proximity to amenities (Econhist, n.d). THD’s development model advocates on place making which speaks to a concept of New Urbanism -to create environments that are mixed, safe and convenient. Polycentric developments support the notion of areas that are compact and in close proximity to various activities and land uses (Cilliers and Schoeman, 2008). Multi-nodal cities ensure that the population within an area needs not to move out of the region to acquire access to social facilities, economic opportunities, schooling and shopping. This type of development creates convenience and results in less pressure being put on a single area- thus avoiding congestion and pollution (due to high usage of vehicles to get to other areas) (Cilliers and Schoeman, 2008). “In Umhlanga, the concept of New Urbanism is a key development point that is shaping the area into a prestige flagship area”, said Respondent two of THD.

## **Impact of the North developments on the Durban Metropolitan Area (DMA)**

The development of the Durban North Area has had an extensive impact on the economic viability of DMA and has supported the notion of making the city a “world class city” said Respondent three of THD. However, the development of the area was subject to various amounts of criticism around whether the area would override the Central Business District (CBD) as the main development point for the DMA. “This followed the moving of the King Shaka International Airport from the South of Durban to the Durban North Area. There are various concerns around the future of the CBD area as well as the Southern areas of Durban as being isolated,” said Respondent two of eThekweni Municipality. Respondent one of eThekweni Municipality added, “There is also an immense response to the economic viability of the developments in the North”. The overall impact of the developments of the North on the Durban CBD area will be analysed through comparing the positives and negatives of the development from respondents of eThekweni Municipality and THD.

### ***4.8.3. Positive impacts of the North Developments on the DMA***

The development of the Durban North areas has seen numerous activity and intense development points for the city of Durban. These include:

- Virgin land has increased the attractiveness of the DMA to large business firms and private developers;
- The development of various economic and recreational activities at the Gateway Theatre of Shopping and surrounding areas, has created employment recreational opportunities to the population around the Durban North areas including Verulem, KwaMashu, Phoenix, Tongaat and Inanda;
- Developments by Dube Tradeport aim to create an intensive industrial zone that will benefit the DMA;
- New developments have seen the expansion of the road networks in and around the DMA, where a new freeway has been built that enables motorists to travel from Durban North straight to the Clermont, Pinetown and Kwadabeka (towards the Outerwest region) areas without travelling through town;
- Less economic pressure on the CBD area;
- There is a managed city population growth and functionality with nodal developments;
- There has been large interest by investors which has created various amounts of Public-Private Partnerships (PPP) between the Municipality and international private entities;
- THD’s new concept of creating convenient and compact spaces has been introduced that benefits the society utilising the area;

- The location of the airport in the Durban North Region has created tourism attractions to formally isolated surrounding areas such as Tongaat and KwaDukuza; and
- The development of the Durban North area has encouraged the redevelopment and regeneration of the city centre in order to keep up with the current developments occurring in the North.

#### ***4.8.4. Negative impacts of the North Developments on the DMA***

With the development of the Durban North Area, the following negative impacts are identified by respondents of eThekweni Municipality and THD, as those that would possibly harm the DMA. These include:

- The expansion of development towards the North by THD and Dube Tradeport puts pressure on the agricultural
- The decentralization of business and head offices resulted in the further decentralization of suppliers that service these large firms and businesses. This resulted in the disinvestment of the CBD area;
- The decentralization of business towards the North lowered the property values of units in the CBD area;
- The decrease of property values resulted in residents moving out of the CBD area, leaving the units vacant (Pictures 4.8) and unused leaving the area in a state of urban decay. These unused spaces have resulted in various social issues in the CBD area such as crime that has stigmatised the CBD as being unsafe.



*Picture 4.8: Vacant units in the CBD. Image Source: Author (2016)*

## **4.9. The planned developments for the further expansion of the Durban Metropolitan Area**

The development of the Durban Metropolitan Area (DMA) has immensely influenced the economic and social state of the city. Various plans are underway to ensure that the rest of the region of the DMA keeps up with the development pace of the North. The plans- of which most are in planning or pilot phase- are set to either refurbish or expand development in existing areas around the DMA.

### ***4.9.1. Urban regeneration as a reconstructive development tool for the CBD***

In attempt to rejuvenate the Inner city region and surrounding areas, “the eThekweni Municipality collaborated with various stakeholders -developers and private institutions such as THD- to create a precinct plan for the inner-city” said Respondent one from THD. According to Respondent one of THD, the purpose of the rejuvenation plan is to drive investment back into the city centre as well as to address key issues around urban decay, crime and the aesthetics of the city. In a seminar address by eThekweni’s Urban Renewal Department, an Inner-city Local Area Plan (LAP) was presented as part of the Urban Renewal strategy. This strategy is based on three spatial themes including:

- Learning from the past;
- Learning from the present;
- Sustainability and Resilience

“The plan is to activate the existing public spaces- as an urban renewal strategy- in order to encourage convenience and tourists to the region. The urban renewal strategy is in place to also harness and ensure that 40% of housing development in the CBD is affordable to the low-middle income who currently reside in and around the area”, said the speaker from eThekweni Municipality. The principles which form the basis of the urban renewal strategy is:

- To create a connected city (through improved connective transportation modes);
- To create a walkable city (through improved aesthetics, pedestrian friendly developments and safe public transportation systems);
- To create an integrated and inclusive environment (through land use intensity); and
- To realise the potential of the city (through creating linkages and a good urban realm)

The rejuvenation of the Durban Point Waterfront area as well as the Durban Beach Promenade is currently underway, offering a mixed-use development between residential, commercial and recreational land uses. Respondent two of THD mentioned that the advantage of developing the CBD area is that it draws investment back into the CBD area and slows down the pace of planned developments of areas outside of the CBD. “This enables CBD to recover from the impacts of business flight and ultimately improves the socio-economic state of the population residing in the CBD area”.



#### ***4.9.2. The development of the Western region (Shongweni)***

Shongweni is situated in the Outerwest area of Durban, between the Pinetown/Marianhill and Hillcrest areas. Respondent three from THD mentioned, “Tongaat Hulett Development (THD) has the land holdings to some of the land in Shongweni, which since the Moreland report in 2002, was seen as a possible development node for the Outerwest DMA”. The development of the Shongweni area is set to be very similar to that of the Umhlanga area. “The concept of creating a New Town Centre through the establishment of a shopping centre stands as the development catalyst”, said Respondent one of THD. The development is expected to take a similar direction as the Umhlanga developments, but “within the unique context and needs of the area” continued Respondent one. “At this stage however, the plans are still at their earliest stages”. THD plans to create an economic intensive node that will serve the Outerwest DMA area and create connectivity and networks with surrounding areas. “This development will harness a balance in the pace of DMA’s development”, said Respondent two of THD.

#### ***4.9.3. The development of Integrated Human Settlements***

Post 1994, the newly elected government of South Africa, the African National Congress (ANC) aimed to provide access to housing, water and sanitation to those who were formally excluded from the system (White paper, 1994). Physical structures were provided to those who were in need and was seen as a means of providing ‘adequate shelter’. Twenty-two years into democracy housing needs have adjusted from the need for physical structures to the need for Integrated Human Settlements. Integrated Human Settlements speak to the provision of shelter or serviced land in areas that are convenient, mixed and in close proximity to opportunities for work and school, social amenities and commercial activities (Breaking New ground, 2004). “In response to the spatial and social fragmentations of the past, a pilot project in Cornubia is currently underway to encourage the development of various income/household groups in one area”, said Respondent two of eThekweni Municipality. This pilot project aims to test the possibilities of creating mixed settlements in common spaces. Respondent two of THD added, “This land is also under the Tongaat Hulett Holdings and is used to ensure that the low-income is not excluded from the high-end developments in the North”. The pilot project is a stepping-stone towards the creation of integrated settlements as a new development tool in South Africa.

#### **4.10. Conclusion**

This chapter set out the various points of discussion and analysis of the data collected from one on one interviews and observations (Primary data) and desktop information (Secondary data). The data found, was analyzed by the researcher in this chapter, and set out the basis of recommendations and conclusions for the final chapter. The thematic analysis highlighted the various themes and concepts- from the study’s objectives- that drove this paper and highlighted the past, present and future effects of various

periods, on the spatial development of an area. A polycentric type of model for development (which is used in Umhlanga Ridge) was seen as a present and possible future tool for the DMA's spatial plans, ultimately shifting from the previously used conventional growth models. With that, the concluding remarks from the data results will be analyzed in the next chapter.

# CHAPTER 5: RECCOMENDATIONS AND CONCLUSIONS

## 5.1. Introduction

This chapter seeks to highlight the concluding findings, recommendations and the overall analysis found by the researcher. These findings and conclusions are drawn from the primary and secondary data collected and analyzed by the researcher, in which the findings will be drawn from to respond to the objectives. The concluding remarks will be a combination of the thoughts of the researcher as well as recommendations for further studies to the future of South African cities.

## 5.2. Major Findings of Objectives

### 1. *To identify the spatial limitations of the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory in the post- apartheid (2001- 2016) Durban Metropolitan Area.*

- The three theories assume that there is one specific node, in which development mushrooms around. An inability to account for urban growth and the need to expand the various zones within each model has seen the establishment of other nodes in which development has extended to. Furthermore, having a single central node has exerted pressure on the CBD area, which has resulted in city congestion, overcrowding, crime and dilapidation. This has resulted in business flight as large firms and businesses seek expansion space and areas of prestige;
- The Durban CBD area is characterized as being built up and highly densified. Businesses functioning in the CBD have often had to move into and adapt to existing structures and space- disabling them the freedom to create the companies 'look'. Decentralisation has thus been a result of a lack of space for expansion and businesses have moved towards the North where there is vacant/virgin land available;
- The models have failed to respond to urbanisation and urban population growth. Urbanisation has seen large influxes of people migrating into and around the Durban Central Business District (CBD) area, in search of jobs and educational opportunities. However, the spatial design of the models has restricted the CBD the ability expand- without shifting away from the structure of the models themselves.
- The spatial design of the Durban CBD fails to fully respond to the needs of those utilising. The monotonous and 'hard space' design of the city fails to create a sense of place-making. Its Visual Appropriateness, Robustness, Scale and Access is poor, and lacks an element of Permeability, Variety, Legibility and Place-Making in the way the area is built up and used by those utilizing the CBD area.

2. *To identify and compare the factors that sparked developments pre 1994 and those that spark development post 1994 (2001- 2016) in the DMA.*

### *The Factors Pre-1994*

- **Industrialization:** During the colonial period, developments in the DMA were sparked by the period of the Industrialization of the Port of Durban. Further development was seen necessary following large migration numbers in and around the Durban area, for labour opportunities. The colonial period created a model that separated the society into various rings, according to the financial means- placing the wealthy closer to the city and the poor away from the CBD on the peripheries. This saw the birth of the growth models;
- **Segregation:** The apartheid model came into play to further segregate the society into various racial groups. The model also restricted non-whites access to the CBD area and thus development was created under segregative and restrictive laws and policy;
- **Replication:** Pre-1994, the design of South African cities was thus on a replication basis. This meant that cities were created under the assumption that they have common needs and would need common solutions. Replication as a spatial planning tool failed to consider the individual growth needs of different areas and ignored other factors at play- such as the economic, social and environmental factors of development.

### *The Factors Post-1994*

- **Quality of Living:** Post 1994, society demands more than just a physical structure as a means of development. Development is highly dependent on the convenience (to commercial, economic and educational opportunities), safety& security, recreational activities, transport facilities (BRT's), infrastructure and opportunity for business of an area;
- **Relevance:** Relevance speaks to creating a city that is enabling and relevant to the unique needs of those utilising the area. These needs are based on a combination of physical, economic, social and environmental factors that are at play- which help to shape the direction of development;
- **Integrated Human Settlements:** Current development trends are also set to remedy the residual impacts of the segregative and restrictive models of development used in the past-apartheid and colonial model-, which influenced the design principles of the three growth models used in this study. These models of development failed to acknowledge all the factors at play in creating a city form. Current development factors aim to create more integrative models that are inclusive to those of various race and economic ability thus moving away from previously used segregative models;

- **Urbanization:** Current development trends are influenced by the rate of urbanization, and the predicted growth levels of it. The pressures of urbanization on land use suggest the various growth needs for a particular region. Rural to urban migration and the inability of the CBD area to expand beyond its hard spaces has seen the shift to the Northern and Western regions- formally known as ‘peripheral areas’ of the city- where there is available vacant and virgin land;
- The growth of a **commercial and industrial corridor** by THD and DTP has seen various residential developments mushrooming towards this area for better opportunities. These corridors have created business investment nodes that are the main injectors of capital into Durban’s economy. Further developments are thus mushrooming around the Durban North area;
- **Aerotropolis:** The development of the DMA has been influenced by the moving of the, formally known as Durban International Airport, from the South towards the North of Durban. The new King Shaka International airport has seen further developments and the region is slowly transforming into an Aerotropolis;
- Development post-1994 has also been highly dependent on the **connectivity and networks** available in an area. The Durban North area over the years has seen expansion in its freeways and highways to respond to the influxes accessing the area. New highways- connecting areas as far as Clermont (Durban)- have been used to connect and create convenient access ways to and from the affluent area;
- **Environment:** Development is currently influenced by the need to create sustainable cities that can be used by future generations. This includes the creation of more compact cities where land uses are in close proximity to one another. This type of development assists in promoting walkable areas, thus reducing the rate of motorage usage. Other environmental factors include creating greener areas through promoting landscaping, open space development and conservation of existing green areas.
- **Climate:** According to Respondent three of THD, “THD as a land holder has moved from high-end agricultural activities to property development given the extreme drought period that South Africa has been experiencing over the years. This shift in land use has been done to avoid unemployment and create a stronger economic base for Durban”.

3. *To discuss new growth trends that are visible in the Durban Metropolitan Area (DMA) (from the years between 2001- 2016).*

- **Compact Cities& Mixed Use Development:** South African cities are moving towards a more Compact City structure with a Mixed land use of various activities in a common space. This

design allows for activities to be in close proximity to each other, thus allowing convenience and encourages more walkable communities- with less car emissions;

- **Polycentric Developments:** The Durban North node is an ‘anchor city’ to the Durban CBD node. It is simply a continual of the Durban CBD node, which is the main administrative head of the city of Durban. A western node is expected to develop around the Shongweni area as an anchor node to the Durban CBD area. This type of multi-nodal development pattern decreases development pressure on a single node, by focussing development on various nodes that feed off a main central node (which is the Durban city core in this case). This type of development has enabled the creation of more managed and successful precincts that allow convenience, security and more environmentally friendly communities;
- **Economic hub:** Development has seemed to mushroom around economic/investment activity corridors or nodes, which create new opportunities. These economic nodes have often been followed by commercial and residential development. The Gateway Theatre of Shopping and the King Shaka International Airport are economic nodes that have attracted development around them- very similar to the Durban CBD in which development mushroomed around over the years.
- **New Town areas:** The Durban North areas has seen the development of precincts that have similar characteristics as new cities. These New Town areas are developed in ‘Flagship’ areas of prestige which have a range of economic, social and recreational activities and amenities. The design and activities within these New Town area do away with the need to constantly access the Durban CBD for services or amenities. These areas ultimately represent nodal development.
- **Integrated Human Settlements:** Current development patterns are found to be shifting to more integrative an enabling environments that provide convenience and opportunity in an equitable manner. This is done through the provision of services, amenities and activities that are accessible to all. BRT systems have been put in place to ensure that these New Town areas are also accessible to those in formally non-white and excluded areas including Kwamashu, Phoenix, Inanda, Clermont and other surrounding areas. The developments in Cornubia is an example of integrative development tools being used in the Durban North areas;
- **Public-Private Partnerships (PPP):** New developments in and around the DMA are led and managed by a combination of the municipality and private institutions including DTP and THD to form PPP’s. According to Respondent 1 from THD, “We plan together with DTP and the municipality and work in a partnership”. These different institutions work as agents to each other and offer various resources including funding, expertise and experience to each project.

**4. To explore policies that have been put in place to guide spatial development prospects in the DMA.**

- Mandate of eThekweni municipality
- Various plans and papers were produced to respond to the growing need to further develop the city of Durban. According to Respondent 1 of THD, “The Molland Plan by Tongaat Hulett Development: this was the starting point. A study and forum was set up (pre-1989 or 2 years before that) and comprised of elite/ prominent people in the ethekweni region, including academics, Dr Blade Nzimande, Mark Sucliff, Tongaat Hulett Managers, the Community activists Jeoff McCarthy (people from the academia). They sat down with the objective to see what was best for the North. This paper forms the basis of developments... there was a thinking behind it with a setting of high profile people who looked at the whole northern region and THD (as they had the land holdings) was also thinking of the possibilities of turning the land close to the sea and next to existing built up areas (residential). The issue of decentralization was at peak at the time. From the study it was deduced that it will be viable to start developments on the northern side of eThekweni”. Currently, this plan has been executed according to a precinct plan that is used to guide developments of the Durban North areas.
- Precinct plans have been used to create living environments that are manageable, relevant and responsive to the unique needs of the city of Durban. These precincts plans are informed by the basket of legislation that are used to guide development in Durban. The Durban North Precinct represents that plans of the DMA’s Spatial Development Framework as an economic corridor from the city of Durban. With that, the plan has been mandated to strengthen and increase public transportation, infrastructure, economic activity and social facilities;
- A ‘Package of Plans’ which guide the development of municipalities which follows a hierarchal form including (in order of importance) the Integrated Development Plan (IDP), the Spatial Development Framework (SDF) and the Land Use Scheme (LUS), which inform the Precinct and Local Area Plans (LAP’s); Planning and Development Act (PDA), Spatial Land Use Management Act (SPLUMA); Municipal Systems Act (MSA). These plans are used in the Durban Metropolitan Area to ensure that development is relevant to the challenges of the metropolitan. Secondly, these plans ensure that the 2030 vision and mandate highlighted by the eThekweni Municipality is reached this mandate is to have:

***“by 2030 a socially equitable, environmentally resilient, sustainable and functionally efficient Municipality that bolsters its status as a gateway to Africa and the world”***  
*(eThekweni Municipality, 2012)*

### **5. To recommend/ predict a new growth scope for the future development of the DMA.**

- Developments seem to mushroom around an economic node including shopping centres, light industrial parks and new developments (i.e. airports). Here, commercial and residential activities mushroom around. In the case of Durban, the New Town Centres- in which are economic nodes- include the Gateway Theatre of Shopping, the King Shaka International Airport (Aerotropolis) and the planned shopping centres in Shongweni and Ballito (which have begun in Ballito);
- Development seems to be shifting towards more environmentally friendly and convenient living environments that are more responsive to the needs of the society, rather than the needs of economic pressures. Developments tend to be greener, with spaces that are more open and with more pedestrian friendly zones. Current Inner city regeneration plans aim to create convenient, pedestrian friendly and mixed use zones in the CBD. Respondent two from THD mentioned that this regeneration strategy would help to bring a balance between the Durban North Region and the CBD area. “The strategy is set to attract people back into the city centre”.
- South African cities are shifting towards more polycentric development growth patterns (Cilliers and Schoeman, 2008). This growth is an addition to the previously used growth models the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory. The addition is simply shifting to a more multi-nodal design, with a main core that is supported by multiple smaller nodes that feed into the city centre (Figure 5.1). Polycentric developments are tools in managing city population growth and functionality through nodal developments. Umhlanga and La Mercy are simply affluent ‘anchor’ town centres to the Durban CBD node (which remains the power centre for the city of Durban).

### **5.3. Recommendations for the Study**

In the development of South African cities, various considerations need to be included in the planning process. These considerations range from social, physical and environmental needs, which ultimately aim to benefit those inhabiting the area. These recommendations aim to suggest considerations based on the findings and objectives highlighted by the researcher.

#### *1. Economic Considerations*

New developments mushroom around areas of economic or industrial booms. Shopping centers, retail spaces and business areas have proved to attract those in sought of better economic opportunities and convenience. The evolution of land previously used for sugar cane farming, into land for offices, retail space and residential units has proved that the growth of a city sprouts from the economic activities available within it. Recommendations are made that Long Term Development Plans should be created around potential economic areas that will allow convenience and livability.



## *2. Social Considerations*

Planning tools need to be more humanistic in their nature. Humanistic in the sense that they encourage convenience, safety and opportunity for those living in the area. Long term Planning policy such as Integrated Development Plans and Spatial Development Frameworks, need to ensure that all plans aim to create areas that are pedestrian friendly and secure, by strengthening existing and new policies on precinct plans for developments that encourage connectivity, mixed-use developments and New Urbanism. Given that, the Durban North area is under continuous development, Spatial Development Plans (SDP) need to encourage more transit related transportation road networks, ultimately decreasing the large influxes of motor vehicles accessing the areas. These transits systems will also economically benefit the surrounding Durban North communities who are competing with the pressures of the high economic area. Social needs should be the initial point of consideration, when developments are designed and planned out.

## *3. Environmental Considerations*

The environment forms an important part of the Durban Metropolitan Area. This is due to the locality of the Umhlanga and Durban CBD areas, which are situated along the coastal area, forming an important economic hub for the city. A need to preserve the natural environment goes hand in hand with the need to develop. Green areas should form part of spatial planning as a means to improve the aesthetics of an area, to create recreational places as well as to maintain the environment. Spatial Development Frameworks and the need to create transit based transportation systems, also assist in controlling the rate of pollution, with the controlled rates of traffic towards the North. These environmental considerations, though not enough, assist in ensuring that the generations yet to come can utilize these areas, efficiently.

## *4. Physical Considerations*

Considerations for the physical aspects of development should be considered once the social, environmental and economic considerations have been made. This is to ensure that the development of buildings, roads and recreational areas are in line with the needs of the society, thus remaining relevant to the next few generations to come. Spatial Plans however, also need to remain flexible to allow for growth and adjustments in the public realm. This is to ensure that an area does not remain irrelevant and thus experience that of the Durban CBD area. With that, a physical development scope can be thought of that does not entirely reject the previously used Theoretical Growth Models, but integrates the concept of a main CBD, with the recommendation of having multiple CBD points.

## The Multi-Nuclei Model

It is recommended that South African cities develop around a node (central or sub-regional) (1); which is followed by a mixed use zone (2) with commerce, high rise residential and offices space; the residential zone is comprised of large parcels of residential units- mostly detached units; and a final industrial zone on the outer areas of the DMA. This model is represented by the proposed 2016/2017 SDF (Appendix C Map 4.2) which highlights industrial zones in the Illovo, Tongaat and Cato Ridge areas. The central nodes (1) in the DMA are formed by the Central CBD, Umhlanga Ridge (North) and Shongweni (West) in which developments have been apparent in. The direction of developments in the DMA is expected to expand towards the Tongaat (Northern) and Cato Ridge/Shongweni (Western) Regions, where there is vacant and virgin land. This recommended model is simply an expansion of the previously used growth models- the Burgess Concentric Zone Theory, the Hoyt Sectoral Theory and the Bid Rent Theory- with the adjustments of spatial features that respond to current needs and policy.

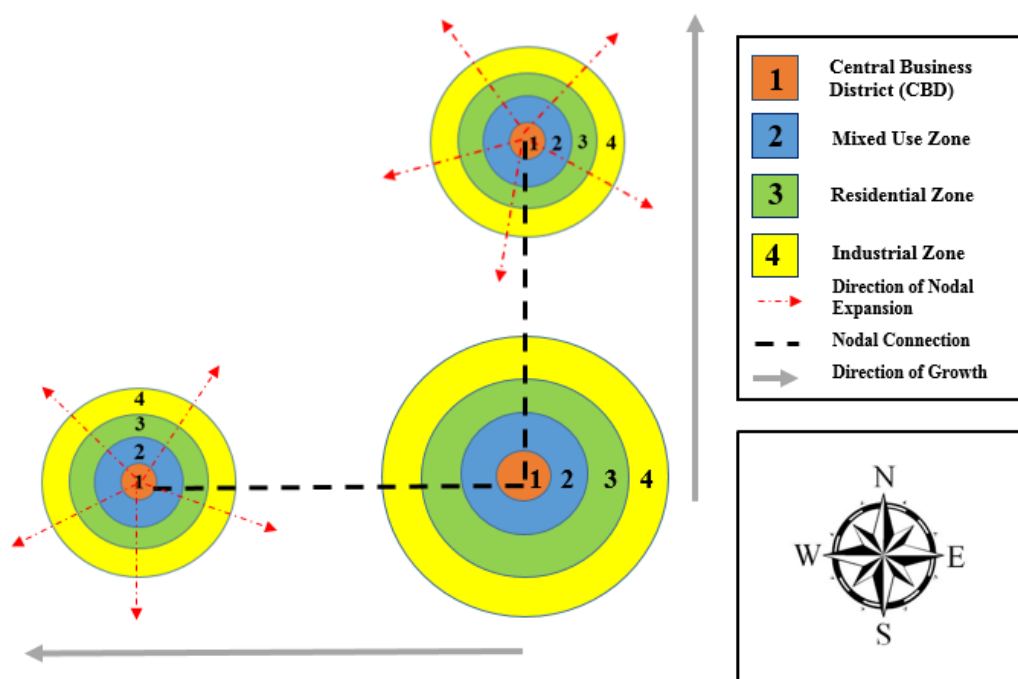


Figure 5.1: The Recommended Multi-Nuclei Model Image Source: (Author, 2016)

## 5.4. Final Conclusion

The shifting of South African cities has proved to be due to various economic, social, political, environmental and technological changes that have occurred over time. Economically, the shift has increased business investment in Durban with the Gateway Theatre of Shopping, Dube Tradeport and

the King Shaka International Airport playing a pivotal role in job creation for the areas surrounding these nodes. This node has also attracted business back into the city and created a higher rate base for the city of Durban. Socially, the area has proved to be responsive to the needs of those living in the area by creating safe and secure areas that are within a walking distances to various land uses including office areas, education, commercial areas as well as social services. This has been done through the tool of compact development that promotes the design of land uses in close proximity to residential units to allow convenience and flexibility. Politically, the development shifts are driven by the need to remedy the impacts of past restrictive and segregative planning tools, the Apartheid and Colonial models of development. In 1994, the newly elected democratic government formulated a set of new laws and policies that were put in place to ensure that a just and equitable society is reformed. This has been done by encouraging integrative planning tools to areas that were formally excluded from the planning system. The planning and reconstruction of these areas also includes the provision of social services, infrastructure, transportation and integrated human settlements. An example of such is the Cornubia project which is a mixed residential area currently being developed in the Durban North area.

Environmentally, planning tools are shifting towards more environmentally friendly methods of development through the promotion of transit orientated transportation and pedestrianism as opposed to the use of motorage. The design of open spaces, greenery, sidewalk landscaping and efficient use of green materials has been an effective tool in creating an environment like Umhlanga. Current plans to regenerate the inner city also follow the principles of New Urbanism in which urban rejuvenation methods are set to provide environmental friendliness. And lastly, the use of technology as a city management tool has allowed for the delivery of services and security at a much better, quicker and effective rate. This includes the use of road surveillance networks to create a safe and secure environment. Technological changes in development have often been criticized as being a means to 'control' and 'survey' society unknowingly. However, as an urbanizing and developing country competing in a globalizing world- with an increase in economic pressures- crime and other socially related issues become difficult to manage. These are some of the push factors of business investment from the Durban CBD area. New develop plans are set to create livable and safe environments even with the growing population numbers.

Current planning tools also consider relevance over replication as an urban spatial planning tool, which are the current development trends. It goes without say that African cities are still challenged with the restructuring of previously colonized regions and thus need unique models and spatial planning tools to remedy the residual impacts of past spatial imbalances. The inability of the previously used theoretical growth models- the Burgess Concentric Zone Theory, the Hoyt Sectoral Theory and the Bid Rent Theory- to adjust to changes and the growing urban spatial needs, has put pressure on the demand for a shift in spatial planning and policy. With that a shift towards a more polycentric type of development

has been apparent. This shift does not reject the previous models but simply builds on their principles by suggesting multi-nuclei/ multi-nodal city designs as opposed to a single monocentric design. This type of development exerts less pressure on the main CBD by focusing developments on various nodes (Northern and Western) which feed off from the Central CBD area. Decentralization out of Durban's CBD to the Durban North areas must thus be seen as an urban reconstruction process in which other cities with similar historical backgrounds begin to evolve and adjust to their unique needs. Current spatial tools not only seek to respond to physical needs of development but mainly to social needs including the need for managed areas that are convenient and enabling to those living within. Polycentric Developments, Compact Cities and Mixed Use developments are thus the new development tools that are relevant and unique to respond to the pace of urbanization in a post-colonial city like Durban.

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## 7. APPENDICES

### APPENDIX A: Interview schedules

#### ONE-ON-ONE INTERVIEWS

**Institution (s):** Tongaat Hulett Development

Dube Tradeport



**Synopsis:** *Pre 1994 theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory were used as a template to guide and fulfil spatial requirements that were seen as necessary in creating a holistic environment. Post 1994 the Durban Metropolitan Area (DMA) has seen various changes in growth patterns that are coupled with a variety of needs -that are the factors necessary- in modern developments. This paper thus seeks to discuss and contrast between the 3 growth models (Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory) and the various growth trends that are currently shaping the development of the DMA. The research will thus be used to collect data around the topic including policy, development prospects and factors sparking the various developments seen in the North of the Durban Metropolitan Area.*

**Researcher:** Mbalenhle Precious Ngidi

Master in Town and Regional Planning Student (2<sup>nd</sup> Year)

University of KwaZulu Natal

**Supervisor:** Dr. Hope Magidimisha

Lecturer& Researcher

University of KwaZulu Natal

In conducting this research, it can be noted that:

- All participation during interviews is on a voluntary basis and participants may be free to withdraw from the research at any given time without negative or undesirable consequences caused to themselves;
- Anonymity will be insured where necessary;

- All responses will be treated in a confidential manner and safely kept on an online storage program with a file and access password. The data collected will also be safely kept and locked up by the supervisor for a period of 5 years, where it will then be discarded of at the end of the 5<sup>th</sup> year;
- The medium in which the data is used will be made available to the institution at the end of the research on request.

## **INTERVIEW SCHEDULE**

1. When did the company begin developments in the Durban North Area?
2. What attracted you to develop in this area?
3. What has been the vision of your developments?
4. What are the future prospects of the Durban North Area?
5. What are the benefits of developing in the Durban North Area as opposed to the Durban CBD?
6. What factors of the Durban North Area are driving developments to mushroom in this area?
7. What policies, development models or guidelines have guided the developments made by your company?
8. Do you see the Durban North Area as a continual of the Durban CBD or as a new CBD of its own?
9. What main land uses are developed in this area?
10. In your opinion, what type of developments does Durban need? And are we working towards them?
11. What projects is your company planning to embark on? And how will it benefit the society/economy of Durban?

## ONE-ON-ONE INTERVIEWS

**Institution (s):** EThekwini Municipality



**Synopsis:** *Pre 1994 theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory were used as a template to guide and fulfil spatial requirements that were seen as necessary in creating a holistic environment. Post 1994 the Durban Metropolitan Area (DMA) has seen various changes in growth patterns that are coupled with a variety of needs -that are the factors necessary- in modern developments. This paper thus seeks to discuss and contrast between the 3 growth models (Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory) and the various growth trends that are currently shaping the development of the DMA. The research will thus be used to collect data around the topic including policy, development prospects and factors sparking the various developments seen in the North of the Durban Metropolitan Area.*

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In conducting this research, it can be noted that:

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- The medium in which the data is used will be made available to the institution at the end of the research on request.

## **INTERVIEW SCHEDULE**

1. How have developments in the Durban Metropolitan Area (DMA) changed over the past 5 years?
2. What factors guide developments in and around the DMA?
3. What is the mandate of the development of the DMA?
4. What is the predicted future of the DMA?
5. How do these new developments benefit the DMA?
6. What land uses have been identified to be sparking/ necessary in the development of the DMA?
7. What policy and guidelines have been utilized to guide the future developments of the DMA?
8. How has the growth of the Durban North Area affected the Durban CBD (negative and positive)?
9. How has policy adjusted over the years? Pre- 1994 versus Post- 1994?
10. In your opinion, what types of developments does Durban need?

## APPENDIX B: Direct Observation Checklists

### STRAIGHT OBSERVATION CHECKLIST



**Area:** Durban CBD

**Description:** Straight observation will be done at a central location in the city center, which has been identified to be the area around the Workshop City Centre.

**Theoretical base:** Kevin Lynch's Image of the City  
Behrens and Watson

**Synopsis:** *Pre 1994 theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory were used as a template to guide and fulfil spatial requirements that were seen as necessary in creating a holistic environment. Post 1994 the Durban Metropolitan Area (DMA) has seen various changes in growth patterns that are coupled with a variety of needs -that are the factors necessary- in modern developments. This paper thus seeks to discuss and contrast between the 3 growth models (Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory) and the various growth trends that are currently shaping the development of the DMA. The research will thus be used to collect data around the topic including policy, development prospects and factors sparking the various developments seen in the North of the Durban Metropolitan Area.*

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## **OBSERVATION CHECKLIST**

### **BENTLEY ET AL.**

<b>PRINCIPLE</b>	<b>POOR</b>	<b>FAIR</b>	<b>GOOD</b>
1. Permeability			
2. Variety			
3. Legibility			
4. Personalization			
5. Visual Appropriateness			
6. Richness			
7. Robustness			

### **BEHRENS AND WATSON**

8. Place-making			
9. Scale			
10. Access			
11. Opportunity			
12. Efficiency			
13. Choice			
<b>TOTAL</b>			

### **SCORING**

<b>Poor</b>	=	<b>1 point</b>
<b>Fair</b>	=	<b>2 points</b>
<b>Good</b>	=	<b>3 points</b>

**Total**  $\frac{\text{points}}{39} = \text{_____} \%$

Date: \_\_\_\_\_

## STRAIGHT OBSERVATION CHECKLIST



**Area:** North CBD

**Description:** Straight observation will be done at a central location in a central area which has been identified to be the area around the Gateway Theatre of Shopping.

**Theoretical base:** Bentley et al.  
Behrens and Watson

**Synopsis:** *Pre 1994 theoretical growth models such as the Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory were used as a template to guide and fulfil spatial requirements that were seen as necessary in creating a holistic environment. Post 1994 the Durban Metropolitan Area (DMA) has seen various changes in growth patterns that are coupled with a variety of needs -that are the factors necessary- in modern developments. This paper thus seeks to discuss and contrast between the 3 growth models (Burgess Concentric Zone Theory, The Hoyt Sectoral Theory and Bid Rent Theory) and the various growth trends that are currently shaping the development of the DMA. The research will thus be used to collect data around the topic including policy, development prospects and factors sparking the various developments seen in the North of the Durban Metropolitan Area.*

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**Supervisor:** Dr. Hope Magidimisha

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## OBSERVATION CHECKLIST

### BENTLEY ET AL.

PRINCIPLE	POOR	FAIR	GOOD
1. Permeability			
2. Variety			
3. Legibility			
4. Personalization			
5. Visual Appropriateness			
6. Richness			
7. Robustness			

### BEHRENS AND WATSON

8. Place-making			
9. Scale			
10. Access			
11. Opportunity			
12. Efficiency			
13. Choice			
<b>TOTAL</b>			

### SCORING

<b>Poor</b>	=	<b>1 point</b>
<b>Fair</b>	=	<b>2 points</b>
<b>Good</b>	=	<b>3 points</b>

**Total**  $\frac{\text{points}}{39} = \text{_____} \%$

Date: \_\_\_\_\_

## APPENDIX C: Comparative pictures from Authors Observation

### Umhlanga Area





## Durban CBD

Picture 13



Picture 14



Picture 15



Picture 16



Picture 17



Picture 18



Picture 19



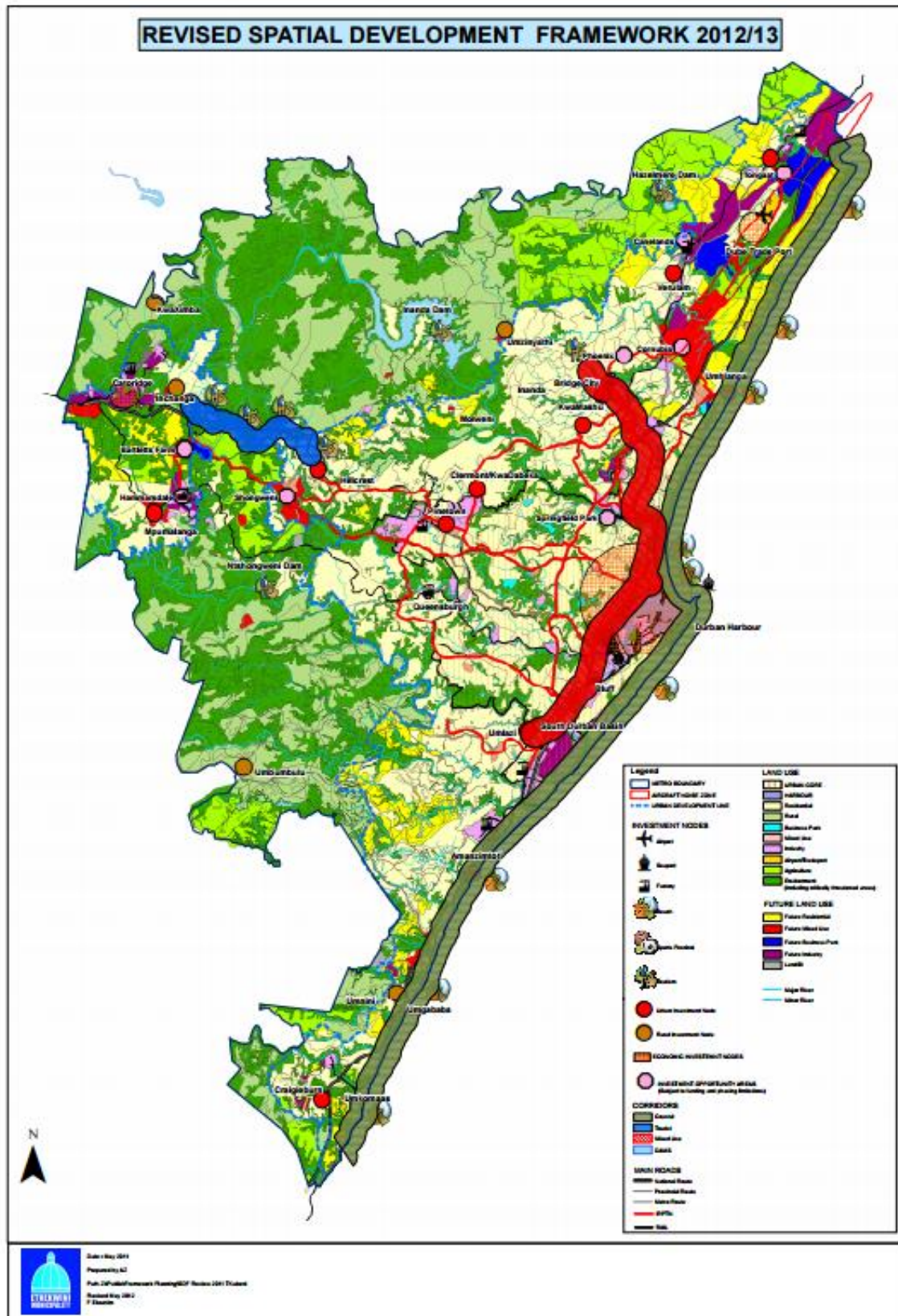
Picture 20



Picture 21

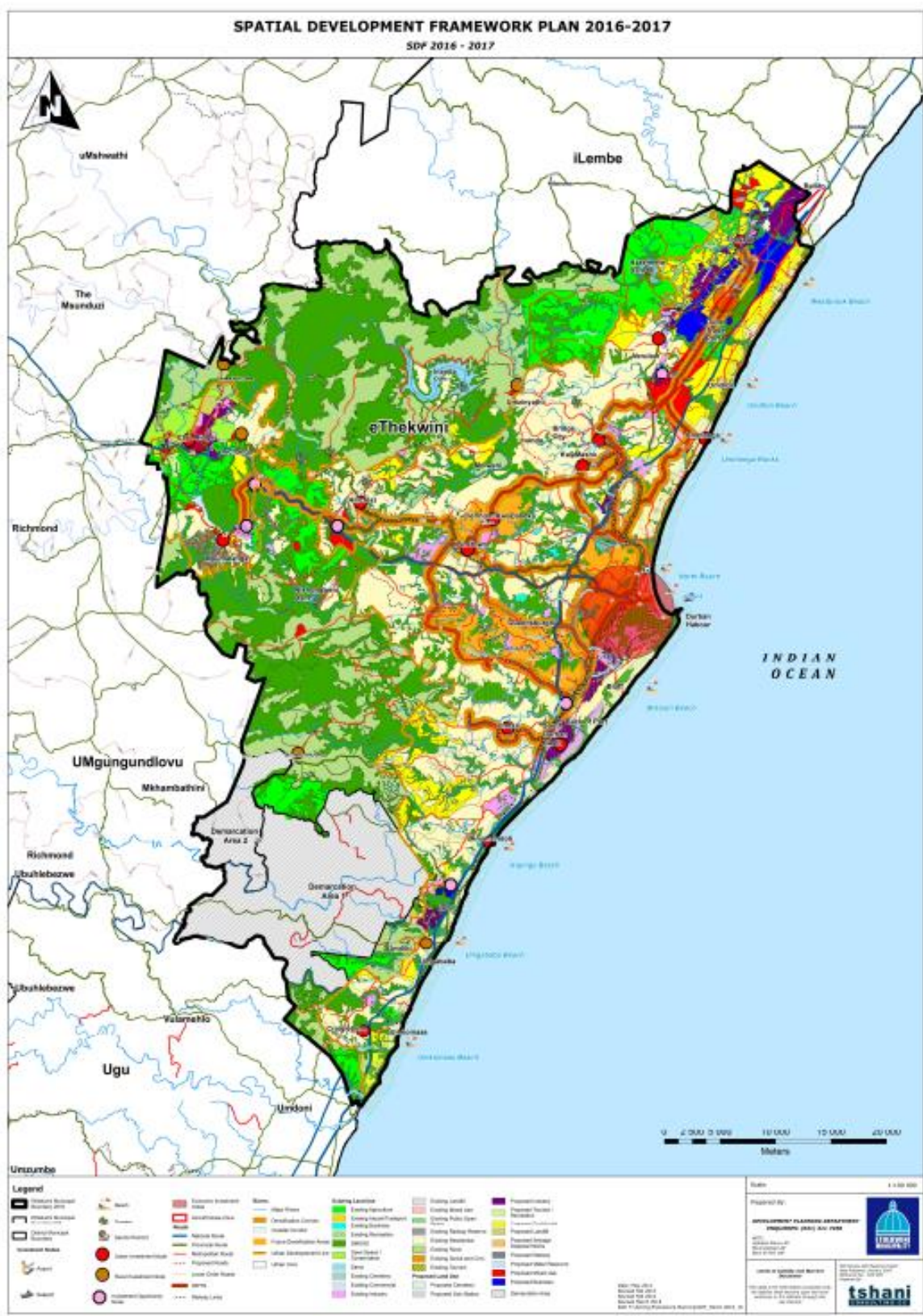


APPENDIX D: Maps



Map 4.1: EThekweni Municipality Spatial Development Framework 2012/2013





Map 4.2: EThekweni Municipality Spatial Development Framework 2016/2017



*Map 4.3: Social Amenities accessible in the Umhlanga Area*



*Map 4.4: Social Amenities accessible in the Durban CBD area*