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Investigating the Implications of Edge-City Development on Integrated Spatial Planning: Case Study of Umhlanga, (Prestondale) eThekwini Municipality.

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A short dissertation submitted in partial fulfilment of the requirements for admittance to the degree of Masters in Town and Regional Planning (MTRP) in the School of Built Environment and Development Studies in the University of KwaZulu-Natal, Durban

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Declaration

I, Mpumelelo Mpendulo Mnyandu, declare that this research is my own work and has not been used previously in the fulfilment of another degree at the University of KwaZulu-Natal or elsewhere. Use of the work of others has been acknowledged in the text.

Signed:

28/01/2021

Mpumelelo Mnyandu Date:

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Abstract

In the global South, the desire for cities to increase their participation in the global economy by cultivating world cities has led to a heightened presence of high-end privatized urban enclaves that have seemingly become key drivers of city development. Conceptualised as edge cities under the Postmodern Urbanisation framework in the Los Angeles school of thought, these urban enclaves showcase how the decentralization of cities and the demand for affluent lifestyle living has dominated city development trajectories in both developed and developing countries. In response to this trend, more cities are embracing urban policy discourses and spatial plans that are orientated around achieving spatial integration with the interest of ensuring equitable access to city resources for all. The planning discourse in South Africa remains committed to transforming the urban morphology of South African cities from one that is plagued with spatial segregation and fragmentation to one that practises urban compaction and integrated urban development. With this background, the main objective of the study was to find out the impact that edge city development has on the transformation agenda that advocates for integrated spatial planning within the South African urban landscape. A qualitative research approach was used to obtain findings using structured key-informant interviews as a primary data collection source, where purposive sampling was used to purposefully select the sample population. The study found that the development of edge cities perpetuates spatial segregation patterns that exist within the South African urban from. Despite legislature and policy commitment to spatial transformation and integrated development processes, edge city development continues to develop along economic and class divisions that are a legacy of apartheid planning. Furthermore, the study found that the implications that edge city development has towards achieving integrated spatial planning includes increased urban sprawl, deepening socio-economic divisions, spatial exclusivity as well as a lack of public facilities that are not privatized.

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Abbreviations

CBD	Central Business District
COGTA	Cooperative Governance and Traditional Affairs
COJ	City of Johannesburg
GPT	Growth Pole Theory
JHB	Johannesburg
KIBS	Knowledge Intensive Business Services
KZN	Kwa-Zulu Natal
IDP	Integrated Development Plan
IUDF	Integrated Urban Development Framework
LAS	Los Angeles School
LUM	Land-Use Management
NEC	New Employment Centres

NUA	New Urban Agenda
NPC	National Planning Commission
NDP	National Development Plan
SDF	Spatial Development Framework
SDG	Sustainable Development Goals
SSP	Strategic Spatial Planning
THD	Tongaat Hulett Developments
THP	Tongaat Hulett Property

1. Chapter One: Research Framework

Cities are prime organs of urban development that encompass constant change and expansion through various forms of development. They are connected in varying degrees into wider urban systems that reflect local, regional and global forces that stimulate urban development (NPC, 2011). As pioneers of development and urban transformation, cities in the last century have undergone expansion and modifications that have drastically influenced the creation of different urban morphologies to accommodate different forms of urbanization (Watson and Gibson, 1995).

A significant contributing concept to the changes in various city structures has been the process of city decentralization. The decentralisation of core cities, whether through organic decentralization or market-induced decentralization, can be identified as a global phenomenon that disperses a city's activities from the urban core into various parts of a metropolitan area. In some cities, this has happened in such a way that the city core becomes *emptied out* through the exodus of prominent business that leaves the core *hollow* while urban development takes place in the urban edge in the form of decentralized nodes (Irwin and Bockstael, 2007; Sihlongonyane and Lewis, 2016).

Gerlofs (2010) brings forth that the process of decentralization of core cities accompanied with rapid urbanization of the suburban areas through activity agglomeration, outside of the traditional central city footprint has resulted in the creation of a significant urban morphology known as the *edge city.* Bontje (2004) indicates that such urban development in the urban edge, typically stemming from the suburban region of a city, is mostly a result of private developers' prominent involvement within the built environment. The ability of urban development markets in embracing privatization showcases the diverse power relations that private sector possesses by having the ability to influence city expansion into different locations within an urban region. With less state intervention in contemporary city spatial expansions, edge cities have quickly become alternative forms of space production and consumption. Edge cities have internationally been showcased as models of sound town planning and urban design through their interchangeable nature that projects them as new downtowns and in some cases as specialized regional economic landscapes. (Phelps, 1998; Irazabal, 2006).

The infiltration of movements such as the Postmodernism Theory in city development and urban planning argue that urban regions produce multiple urban morphologies with various spatial patterns underpinned by fluidity, gentrification, fragmentation and social polarization.

Such spatial patterns are all highly influenced by globalized city development spatial trends which have noteworthy implications and consequences for spatial planning and spatial integration (Dear and Flusty, 1998; Hackworth, 2005).

The rise of the urban transformation agenda in South Africa that has sought integration of the urban form, since the 1990s, has been the driving force for the need to drastically improve urban development and local planning by encompassing equity-based city building principles that aim to narrow down urban fragmentation. South African cities showcase an urban space production that predominantly highlights spatial development inequalities that are largely a legacy of the apartheid planning regime. The normative spatial planning direction for South African cities has become based on stitching together apartheid's urban discontinuities through urban transformation that encourages urban integration (Bollens 1998; Williams, 2000; Morphet, 2009).

Therefore, this research dissertation seeks to shine a light on edge city development in South Africa and their impact on integrated spatial planning. The study examines edge cities from a spatial perspective and looks at how they impact the work towards spatial planning and integrated development within South African cities.

1.1. Defining the Edge City Phenomenon

Pioneered by Joel Garreau an American journalist, scholar and author, in his book *Edge City: Life on the New Frontier*, published in 1991, the term edge city was coined to describe urban spatial patterns related to the type of city development that was largely unfolding in Northern America. The term edge city was used by Garreau in his publication to explain how the expansion of the urban form away from the centralized traditional city resulted in developments that occurred at the *edge* of the city or metropolitan boundary as a result of urban decentralization of the older urban core or central business district (CBD) (Garreau, 1991).

Furthermore, the development of edge cities in the American urban landscape, mainly from the beginning of the 1980s, was noted by Garreau (1991) as being supported by significant suburbanization of the urban edge in the metropolitan periphery through the relocation of economic activities and commercial services from CBDs into areas of concentrated suburbia. The functions of the central city were then seen as being *transferred* from the CBD to the edge city, where a concentrated presence of business, shopping and entertainment grew in what was

previously residential or rural landscapes. The term edge city grew as an international concept used to describe the consequence of urbanization and commercialization of suburban areas.

In his work, Garreau formulated five (5) characteristics to which an edge city can generally be identified. These included that an edge city typically must have:

- 5 000 0000 sq. ft. (464 500m^2) or more of leasable office space which forms the workplace of the information age.
- 600 000sq ft. (55 740m^2) or more of leasable retail space.
- Is perceived by the population as one place
- Should have not been anything like a *city* thirty years ago.

These characteristics devised by Garreau are originally an expression of the visibility of Northern American city decentralization that was observed to be embedded in mixed-use and mixed-density agglomerations of office parks and regional retail developments within the suburban area. However, these characteristics have been adopted by scholars throughout literature as a means of forming a general foundation of describing and understanding edge cities around the world.

Phelps (1998) substantiates Garreau's five (5) characteristics of the edge city by differentiating three general types of edge cities that are formed from the above listed characteristics.

- *Boomers:* Edge cities that evolve from chaotic and rapid suburban development. Such edge cities are shopping mall orientated and driven by highway corridor developments which produce corridor intersections that allow a high-volume access into the edge city. The edge city develops as a node development that draws a variety of populations into it when extensive office and retail space settle into the suburban area.

- *Uptowns:* Edge cities that are built upon pre-existing settlements. In this edge city, the focus is on the advancement of urban centres that are developed within existing settlements therefore creating more *jobs than bedrooms* in the settlement.

- *Green fields:* Edge cities that are distinctly planned and built for a planned community. Their physical, social, and economic nature is deliberately and strategically devised to

serve a particular purpose to those developing the green field as a means to create a *new* city that has not existed.

In addition to Garreau's conceptualisation of the edge city, different urban scholars have also attempted to define and articulate the phenomenon of the edge city. According to Cheng *et al* (2017) edge cities represent a modern form of urbanization that explains the progression of an urban spatial structure from monocentric to polycentric form. This interpretation by Cheng *et al* (2017) suggests that edge cities function as secondary cities within a metropolitan area where they provide the urban spatial region with an alternative that is equally developed. Edge cities can then be viewed as developments that expand the urban morphology of existing urban areas by functioning at the urban edge of existing cities and expanding the urban footprint.

Watson and Gibson (1995) define edge cities as rather being small cities that develop just outside the metropolitan area when the central city undergoes sprouting as a result of urban sprawl. Therefore, the geography of the edge city is one that is shaped by the expansion of the overall urban metropolitan area that develops through the redistribution of employment, access to mass transit systems, income and sometimes class, racial and ethnic differentiation. Zhao *et al* (2017) supports Watson and Gibson by highlighting that urban sprawl becomes a huge contributor to the development of edge cities as their development is rooted in the movement of urban core activities migrating from the urban core and implanting in the urban edge.

Scheer and Petkov (1998) take a different stand in defining the edge city. They describe the edge city as developments that are external to the traditional urban core known as nodes, downscaling them from *city* status to something significantly smaller. Scheer and Petkov describe edge cities as highly developed independent nodes with an urban fabric that consists of a less dense development footprint than that of the traditional city and the traditional CBD. This implies that although the edge city is generally formed from the decentralization of the central city, the agglomeration of economic and commercial activities that transfer from the city centre to the edge city do not create a compact urban morphology within the edge city. Michel and Scott (2005) allude that the decrease in density from the central city to the edge city is due to the physical expression of edge cities being centred around the service and information economy rather than mass production which has always been a characteristic of the industrial economy. This implies that the deliverables of the edge city in relation to *production* are less tangible compared to the traditional city. Rather, production has become

service and information based because of the shift from industrial to post-industrial societies that has taken place (Burdack, 2005).

The perception of edge cities whether as small cities, secondary cities alongside traditional cities or as mere nodes of development is subject to the extent of their development. However, what literature seems to agree on is that edge cities are a product of the post-suburbia development process that has been used as an engine for further urbanizing suburban regions to mimic the urban core. This process encompasses significant spatial advancement of the low density residential urban spatial morphology, where the urbanization of the suburban area capitalizes on urban decentralization. Such then produces a population shift from the urban core into suburban areas consequently probing edge city development. As a result, such recentralizes the edge city to begin to function as a *city* on its own.

With the above definitions read in conjunction, this dissertation adopts the rationalization that firstly, edge cities are a product of the decentralization of core cities which gives birth to the rapid urbanization of the suburban and exurban[1] areas through economic, commercial and social agglomeration of urban activities. According to Henderson and Mitra (1996) this agglomeration of urban activities permits edge cities to exist as *complete cities* that provide employment, residential living, shopping and services for inhabitants. Secondly, edge cities tend to develop around a strong growth pole such as a mall, airport, university, or office complex (Scheer and Petkov 1998) that draws economic and commercial activities to migrate to the urban edge. Lastly, edge cities are largely autonomous in planning and function to existing city centres having a novelty of a self-contained urban form.

Part of the adoption of Umhlanga as a case study is to showcase through primary and secondary data collection that as an extensively planned community, Umhlanga conforms to the above-mentioned characteristics of an edge city.

1.2. Background to Research Study

According to Michel and Scott (2005) the development of edge cities as a result of decentralization of the older CBD happens as an outcome of neoliberal capitalism. At an economic level, this phenomenon speaks to the ability of urban development to be guided by the pull of economic forces embedded in the private sector that influence the direction of city

[1] According to Lang and LeFurgy (2003) the exurban area in an urban spatial form is that which is after the suburban yet still before rural territory. Although there are no solid physical lines to separate spatial forms, the authors highlight that urban geography is still highly bound by hierarchal living ranks commonly separated into urban, suburban, exurban, rural.

and regional development to different locations within an urban region. Relocation and new implantation of economic and commercial service activities from the urban core to the urban edge becomes controlled by those with investment and developing power. In addition to Michel and Scott's neoliberal capitalism hypothesis, Dear and Flusty (1998) emphasize that another driving factor for the development of edge cities is the rapid urbanization the residential suburbs of the 20th and 21st century have experienced. The suburbanization of employment, industrial and commercial activities has resulted in the development and growth of edge cities.

The conceptualization of the edge city is a phenomenon of the Los Angeles School of thought that recognizes and represents a postmodern urbanisation approach to urban planning (Michel and Scott, 2005). The postmodernism movement towards urban planning and urban development has its roots in rejecting the idea that cities should develop in a rigid and monocentric manner through the processes of master planning. The urban spatial forms and development patterns recognised by the postmodern movement in urban planning embrace a decentralized, multi-functional and polycentric development spatial pattern for cities by asserting that city expansion is related to increasing the multi-functionality of cities and diversifying the metropolitan area. (Hebbert, 2008).

In South Africa, edge cities can be traced back to the late 1980s and early 1990s where CBDs started to experience decentralization as a consequence of White capital flight and office relocation away from the CBDs into the urban edge characterised by low density suburban residential development. The agglomeration of economic activities that moved from the CBDs to the urban edge were embedded in extensive private sector development that was reacting to the demise of apartheid rule (Mdlalose, 1996.) This can be easily observed with the city of Johannesburg (JHB) which has been at the forefront of city decentralization in South Africa. The decentralization of JHB businesses birthed prominent suburban nodes in the north of the city such as Midrand, Rosebank and Sandton. These developments nodes contribute to almost 52% of the economic output while the JHB CBD only contributes to 36% of the economic output within the Gauteng province (Horn, 2018).

The transition from apartheid to post-apartheid has seen the planning fraternity in South Africa through planning and land-use management advocate for spatial planning that encourages and promotes integration within the built environment that seeks to redress the spatial, social and economic imbalances of the past (eThekwini Municipality, 2017). Studying the spatial structure of South Africa cities, Du Plessis and Boonzaaies (2015: Pg.87) highlight that *"the*

need to transform the structure and morphology of South African cities remained high on the policy agenda of all three spheres of government in South Africa since 1994." To carry out reformed physical planning and urban development, policy transformation governing urban planning is argued to have gone fundamental changes to produce a spatial planning framework that advocates for more integrated and inclusive cities in South Africa. Urban planning policies in South Africa have largely been in favour of compact and spatially integrated cities that seek to redress the patterns of spatial inequality left behind by apartheid planning (Britz and Meyer, 2006).

However, slightly over 25 years into democracy, South African cities and the rural areas still resonate with segregated spatial planning patterns that continue to highlight the depth of the apartheid legacy and how it continues to burden South African spatial planning (Van Wyk, 2012).

To redress spatial planning inequalities, the use of concepts such as integration and spatial planning in development planning have been vastly emphasized by all spheres of government since the early 2000s. Conceptualized in this study as *integrated spatial planning,* integrated spatial planning is concerned with the dismantling and transformation of spatial distortions in order to restructure urban spatial patterns to pursue social, economic and spatial inclusion for all populations (Mashiri *et al*, 2017). Morphet (2009) brings forth that the purpose of an integrated spatial planning through policy and physical planning is to bring about a transformation agenda. In the South African city/urban context, the transformation agenda is founded on the pursuit of reconfiguring the urban form and the reconstitution of urban space by emphasizing integration, de-racialization and compaction in the post-apartheid city (Sihlongongene and Lewis, 2016).

Encouraged and promoted by the Municipal Systems Act No. 32 of 2000, Chapter Five of this Act legally mandates the production of Integrated Development Plans (IDP) by municipalities (Republic of South Africa, 2003). This mandate is set for municipalities to carry out integrated development planning at the local government sphere to ensure development does not reproduce patterns of segregation that was experienced under apartheid urban planning. From a spatial perspective, the Spatial Development Framework (SDF) becomes the spatial vision of the IDP and represents the spatial interpretations of the IDP (Republic of South Africa, 2013). Furthermore, Chapter Four of the Spatial Planning and Land Use Management Act No.16 of 2013 regulates the creation of the SDF's and general spatial planning in South Africa. The legal

and statutory foundations of spatial planning in South Africa prove that spatial planning and the need for integration through economic and social inclusion directly translates to the need for spatial correction of the fragmented urban form left behind by the previous planning regime.

1.3. Problem Statement

In South African cities, spatial segregation and inequality can be widely observed as it stands out significantly throughout all regions in the country. Such intense and widely visible spatial segregation patterns are a legacy of apartheid spatial planning that is still deeply embedded in the urban morphology of South African cities. Sosibo (2016) highlights that additionally to the inherited apartheid spatial inequality legacies, there is currently a strong relationship between the lack of spatial integration and economic inequality in South African cities. The publication by Statistics South Africa (2017) on *"Poverty Trends in South Africa: An Examination of Absolute Poverty between 2006 and 2015"* supports Sosibo's observation by indicating that the lack of spatial integration in South Africa is directly proportional to economic inequality levels whose resultant further follow an exponential pattern. This implies that segregation no longer just revolves around spatial factors but also revolves around economic factors that go beyond to affect where the broader population finds itself spatially placed.

Singh and van Eeden (2017) bring forth that instead of spatial integration, spatial inequality and segregation takes the form of dividing the society on levels of class, income and social prestige. These segregation measures can be seen as mere replacements of forced legislative racial, residential and spatial segregation orders that South Africa has experienced in the past. The Statistics South Africa (2016) *"General House Survey Volume 7"* highlights that the apartheid urban profile still largely exists through the continued manifestation of spatial segregation accompanied by fragmentation and inequality that is still evident in the spatial make-up of South Africa.

Statistics South Africa (2017) indicates that the Gini Coefficient measures income inequality, where 0 represents absolute equality and 1 represents inequality. On the Gini Coefficient scale South Africa sits at 0.7 as one of the highest in the world, highlighting that South Africa still suffers from extreme inequality. The Gini Coefficient of Durban is 0.63 and this sees Durban as the third most segregated city in South Africa (Statistics South Africa, 2017). The high levels of income disparity sitting at 75% globally in the last two decades (UN-Habitat III, 2016) directly translate to the spatial inequalities that can be found in the spatial make up of various cities around the world.

In South African cities, concepts such as urban sprawl have gone on to highlight the rising scale of spatial inequality and segregation. Mabin (2005) relays that urban sprawl in South Africa has resulted in increased pockets of isolated developments. The UN-Habitat III (2016) argues that pockets of developments in cities develop through unrestrained monopolized private sector developments that cater to a targeted population, where such produces spatial separations between the urban elites and the rest of the urban population. Superior purchasing powers from the upper class and the elite who are able to invest in the edge city footprint enables the edge city community to exist as a solely upper class residential and social community that includes alike individuals only. The study argues that it is harmful to the urban transformation agenda for South African cities to continue to produce urban enclaves such as edge cities as they further perpetuate spatial divides inherited from apartheid spatial planning. The study also argues that market disparities particularly found in the cities of South Africa exacerbated by expensive land and residential prices, the privatization of public space and long commuting distances can be seen as some of the *methods* used by private sector developers to segregate elite wealthy populations from the general public to form urban enclaves that represent the power of private capital, networked infrastructure and corporate domination (Herbert and Murray 2015; Murray, 2015). This ultimately produces urban forms that capitalize on the existing urban spatial inequalities through the tools of income and class disparity therefore affecting the reality of integration and socio-spatial equity.

The National Development Plan (NDP) highlights that transformation of the urban space through spatial planning that uses an integrated development planning approach has proven to be more complex given the diversities across South Africa. Furthermore, as an overarching development plan for the country, the NDP observes that "*there are powerful interests concerned with maintaining the spatial status quo.*" (NPC, 2011: Pg.260). This implies that there are people as well as institutions that seek to maintain spatial divisions that exist and thus are reluctant on working towards creating an integrated urban space through spatial planning that pursues integration. From an urban development perspective, spatial planning and integrated development have become the first respondents to try and restructure the urban fabric of South African cities. However, Mabin (2005) notes that private sector interests have a way of playing a determining role in the growth of South African cities as well as discretely influencing the urban spatial patterns and spatial change that continues to unfold in South African cities. This can be observed especially on sites of green-field land outside traditional

central cities where development favoring certain economic and social cluster population groups occurs and results in the exclusion of some members of society.

Therefore, the study identifies three main problems in the spatial status of South African cities that support and give reason to the procedure of the study. The prominent spatial problems that exist in South African cities include:

- Increasing spatial divides
- A widening gap between the worlds of the township, the inner city and the suburbs
- The protection of middle-class and upper-class prosperity is placed at the center of development

The above identified spatial problems are entrenched in the urban spatial fabric of South African cities and tend to exacerbate spatial inequality (NPC, 2011). The formal erosion of residential segregation has done little to shift the spatial geography of South African cities. Echoing the difficulty of spatial transformation noted by the NDP, Watson (2011) expresses that the spatial transformation and integration agenda has largely been on *paper* with numerous calls from national policy statements and different government sphere plans calling for integrated, sustainable and inclusive urban development as concepts to replace apartheid planning. Vanderbilt (1995) brings forth that the problem of spatial divisions and a lack of integration will not easily subside in urban territories as the development of edge cities is fundamentally hostile towards social inclusion as edge cities are aggressively designed to keep others out with the intentions of protecting particular communities. Thus, in the South African context, the researcher intends to highlight that the fight for exclusivity and separation within the urban form using the built environment has become a silent fight that now uses economic means as opposed to previous racial means to create newer urban developments. Such developments particularly at the urban edge may have implications for integrated spatial planning.

1.4. Rationale of Study

The motivation for this study stems from the observation on the ground where developments in the urban edge are near a concentration of office parks and regional shopping malls as foci for surrounding commercial and residential development. There is a need to study and understand the development of edge cities as they bring awareness to how different cities can

be formed as well as how the decentralization of core cities can give rise to the development of newer satellite cities that are not so far from traditional core cities (Chuduba, 2014). The motivation for this research is to document the implications produced by edge city developments (which exist on the urban edges of South African core cities) towards achieving an integrated spatial planning embedded in spatial integration and socio-spatial equity.

Furthermore, the motivation of the study is to find out how local government (eThekwini Municipality) has dealt with and continues to deal with developments at the edge of the city that are highly driven by private sector. It is important for planners, property developers, urban developers and local government to be aware of the implications and consequences that edge city developments may pose on integrated spatial planning. Integrated spatial planning is an essential planning method that can ensure that edge cities do not occur as isolated pockets of private sector development and to ensure that social and economic accessibility into these edge cities is accelerated through spatial planning that is inclusive.

This research is intended to benefit public and private planners as well as local government officials that work with integrated development plans and spatial development frameworks. Municipal tribunals that approve large scale developments are also a key target as they hold significant power in the approval of projects that have the ability to influence city landscapes.

The work towards integrated spatial planning is fundamental in the planning and development of sustainable human settlements in South Africa. The current goal of the National Development Plan, Chapter Eight, titled "*Transforming Human Settlements and the National Space Economy"* is set at achieving an *"integrated, balanced and vibrant urban settlement by 2030"* (NPC, 2011). The current urban spatial patterns in most (if not all) South African cities are a legacy of apartheid planning which was embedded in racial, social and economic segregation.

The current trend for city expansion in the South African urban form is that of city-regions developing and extending beyond individual municipalities (NPC, 2011). This then isolates different classes of people from each other through gated communities, land prices and long commuting distances that further go on to affect social solidarity amongst South African communities (Sosibo, 2016). Researching edge cities and understanding how they influence spatial patterns on a local and regional scale is necessary as Durban is continuing to expand through urban sprawl and private sector driven development, particularly in the northern region.

1.5. Aim of Study

To investigate the extent to which the phenomenon of edge cities has prevailed in South Africa and how it has affected integrated spatial planning.

1.6. Objectives and Research Questions

Main Research Question: What impact has the Umhlanga development had on the work of trying to achieve integrated spatial planning in eThekwini Municipality?

Table 1: Objectives and Subsidiary Research Questions

Objectives of Study:	**Subsidiary Research Questions:**
1. To explore the determinants that have promoted and perpetuate Edge City development in South African cities.	1. What have been the contributing factors that have led to there being significant developments at the "edge" of South African cities?
2. To explore how the spatial planning frameworks of eThekwini Municipality respond to spatial segregation.	2. What strategies have the spatial planning frameworks of eThekwini Municipality implemented to respond to and address spatial segregation?
3. To investigate if the Umhlanga development has dismantled or reproduced spatial segregation patterns of that are a legacy of apartheid planning.	3. To what extent has the Umhlanga development redressed or reproduced the existing spatial segregation patterns that are seen in South African cities?
4. To establish the spatial development role played by Umhlanga in enhancing integrated spatial planning in eThekwini Municipality.	4. What spatial role has Umhlanga played in improving integrated spatial planning in eThekwini Municipality?

See *Annexure 1* for details/direction on where and how each objective has been met.

1.7. Hypothesis

Edge city developments produce implications for integrated spatial planning that result in continued spatial segregation and spatial inequalities in urban communities.

1.8. Chapter Outline

The following chapter outline gives a brief overview of how the holistic dissertation will be structured through various chapters that will address the topic at hand as well as the presented objectives and research questions.

- Chapter One: Research Framework

Chapter one introduces the topic and its background while giving a detailed definition of the edge city phenomenon. The use of a problem statement and study rationale is used to provide context for the need for the research study. An aim as well as specific objectives are provided to support the driving forces of the research which are depicted by the research questions.

- Chapter Two: Research Methodology

The research methodology chapter explains the adoption of the qualitative research approach along with the research methods used to fulfill the set of research objectives and the research questions. This chapter goes into detail as to how the research was done along with detailing a research design showing the process of data collection using structured and semi-structured interviews as data collection tools. The research methodology chapter delineates the data collection sources, the sampling methods that were used as well as indicates the data analysis method used to analyze and interpret data. Lastly, this chapter highlights limitations of the study as well as the ethical considerations that were considered during the data collection phase while interacting with the study participants.

- Chapter Three: Conceptual Framework-Giving Meaning

The conceptual framework discusses the relevant concepts that underpin the study. This chapter gives definition and depth to the study by using the conceptual framework to define the key terminology that will be used throughout the research.

- Chapter Four: Theoretical Enquiry of Contemporary Urban Development

The theoretical framework provides a theoretical foundation upon which the problem being investigated in the study can be understood. The theories used to understand the topic at hand include the Postmodernism Theory, the Organic Decentralization Theory and the Urban Realms Theory model to further illustrate the development of edge cities from a theoretical perspective. The Advocacy Theory and the Equity Planning Approach are reviewed to expand the objectives that spatial planning should achieve in planning practice.

- Chapter Five: Literature Review

The literature review highlights the different debates by different scholars in literature towards the topic of edge cities. The history as well as determinants of edge cities is explored. The chapter further zooms into the South African spatial planning history by reviewing city development during the colonial and apartheid era's as well as looks at the development trajectory of South African cities post-apartheid.

- Chapter Six: Contextualizing Integrated Spatial Planning within International and South African Planning Frameworks

This chapter seeks to highlight the context within which the concept of integrated spatial planning exists in local, provincial, national and global planning spheres. It reviews international policies and commitments for urban development and urban inequalities. It also highlights some popular and key legislations and policies that underpin development and spatial planning in South Africa with the aim of showcasing why integrated spatial planning is critical in South African cities.

- Chapter Seven: Presentation of Data Findings and Analysis

The chapter starts by firstly presenting the case study of Umhlanga and its socio-economic profile. Secondly, data that was collected by means of primary data collection through the means of key-informant interviews and resident interviews is presented. The data is analyzed using content and thematic data analysis methods to find key trends as well as distinct patterns. This chapter is key in answering the research questions.

- Chapter Eight: Data Findings Summary, Recommendations and Conclusions

This chapter provides the summary of findings and some discussions that emanate from the data findings when reviewed against literature. The provision of recommendations comes from the study's review of literature, the presented data findings and from addressing the problem statement.

1.9. Chapter Summary

This research framework chapter has introduced the research topic and has engaged in literature to clearly define the phenomenon of edge cities. The background to the research topic delves into the phenomenon of edge cities where it is observed that the development of edge cities is recognized by the postmodern movement in urban planning that advocates for multi-

functionality in a metropolitan area to produce a polycentric urban form (Hebbert, 2008). Dear and Dahmann (2008) regard this as a significant process that represents urban place-production in current day city expansion and development.

At a national level, the phenomenon of edge cities can be traced back to the early 1990s, where Mdlalose (1996) assertively explains that the development of edge cities in South African was a reaction to the demise of apartheid. Furthermore, Goga (2003) *as cited in* Todes (2011) notes the role of exponential investments in the property industry as a key factor in central city decentralization, in particular office decentralization that has become one of the fundamental building blocks of edge city development in South Africa.

The problem statement and the motivation of the study bring forth that the spatial evolution of the South African urban context is still underpinned by segregation that transpires spatially as a legacy of apartheid planning and is now further perpetuated by economic and income inequalities (Singh and van Eeden, 2017; Sosibo, 2016). The engagement of the research framework has streamlined the aim of the study to seek *to investigate the extent to which the phenomenon of edge cities has prevailed in South Africa and how it has affected integrated spatial planning.* This aim is supported by objectives underpinned by a main research question that interrogates *what impact has Umhlanga development had on the work of trying to achieve integrated spatial planning in eThekwini Municipality?*

2. Chapter Two: Research Methodology

Research methodology is a systematic way of solving a problem when engaging in research. Kothari (2004) defines research methodology as a process that considers and applies logic to collecting, analyzing and presenting data. The methods used to obtain and analyze data are important as they allow for the research process to be repeated as a means of creating validity through a traceable research process. The research methodology adopted in this research study follows that of a case study nature to collect data. Marczyk *et al* (2005) indicates that for smaller studies such as a dissertation, case studies provide the benefit of expanding knowledge by dwelling on human behavior and living environments through in-depth examination of the case study to provide accurate and descriptive data for analysis.

The research approach adopted in this research study is one of a qualitative nature. This approach allowed for data to be collected from key-informants who included Tongaat Hulett Developers (THD), eThekwini Municipality (Strategic Spatial Planning and Land-Use Management officials), KZN Cooperative Governance and Traditional Affairs (CoGTA) as well as the residents of Prestondale Umhlanga through interview sessions as the main data collecting tool.

This research methodology chapter will discuss how the research study was conducted. Firstly, a research approach was identified and its relevance to the research project is explained. Secondly, a research design is formulated to illustrate the data sources, data collection tools and data analysis methods that were to present data findings (*see Table 2*). The last section of the research methodology highlights the ethical considerations that were taken to conform to ethical research behavior while the challenges experienced during data collection are also indicated.

2.1. Research Approach

The research approach that is used in this dissertation is the Qualitative research approach. Parker (2011) describes qualitative research as research that seeks to understand different ontologies and allows for the critical analysis of those ontologies to be realized. Qualitative research involves investigating human behavior (Kathari, 2004) and how different realities are formed (Cooper and White, 2012). Thus, the qualitative research approach is the most relevant for this research as it assists in investigating the reality of how edge cities have come to develop in South Africa and how the development of edge cities is interpreted by different people.

Furthermore, the use of the qualitative research approach will be useful in facilitating the tracking of development behavior that has led to the specific development patterns that have transpired in Durban in relation to the case study.

According to Carbin and Strass (1998) *as cited in* Sosibo (2016) the process of using the qualitative research approach has three main steps to it. Firstly, the collection of data through different data sources. Secondly, a procedural section where data is organized through coding methods. Lastly, the production of written and verbal reports that emanate from the data results. This process outlined by Carbin and Strass (1998) has been used to guide the proceedings of this research methodology to produce a written dissertation.

2.1.1. Suitability of the Qualitative Research Approach

Qualitative research emanates from the desire to explore different realities including various phenomena. According to Creswell (2009) how one undertakes research, in particular qualitative research, is highly influenced by their world view. The influence of a world view otherwise known as a paradigm perspective is what drives a research design. The paradigm underpinning this research study and research methodology process is the constructivist paradigm. This paradigm is relevant and useful for this research as is seeks to interpret reality and question why certain events occur the way they have by trying to understand a specific phenomenon, in this case the phenomenon is edge cities. Chilisa and Kawulich (2012) highlight that the constructivist paradigm recognizes that whatever is present is of social and historical construction.

In the context of the research topic, the urban spatial patterns of South African cities are legacies of apartheid planning that used spatial planning to enforce racial segregation (Van Vyk, 2012) which ultimately gave rise to intense socio-spatial segregation which is still seen today. There is therefore a need to research and investigate the development of edge cities and examine their implications against integrated spatial planning by investigating if underlying exclusionary development patterns occur through their development. This is important as the discourse around spatial planning in South Africa continually calls for integrated development planning and integrated spatial development through the use of integrated development plans and spatial development frameworks.

Creswell (2009) explains that the foundation of the constructivist paradigm is one that assumes that individuals seek to understand the world they live in. This perception of individuals and the world is directly aligned with the attributes of the qualitative research approach which

realizes the need to interpret the realities of individuals. The constructivist paradigm also contains an element of potential theory production. The findings of the research may not necessarily produce a new theory but can be very meaningful in generating explanations that will explicate how edge city developments affect the attempts of integrated spatial planning in eThekwini Municipality.

With the above explanation on the qualitative research approach and the constructivist paradigm, the qualitative research approach is therefore considered best for this research as it will assist in investigating the reality of how edge cities have come to develop in South Africa as well as how eThekwini Municipality interprets the development of Umhlanga.

2.2. Research Design

The research design of this study is strategically designed to follow a qualitative data collection method. Ndwandwe (2017) defines the process of a research design as one that allows the researcher to undertake data collection in a logical manner that becomes a process of unpacking the research problem at hand by classifying the information needed for analyses. A qualitative research design has an increased descriptive design as opposed to other research designs as the aim is to clearly articulate the design of the data collection method adopted (Marczyk *et al*, 2005).

With the acceptance of the above descriptions of a research design, consequently, a research design (*see table 2 below*) has been created to function as a road map to clearly illustrate the study's research methodology procedure. The research design is aligned to the objectives and research questions which have been used to reach the aim of the study as well as to find answers to the research questions put forward. Each research question that was used to assist in collecting data has a data source, data collection tool, data analysis method aligned to it.

Table 2: Research Design Synthesis.

Research Questions	**Data Sources**	**Data Collection Tools**	**Data Analysis Method**
1. What have been the contributing factors that have led to there being significant developments at the "edge" of South African cities?	Literature Review, CoGTA Official, Tongaat Hulett Developers, eThekwini Municipality officials LUMS and Strategic spatial planning	Desktop data collection, Key-informant's interviews, Field observation, Resident interviews	Content & Thematic analysis of study findings and literature review
2. What strategies has the spatial planning framework of eThekwini Municipality implemented to respond to and address spatial segregation?	Municipal documents/reports, eThekwini Municipality officials LUMS and Strategic spatial planning	Desktop data collection, Key-informant interviews (eThekwini Municipality), Field observation	Thematic analysis of Literature review & data findings
3. To what extent has the Umhlanga development redressed or reproduced the existing spatial segregation patterns that are seen in South African cities?	eThekwini Municipality officials from LUMS and Strategic spatial planning, Tongaat Hulett Developers, CoGTA Official	Field observation, Key-informant's interviews, Resident interviews	Content and Thematic analysis of data findings
4. What spatial role has Umhlanga played in improving integrated spatial planning in eThekwini Municipality?	eThekwini Municipality officials from LUMS and Strategic spatial planning, Tongaat Hulett Developers, CoGTA Official	Key-informant's interviews, resident interviews, Field observation	Content and Thematic analysis of data findings

Source: *Authors Own* (2018)

2.3. Data Collection Sources

This research on the implications of edge-city development on integrated spatial planning collected data from two sources; primary data sources and secondary data sources. These data sources will be discussed in detail below.

2.3.1. Primary Data Sources

According to Kothari (2004) Primary data is data collected during the time of the research. Primary data is data that assists in generating new knowledge as it is collected within a specific context as well as location. Primary data in this research was collected from 3 parties. These parties included public sector (eThekwini Municipality and Kwa-Zulu Natal Co-operative Governance and Traditional Affairs), private sector (Tongaat Hulett Developers) and the residents of Prestondale, Umhlanga, *see table 3* below.

2.3.1.1. Interviews

The data collection tool that was used to collect data from the key-informants was in-depth, structured interviews that included closed-ended and open-ended questions (*see Annexure 2*). Marczyk *et al* (2005) advocates for in-depth interviews when conducting interviews with key-informants as such interviews are expert based and provide significant and specific knowledge. The interviews were structured as majority of the questions asked are influenced by the objectives and research questions of the study as well as the occupation of the key-informant. The inclusion of open-ended questions allowed for conversation between the researcher and the interviewee to take place, allowing for opinion sharing on the topic to take place.

The data collection tool for resident interviews was semi-structured interviews which allowed for residents to share their experiences about living in Umhlanga which added another dimension to the study as these participants live in the research case-study area and thus had the potential to provide greater understanding of the case study area.

As mentioned above, the first set of structured interviews were done with public officials from the eThekwini Municipality Strategic Spatial Planning Branch, Land-Use Management Northern Regional Office and the Kwa-Zulu Natal Department of Co-operative Governance and Traditional Affairs (Spatial Department) office. The second set of structured interviews were done with the private sector, Tongaat Hulett Developers and the last set of interviews included the residents of Prestondale, Umhlanga.

Table 3: Summary of Research Respondents & Data Collection Tools.

Respondents.	**Data Collection Tool.**	**Reason.**
eThekwini Municipality Strategic Spatial Planning Branch (Town Planners)	Structured interviews	1. Main custodian of spatial planning for the municipality. 2. Interviewing the above branch mentioned will provide insights on the process that goes into the creation and adoption of spatial plans. 3.Identify the implications of the development of Umhlanga on integrated spatial planning within the municipality
eThekwini Municipality Land-Use Management in Northern Regional Office (Town Planners)	Structured interviews	1. Insight to the number and types of development applications that it receives in for the Umhlanga region. 2. Find out if applications actually live up to those development motivations.
KZN Co-operative Governance and Traditional Affairs (Planning Official)	Structured interviews	1. The Kwa-Zulu Natal CoGTA is the provincial department that oversees spatial planning in the Province of Kwa-Zulu Natal.
Tongaat Hulett Developers (Town Planner, Executive Directors)	Structured interviews	1. Landowner & one of the primary private developers in Umhlanga
Residents of Prestondale, Umhlanga.	Semi-structured interviews	1. Get perspective from the resident community of Umhlanga on the research topic as well as discuss their living experiences in Umhlanga. 2. Counteract bias as well as to allow residents to share their opinions on the development of Umhlanga

Source: Authors own (2018)

The Researcher was able to interview Three (3) key-informants from eThekwini Municipality Strategic Spatial Planning Branch. Two (2) key-informants came from Land-Use Management Northern Regional Office and One (1) key-informant from Kwa-Zulu Natal Department of Co-operative Governance and Traditional Affairs (Spatial Department) office. Four (4) respondents were interviewed from Tongaat Hulett Developers. Lastly, fifteen (15) Umhlanga resident respondents participated in the study. Therefore, the study had a total of 25 participants. The above selected participants of the study were required to answer questions that tackled a wide range of issues. These are summarized in *table 4* below.

Table 4: Broader Interests Investigated by Study.

Respondents.	**Broader Interests Investigated by Study.**
1. Tongaat Hulett	• Private sector's ability to dictate urban spatial development • How land ownership affects which types of developments are prioritized. • Development collaborations between private sector and the municipality
2. eThekwini Municipality Land-Use Management Northern Regional Office	• Influence of land-use scheme in perpetuating development in the urban periphery
3. eThekwini Municipality Strategic Spatial Planning Branch	• eThekwini's desired spatial development configuration • Municipalities view on private sector led development nodes
4. Kwa-Zulu Natal Department of Co-operative Governance and Traditional Affairs	• What spatial planning and implementation improvements eThekwini Municipality can make • Assistance provided by CGTA to eThekwini Municipality • Provincial perspective on northern urban development corridor
5. Umhlanga Residents	• Factors making Umhlanga a unique place to live in

Source: Authors Own (2018)

2.4. Secondary Data Sources

Secondary data is data that is already in existence. This data is data that has been published and already analyzed by other researchers (Kothari, 2004). For this research, secondary data was obtained from existing literature found in books, journal articles, newspaper articles as well as different theses from different international and South African universities. Such data was incorporated to help give informed definitions to the concepts and theories used to understand the phenomenon of edge cities. Another important source of secondary data came from South African local, provincial and national government documents. Such documents included (but not limited to) the National Development Plan; the KZN Provincial Integrated Development Plan and Spatial Development Framework, the Provincial Growth and Development Strategy and the eThekwini Municipality Integrated Development Plan and Spatial Development Framework.

2.5. Sampling Method

Robinson (2013) describes sampling as a technique that determines who will be part of the research and who will be most beneficial in providing the information needed by researcher. Sampling is about choosing a portion out of a total population as sometimes the time period of the research, costs involved, and capacity of the researcher does not allow for the research data collection process to include the whole population of the case study area. A sample also assists the researcher in picking a specific perspective they want to analyze.

The sampling methods that were adopted in this research under the qualitative research approach was the non-probability purposive sampling which was used for data collection from the key-informants and non-probability snowball sampling to attain residents to interview within Prestondale neighborhood in Umhlanga.

2.5.1. Non-Probability Purposive Sampling

Non-probability purposive sampling was the most relevant sampling technique as the research is predominantly relied on key-informants for the provision of data. Purposive sampling is a type of non-probability sampling that is used in qualitative research to purposefully select the sample of the population that will partake in the research. Robinson (2013) highlights that purposive sampling is used to ensure that a particular category of individuals and their opinions/perspectives is represented. This type of sampling is done to highlight viewpoints that

are seen as particularly unique and important as opposed to only getting a general overall population perspective. The research topic demands that municipal officials and municipal spatial plans be interrogated, thus the perspective of those working in eThekwini Municipality in relation to the spatial development of Umhlanga become key respondents that need to be interviewed.

The non-probability purposive sampling technique adopted in this research is of a heterogeneous nature as the chosen key-informants of the study come from different sectors such as the public sector, divided into provincial (CoGTA) and local government (eThekwini Municipality) as well as the private sector (Tongaat Hulett).

2.5.2. Non-Probability Snowball Sampling

To counteract bias within the study, the researcher found it important to have the residents of Umhlanga participate in the study. Prestondale neighbourhood was used to source residents that would participate in the study as it is the oldest residential neighbourhood in Umhlanga (Nomico and Sanders, 2003). Snowball sampling was the most relevant sampling method that the researcher could use to attain easier access to residents. Naderifar *et al* (2017) describe snowball sampling as a sampling method that is used when the targeted research population is difficult to access. Snowball sampling also becomes a purposeful sampling technique as it narrows down the sample scale to participants that are more likely to be willing to participate in the research study.

Naderifar *et al* (2017) highlight that snowball sampling is primarily based on the recruitment of study participants through engagement and purposeful referral from previous participants. Such was also true for the researcher as majority of the Prestondale residents interviewed were referrals from other residents that the researcher met in the field during data collection attempts. Other referrals came from the Ward Councilor of Umhlanga which also serviced the Prestondale neighbourhood.

This process resulted in the sample size of 15 residents that partook in the resident interviews.

2.6. Data Analysis

The process of data analysis according to Creswell (2009) generally includes organizing collected raw data, transcribing the data and coding the data before undergoing analysis that yields results. Therefore, data analysis is an integral part of research methodology as it leads to the provision of data findings. Creswell (2014) emphasises that data analysis is a process that is intended at cataloguing data and aggregating it into smaller sizeable versions that the researcher can manage. The nature of data analysis in qualitative research is oriented around the search of patterns and relationships between data collected from different respondents that can be used to support or oppose the proposed hypothesis. The type of data analysis methods that haven been adopted in this research study to assist in the examination of patterns and supporting or opposing statements, through descriptive and interpretative means of analysing data (Marczyk *et al,* 2005) is content and thematic analysis.

2.6.1. Content Analysis

Content analysis is a method of data analysis that is used to critically examine text. The principle of content analysis is to describe the characteristics of the data content by scrutinizing who says what, to whom and with what effect and tone (Bloor and Wood, 2006 *as cited in* Vaismoradi *et al*, 2013). This implies that content analysis focuses purely on the data collected and avoids outside influences on data. Sparker (2005) *as cited in* Vaismoradi *et al* (2013) explains that content analysis encompasses descriptive treatment towards data and encourages the interpretation of data to take place. Through content analysis, the researcher is able to first describe data findings at an individual interview level and later after analysis at a holistic level. Furthermore, the researcher can interpret what the potential data findings mean in relation to the research questions and objectives.

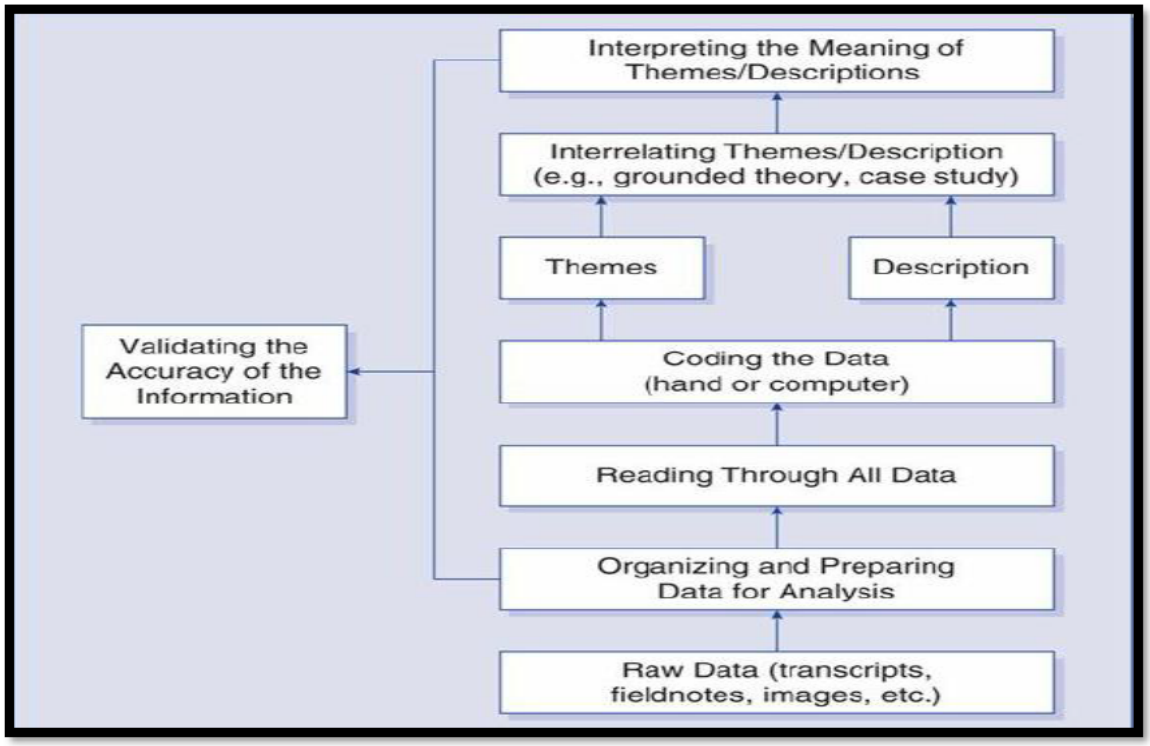
Content analysis was useful for this research study as it enabled the use of systematic coding. Coding represents the segmentation and organization of raw data into categories using labelling and bracketing chunks of text (Creswell, 2014). This assists in determining trends or patterns of discourse frequency within the data communicated by each participant (Vaismoradi *et a*l, 2013). Content analysis has also been chosen because of its ability to produce coding categories directly from the data collected consequently allowing for an inductive approach to data analysis and presentation as content analysis uses a descriptive approach to coding and data interpretation.

2.6.2. Thematic Analysis

The descriptive coding approach used in content analysis provides a foundation for the use of thematic analysis. Creswell (2014) highlights that the coding categories that originate from the process of coding in content analysis later develop into the themes of analysis used to analyse and interpret data under a thematic analysis approach. To support Creswell's explanation, Braun and Clarke (2006; Pg.79) *as cited in* Vaismoradi *et al* (2013) define thematic analysis as a data analysis method that identifies, analyses and reports on patterns or themes found within data. The themes identified in the data are identified through the observation of common threads that extend across the data set. The nature of data analysis in qualitative research is oriented around the search of patterns and relationships between data collected from different respondents that can be used to support or conflict the proposed hypothesis.

The emergence of themes and their interpretation in thematic data analysis can be seen as the final product in the data analysing process. The themes of analysis are produced through the combination of different coding categories that emanate from content analysis (*see Figure 1*). Themes become the major significant findings in the research as the themes are used to capture multiple perspectives conveyed by the different research participants (Vaismoradi *et al*, 2013 and Creswell, 2014).

Figure 1: Data Analysis Process for Thematic Analysis.



Source: Creswell (2014)

2.7. Ethical Considerations

Ethical considerations are an important element when conducting any form of research. Creswell (2014) emphasizes that ethical conduct within research needs to be practiced throughout the research study from the research proposal stage to the publication of research to ensure integrity for the research being conducted. Ethical considerations are key when conducting research as research revolves around people, in particular qualitative research (Creswell, 2014). Therefore, ethical conduct plays a role in protecting both the researcher and participants by allowing consent, privacy, confidentiality and voluntary participation to prevail within the research. Ethical consideration measures that were conducted in this research study included ensuring the approval of research proposal, ensuring voluntary participation, confidentiality and informed consent. Lastly, gate keeper's letters were obtained from participants and the institutions where data was collected from.

- *Approval of Research Proposal*

The research proposal was submitted to the University of Kwa-Zulu Natal Humanities and Social Science Ethics committee. The research study was granted full approval in August 2018.

- *Gatekeepers Letters*

The study involved different stakeholders and thus various forms of approval were needed for the researcher to comfortably and ethically conduct their research. The study predominantly revolved around obtaining data from eThekwini Municipality officials under the Development Planning, Environment and Management Unit which involved officials working in the Strategic Spatial Planning Branch and the Land Use Management offices thus a letter of permission from the Deputy Head of Development Planning was obtained. Secondly, the study required interviews with Tongaat Hulett staff members thus a gatekeeper's letter and email confirmation for approval of data collection was obtained. Lastly, a gatekeeper's letter from the province was obtained through the Kwa-Zulu Natal Co-operative Governance and Traditional Affairs.

- *Voluntary Participation*

The research ensured that participants were made aware that their participation within the study was voluntary and that they could withdraw at any given moment. This aspect was explained verbally before every interview and was highlighted when the consent form was explained.

- *Informed Consent*

Consent from participants who engaged in the study was a critical ethical consideration. To protect the researcher and the participants the researcher provided detailed consent forms that explained the purpose of the study and how data collected from the participants would be used. Furthermore, the consent form highlighted that all participation was voluntary.

- *Confidentiality*

The researcher assured the privacy as well as confidentially of participants. The consent from assisted in establishing which participants wanted their identities as well as employment institutions to be kept private or to be mentioned within the research. The researcher explained before interviews that confidentially of study participants was a top priority and that the study intended to use data collected for the sole purpose of fulling the requirements of the said dissertation.

2.8. Challenges Experienced During Data Collection

- *The unavailability of key- informants*

The bulk of the key-informants selected to engage in the research study included government and municipal officials of which majority were Technical and Professional Town Planners that specialized in different departments within their working units. The major challenge was aligning the key-informant's schedules with that of the researcher to conduct data collection interviews. The researcher's occupation time frame often clashed with the interview times and dates often proposed by the key-informants.

Solution: The researcher engaged in various telephone calls and sent multiple email communications to key-informants to negotiate suitable dates and times for interviews. Door to door enquiries were also conducted in order to confirm interview dates and times that were suitable to key informants. In the most difficult cases, the researcher took leave of absence from their occupation to align interviews with key-informants availability.

- *The Unwillingness of Residents to Participate in Research*

The research study used the neighbourhood of Prestondale in Umhlanga as means to get perspective from a residential community of Umhlanga on the research topic as well as to discuss their living experiences in Umhlanga. The residents of this neighbourhood were difficult to approach for interviews as majority used the presence of dogs as security measures which resulted in difficulty in approaching resident homes. Some residents refused to partake

in the research, while others asked the researcher to come back at another time, however still being unavailable.

Solution: The researcher approached the local municipal Councilor of Umhlanga for assistance. The Councilor distributed the research questions to residents using the neighbourhood social groups.

2.9. Chapter Summary

This research methodology chapter has explained in detail the process the researcher undertook to carry out the research study of *edge cities and their implications on integrated spatial planning.* The research study adopted a qualitative research approach to form a research design that informs the data sources used, data collection tools and the data analysis methods used to analyze the data to assist the researcher in collecting data that is highly descriptive (Marczyk *et al*, 2005). The data sources used to collect data were primary and secondary sources, with the primary data source being in-depth structured interviews for key-informants and semi-structured interviews for residents of Umhlanga.

This chapter has detailed the process of data collection which was informed by non-probability purposive and non-probability snowball sampling techniques. The data collected was analyzed using methods of content and thematic data analysis. Kothari (2004) defines such analysis tools as necessary requirements needed for a descriptive and informative data analysis.

Lastly, Ethical considerations that included obtaining gatekeeper's letters, explaining that the research was based on voluntary participation, and making sure participants signed an informed consent and confidentially form formed part of the ethical considerations which have been critical in the above research methodology. Therefore, this research methodology chapter serves as a directory chapter that has unpacked how data collection and data analysis in this dissertation process has transpired.

3. Chapter Three: Conceptual Framework-Giving Meaning

The aim of the study is to investigate the extent to which edge cities have prevailed in South Africa and to identify the implications they have on integrated spatial planning. In the effort to deconstruct the topic at hand, this chapter provides a conceptual framework compiled to give definition and vivid explanations to the concepts that underpin the study. Defined as a network of intertwined concepts which when read together provide a comprehensive understanding of different phenomena, a conceptual framework is considered as one of the anchors of qualitative research (Jabareen, 2009; Baxter and Jack, 2008). In qualitative research such as this, Greene *et al* (1999) identifies the conceptual framework as a starting point for discussion around the research topic as it is used to unpack and give meaning to the dominant concepts used throughout the research.

Deleuze and Guattarive (1991) *as cited in* Jabareen (2009) bring forth that all concepts in a conceptual framework have varying components used to form a foundation that is used to explain the topic at hand. Furthermore, Jabareen (2009) states that there is no concept that only has one component. Rather, a concept has heterogeneous components which are usually inseparable from each other and are combined to give extensive meaning to a concept thus highlighting that concepts can be multifaceted.

The primary concepts underpinning the research is the edge city phenomenon and the concept of integrated spatial planning. However, to fully engage in the discussion of these two concepts that direct the research study, secondary concepts (which will be used as components of the primary concepts) have been identified in literature to better support and expand the topic as well as to introduce some of the debates associated with the primary concepts. The discussion of the edge city phenomenon has been found to be inseparable with the secondary concepts of *decentralization, suburbanization, polycentricism and agglomeration economics.* The concept of integrated spatial planning will be understood through the concepts of *spatial planning* and *integration*. As the research study is a South African study, the concept of *integrated development planning* (IDP) will also be looked at. The IDP concept is crucial in South African city development as it comes from the decentralization of fiscal power and development planning from national to local government from the year 2000. Therefore, it is the municipalities that play a decisive role in the deliverables of urban development in South Africa (Edoun and Jahed, 2009 *as cited in* David *et al*, 2018).

3.1. Urban Edge, the *Location* of the Edge City

The location of the edge city within an urban form is a critical component that gives the edge city its primary characteristic of being an edge city. The edge city's proximity to the central city is an important factor in delineating it as a type of urban development that has moved away from the central city and more towards the peripheral urban landscape (Sultana, 2011). Therefore, this study denotes the urban edge concept as being that of the edge city location.

Literature appears to be divided as to the exact distance and physical location the satellite city must emerge from the traditional central city in order to be considered an edge city. Bontje and Burdack (2005) designate the edge city as one that emerges at the *city-edge*, a location they deem to be adjacent to the central city. The authors argue that lessons from the European experience highlight that the edge city develops as a complementary structure that supports the processes of emerging polycentric development within the metropolitan area. For Lang *et al* (2009) the edge city is typically always located outside the CBD, in a zone that consists primarily of office development that does not quite fit into the traditional CBD. In a more recent case, Cheng *et al* (2017) describes the physical location of the edge city as being situated at the *urban edge* of the core city. This study identifies the concept of the urban edge as the most relevant to defining the location of the edge city.

The urban edge can be defined as a place of transition from high intensity activity to low intensity activity when moving outwards from the central city into the urban fringe (Western Cape Department of Environmental Affairs and Development Planning, 2005). For this research, the concept of the urban edge describes a *position* within the urban geographical setting that explains the location of the edge city in relation to the overall urban/city form. Typically, in the South African city context, the urban edge as a location represents the attempt to tame urban development as a means to contain and reduce urban sprawl. For the Gauteng Spatial Development Framework (2011), the concept of the urban edge is used within the provincial spatial planning system as a spatial planning concept and tool that seeks to limit outward city growth[2]. The intention becomes that of limiting urban sprawl while still maintaining clear boundaries between spatial morphologies of urban, urban-rural and entirely rural which are dominant settlement forms in South Africa. However, the continued

[2] In relation to edge city development, Henderson and Mitra (1996); Medda (1998) charge large scale land developers as being perpetuators of urban sprawl. However, the authors note that the decision to develop most edge cities in the urban edge emanates from the need to capitalize on the less costly commercial, business and residential rents that are significantly lower than those within the urban core.

development of the urban edge depicts the extent to which private urbanism outside central cities in South Africa has been driven the by property market appetite, where development has largely been a manifestation of those who are willing to pay.

3.2. City Decentralization

For the urban edge to develop, decentralization must occur. Literature identifies city decentralization as a fundamental concept in the discussion of edge cities and what triggers their development outside of the urban core. The concept of decentralization in the context of edge city development refers to the decline and re-distribution of the central city into different areas of the urban region (Ding and Bingham, 2000). Decentralization of the central city unfolds as a process that is characterised by the *emptying out* of the city into its surrounding areas, typically those of suburban spatial form (Dear and Flusty, 1998 *cited in* Michel and Scott, 2005).

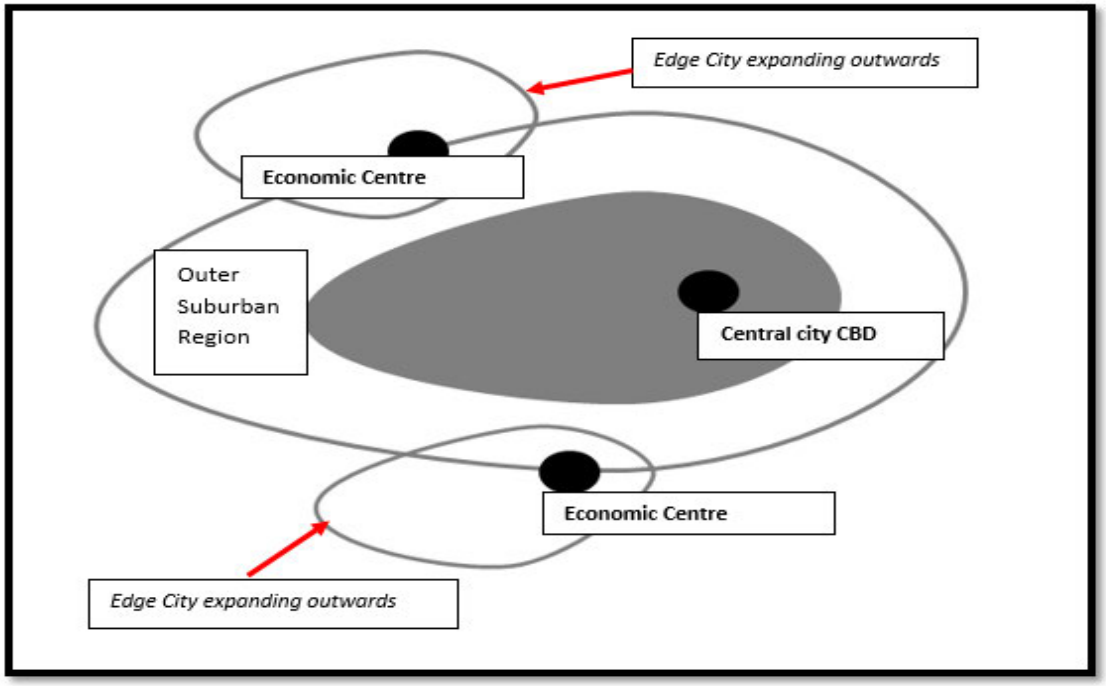
Decentralization happens typically as a consequence of social and economic activity decline experienced by a central city and the CBD. Urban decay can be identified as a trigger for central city decentralization that leads to the physical deterioration of the inner city. According to Lang *et al* (2009), urban decay plays a large role in the decentralization of a central city. In addition, the decreasing nature of the inner city to provide office space is the most significant cause of decentralization that leads to the development of edge cities. Therefore, when a CBD loses its dominance as an office location provider; business corporates, commercial and service sector industries, combined with manufacturing and retail industries migrate to the urban edge to cluster into nodal developments that develop into edge cities outside the urban core (Lang *et al*, 2009; Ding and Bingham, 2000; Michel and Scott, 2005).

This has been the case with the city of Durban. The major contributing factor to the decentralization of Durban's inner city has been largely due to the movement of big companies from Durban to Umhlanga as a result of (White) capital flight (Rashby, 2001). After being declared a major economic investment node by eThekwini Municipality (2006) in the municipal report named "*Umhlanga Node Study"*, Umhlanga became a development node highly sought after by developers. Additional to capital flight, Geyer *et al* (2015) bring forth that population re-distribution patterns have had a significant contribution in the decentralization of South Africa cities. They present that while the White population has completely exited core cities such as Durban, as a population they still tend to re-distribute at satellite distances from the urban core. This implies that, the decentralization of Durban has

been two-fold. It is highly underpinned by capital flight supported by office decentralization but also it is largely attached to the migration and re-distribution of the White population from the urban core to the urban edges of the metropolitan area.[3]

Authors Michel and Scott (2005); Ding and Bingham (2000) commonly agree that the process of decentralization in the edge city phenomenon results in a changing urban spatial structure for the overall metropolitan as communities and business move away from the central city to form economic centers that have comparable densities to traditional central cities. For Bontje (2004), the process of decentralization and migration of business creates polycentric urban spatial nodes *(see figure 2)* of built form and centers of economic development. These economic centers function similarly to traditional central business districts, thus permitting the concept of the edge city to continue to develop as an emerging city that grows and expands as a consequence of the deconcentrating central city. Decentralization allows the development of edge cites to begin as sprouts of development that bring about a spatial revolution within the overall city that enlarges the spatial structure of cities.

Figure 2: The Impact of Central City Decentralization and the Formation of a Polycentric Urban Form Spatial Structure.



Source: Authors Own (2019)

[3] In this study *White population* refers to one of the four classified racial groups in South Africa.

In their investigative study titled *"Beyond Edge Cities: Job Decentralization and Urban Sprawl."* Ding and Bingham (2000) observe that decentralization of both employment and economic opportunities along with that of the population of an urban core stimulates a debate among other urban scholars around the concept of decentralization. The question becomes: *do people follow jobs or do jobs follow people?* This debate becomes relevant in the phenomenon of edge city development in South Africa as some may argue that edge cities in South Africa are a mere depiction of increased employment and economic opportunities rather than decentralized private urbanism enclaves. Furthermore, the debate questions the credibility of the understanding that decentralization of a central city solely triggers edge city development. In a publication titled *"Sustainable New Economic: Centers in European Metropolitan Regions: A Stakeholders' Perspective."* Bontje (2004) argues that it is the population that disperses away from the urban core of a metropolitan area into re-urbanizing suburban areas and some areas of the countryside, and the decentralization of employment follows. In a counter argument, Ding and Bingham (2000) argue that for the concept of decentralization to give life to edge cites, growth in employment opportunities in the suburban area and enhanced economic development accompanied by a rise in housing development is what activates population decentralization which is then followed by employment decentralization.

This study choses to adapt the dominant reasoning that suggests that the process of central city decentralization is strengthened by employment and populous decentralization that sees an exodus of commercial, service and economic activities migrate from the urban core into the urban edge. However, this study does not ignore the discernment that suggests that edge city development causes the urban core to decline both socially and economically when this exodus occurs.

3.3. Suburbanization

The concept of suburbanization can be observed as a notable one when discussing the development and maturation of edge cities. Naude (2010) defines suburbanization as the movement of residents away from the city center in an outward spatial direction towards the periphery. For this study, the periphery referred to by Naude is that identified as the urban edge. Suburbanization is essentially the upsurge in urbanization in a territory significantly outside the urban core. The spatial exodus of functional activities, typically from the central city to the urban edge as a result city decentralization is also viewed as suburbanization. For this study, the concept of suburbanization becomes useful in seeking to understand how Umhlanga has

been cultivated from a tourist attraction village to a major economic investment node synonymous with the city of Durban. More so, the study is looking at whether the suburbanization that has occurred with the rapid development of Umhlanga has enhanced spatial equity and integration or whether it has perpetuated spatial fragmentation that already exists for in the municipality.

Harris and Lewis (1998) explain that what suburbanization does as a result of urban spatial form expansion, is that it reduces the ability to distinctly distinguish the differences between cities and suburban areas as well as exurban areas. The spatial form manufactured by the suburbanization process begins to mimic that of the central city as increased presence of economic, social, cultural, industrial and political activities also exist in the urban edge.

As a secondary concept used to explain how edge cities form, suburbanization challenges the traditional idea that the periphery of large cities, typically their *edges*, can only be developed through rural-urban transition. This implies that the concept of suburbanization in relation to edge cities facilitates the transfer of the CBD along with its core functions to the urban edge of the metropolitan. This develops a new urban center to which the edge city can develop within an outward direction ultimately expanding the overall urban form gradually (*see figure 2*).

For Ding and Bingham (2000), suburbanization is based around the urban population as well as the re-shaping of the urban economic landscape. For the edge city to mature and survive, suburbanization works as an intangible decentralizing mechanism to lobby spatial and economic urban development combined with population dispersal into greater suburban regions of the metropolitan area to capitalize on lower densities to build the edge city around. The authors also highlight that above population and urban economic movement, a large component of the suburbanization concept in edge city development is that of the outward movement of retail establishments from the CBD to suburban and exurban regions to seek larger and more accommodating retail spaces. As denoted by Garreau (1991) one of the characteristics of edge cities is the spatial value of leasable rental space of 600 000sq ft. (55 740m^2) or more, which renders suburbanization crucial in developing the retail sector as a significant anchor to edge city development. In the case of South African cities, it is the suburbanization of retail regional malls, employment and commercial services into middle-high income residential areas that sees the sprouting of nodal development in the

periphery[4].What becomes unfortunate is that suburbanization of employment in South Africa tends to still move along segregated planning trends that see employment being attracted to higher income residential areas (Turok, 2011).

The effect of the concept of suburbanization in the development of edge cities is mostly used as an advantage to urban developers as suburbanization allows for the edge city to develop as a spatial form that is livelier and dynamically more attractive than the traditional central city (Hudalah and Firman, 2011). The edge city is seen to provide equal and efficient provision of public services along with the maintenance of new economic bases created through the development of new sub-economic centers functioning as CBDs. Such causes an edge city to grow more independent of the central city and as a result weakening attraction to the central city. Naude (2010) deems this process as part of natural spatial evolution. As metropolitan areas advance their transit systems, infrastructure roll outs and *selected* population income, the suburbanization process is stimulated to favor outward development. Therefore, what emerges in literature is that the combination of city decentralization and suburbanization of the urban periphery become key processes that yield the conceptualization and development of edge cities.

3.4. Polycentric Urban Development.

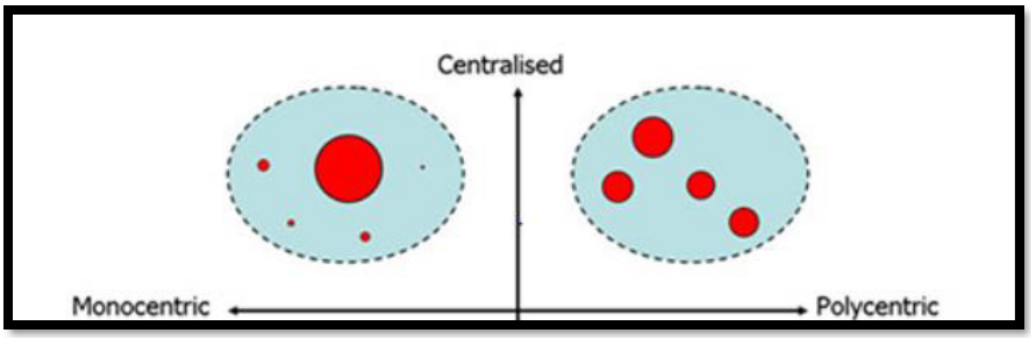
The progression of newer urban centres, which are independent from the central city is a dialogue also found under polycentric urban development which is seen to aid the growth of regions. The concept of polycentricism is synonymous with pluralism that pursues to explain urban spatial expansion (Cheng *et al*, 2017; Davoudi, 2003). This implies that the physical expansion of an urban region is subjected to the development of various other urban spatial morphologies as a means of increasing the urban spatial footprint. Urban development that is underpinned by polycentricism advocates for the existence of multiple built environment settlements. These settlements may exist parallel to the central city within an urban region to create a polycentric nature of urban and economic development as opposed to only having a monocentric urban region, typically functioning with one major CBD.

In the article "*Spatial Structure and Productivity in U.S. Metropolitan Areas*." authors Meijers and Burger (2010) use *figure 3* to visually differentiate polycentric urban development from

[4]Moyo and Zuidgeest (2018) notice that in South African cities suburbanization is used to propel the formation of newer land-uses and growing mixed land-use zoning categories. In their study of analysing temporal location of employment in Cape Town, the analysis of interspersion of mainly retail and commercial activities is found be closer to higher income residential areas if migration/exodus from inner city has occurred.

traditional monocentric urban development that birthed most of the current existing central cities seen today globally.

Figure 3: Monocentric and Polycentric Urban Spatial Structures



Source: Meijers and Burger (2010).

Guthrie (2007) highlights that polycentric urban development has gained prominence as an approach to urban spatial expansion as a result of continued outward rapid suburbanization and post-suburbia taking place within urban regions away from urban cores. As a result, polycentricism in the context of city development captures the changing spatial structures of cities and their *methods* of growth. Polycentric urban development in the context of city expansion constructs a spatial urban form that produces a poly-nucleic urban region where more than one core centre exists. Davoudi (2003) explains that the concept of polycentrism is highly relevant when studying edge cities as it has always traditionally been applied at a level that explains how urban agglomeration capitalizes on intra-urban patterns of development that cluster the population and economic activities at suburban level to produce high functioning development nodes -also referred to as secondary urban spatial structures- almost equal in function to the urban core CBD.

Lee (2007) brings forth that the concept of polycentricism in urban development triggers an urban spatial evolution that creates different urban morphologies that lead to the development of new sub-centres that accommodate urban growth. In post-apartheid South Africa, polycentric urban development has become an important fixture in increasing the sprouting of new sub-urban centres using the concept of development corridors. Development corridors have largely become spatial and economic development instruments used to channel economic investment. Development corridors in South African cities have been largely promoted as planning alternatives that are in synergy with urban restructuring[5] with the intention of seeking

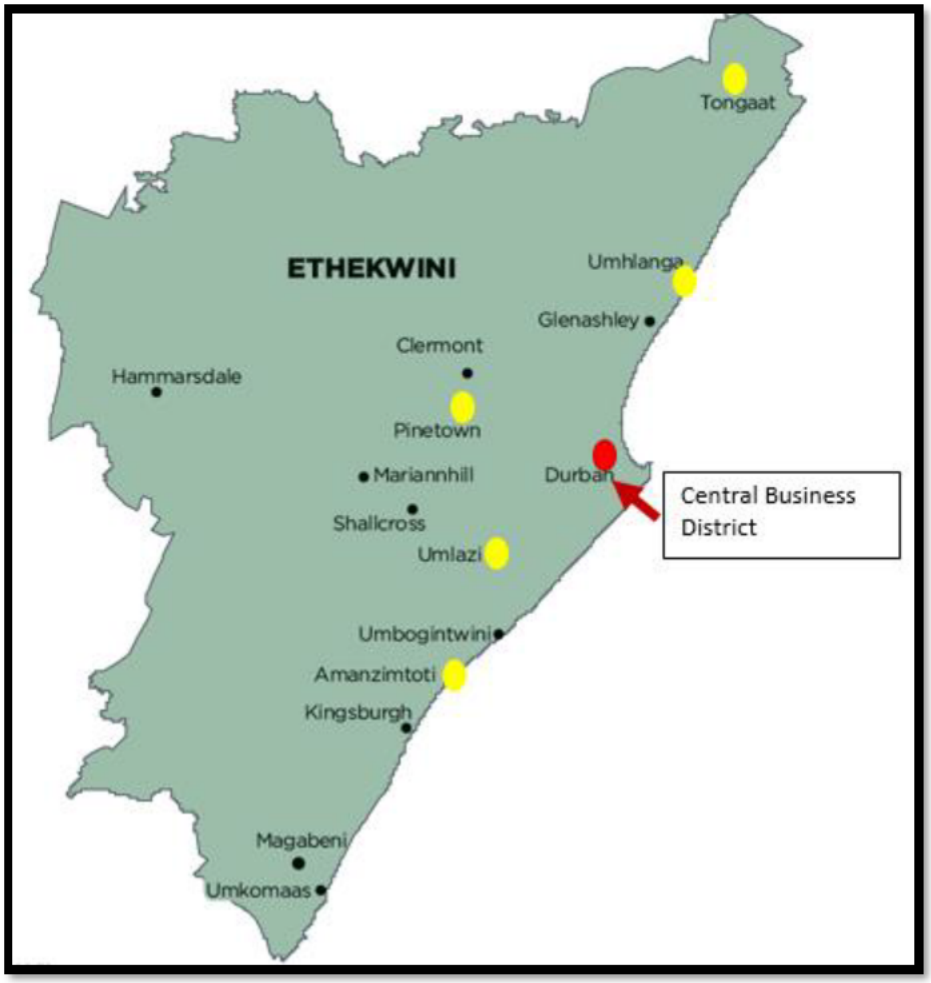
[5] In a qualitative study by Todes (2014) *New African Suburbanisation? Exploring the Growth of the Northern Corridor of eThekwini/ KwaDukuza.* A respondent, an Urban Development Consultant, expressed that corridors in South Africa come from the promotion of being used as an urban restructuring tool.

to rebalance urban region inequalities while connecting previously *separated* urban regions. This physical expansion of the urban region and investment in development corridors propels edge cities to cement themselves as polycentric urban spatial structures within the urban region. Therefore, the link between central city and edge city is that of extensive transit corridors which encourages an edge city to function as a sub-centre of a central city but also as an independent nucleus within the extended urban region. The concept of polycentricism becomes relevant for the study as it has become a major phenomenon in South Africa that works to re-cultivate and reinforce the appeal of a region by modifying metropolitan dynamics. In the northern region of eThekwini Municipality, where Umhlanga is located, Baud *et al* (2013: Pg.36) recognizes that ever since the development of King Shaka International airport there has been increasing pressure on the pro-growth agenda *"imperative to attract investment, create jobs and make Durban an attractive and competitive global city."*

Cheng *et al* (2017) bring forth that the concept of polycentricism assists edge cities to develop in various locations within the urban region to enhance functional balance within the metropolitan area. They argue that this is done by decentralizing socio-economic development and city service functions traditionally concentrated in the urban core by recentralizing urban development in strategic locations to expand the urban region usually towards the periphery. What becomes noteworthy in the South African city context is that polycentricism occurs in close proximity to existing primary centres Brand *et al* (2015). This can be seen as particularly true from Umhlanga which is 18 kilometres away from central Durban. Furthermore, the concept of polycentricity in the study shines a spotlight on Umhlanga as another centrality within the eThekwini Metropolitan area (*see Figure 4*).

One of the conclusions made by Cheng *et al* (2017) in their research that looked at the *development of edge urban areas in China* that grew from development zones that originally retained industrial economies, is that edge cities can be a direct outcome of the concept of polycentric urban development. Cheng *et al* (2017) agree with Smith (2015) that the concept of polycentricism is largely used to determine *new* urban realities while playing a guiding role in the direction of urban spatial development. This suggests that in some urban regions edge cities are purposefully developed using polycentricism as a leading development approach. South African author, Vermeulin (2006) differs slightly to this by denoting that polycentricity is merely for the purpose of formulating newer urban centres that highlight the concept of nomadic centrality made by employment basins. In Durban, this nomadic centrality is highly shopping mall orientated.

Figure 4: Polycentric Urban Spatial Structure of EThekwini Municipality.



Source: Google (2020). Edited by Researcher. (The regions in Yellow depict the prominent settlement regions in eThekwini Municipality that bring about polycentrism within the municipality).

In this study, the concept of polycentricism is adopted to define the spatial layout of the urban region that consists of more than one central urban spatial structure and more than one economic base. Furthermore, the study seeks to explore the implications of Umhlanga being another economic centrality in eThekwini Municipality through the concept of polycentricism and how this affects the efforts of spatial planning that advocate for integration as a means to redress socio-spatial disparities.

3.5. Agglomeration Economies and the Urban Spatial Form

The phenomenon of edge cities is not only dependent on the spatial aspect of urban development, however an imperative influence on the development as well as survival of edge cities is the economic aspect of city development. Fang and Yu (2017) highlight that the different urban spatial forms that transpire in different urban regions are directly influenced by the urban economy related to a city's population, employment levels and the diversity of its production and consumption composition. For the urban economy to exist Linard *et al* (2012) put forth that spatial forms are dictated by human activity that results in various distributions of settlement patterns. The geography of settlement distribution plays a significant role in the development process, as settlement patterns work both consciously and unconsciously to increase the stimulus of specialization and centralization of urban activities that induce economic development and socio-economic participation by the population. One of the characteristics of the edge city is that it is developed around the concepts of specialization and recentralization of urban core economic activities particularly those of business, retail and commercial trading. Commercial trading is understood as office and industrial parks that cluster together in a geography that fosters development and economic investment. This clustering of economic activities is known as the agglomeration of economies.

Agglomeration economies is a concept used to explain the geographical concentration of like and unlike economic activities within regions undergoing development underpinned by expansion (Ricardson, 1995). Agglomeration economies in urban development are a direct outcome of diseconomies that decentralize the central city into different parts of the urban region or metropolitan area. Ricardson argues that edge cities develop as a result of the diseconomies of firms and households that relocate from the urban core to more decentralized locations of the metropolitan. This suburbanization is usually triggered by high traffic volumes and increasingly elevated land rents found in the urban core/CBD. Complimentarily, Mulligan (1984) highlights that firms, businesses and households are economic agents of the urban region and tend to agglomerate at one particular area at different centralities on the economic landscape which then transpires spatially. This implies that certain spatial locations on the economic landscape draw economic activities of the same and opposing nature to agglomerate together. This creates a large cluster of businesses located at specific geographic sites as a means of offering comparative advantage that assists in the production and consumption of good and services. In the context of the case study, Umhlanga's development has been largely underpinned by the spatial, social and monetary components of the concept of *mixed-use*

development that has accelerated the model of *live, work, play* to attempt to merge the residential, commercial, retail and employment sectors of the economy[6] together in locations of very close proximity. The decentralization of Durban's urban economy has allowed Umhlanga to capitalize on the concept of agglomeration economies through a relationship shift between the residential and commercial sectors. These sectors have reduced competition among themselves and have rather indulged in co-operation[7] as a means of drawing in increased economic development in Umhlanga.

For John (2001) the spatial and economic concentration of relevant economic activities, that may or may not belong to the same industries, is fundamentally how the edge city creates and expresses a physical spatial urban form that induces further urban development in and around it. Furthermore, John brings forth that the productivity variation of the economic activities produces urbanization economies. Urbanization economies are a by-product of agglomeration economies that are produced when diverse firms, public facilities, hard infrastructure, transportation services and business interact. This results in the maturing of a newer urban core within an edge city through the creation of a strong economic base. This core becomes the economic center of the edge city that possesses a CBD of its own. For Tongaat Hulett Developments (THD) urbanization economies exist profoundly, mainly with THD answering to developer and investment demand through the development process of land conversions from agriculture (sugar cane farming) to real estate by providing niche development plots for commercial, industrial, retail, residential, leisure and tourism sectors.[8]

The latter part of the conceptual framework attends to giving meaning to what the concept of edge city development is being measured against-integrated spatial planning. To fully articulate the concept of integrated spatial planning the concept will be deconstructed to conceptualize the terms spatial planning and integration in accordance with the study.

[6] Tongaat Hulett Property. www.findallnew.co.za

[7] Fang and Yu (2017) explain that urban economies that have undergone decentralization and have experienced shift in centralities strive more when competing sectors alter their economic relationships to that of completion and co-operation as so to increase comparative advantage and gain economic investment simultaneously.

[8] https://thdev.co.za/tongaat-hulett-developments/

3.6. Spatial Planning

The concept of spatial planning as a standalone planning tool for urban development and for the organisation of space is very important. With considerations of social, economic, environmental and spatial development playing a crucial role for city building, spatial planning not only influences the spatial layout of the urban form but also invites the need for policy, infrastructure and physical planning to combine and produce activities that shape the functions and the interaction of places (Wong and Watkins, 2009). Spatial planning in urban planning is associated with the pre-emptive co-ordination of human and built environment activities that impact the spatial organisation of space. This organisation of space is what gives rise to spatial patterns that are responsible for place-making as well as shaping the liveability of places through the process of allocating different land-use functions (Eggenberger and Partidario, 2000).

Before the political transition from apartheid to democracy, South African cities experienced spatial planning as a planning methodology used to geographically partition communities according to their different socio-economic and political attributes along racial contours (Mashiri *et al*, 2017). This led to the spatial separation of citizens according to their race. In this era, spatial planning operated within rigid racial legislation and powerful infrastructure planning that racialized spatial development and as a result produced segregated, disintegrative and distorted urban spatial structures.

Harrison and Todes (2015) explain that the use of spatial planning entrenched in racially structured spatial controls was purposefully used to achieve an overarching goal of dividing South Africa into racially and ethnically spatially segregated territories with majority of urban space predominantly reserved for the White population. Consequently, the urban spatial form in South African cities became organised with high-rise modernistic CBDs, surrounded by low-density White suburbs as the urban core. High-density Black townships existed in the urban periphery for those working in the city while other Black populations were concentrated in the Homelands[9].

The political transition in 1994 into a democratic governance sort to give the work of spatial planning a new identity in not only South African cities but in the overall South African spatial landscape, both urban and rural. According to Sim *et al* (2016) the change in the political

[9] Homelands: Also known as Bantustans were designated areas of Traditional Authority rule created for the Black population as a spatial and economic attempt to curb Black people from urbanizing into cities. Smith, (1992) "*The Apartheid City and Beyond*."

landscape was to assist the planning fraternity by opening up opportunity to make significant strides in redressing inequalities inherited from apartheid spatial planning by using spatial planning as an urban planning strategy to restructure the urban form. One of the crucial mandates of spatial planning in post-apartheid South African cities is that of reinforcing urban policy to advocate for equitable access to urban opportunities for all in towns and cities. Campbell (1996) brings forth that the desired outcomes for spatial planning then become the inter-relations between attaining social equity, economic development and environmental protection.

In the South African context, these outcomes were set to be achieved arguably through aligning previously disadvantaged communities in closer spatial proximity to employment and urban services. However, Todes (2008) argues that spatial planning in post-apartheid cities has been rather abstract in approach and design. The notion of using planning concepts of nodes and corridors borrowed from the planning thoughts of urban compaction has resulted in spatial planning frameworks being too broad and perhaps utopian when seeking to redress South African urban socio-spatial disparities. Although spatial planning policies and practices have explicitly called for and demonstrated the need to restructure the urban spatial structure of South African cities by confronting spatial fragmentation, traditional racial geographies still exist in the South African urban landscape. Herbert and Murray (2015) argue that these racial geographies further manifest themselves in newer urban developments pioneered by corporate real estate developers interested in constructing private enclaves and edge cities that perpetuate social exclusion on socio-economic contours as opposed to racial. It is therefore imperative to study edge cities at a detailed level within the South African urban space. This enables an understanding of the underlying implications they have for spatial planning and integration. This will assist in addressing pressing issues of social exclusion and spatial fragmentation of cities as spatial planning rooted in integration is primarily about creating patterns of urban development and expansion that are spatially cohesive over time (Todes, 2011).

Writing about integrated spatial planning at a local level Morphet (2009)[10] identifies the common understanding of spatial planning as being a planning action that goes beyond land-use planning and becomes the spatial translation of policy objectives, visons and plans. Van Straalen (2012) brings forth that before spatial planning can translate policy objectives, visions and plans the main normative of spatial planning is for it to function as a governance guide that

[10] Morphet, J. (2009). *"Local Integrated Spatial Planning: The Changing Role in England."* The Town Planning Review. Vol 80, No 4/5. Pg.393-414. Liverpool University Press.

works to inter-relate government plans responsible for spatial development vertically across spheres of government as well as horizontally across department sectors. In a more assertive view, Vigar (2009) brings forth that for spatial planning to lessen spatial imbalances in urban spatial forms, spatial planning must adhere to a paradigm shift that allows the work of spatial planning to move from being centred on policy creation to that of a delivery nature by pro-actively balancing displacement and socio-spatial disparities at the local governance sphere through goal specific planning frameworks.

With South Africa's spatial past, it is imperative for planning frameworks to embody a spatial planning that lessons urban spatial inequality and fragmentation. The city landscape in South Africa is still highly embedded with spatial imbalances which according to David *et al* (2018) still manifest as social and economic inequalities underpinned by classism and sometimes racial factors that transpire spatially. This stark reality demands spatial planning to become a tool within urban expansion that intervenes to pursue much necessary restructuring of the apartheid city legacy (Van Wyk and Oranje, 2014). The spatial planning system used for the South African city can no longer be that of only a response to colonial and apartheid planning regimes. However, it needs to become a system that elevates city building with the intention to create urban morphologies that foster demonstrable spatial inclusivity. Furthermore, spatial planning as an urban planning concept needs to attain explicit spatial interventions that streamline South African cities towards spatial integration with explicit goals within the transformative and reconstructive agenda. Mashiri *et al* (2017) denotes that for the South African city landscape to expose a spatial planning entrenched in integration, spatial planning must embrace a liveability approach to consolidate the alignment of land-use, transport and economic development to advance the livelihood quality of all citizens.

According to Watson (2002: Pg.4) *as citied in* Sim *et al* (2016) *"space is conceptualized as an element of reality that can be objectified and manipulated to particular social and economic ends".* This suggests that a spatial layout and the spatial patterns of an urban space can be influenced through conceptualization as well as physical planning to accommodate and benefit particular social and economic spheres within the urban form. Such becomes harmful to the attempts of socio-spatial cohesion and spatial integration attempts for urban forms such as those of the fragmented South African city landscape. Spatial planning measures should be able to guard against private sectors weight in solely shaping urban patterns particularly in the urban edge locations of municipalities. It is in the urban edge location that newer developments have largely sprouted in the post-apartheid era. For Mashiri *et al* (2017) these newer developments

such as edge cities characterised by gated communities, privatised public spaces and commercial-leisure nodes form enclaves because of their socio-economic system dispositions that do not spatially connect to neighbouring areas. The method and direction that spatial panning has taken in post-apartheid South Africa towards urban development largely appears to still be underpinned by pocketed spatial patterns characterised by fragmentation. Spatial planning is still largely occurring along spatial distortions that are legacies of apartheid city planning.

3.7. Integration

For the purpose and argument of this study, the concept of integration is seen as a central perspective as to what spatial planning should entail as well as the outcome it should provide. In Van Straalen's (2012) view, the concept of integration has become a central standpoint in contemporary urban planning practice. In common planning practice, integration has largely leaned towards being defined as the amalgamation between governance, where the co-ordination and inter-related combination of policy produces spatial planning strategies and the provision of plans that provide guidance to achieving a spatial expression of various policy streams (Counsell *et al*, 2006). This study seeks to look at the concept of integration at a more localised level with the focus of revealing the implications edge city developments have on the outcomes of a spatial planning that is underpinned by integration. This is to identify the extent to which spatial planning and the organisation of urban space translates to social, economic and spatial inclusivity or the lack of.

According to Holden (2012), ensuring integration in city development comprises of the functional activity of bringing together planning methods that produce an assemblage that has value of what did not exist before. In the South African city context, what existed before was a spatial planning rooted in racial, socio-economic and spatial segregation. As a result, integration has been part of the South African restructuring discourse since the 1990s. Furthermore, the prominent Reconstruction Development Programme of 1994 appealed for the densification and unification of the urban fabric (Republic of South Africa, 1994) as a means to redirect the form and structure of South African cities. Over the years, integration has grown to become a leading discourse in spatial planning and in housing provision and the planning policy agenda. This advocacy is present still in the National Development Plan 2030, showing that integration has been identified to function as a critical intervention needed to redress segregation and spatial fragmentation (NPC, 2011). DuPlessis (2013) argues that although a

significant call for integration within spatial planning through planning policy and spatial plans in the post-1994 era of city development can be traced, the delivery, measurement and quantification of integration in the South African city landscape has been vague at best. DuPlessis brings forth that in spatial planning frameworks and IDP's of municipalities, the pursuit of providing affordable housing at *strategic* locations has been the main direction that has been taken in attempt to achieve improved integration.

Van Straalen (2012) highlights that the concept of integration as a physical outcome of spatial planning, urban restructuring and city expansion is still a work in progress goal for most national governments around the world. Granted there is validity in Van Straalen's observation, however the urban form of South African cities needs to be challenged towards proactive methods of planning that work to address residual spatial problems that exist in close proximity between *the haves* and the *have nots* (Cameron, 2000).

The use of integration in the South African built environment, in newer developments mostly found at the urban edge, should be used to aid in holistic development that acknowledges that the concurrent socio-economic and spatial inequalities -which are stark realities of the urban form- cannot be solved in isolation. This suggests that it is not enough for edge cities to only respond to market forces and corporate real estate surges. However, edge cities in South Africa should use the concept of integration in their spatial planning and physical development to re-introduce and foster spatial restructuring and organisation of the urban form that provides equitable accessibility to mixed housing densities, employment, transport links, public facilities and public opens spaces (Counsell *et al*, 2006; Holden, 2012). The use of these elements may help those involved in urban planning to benchmark the level of integration produced by spatial planning processes in South African cities.

Morphet (2009) argues that the concept of integration interrogates the extent to which previously disadvantaged urban neighbourhoods and communities can realize an urban spatial arrangement that narrows the reproduction of isolated pocket and enclave developments constructed along existing socio-spatial inequalities. Therefore, the concept of integration in this study is first adopted as one that plays an important role in decreasing development implementation deficits that come with urban development (Vigar, 2009). Secondly, the concept of integration in this study is conceived as one that assists the planning fraternity in narrowing the gap between public development and real estate market privatization processes of urban space brought about by neo-liberal and pro-profit urban developments (Vigar, 2009).

Vanderbilt (1995) regards the enclave nature that edge cities acquire as being attributed to a notion where city elites not only withdraw economically, socially and spatially from the everyday city but also as a manifestation of purposeful distancing to city politics. In an article titled *"The Contested Future of Urbanisation."* Van Noorloos and Kloosterboer (2017) bring forth that edge cities compromise integration by having certain income groups clustering together solely based on wealth status. This hinders and diminishes social interaction and interactive social cohesion. Therefore, neighbourhoods present in an edge city will develop in pocketed isolation to those of the existing urban core and suburban territories of the city. Furthermore, the authors argue that edge cities (especially those in the African context) mushroom similar to the urban phenomenon of gated communities. This suggests that socio-spatial segregation between the general urban population and the population of the edge city is planted. The study argues that: considering the spatial history of South African cities, the proliferation of edge city developments as socially, economically and spatially *closed off* developments becomes particularly dangerous to the urban transformation agenda that advocates of spatial integration and integrated development. Alternatively, what transpires is the imitation of urban spatial patterns that mimic the geography of racialized segregation.

Brill and Reboredo (2018) echo the same sentiments regarding the impact of edge city developments on the South African city form by observing that what compromises integration and perpetuates spatial inequalities is the action of land commodification and privatisation which renders edge cities to pursue existence and function within *new* spatial planning regulations. The influence of global urban form trends such as neo-liberal developer driven post-city building sees edges cities incongruent from their immediate surroundings but largely being symbolically and physically connected to global urban structuring. For Brill and Reboredo (2018) current global urban structuring trends are underpinned by the conceptualisation of separating city spaces by providing elitist consumption globally orientated office parks and regional malls preserved for the use of a fewer population. Jenkins and Wilkinson (2002) reason that cities must compete globally, thus the use of edge cities to respond to global urban trends becomes a way to draw in international investment. However, one can argue that such compartmentalisation of the city marginalises other sections of a city and perpetuates the *capsularsation* of edge cities away from the reality of spatial inequalities and fragmentation.

3.8. Integrated Spatial Planning

With the above concepts of spatial planning and integration read in conjunction, the conception of the research study formulated the concept of *integrated spatial planning* to denote demonstrable spatial inclusivity. Such compels urban planning and development projects to observe the dimensions of the urban form through the lens of spatial diversity, density and spatial structure patterns (DuPlessis, 2013). According to Albrechts (2004), integrated spatial planning becomes a strategic approach to urban development that plans for and implements the distribution of infrastructure, facilities and activities through co-ordination practices of spatial planning that produces a spatially organized urban space embedded in spatial integration. The study adopts integrated spatial planning as a concept that is concerned with the dismantling and the transformation of spatial distortions in order to restructure urban spatial patterns to pursue social, economic and spatial inclusion (Mashiri *et al*, 2017).

Morphet (2009) brings forth that the purpose of an integrated spatial planning through both policy and physical planning is to bring about a transformation agenda. In the South African city context, the transformation agenda is founded on the pursuit of reconfiguring the urban form and to reconstitute urban space using the emphasis of integration, de-racialization and compaction in the post-apartheid city (Sihlongongene and Lewis, 2016). Furthermore, the transformation agenda is linked to addressing the pressing matter of social exclusion and spatial fragmentation through service delivery that is meant to improve citizen accessibility to the city. Albrechts (2004) accentuates Morphet's argument of citizen accessibility by alluding that integrated spatial planning as an urban planning concept seeks to create connected urban spaces within cities. The idea of connected urban spaces is underpinned by need to provide a taming force to rapid developments such as edge cities that still develop along geographies of inequality in South Africa (Murray, 2015) perpetuating a spatially fragmented urban form. The concept of integrated spatial planning hence becomes geared towards rebuilding the South African urban form by lessening inherited spatial ills through integrated urban development and local planning.

For Morphet (2011), the priorities of integrated spatial planning are associated with redistribution and equity within the urban form. The study finds its focus on how edge city developments impact the social, economic and spatial equity planning measures put towards achieving integrated spatial planning. Integration within spatial planning advocates for the spatial restructuring and spatial development of the urban form to ensure coherent and

integrated urban development (COGTA, 2016)[11]. The premise of the research is that persistent spatial divides exist in South African cities. Thus, to lessen spatial patterns with underlying spatial segregation and fragmentation geographies, Charman *et al* (2017); Harrison and Todes (2015); Holdern (2012) and Counsell *et al* (2006) agree that to achieve and protect integrated spatial planning in the South African urban form, sustainable provision of well-located adequate housing, public facilities, better transport linkages and economic infrastructure must become a priority and be part and parcel of newer developments. This works to give local government spatial planning structures an architectural delivery role that provides a tangible built form through the provision of various infrastructure. Furthermore, integration within spatial planning is meant to interrogate the value as well as provision of public services aimed at improving the delivery of spatial planning on the ground thus providing a holistic form of urban planning. Ensuring integration measures are conceptualized and implemented as pro-active rather than reactive measures to development deficiencies of projects that impact urban spatial patterns allows integrated spatial planning to safeguard socio-spatial equity and improve accessibility opportunities within the city landscape.

3.8.1. Spatial Integration, the Sought-After Outcome of Integrated Spatial Planning

In addition to defending equity in the city landscape, the concept of integrated spatial planning translates to the need to advance spatial integration within an urban spatial structure. Spatial integration in South Africa finds itself in the spatial transformation discourse as a concept that should stitch together the spatial transgressions of the past when integrated spatial planning is executed with the intention of modelling an inclusive spatial setting. Sim *et al* (2016) bring forth that spatial integration for South Africa is strongly underpinned by the need to bring about spatial justice within the urban form. For Van Wyk (2015) the subthemes for spatial justice in South Africa include integration, inclusivity and diversity. Therefore, planning and developing the urban form towards a direction of spatial justice forces integrated spatial planning to create a benchmark planning approach that allows for spatial integration in the urban from to transpire. Soja (2009) denotes that having justice along with integration as fundamental concepts that enrich integrated spatial planning challenges the geography of uneven development that continue spatial structures of privilege and exclusion. The study puts forth

[11]The Department of Cooperative Governance and Traditional Affairs published the *Integrated Urban Development Framework* (IUDP) in 2016 as "response to our urbanisation trends and the directive by the National Development Plan (NDP) to develop an urban development policy that will cater for the increasing numbers by ensuring proper planning and necessary infrastructure to support this growth." The key outcome of the IUDF is spatial transformation.

that, developments such as edge cities that insulate themselves from the rest of the urban form are detrimental to the pursuit of spatial integration underpinned by spatial justice.

3.9. Integrated Development Planning

The concept of integrated spatial planning exists under the umbrella planning concept recognised as integrated development planning. Integrated development planning forms part of the discourse related to the decentralization of cities (Pillay *et al* 2006). It is seen as a cognizant shift and recognition that within and around neo-liberal development approaches around the world, there is a need to begin engaging in the processes of building communities, promoting inclusion and addressing spatial imbalances through different means of integration approaches (Robison *et al,* 2003).

Integrated development planning advocates for the replacement of traditional metaphors of hierarchies, boundaries, strategic partnerships and co-ordination with policy and implementation. Integrated development planning becomes a comprehensive development action that involves holistic planning set out to understand cross-cutting issues to create informed plans and projects that seek to re-dress the issues (Claeson, 1982). In redressing development issues, Albrechts (2004) brings forth that integrated development planning then involves the move from fragmented projects that do not link and promotes the creation of plans and programs through projects that when mutually combined give rise to strategic planning frameworks to achieve development. Therefore, integrated development planning gives integrated spatial planning the mandate of paying explicit attention to the correlation of planning and implementation.

In South Africa, integrated development planning has been adopted as the main approach to planning and development throughout the country. Harrison (2001: Pg.185) brings forth that as the overarching planning approach, integrated development planning has become *"A participatory approach to integrate economic, sectoral, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity and the empowerment of the poor and marginalised."* Planning and development in South Africa is driven by concepts of integration, participation and multi-functionality through the adoption of integrated development planning. Vigar (2009) alludes that integrated spatial planning is then able to manifest under the planning and

development approach of integrated development planning because spatial planning becomes aligned to public sector priorities.

To strengthen development alignment with integration as well as to redress spatial imbalances, integrated development planning is underpinned by statutory guidance in South Africa (Robison *et al*, 2003). The creation of the Municipal Systems Act No. 32 of 2000 has resulted in integrated development to exist as a planning process that allows for a participatory approach, based on the principle of inclusivity that seeks to include all stakeholders during a development process. Secondly, integrated development exists as a legal plan through the creation of strategic development plans known as the IDP. These plans are used as tools for integrated territorial development and regional planning. The legality of integrated development planning demands integration to be a natural part of holistic planning. Furthermore, David *et al* (2018) highlights that by using the concepts of integrated spatial planning to realize integrated development, the work towards spatial integration becomes mandatory in seeking to create inclusive cities.

The researcher has chosen to conceptualise the concept of integrated spatial planning in the current manner articulated above because of South Africa's spatial planning history as well as the Government's commitment to spatial integration. The study is centred around investigating the implications that edge city developments have on spatial planning with a focus on how integration is affected. As noted in the study's problem statement using Sosibo (2016), Statistics South Africa (2016; 2017), Singh and van Eeden (2017), South African cities are incurring deeper spatial divides that closely resemble economic inequalities that continue to translate spatially as urban regions continue to develop and expand spatially. Schensul and Heller (2010) bring forth that South African cities have seen very little change spatially as the spatial legacies of apartheid spatial planning continue to appear and function as stark compartmentalized spatial compositions. The National Development Plan 2030 acknowledges that persistent spatial inequalities remain a significant challenge in South African cities. Although South Africa has undergone some noticeable transformative forces, the post-apartheid city is still a powerful lens that highlights the intricate relationship between space and inequality. Furthermore, the post-apartheid city is viewed as one that becomes a case for assessing how the spatial dimensions of socio-economic inequalities challenge and shape future urban transformation (Schensul and Heller, 2010).

South Africa's Government commitment is notable within various frameworks, legislations, policies and strategies with some specifically dedicated to spatial integration through spatial planning. These will be discussed further in Chapter 6 under the South African legislature review and discussion.

3.10. Chapter Summary

This chapter has deconstructed the edge city phenomenon and the concept of integrated spatial planning to form a comprehensive conceptual framework. The reviewed concepts give vivid explanations to the concepts that underpin the study and how they are related to each other. This chapter has essentially been divided into two sections. The phenomenon of edge cities is discussed in relation to the geographical location that edge cities typically develop in within a metropolitan spatial form (Sultana, 2011). Furthermore, secondary concepts showcase that the spatial and economic consequences that come with edge city development include the formation of a polycentric urban spatial structure with increased agglomeration economies that propel development at the urban periphery.

The concept of integrated spatial planning conceptualized by the research study was also deconstructed into the concepts of spatial planning and integration. Such was done to fully encapsulate what integrated spatial planning should look like and what it ought to achieve in planning practice when urban planners use the concept of integration as a foundation of spatial planning. To reiterate the premise of the study, spatial planning that brings about spatial integration is seen as a vital component to the continued development of South African cities to ensure that some level of spatial justice is achieved considering the country's spatial planning past which was embedded in segregation (Sim *et al*, 2016).

4. Chapter Four: Theoretical Enquiry of Contemporary Urban Development Phenomena

According to Blaikie (2000) a theoretical framework within a research study encompasses a system of ideas, philosophy and concepts that hold explanations that account for particular phenomena. Creswell (2014) brings forth that the theoretical framework becomes a theoretic lens to which the research study is founded upon. Furthermore, this theoretic lens functions as a building block to which the researcher explores the issues brought forward by the research topic. The theoretical framework works as a tool that sets the scene for the conventional explanation of the research problem (Creswell, 2014). In the same breath, Yin (2011) highlights that the theoretical perspective presented, provides propositions for the research problem that can be assessed against the research findings. Therefore, a theoretical framework becomes one of the benchmarks to which the research findings are tested against.

In this chapter, the theoretical enquiry aims to give logic to the research study by tracing the theoretical discourse related to the development of edge cities in the built environment and their justification within urban planning under the Postmodernism Theory. Furthermore, theories for spatial planning are included to bring forth how spatial planning ought to be in practice along with the outcomes it should achieve. The theories chosen provide discussion around the planning approaches available to planners when working towards integrated spatial planning, in this case, eThekwini Municipality.

4.1. Locating the History of the Present: Modernization Theory, Enlightenment and the City

The Modernization Theory is founded on the period of enlightenment that occurred predominantly in Europe. Modernization encompassed concepts of rationalism, techno-centrism, standardization of knowledge production and the belief that humans could only acquire universal truths through scientific and technological endeavours (Meiksins and Wood, 1997). The adoption of these concepts and way of thinking meant that society was striving for progression with the intention to abandon *backward* modes of thought and societal living. Aligned to the notions of progression, the phenomenon of the edge city is highly associated with urbanization that accounts for the evolution of the urban spatial structure by becoming satellites of development that expand the urban morphology of existing urban areas by locating at the fringe of existing cities.

The modernization era represented a paradigm shift in the late 19th century that sought to bestow central authority to human beings. It was envisaged that human beings had unlimited ability to shape and create their physical environments through the practical application of reason and sound judgement (Duminy, 2007). From a philosophical perspective, Ofosu-Kwakye (2009) brings forth that the concept of rationality that was impelled by modernization pursued human reason to be characterised by precision and orderliness, alluding that anything of opposition was a defiance to the modernist ideology.

The Modernization Theory penetrated the urbanization process as a central approach to urban development. The city was advocated to function as a coherent entity pushing city development to be mounted on principles of functionalism, uniformity and order. (Davis, 2014). Modernization in city development favoured harmonious urban conglomerations as a means to combat chaotic, compartmentalized and unsystematic urban spaces brought about by rapidly developing industrial cities (Van Roosmalen, 2015). The pressing need to create social, economic and spatial order urged planners to produce orderly urban landscapes and bring about functional equilibrium in the built environment (Magidimisha, 2009) through standardization measures to functionally organise the city. As a result, the monocentric urban spatial pattern became the prevailing development pattern for the modern city. Phelps and Wood (2011) highlight that the modernistic city was one of predictable linear outward patterns of growth that had very specific segregated land uses as a further means to create spatial order. The spatial structure of the monocentric city recognised the central city and the suburb as predominant contributors to the creation of urban morphology as development was oriented around the central city.

The modernistic perspective to city development introduced a spatial paradigm that was rooted in structure, rationality and rigidity following closely under the tenants of the Modernisation Theory. The spatial paradigm used was underpinned by a master planning approach that produced blueprint plans for cities.

Planning using spatial planning was enacted to react to the negative challenges of the urban landscape such as physical degradation and fragmentation brought about by the rapid expansion of industrial cities (Preston, 1996 *as cited in* Magidimisha, 2009). According to Van Roosmalen (2015), spatial planning related to the conscious organisation of the city landscape to realize an integrated approach to town planning. As advocated for by the study, spatial planning underpinned by integration not only realizes a functional and visually coherent spatial

urban form but also provides integration between the spatial, social and economic service spaces of the urban form.

4.2. Postmodernism Theory, an Alternative to Understanding City Development

Modernism and Postmodernism can be seen to represent different eras in time and different modes of civilisation. They are often ambiguous and multifaceted concepts that embody knowledge underpinned by understanding the present while imposing new cultural regimes and paradigm shifts (Benko and Strohmayer, 1997). Ofosu-Kwakye (2009) draws attention to the prefix *"post"* in postmodernism, alluding that postmodernism is convolutedly linked to modernism. However, simultaneously, the prefix *"post"* suggests that postmodernism is a critique and extension of modernism.

According to Sandercock (1998) postmodernism is not necessarily a meta-paradigm waiting to happen and dissolve the modernism paradigm. Reasonably, it is a multiplicity of critical, deconstructive, and oppositional perspectives rooted in realizing that local issues, everyday life and socio-cultural differences are important sources of knowledge. Modernism advocates for the use of universal truths solely through scientific and technological knowledge production. However, postmodernism is seen as the philosophical and epistemological divergence from the basic tenants of modernist thought that rejects universal truths and a single world view oriented around a single intellectual persuasion. Rather, postmodernism celebrates pluralism by embracing reasoning differences, varied order and disjuncture in all forms of life (Duminy, 2007; Dear and Dahmann, 2008). Consequently, the edge city phenomenon is an example of postmodernism in urban development as edge cities defy systematic urban growth, by highlighting the processes of rapidly changing urban geographies with contemporary city growth characterised by wedge and pocket development patterns.

It is somewhat important to point out that there seems to be academic dissatisfaction with the theoretical basis of the postmodernism theory, with theorist and academics citing that postmodernism as a theoretical concept has been hardly defined. However, popular explanations regard it as the intentional divergence from modernism as modernism ideals fail to be functional reflections of societal action (Alexander and Moroni, 2012 *as cited in* Khuluse, 2015).

According to Dear (1989; 2000), the term postmodernism is used as a discourse to refer to various ideas, however three principal references in postmodern thought are dominant:

a. Postmodernism is a ***philosophy*** and ***methodology*** that uses an opposition perspective to challenge master narratives of its predecessor and questions its authority. As a philosophy, postmodernism takes an antagonistic approach to fundamental constructs that adopt an agenda of single intellectual persuasion. Ultimately, the basis of postmodernism is to open up closed systems of structure, language and discourse while revolting against rigid conventions. As a methodology, postmodernism brings awareness to breaks in continuity and the ability to deconstruct and fragment that which is presented only as total.

b. Postmodernity as an ***epoch*** is mostly identified as an era of the late 20th century. It represents a transition rooted in a radical break with tradition influenced by a cultural ensemble. The dynamic and evolutionary nature of capitalism accounts for the new formal features in culture and the emergence of newer types of social life and economic order. As an epoch, it represents the advanced state of modernity stretched to accommodate the rise of advanced capitalism in global economic restructuring and space production. Though ambiguity engulfs the epoch-making phase of postmodernity, it is highly identified as a significant paradigm shift characterised by a *perspective* that radically argues for different realities to co-exist, collide and interpenetrate Minca (2001).

c. Post-modernism as a ***style*** is a series of distinctive cultural and stylistic practices. It represents a particular aesthetic style reliant on very artistic expressions that aim to deconstruct the mechanist and rigid aesthetic of the modernistic era. A standard example of post-modern style can be recognised in the built environment through the creation of newer building styles for popular consumption while providing architects with the opportunity to comment on previous stylist genres.

Each explanation listed above cements itself as an approach to understanding postmodernism from varied perspectives. According to Watson and Gibson (1995), the explanations bring out the multi-visionary, pluralistic and multi-functionality of the Postmodernism Theory. Each approach becomes relevant to answering contemporary urban questions that seek to account for the change in transpiring urban morphologies such as the development of edge cities and the demise of earlier urban development trajectories that enlightened the processes of urban development.

In the context of the case study, as a methodology, the influence of postmodernism thought in the development of Umhlanga opened up the investment capacity and extended the geographical *boundary* of what was before seen as Durban city (KZN Provincial Spatial Economic Development Strategy, 2013). As an epoch, it relates to the temporal distinction where the demise of the apartheid regime that controlled the nature of development in South African cities started to diminish. Thus, one can argue that Umhlanga has developed in an open and non-rigid planning environment in post-apartheid. As an aesthetically sound development, pedestrian based urban design approaches underpinned by principles of New Urbanism have dominated the development style of Umhlanga (Ofosu-Kwakye, 2009).

Postmodernism as a methodology, epoch and style have allowed postmodernism to infiltrate and influence urban theory and practice hence the term *postmodern urbanisation*. Postmodern urbanisation offers enlightenment to the current trends of urban development and urban restructuring associated with architecture, urban design, spatial development patterns and the language used to describe the emergence of these factors. The following section displays how the Postmodernism Theory relates to urban studies and city development.

4.2.1. The infiltration of Postmodernism in Urban Development

The infiltration of postmodernism in urban development is said to be part of the contemporary movement of the late 20th Century that saw an epochal transition from modernist development to a postmodern way of thought and reaction to development. Postmodernism in urban theory argues that the production of space is underpinned by deconstruction and fluidity that fabricates various urban landscapes. In the city context, postmodernism highlights that cities no longer have linear pathways of development as they no longer develop solely as concentrated loci of population and economic activity that is positioned in concentric rings (Dear and Flusty, 1998; Hackworth, 2005). The permeation of postmodernism in urban development has urban planning propositions rooted in the notion of conceptualizing various development changes occurring in the production of the urban landscape, typically in the expansion patterns of cities (Hirt, 2005).

When studying the urban changes transpiring within urban regions around the world in the latter half of the 20th century approaching the dawn of the 21st Century, urban scholars such as Soja (1990); Soja and Scott (1996); Dear and Flusty (1998); Keil (1998) brought forth that the infiltration of postmodernism in urban theory produced theoretical trajectories that could be

understood as *Postmodern Urbanisation*. Postmodern urbanisation provided urban scholars with a theoretical lens that afforded an abundance of interpretive explanations for the radical economic and political restructuring, altered spatial structure and cultural change that continuously manifested in city spaces. Holistically, it represents major transformation processes that have unfolded in global urban space creation. Therefore, postmodern urbanisation accounts for the reconstruction of the urban space to capture the unfolding realities of urban space production. Hence, characteristics of postmodern urbanisation assists the researcher to look at the case study of Umhlanga in relation to the development direction South African cities have adopted in the post-apartheid era and how urban space production has happened.

4.2.1.1. Postmodern Urbanisation

The postmodernism concept in urban theory has throughout urban literature challenged existing models and process of urban development by bringing forth alterative descriptions to city and overall urban development (*see* Dear, 1989; Soja 1989; Dear and Flusty, 1998, Hebbert, 2008; Hirt, 2005 and Hackworth, 2005). Urban theory that accounts for traditional and dominant notions of urban development and planning can be found under the Chicago School of thought. Under this school of thought, "*urban growth, control and segregation begin in the centre and emanate outward to form a series of concentric rings*" (Hackworth, 2005: Pg. 485). Therefore, urban theory produced by the Chicago school was one that was rooted in modernistic planning that advocated for master planning which concentrated on a monocentric, one city centre approach to city development (Goodchild, 1990).

Postmodern urbanisation has become an anchor theoretical lens in urban development. It accounts for and provides modes of analysis for the multifaceted development outcomes and different urban forms now displayed by cities during urban space production that is not centred around monocentric urban development. Postmodern urbanisation embraces pluralism through polycentric urban space production (Dear, 1989; Dear and Flusty, 1998; Dear and Dahmann, 2008). Championed by urban scholars of the Los Angeles School (LAS) of thought, postmodern urbanisation has its precept in studying spatial urbanity that represents altered and continuously changing urban geography (Dear and Dahmann, 2008). The LAS is an urban theory pioneering school seen to have been established in the 1980s through empirical research using mainly Southern California as its research focus. Scholars such as Dear and Flusty

(1998); Dear and Dahmann (2008); Hackworth (2005) and Sui (1999) allude that the initial work of LAS was aimed at acknowledging the emergence as well as the consequences of economic restructuring in Southern California, in particular Los Angeles, that had significant spatial outcomes in relation to urban development. The empirical lessons and development patterns became relevant and realized beyond Los Angeles and Southern California. Hence the aggregate findings became codified as the Los Angeles School of thought.

The following section considers the manner in which the broad term of *postmodernism* relates to urban studies and development.

4.2.1.2. The Broader Perspective for Postmodern Urbanisation

- **Globalisation**

Postmodern urbanisation as an urban theory trajectory sits within a broader context of urban development. One of these broader contextual perspectives is the concept of globalisation. Globalisation has various meanings within different scenarios. At a very wide range it relates to a process and state of great connectivity and interconnectedness which has become prominent through the tremendous advancement of telecommunications and transport technologies which have facilitated the rapid exchange of everything from capital, labour, goods, communication, culture and pathogens without the limitation of geographical boarders (Duminy, 2007; Marcuse, 2006). This has had significant consequences for socio-economic, political and spatial practices for countries and cities around the world. The rise of globalisation essentially describes the post-1970s era transition from an international economy to a global economy. Therefore, to understand urban development trends and city development spatial patterns emerging under the postmodern urbanisation discourse, it becomes imperative to understand the influence of globalisation as an institutional embodiment of the Postmodernism Theory (Lizardo and Strand, 2009).

One of the premises of postmodernism (as a philosophy) is to encourage the opening up of rigid and closed systems. In relation to urbanisation, postmodernism sets to bring light to the alternative patterns of urban development therefore highlighting forever changing urban spatial structures that need to be conceptualized. Globalisation as a perspective to urban development observes the formation of a global city that advocates for relations of cities to be globally connected hence allowing some cities to operate as dominant structures seeking to attain *world city status* (Caner and Bolen, 2013; Harris, 1997). Cities who attain world city status become

sources of migrant employment, consumption practices, political ideologies as well as benchmarks for urban development patterns and urban morphologies through the process of global influence that outmanoeuvres geographically fixed boundaries (Smith, 2005).

The accumulation and permeability of capital around the world has forged a global economy that survives on complex webs of economic interdependence across nations that foster receptive flows of persons, goods and financial transactions (Sassen, 1998 *as cited in* Lizardo and Strand, 2009). Globalisation has allowed for the mobility of capital investments and commodity flows to sustain long-term commitments of global exchange rooted in capitalism and neo-liberal trade as creators of a particular world order. Globalisation is largely driven by capitalism, where the economic production and consumption practices of cities becomes controlled by international capital investments that cement themselves in local territories. Therefore, city economies can either become stagnate or progress because methods of production and consumption along with the pace of information transfer is altered and the delivery of resources is re-directed to serve global economic agreements (Dear and Flusty, 1998; Ofosu-Kwakye, 2009). The influx of foreign capital in some cities due to the globalisation of local economies has produced urban restructuring implications that render globalisation as somewhat imperative for city expansion, suggesting that the postmodern urban process remains capitalistic in its approach.

The impact of capitalism and neo-liberal trade puts pressure on cities to tailor their policies and development trajectories to follow the *spoken* and *unspoken* requirements of the global economy seeking to invest in the local economy. Such demonstrates that urban planning politics within local and national practices have become globally orientated. Amin (2002) argues that the fixation on globalizing cities exposes social organisation and interactions that impact the urban spatial form to be run with dialectics of power, markets pressures and judged upon the ability to conform to world standards as opposed to bettering local interests. Therefore, the results obtained include suburban divisions, edge cities characterised by gated communities, privatised public spaces and sprawling low-density developments scattered around the city landscape. Such development outcomes are underpinned by the global economy's ability to homogenize local planning systems[12] to aspire to produce world cities (Leo, 1997) sometimes even prematurely.

[12] The global economy also has the ability to influence differences through uneven development of different cities and neighbourhoods (Leo, 1997).

- **Neoliberalism and Urban Restructuring of the City**

Described as an omnipresent term within the social sciences, neoliberalism is mainly traceable to the late 1970s as a strategic political response for the sustained global recession of the 1960s (Larner, 2009). The neoliberalism ideology is said to be centred around the idea that for economies to grow and for society to make progress in their livelihoods: open, competitive and unregulated markets free from all forms of government interference must become the optimal strategy for economic development (Brenner and Theodore, 2002). Neoliberalism is rooted in the philosophy of free trade that embraces the idea that markets are to regulate themselves through the economic concepts of demand and supply. Thus, neoliberalism is highly associated with *"a healthy private-sector as the central mechanism for achieving national economic development"* (Peterson *et al*, 1991 *cited in* Duminy 2007). Such is done with the intention of mobilizing a range of policies that seek to extend market discipline, competition and commodification of majority of the sectors in society.

The significant tenants and projects of neoliberalism include (Moody, 1997):

- Market regulation in place of state regulation/guidance
- Economic redistribution in favour of enhancing international capital mobility
- International free trade principles

These tenants have also trickled into contemporary urban development particularly in the spheres of urban regeneration and city expansion. With capitalism presiding as a prominent indispensable tenant of neoliberalism, the neoliberalism ideology in the built environment drives the direction for the mobility of capital which has the power to dictate when and how development projects occur and who will benefit from them. The influence of neoliberalism in urban development, where development aims to contribute to reeling in economic development within city expansion strategies, dictates that urban space must be marshalled as an arena for market-orientated economic growth and elite consumption to sustain investment made into cities and their neighbourhoods (Zimmeran, 2008). Parker (2004) argues that the dependence dominion between capital and those controlling the investment direction of money in cities directly impacts the development logic of a city and the configuration of its space. This can be seen also with the development direction in the North of eThekwini Municipality, where Umhlanga finds itself centrally situated. The majority landowner has been Tongaat Hulett who

have managed to further sell development rights[13] that further create development autonomy. The urban spatial structuring that has transpired in and around Umhlanga is a manifestation of neoliberal and capitalistic approaches to urban development and landownership.

To ensure that urban space yields capital returns on investment, notorious neoliberal strategies to urban development include intensifying competition within the built environment through the measures of place-making, property-led development and the gentrification of decayed urban territories. Umhlanga has attained its credit as one of eThekwini Municipality's most important economic hubs by providing corporate office-park led packaged development. Its place-making strategy has been one that embraces the optimisation of urban mixed-use and residential development[14].

At city level, neoliberalism allows cities to become entrepreneurial and marketable while also engaging in the commodification of urban space in relation to how they embody strategic sites as a representation of how local authorities choose to express their neoliberal urban development strategies. For Robins (2002) *as cited in* Murray (2004), this entrepreneurial model that cities adopt represents the nature of the *contract* state. The concept of the contract state represents the fundamental principle of the neoliberal philosophy of minimal state intervention to development, meaning that municipal authorities become more commercially orientated in the management of city assets when attracting new investments.

In the case of Umhlanga, strategic location, agglomeration economies and pioneering investment associated with Umhlanga being an *extension* of Durban has to a large extent endorsed Umhlanga to be a strategic site that is highly commercial and marketable. Some factors that contribute to this is Umhlanga's position between the N2 and M4 highways, and its close proximity to both the Durban CBD and the King Shaka International Airport, which are 15km and 18km away respectively. Furthermore, its position between eThekwini Metropolitan Municipality and KwaDukuza Local Municipality additionally makes Umhlanga more susceptible to increased entrepreneurial investment as well as increased market demand traffic.

The counter impact to commodifying certain landscapes within the city space under the influence of the neoliberal syllabus largely invested in market-orientated urban economic

[13] Tongaat Hulett (2018). "Creating Value for Stakeholders through An All-Inclusive Approach to Land Development."
[14] https://thdev.co.za/new-developments/greater-umhlanga/

growth, is that cities undergo uneven geographical development. Brenner and Theodore (2002) argue that uneven development under neoliberalism urban development policies and strategies occurs as a result of influence from dictator capitalist development. Such reveals the power of methodical capitalism that deliberately produces places that are systematically privileged over others as sites of capital accumulation. The authors further highlight that uneven development is endemic to capitalism and is a key expression as to how some urban places are mobilized as places of capital accumulation while others remain underdeveloped. This suggests that concepts such as integrated spatial planning become secondary in urban development and that socio-spatial inequalities are part and parcel of all spatial scales of the urban form.

The broader theoretical perspective of postmodernism finds itself highly associated with the neoliberal ideology. For Salcedo (2003) *as cited in* Tulumello and Picone (2016), dynamic urban restructuring trends visible in many cities are a direct result of the neoliberal and postmodernist philosophies that have become prominent drivers of urban development. The financing and reorganization of the movement of global capital allows postmodern urbanisation trends and development patterns to exist profoundly within the neoliberal project (Tulumello and Picone, 2016). Hence, in the context of cities, neoliberal approaches to urban spatial development expose the ever-changing postmodern urbanisation trajectories and developments patterns. The neoliberalism concept in postmodern urbanisation represents the quest for pursuing what is economically desired by the market. The profit returns of providing what the market wants combined with the shift in urban governance and urban policy, that has become pro-neoliberal development, further puts a spotlight on postmodern urbanisation and its features. Murray (2004) brings forth that spatial dynamics prevalent in postmodern urbanism include: fragmented and decentred city spaces, scattered safeguarded enclaves, privatised public services and privatised public spaces. All of which neoliberalism is used as a filter for access.

4.3. Postmodern Urbanisation Development Trends

The broader position of postmodern urbanisation from the discussion above reveals that postmodern urbanism is associated not only with rapidly changing spatial changes within the urban form but it also brings forth how the pursuit of economic gain and capital dominance has led to implanted directions for development through globalisation that is highly driven by market demands. The changes of urban restructuring seen in cities brings attention to urban development trends associated with postmodern urbanisation. The urban spatial reforms

transpiring in cities today are different to what has been historically recorded, thus making provision for newer urbanisation trends to surface and characterise the urban form.

For Caner and Bolen (2013); and Dahmann (2008), the theorization of the spatial configurations of postmodern urbanity reveals urbanisation trends eminent in postmodern urban development that provide alterations to the classical urban understanding of city development. Such trends include: the creation of world cities through investing and maximizing global-local connections; global financial and monetary regulations that have decreased state powers from welfare to creating entrepreneurial states; the rise of the *cyber cities* through rapid information and technology advances; social polarization as a result of the increasing gap between rich and poor; power struggles between different ethnic, racial, religious and gender groupings; and lastly, the growing focus on the sustainably agenda where urban planning has become responsible for growing consciousness towards the environmental crises and deteriorating environmental changes being experienced by cities and their inhabitants.

These trends have become intertwined with distinguishing the socio-economic, political, spatial and environmental characteristics of urban development. More so, these trends can be understood as a summative depiction of the major changes that have been taking in place cities, consequently providing altered geographies that represent a postmodern urbanisation. To depict the dynamics of altered geographies, postmodern urbanisation development trends and their consequences for urbanisation in direct relation to city development and spatial planning are identified below.

- **Global-Local Connections**

The rapid growth of cities has facilitated a contemporary system that has seen some cities emerge as centres of command and control in the globalising economy. (Dear and Dahmann, 2008). Cities like New York, Tokyo, London and Beijing have become the epitome of what most cities and their urban surroundings aspire to become, particularly in the economic territory. To fast-track the deliverance of different types of urban settings to the world, cities become more engaged in the provision of smaller to medium sized urban spaces in cities where global-local connections are emphasized to created more internationally connected urban forms. The use of global-local connections by cities to propel global engagement implies that the progression of cities both physically and socio-economically occurs as a benefit to improve intra-urban connections between local cities while advocating for better resource improvement

at large to allow local cities to compete on the global urban scene. The development of edge cities tends to promote newer developed urban regions as new centres of economic and lifestyle command. The same can be said for Umhlanga. Its status as a premier beach resort (eThekwini Municipality, 2007) sees Umhlanga globally connected to the world as a highly sort after travel destination in South Africa whose growth through local, provincial and national investment has sought to amplify the purpose of Umhlanga as a tourist attraction that attracts and accommodates tourists from middle-upper societies in the country and those of international locations. Furthermore, Umhlanga has developed as a regional urban spatial form that has enhanced the flow of domestic and international business into Kwa-Zulu Natal as a province and to Durban as a city. According to the KZN Provincial Growth Development Strategy (2016) the strategic position of King Shaka Airport and the Dube Trade Port in close proximity to Umhlanga, has afforded Umhlanga the ability to cultivate stronger global-local connections by using these key infrastructure investments to propel international logistics within South Africa.

- **Social Polarization of the Urban Landscape**

One of the most persistent themes in the urban analysis of postmodern urbanisation is social polarization. For Machema (2019), the concept of social polarization captures existing gaps and fragmentation between social groups in a population relative to their livelihoods therefore giving insight into the level of cohesion or diversity within a society. The increasing gap between rich and poor, the powerful and powerless has largely translated into the urban spatial structure of cities. Social polarization is exacerbated by development in two prominent ways. Firstly, the categorisation and division of urban spaces according to the levels of investment and secondly, the separation of urbanites according to income and class (Lemanski, 2007). The attachment of urbanisation and city accessibility to development that is associated with certain levels of income and class lends itself to the clustering of certain socio-economic activities in particular ways that persistently perpetuate spatial inequalities that reinforce urban disparities within cities (David *et al*, 2018). Therefore, social polarization as an urbanisation trend in the postmodern urbanisation is a prominent outcome of socio-spatial inequality in cities. This exists through the combination of urban spatial expansion that is underpinned by significant economic growth that instigates further suburbanization of the city (Todes, 2014).

Lemanski (2007) argues that although cities, especially African cities, may work towards being pro-poor as well as working to align and function within the global economy, the latter tends

to overtake the former. Social polarization manifests easily as cities aspire to be globally competitive. The want to capitalize on global-local connections and international investment within the urban landscape sees cities investing in already affluent areas of the city in order to exhibit global strength and align to other global cities. This further opens up the urban disparities within the local sphere and strengthens socio-spatial polarization. For Williams, (2000), these tendencies contribute to the rise of spatial affluent islands in the midst of a sea of urban misery characterised by inequality and marginalization.

South African cities, just like other cities of the global South, find themselves stuck between the dichotomy of being classified as developed or developing cities which represents the identity of first and third world development progressions.[15] For South Africa, the apartheid legacies found in the urban landscape represent deep infrastructure and economic inequalities existing within urban social divisions. This makes the pursuit for global-city status complex. In the article "*Polarization in Post-Apartheid South Africa*", Machema (2019) brings forth that South African cities have continued to experience declining social cohesion levels and increased social polarization and fragmentation. The South African Cities Network (2006) highlights that cities have the capacity to further exclude and reinforce patterns of inequality and segregation by following postmodern urbanisation models to city expansion.

Observing the South African case, Schensul and Heller (2010) highlight that the lack of socio-spatial transformation in eThekwini Municipality reveals significant pockets of social polarization as the spatial planning legacies of apartheid are still inherently visible. In the Built Environment Performance Plan, eThekwini Municipality (2018) brings forth that there is a considerable *"spatial mismatch"* within the urban form amongst the areas of employment and those of residence. The spatial mismatch identified in the municipality is exacerbated by the concentration of employment opportunities, bulk infrastructure and social services nodes that are further from places of residence and transport networks, ultimately polarizing those who were previously and currently still marginalized. Dalberg (2015) argues that the city of Durban has less chances of decreasing social polarization within the urban form as the city has one of the most expensive housing markets relative to income when compared to other metropolitan cities therefore making the spatial form more susceptible to further spatial segregation.

[15] In this dissertation the "global South" refers to the academic discourse used in development studies to refer to developing countries as opposed to developed countries in the "global North. Neither set of terms fully encompasses the variety of different countries and experiences in each group, they serve as a functional shorthand (Lemanski, 2007)

- **Urban Restructuring and the Commodification of Urban Space**

The restructuring of urban space is considered as a fundamental attribute to the postmodern urbanism literature and its development outcome scenarios. The infiltration of the Postmodernism Theory into urban development is based around documenting urbanisation trends that result from different processes of urban development practices that produce various urban spatial forms. For He and Lin (2015), urban restructuring occurs as a resultant of emerging different spatial patterns associated with more varied urban space production and consumption patterns. In relation to space production, urban restructuring provides updated mechanisms that accommodate the proliferation of new urban spaces.

In the context of this research, Tongaat Hulett (2018) who are majority landowners and developers for Umhlanga and its surrounding areas, bring forth that to optimize their land holdings into developable hectares (prime land in Kwa-Zulu Natal located along the Durban and Ballito area) land conversion activities need to be undertaken to convert sugarcane land into land that is useable for urban and property development. Of the 7 612 developable hectares of land, 3 566 developable hectares have been formally and successfully converted from agricultural land and earmarked for urban development. This is closely aligned to literature that puts forth that urban restructuring under the postmodern urbanism is embedded in utilizing land to capitalize on capital accumulation while following urban development trends.

For Short and Kim (1999) urban restructuring directly feeds into capital accumulation by creating urban spaces that embrace human settlement patterns that orientate around the concepts of *live, work and play*. This assists the urban space to be sellable (especially land that has been converted from land uses such as agriculture and industrial). For Wu (2003) the commodification of urban spaces associated with the development of edge cities is entrenched around the exploitation of affluent and exotic lifestyle that encourage property and urban developers to filter and capture a niche market. The commodification of urban space and specific lifestyles after the process of urban restructuring is packaged using consumption deliverables that include high intensity urban mixed-use areas, residential settlements, urban amenities, office and commercial parks, industrial warehousing and box-retail spaces. Wu (2003) highlights that urban commodification is solely and purposely centred around stimulating urban economic expansion that does not seek to resolve urban problems relating to spatial inequalities or the pursuit of urban spatial integration.

4.4. The Edge City as a Product of Postmodern Urbanisation

The spatial patterns that arise under postmodern urbanisation are codified as *postmodern urbanisms,* referring to postmodern urban geography (Dear and Dahmann, 2008). Harris (1997) defines the term *urbanism* as the detailed and intricate spatial patterning of industrial, commercial and residential related land-uses along with the residential density of a particular region. For the purpose of this study, the concept of urbanisms shall refer to urban spatial geographies that give meaning to different measures and processes of urban-place production. The understanding of postmodern urbanisms works to exemplify the changing geographies that are redefining urban place making directed by urban politics.

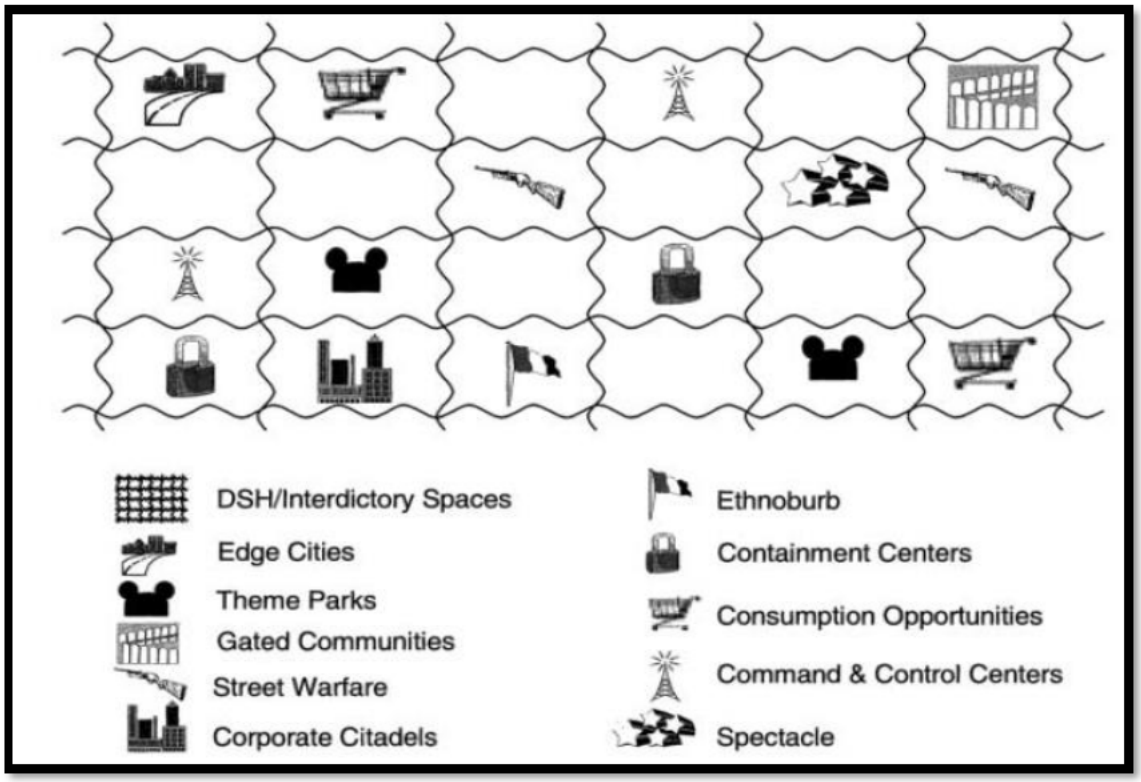
The edge city phenomenon is seen by LAS scholars as an urbanism that results from the process of postmodern urbanisation. Krzysztofik (2006) justifies edge cities as a type of urbanism that exploits the peculiarities of suburbanization phenomena and metropolitan decentralization. As noted in the discussions of the conceptual framework, Chapter 3 and in Chapter 1: Pg.4-5, the edge city urbanism is one created through activities such as industry, commercial service sector, regional shopping malls and office parks that move away from the central city and filter into the urban edge. The categorization of the edge city as a postmodern urbanism accentuates the understanding of contemporary city growth expansion patterns characterised by wedged and pocket developments. Such developments result from socio-economic and spatial agglomerations which are a consequence of urban development concepts such as decentralization and polycentricism accompanied by resolute capitalist urban development processes (Dear and Flusty, 1998). Thus, the edge city is a consequent urban structure of postmodern urban theory, neo-liberal urban spatial restructuring and discernible globalizing capitalism influence.

The urbanism of the edge city radiates development implications of restructuring of urban space, social polarization and fragmentation mainly because of the process of urban sprawl that comes with edge city development spilling into the urban edge (Hackworth, 2005). Garreau (1991) *as cited in* Vanderbilt (1995) argued that the edge city is not a bleak expression of corporate relation and disposable urban sprawl. However, it is a place-making urban process that has become a creator for business development and employment while housing most of the wealth in most expanding cities. It is important to note that the edge city as a postmodern

urbanism does not advocate for segregation, rather the development outcomes of edge city development expose and exacerbate socio-spatial inequalities present in cities.

Hackworth further notes that the formation of edge cities as a postmodern urbanism highlights the process of changing urban geographies that can be traced physically through localized *quasi-random* developments rather than systematic outward suburban growth (*see figure 5*). These localized *random* developments that bring about the existence of edge cities occur as a result of a third wave of urbanization that follows after the development of shopping malls and office parks in a suburban area (Dear and Flusty, 1998).

Figure 5: Postmodern Urban Theory Geography.



Source: Dear and Dahmann, 2008.

Figure 5 depicts how capital is invested in a parcel of land while superficially overlooking the activities of the surrounding parcels of land, however still envisioning their development potential that could form an agglomeration of economies. The relationship between development of one parcel of land and the non-development of another is not necessarily related. Therefore, the development of the edge city becomes a field of opportunity that represents an alternative to traditional urban place-making usually governed by master planning. Edge cities produce a unique urban geography through *leap-frogging* developments

that are combined with the suburbanization of the economy and socio-economic agglomerations (Hebbert, 2008).

4.5. Postmodernism in Urban Planning

The city is conceptualised from different perspectives under postmodern urbanisation. The approaches to urban planning include conceptualising the city through the lens of urban design, strategic planning and economic organisation Such approaches are viewed by McLoughlin (1990) as valuable because urban planning places great emphasis on plans and not so much on how cities work. Therefore, these approaches open up urban planning to create and shape urban morphologies.

The postmodern approach to urban planning also recognises and embraces the surge in the deconstruction, decentralization and the dispersion of the urban form as a means to facilitate the advancement of cities through urban development. Hirt (2005) justifies postmodern urban planning as an approach to urban planning that works towards planning for expanding metropolitan areas with functionally separate urban realms. Goodchild (1990) explains that the rise in fragmentations among the urban compartmentalization's is a result of the city being separated into different territories under the influence of market-orientated interventions.

In South African, market interventions and increased capital investments in urban development has seen the postmodern approach to planning reconfigure the narrative of the suburban area (Menon, 2013). Two significant postmodern urbanization trends that have proliferated the development of edge cities in South African cities is the relocation of CBDs from inner cities to the urban edge along with the redeployment and aggressive conversion of agricultural land into property landholdings because of market demand and global urban trends (Menon, 2013).

Hirt (2005) brings forth that postmodern urban planning is more radical and is becoming more superficially attached to planning policy that makes use of regional and local planning expertise. The growing approach to city development becomes deeply driven by capitalistic development opportunities that are significantly tied to the production of different typologies of urban spaces (Goodchild, 1990) suited to meet certain capitalistic investments returns. In the article *"Postmodernism and Planning"*, Dear (1986) observes that the postmodern urbanisation shines a light on how fragmentation within the city space becomes exponential and results in urban enclaves embedded in social dislocation accompanied by segregation. Goodchild (1990) argues that spatial fragmentation transpires because of the non-conservative

planning nature of postmodernism that transfers the role of urban planning to large real-estate developers while reducing that of urban planners and local government to facilitator of urban development. Such has tended to result in public-private tensions that channel the holistic work of urban planners to passive planning through exercises in land-use planning while private sector planning attempts to follow international planning trends. It is however different in the Umhlanga context with both *Respondents 7 and 8,* (professional planners) from eThekwini Municipality, respectively both stating that a fruitful relationship exists between the municipality and Tongaat Hulett Development as the private land holder.

- *Respondent 7: "We are going to sit with the developer or major landowner to begin to negotiate an outcome, a spatial outcome that will meet the needs of council and also in line with the expectations of private sector, so I think it's a good balance in terms how we work with landowners."*

- *Respondent 8: "The way we encourage development is by prioritising development from the landowner. Our office is mostly known for THD developments we have a special relationship with them and them with us/the city."*

Such consensus between a municipality and developer become useful when studying the extent to which spatial integration is considered for urban space production if edge cities are considered as part of international planning trends.

4.6. Organic Decentralization Theory

The Organic Decentralization Theory is a theory about urban development and urban spatial layout developed to explain the expansion of cities. Developed by Eliel Saarinen in his book, *The City—Its Growth, Its Decay, Its Future in 1943,* Saarinen puts forward the argument that cities disintegrate and decentralize from the central urban core to the urban periphery gradually and organically (Shao, 2015). This decentralization is natural and also needed for the growth and expansion of cities. The decentralization of cities under this theory is equated to the inner sequence of a living organism, whereby an organism grows by constant cell reproduction and expands into spaces nearby within the organism that were reserved in advance for the production of new cells by the organism. The formation of the *new cells* represents new developments within the city that are proposed to be connected by different modes of

transportation (Soundunsaari *et al,* 2015). This analogy is used by Saarinen to explain how cities decentralize from the central urban core to the outskirts or the urban edge. One can therefore argue that the spaces in which edge cities develop within various urban regions are spaces left for development in advance to cater for diverse forms of urban form expansion including that of edge city development.

4.6.1. Urban Decentralization and Organic Decentralization

Urban decentralization becomes a significant component of the Organic Decentralization Theory as organic decentralization of the city is induced by the process of urban decentralization that restructures a city's spatial landscape and presents different urban morphologies through expansion of the city. Urban decentralization is part of the vocabulary of social and spatial change where the spatial urban form undergoes changes in its geographic patterns (Allen, 2005). These geographic pattern changes are induced by economic and human settlement advancements that represent the interactions of citizens bringing forth their social, economic and cultural preferences in relation to where they agglomerate within the city. These preferences affect where social and economic opportunities align themselves or agglomerate within the urban space thus depicting that cities can be self-organizing and undergo urban decentralization as a means to organically decentralize away from the main centre. Hoyt (1941) alludes that it is the availability of choice combined with preference that leads to urban decentralization as citizens are able to choose where they work and live and this choice to some extent has a significant influence in the location of residential and workplace environments.

Shao (2015) notes that Saarinen emphasizes the need for central cities to decentralize in order to undergo urban regeneration and replenish from dense populations and the pressures of centralized activities. The transfer of activities (typically economic activities) to low-density areas, naturally the edge city, allows for the central city to redefine and reassert itself within the metropolitan area. Therefore, urban decentralization can be viewed as a rehabilitation process under the concept of organic decentralization where the edge city assists the central city in undergoing urban regeneration. Urban regeneration and rehabilitation prompted by organic decentralization of the central city can be seen in Durban. There are efforts of urban regeneration strategies currently being undertaken by the eThekwini Municipality in the eThekwini Municipality Integrated Inner City Local Area Plan and Regeneration Plan (2016) as a means to counter-act urban decay experienced in the inner city as well as to attract economic and social investments back into the inner city.

The strength of this theory and relevance to the research topic is that it additionally calls for the protection of the value of both the central city and the edge city by organizing the edge or satellite city and other nodes of development into correlated and functional concentrated points of activity that complement the functioning of the central city. The theory assists the researcher in understanding that edge cities will inevitably develop as cities decentralize. Shi and Chen (2016) further indicate that the Organic Decentralization Theory is about encouraging compact city form in both the central city and the edge city by balancing the distribution of the population along with economic, social and political functions of the central city into the edge city so that the edge city is not completely cut off from the central city. Thus, the integration of both city spaces is important and should be achieved through sufficient methods of spatial planning that are motivated by spatial integration.

South African cities have undergone and are still undergoing significant transformations in their urban structure since the demise of apartheid and as a result, edge city developments have been identified through urban development and restructuring processes (Michel and Scott, 2005). In the post-apartheid era, the Organic Decentralization Theory is relevant in accounting for how South African cities have decentralized both organically and through urban decentralization. This can be observed spatially through physical urban movement from the central city into outer urban regions as a consequence of removed spatial and movement restrictions that underpinned city development under Apartheid. Isaacs (2004) argues that decentralization of South African cities after apartheid, whether organic or market induced, was inevitable as more populations entered the urban space and this has resulted in the internal shifting of the urban spatial setting which has gone to produce edge cities as one of the outcomes.

4.6.2. Organic Decentralization as a driver of Land-Use Distribution

As a physical movement, organic decentralization works to distribute the city population and different land-uses into outlying areas available for growth around the existing central city. The expansion of the city is understood as a logical sequence that disperses only those activities that are interrelated (Saarinen, 1945). For decentralization to manifest as a physical movement, a pressure stronger than that of centralized concentration in the central city must exist to encourage dispersion of the city into the surrounding parcels of land.

Organic decentralisation according to Saarinen (1945) conceptualizes the spreading out of the city into adjacent land parcels as a method of undergoing organized city growth that reduces

uncontrolled urban sprawl by supporting the formation of satellite cities or towns outside the main city centre as means of avoiding over population. With avoiding over population that is induced by urbanisation, the theory advocates that the urban form of the city and metropolitan area should also follow the notion of creating human settlements where heavy and light industry can be allocated on the outskirts of the central city (Shi and Chen, 2016). The positioning of heavy and light industry outside of the central city is what gives rise to the development of edge cities as heavy and light industry become peripheral economic growth poles. Shao (2015) notes that the decentralization of heavy and light industry separates the city centre from the edge city by centralizing public and administrative activities to stay in the central city while industrial, business and commercial activities develop in the edge city. The Organic Decentralization Theory supports the spatial division between the central city and the edge city as it is seen as a way to create multi-dimensional communities and polycentric spatial structures across the urban form.

4.7. Planning Theories for Spatial Planning

The aim of the study is to investigate the extent to which the phenomena of edge cities has prevailed in South Africa and to identify how they have affected integrated spatial planning. The concept of integrated spatial planning is being investigated against the development of edge cities in South Africa. Albrechts (2004) identifies integrated spatial planning as a planning ideology that seeks to respond to the need of regulating the complexity of rapid development as a means to rectify spatial fragmentation and segregation to ensure spatial justice.

South African urban planning scholar Todes (2011) indicates that integrated spatial planning can be used in urban planning to redress spatial inequalities by creating integrated environments both on the ground as well as vertically and horizontally across government spheres to assist previously disadvantaged and marginalized areas. As stated in the conceptual framework (Section 3.8), the concept of integrated spatial planning is formulated to denote a spatial panning centred around demonstrable spatial inclusivity and integration. Therefore, to identify and understand the philosophies and theoretical ideas linked to how spatial planning ought to be carried out in practice with the goal of working towards spatial integration, planning theories underpinning spatial planning (deemed relevant to the study) known as the Advocacy Planning Theory and the Equity Planning Approach are reviewed.

4.7.1. Advocacy Planning Theory

The Advocacy Planning Theory is a theory that draws its model of planning form the field of Law. Championed by Paul Davidoff in 1965, in his article, "*Advocacy and Pluralism in Planning*", the Advocacy Planning Theory is underpinned by advocacy grounded in inclusive and pluralistic approaches to planning (Checkoway, 1994). The advocacy planning theory works to help citizens infiltrate planning spheres and systems that can be dominated by politics by advocating for the interests and wishes of minority groups that would otherwise be unnoticed in orthodox planning schemes. Advocacy planning seeks to primarily serve the public interest in a society containing many diverse interest groups. This is said to be done by supplementing the technical aura ascribed to urban planning with active social, political and citizen-based planning mechanisms to ensure community inclusion (Salet and Faludi, 2000).

Under the Advocacy Planning Theory, spatial planning ought to achieve social and spatial justice by ensuring equity in urban development and its outcomes (Acheampong, 2019). Spatial planning rooted in advocacy planning is intended to move away from a top-down planning approach to embrace urban politics that defend the interests of those belonging to vulnerable, marginalized and socio-economically powerless communities. For Davidoff (1965), planning becomes a process that should work to address a wide range of societal problems through the active inclusion of traditionally excluded groups of society. Therefore, advocacy planning affords those in spatial planning the use of equity-based planning approaches to reduce urban disparities between the affluent and the underprivileged. To further ensure integration is better achieved in spatial planning, advocacy planning emphasizes the need to create pluralistic plans in the planning processes. Davidoff (1965) explains pluralism in planning as having alternative plans from different sources within a city's planning fraternity. Pluralist planning challenges the idea of only having government departments and political parties planning for a communities socio-economic and spatial needs. Rather pluralistic planning encourages all spheres of the city (public and private sector, community organisations and non-governmental organisations) to partake in planning processes. Alternative plans can also take the form of opposing plans from opposing parties. The engagement in multiple planning frameworks allows for the use of dialogue to resolve spatial conflicts.

According to Coetzee (2005), South African planning has also experienced a change from technocratic planning to a more socially inclined planning. This is a result of an unfolding social awareness in urban planning that stems from the democratic transformation agenda and integrated development call made by national and provincial planning legislations and policies.

For South African planning, advocacy planning has become closely linked to community development. The strategy of using advocacy planning within community initiatives is related to ensuring greater concern for the human and social issues South African communities and their cities still face. Coetzee (2005) asserts that the best way for spatial planning to achieve integration measures in South Africa, is for advocacy planners to actively facilitate the public voice by the provision of planning efforts outside the (local) government arena.

The Advocacy Planning Theory becomes relevant to the study as it shines a light on what spatial planning ought to achieve in practice, but mostly how it should cater to communities. According to Foster (1994), advocacy related spatial planning ensures that spatial planning undertaken by (public) planner's works to protect the pursuit for social justice. In South African cities, the concept of social justice is closely linked to that of redistributive justice and the need to redress spatial, social and economic imbalances that continue to burden the South African spatial morphology (Van Wyk, 2012).

4.7.2. Equity Planning Approach

The goals of both Advocacy Planning and Equity Planning is social inclusion (Fainstein, 2005). Under the Equity Planning Approach, social inclusion supersedes inclusion only associated with the planning process and rather emphasizes social inclusion related to the spatial and socio-economic services of the city. This is described by Fainstein as *having access to the benefits of the city* as a result of planning being able to engage in planning approaches and strategies that seek to provide equitable distribution of resources, reduction of spatial displacement while adopting a more humane urban design. Therefore, Equity Planning is planning that is focussed on advancing the lives of those who are most distraught when living in the city (Krumholz and Foster; 1999 *as cited in* Sotomayor and Daniere, 2017).

The rise of a newer form of Marxist urban scholarship in planning in the early 1970s saw the economic and political functions of the city being contested as a means to provide a better understanding of the political agenda in planning and how it could better service marginalized communities. As an approach to planning, equity planning provides the consensus as to why and how planners should become allies of local communities against spatial and socio-economic exclusions (Sotomayor and Daniere; 2017). Therefore, equity planning is concerned with bringing about activism in spatial planning that has a redistributive objective towards development practices within the urban development context.

For Khuluse (2015), spatial disparities in cities are not only a result of market forces but largely also a result of urban development processes that have exploited the marginalized and discriminated against the underprivileged. Sotomayor and Daniere (2017) further emphasize that city development has occurred in social and spatial *pocketisations* that demonstrate the lack of spatial access to adequate housing, basic services and socio-economic inclusion across the urban form. Krumhloz (1994) argues that the planning profession has played a large role in preserving pocketed and exclusionary development designs that perpetuate urban spatial inequalities. The use of institutional planning arrangements that produce adequate and viable neighbourhoods which cater to the middle-class and the elite while concentrating those of lower economic ranking into other neighbourhoods has resulted in spatial planning attempts to be lacking in equity when viewed as human settlemnts.

In relation to bettering spatial planning and ensuring that it is centred around spatial integration that provides better access to socio-economic advancements for the urban population, equity planning questions existing urban inequalities by probing the creation of spatial plans that are needed to work towards economic justice. Equity planning also interrogates who benefits from the existing local urban policies and plans by a way of identifying discrepancies. The role of an equity planner in the spatial planning process goes beyond deliberating on behalf of the marginalized. Rather, it is rooted in choosing political affiliation that is best aligned to the local systems of trust and common public interest (Sotomayor and Daniere; 2017). The outcomes of equity planning in relation to integrated spatial planning is seen as an alternative path to bring forth what formal political systems fail to deliver at the city level.

Largely attached to the South African planning discourse are the ideals of integration, transformation and redistribution. A spatial mismatch largely attached to racial and economic bias continues to shape the development direction of the urban built environment in South African cities (eThekwini Municipality, 2018). The equity planning approach becomes relevant to the study as it calls for planners to engage in spatial planning practices that attempt to be spatially, socially and economically transformative by using redistribution measures in communities where democracy and citizenship rights have been supressed. The post-apartheid South African spatial form is still very much lacking in spatial equity as the urban form continues to be structured around fragmentation and spatial inequality (Pithouse, 2009).

4.8. Urban Spatial Models

When studying city expansion and the overall implications it has on urban development, McDonagh (1995) brings forth that the urban spatial form of cities is not predominantly the making of town planners or local politician structures but rather the urban spatial form is a direct aggregate activity of property developers of all types who largely define the spatial form that cities take. The concept of urban spatial models is then used as a theoretical and spatial lens in urban development studies as part of planning theory to capture and explain the spatial layout of cities as well as regional urban settings determined mainly by property developers as well other relevant stakeholders.

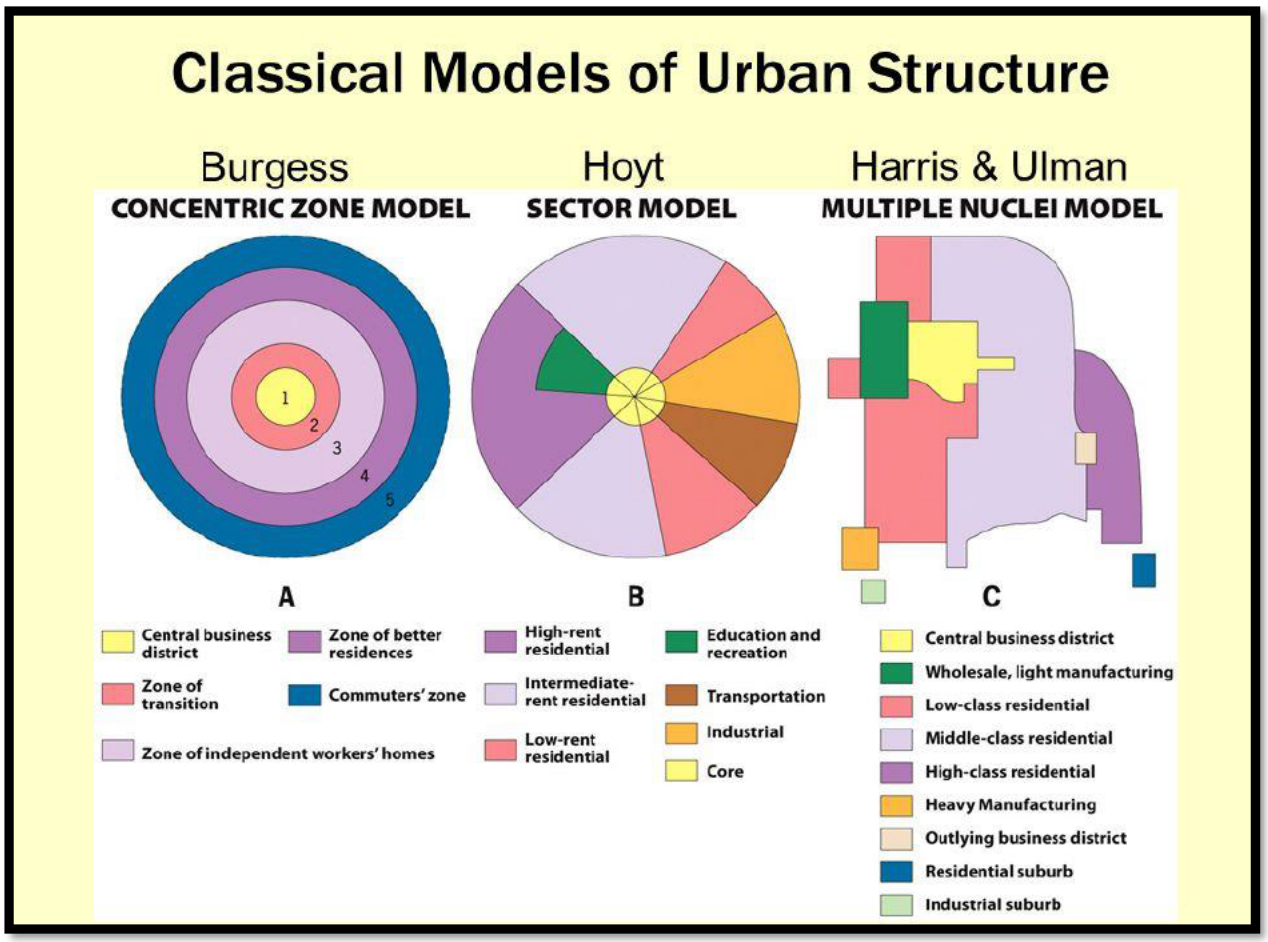
According to Anas *et al* (1997), urban spatial models are fundamentally used to comprehend the degree of spatial concentration and dispersion of urban population and employment. Not only is the expansion of cities shaped by employment and population locations, but city development is also largely influenced by transportation and communication factors. Thus, urban spatial models are designed to depict how urban development transpires physically and are used to generalize popular urban development spatial trends. For Harris (1997), urban spatial models are stagnant and lack capacity to account for the development of all cities around the world. In an opposing sphere, McDonagh (1998) argues that such models assist in justifying the course of city development in a generic way that can be used to observe the growth of a city by examining the interrelationships of demographic, socio-economic and political attributes that influence the development and expansion of a particular city.

The forever changing economic relationships between different industries within urban economies along with the notions of urban decentralization taking a more polycentric form has resulted in the incline of spawned nodes (with highly concentrated urban development) that grow into edge cities away from the urban core (Anas *et al,* 1997). The development of edge cities contests monocentric concentrated CBDs and compacted urban spatial forms largely majoring in manufacturing industries as portrayed by classical urban spatial models (*see figure 6*).

For Krzysztofik (2006), edge cities represent the third wave of urban spatial development in urban geography suburbanization. The edge city phenomenon thus does not fully correspond with the dominant classical urban spatial models *(figure 6)* of city development as a result of urban spatial evolution (Anas *et al,* 1997). The urban spatial models of the Peripheral/Galactic City model and the Urban Realm model have been identified as models that capture and

theorize the edge city phenomenon. For the purpose of this research, the urban spatial model known as the Urban Realms models will be used as another form of theoretical lens that will complement the above-mentioned theories to further explain how edge cities are formed and function.

Figure 6: Classical Urban Spatial Models.



Source: Google, 2019

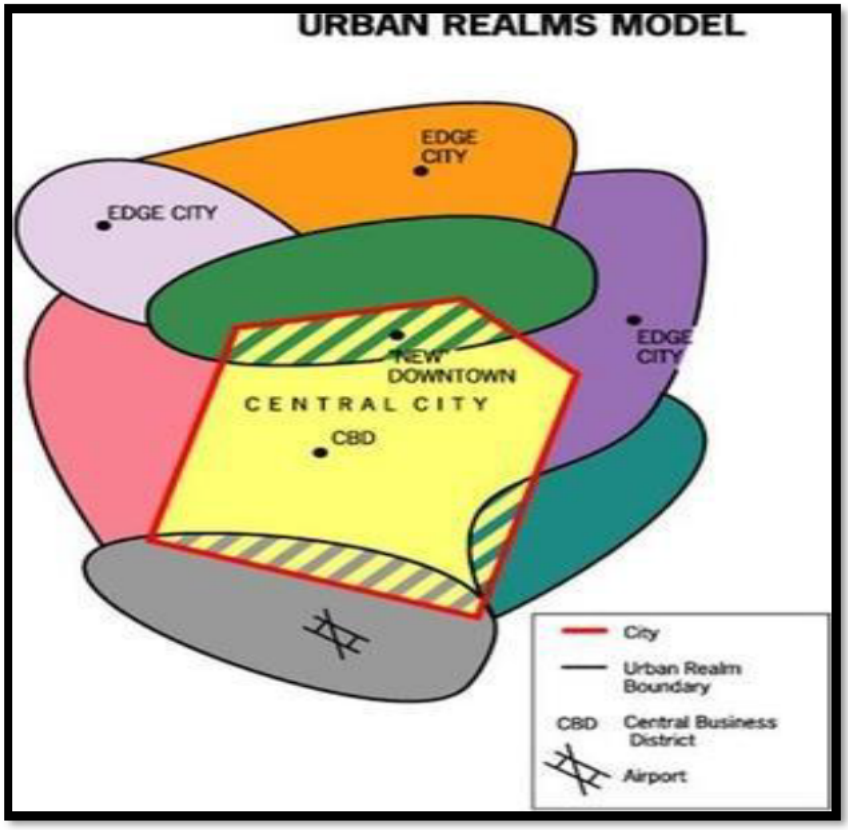
4.8.1. Urban Realms Model

The evolution in the production of urban space has resulted in the appearance of a predominantly dispersed and multi-nucleic urban spatial structure generally among various cities as noted in the conceptual framework. Lang and Nelson (2007) bring forth that the rise in automobile use coupled with high-intensity highway construction is one of the major causes contributing to the fabrication of polycentric urban spatial settings. The concept of polycentricism is further expanded when fundamental urban functions, such as those of the core city, are not only transferred from the urban core into the suburban territory but also from the suburban areas into larger dispersed urban fields (Adell, 1999). These urban fields in urban

development literature are referred to as urban realms and are recognised as self-sufficient urban sub-regions of the central city (Vance, 1977 *as cited in* Lang and Nelson, 2007). James E. Vance 1964 developed the Urban Realms model to account for the growing appearance of different urban realms within large metropolitan areas that mimicked the activities of the central city but were independent in function but still *tied together* to create a metropolis (Adell, 1999; Cilliers, 2010; Lang and Nelson, 1997).

According to Adell (1999) the Urban Realms model shows how extensive decentralization can result in a dispersed pattern of urban activities that goes beyond the development of place but leans more towards the development of different but intertwined regions within one metropolitan urban space (*see figure 7*).

Figure 7: Urban Realms Model created by James E. Vance in 1964.



Source: Google Images, 2019

As seen in *figure 7*, the model depicts how a metropolitan area may develop to cover expanded amounts of spatial space outside the central city. Cilliers (2010) explains that urban realms are a spatial expression of development that moves outward from the central city urban *boundary* and engulfs urban development that has expanded beyond the urban boundary. Compatible with the tenants of the Organic Decentralization Theory, urban realms are considered natural

functions of city growth that happens in a way that spatially reshapes the metropolitan area into producing a collection of urban realms that function as smaller cities to the central city. (Cilliers, 2010; Lang and Nelson, 2007). The different urban realms are able to be seen as smaller or satellite cities because of their nature to provide the transition from monocentric to polycentric city structure, which is made possible when urban development stems outward from nucleic nodes that are similar to the central city CBD but positioned in different regions within the urban space, creating a multi-centred city (Hurtsharn and Muller, 1989; Adell, 1999).

The Urban Realms model becomes relevant to the study as it depicts the diverse ways in which edge cities manifest in more dispersed urban settings. Hurtsharn and Muller (1989) use the model to show that in the context of urban realms, the edge city develops as a nucleic node within the realm and essentially becomes the realm's suburban downtown, similar to what a CBD is to the central city. *Figure 7* models how the edge city is not only a satellite city to the central city, but it develops and functions as the suburban centre in the urban realm. As mentioned before in the study, the suburbanization of economic activities gives rise to edge cities immersing themselves in the urban landscape by means of expanding the urban region and developing outwardly from the urban core. In their article *"Suburban Downtowns and the Transformation of Metropolitan Atlanta's Business Landscape",* Hurtsharn and Muller (1989) enhance this observation in literature by adding that suburbanization of economic activities influences the spatial restructuring of the business landscape by producing an agglomeration of economies and higher-order city functions that result in the metropolitan area being *divided* into urban realms with their own significant centres known as edge cities.

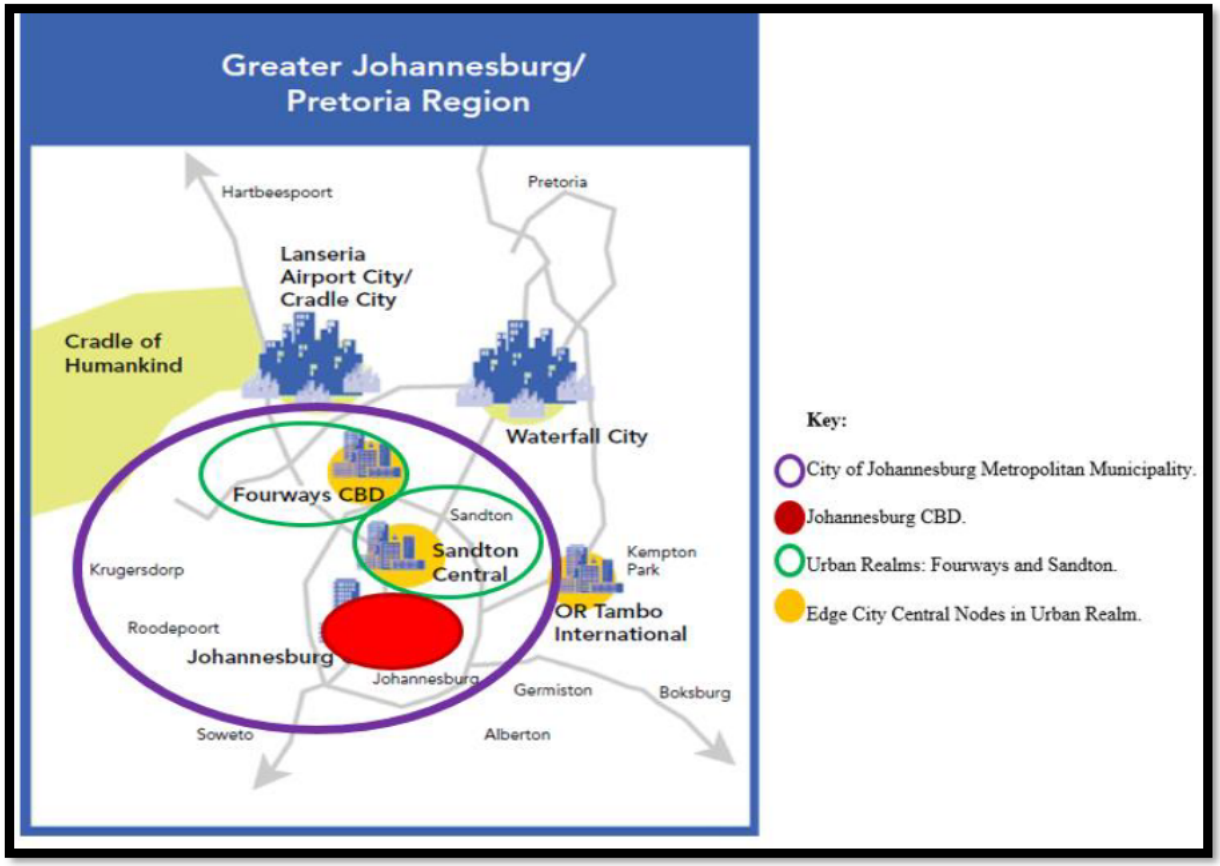
Secondly, Lang and Nelson (2007) allude that the presence of an edge city in an urban realm gives the urban realm the characteristic of being self-sufficient and independent. The concentrated economic development stimulated by the edge city being a nucleic node gives the urban realm the identity of being an official sub-regional urban settlement within the overall metropolitan.

To depict a prominent example in the South African context, Herbert and Murray (2015) argue that urban realms in the Gauteng province, City of Johannesburg (COJ) have rapidly developed as advanced, master planned and holistically designed urban enclaves. Herbert and Murray (2015) equate some of the urban realms of the COJ as enclaves because of their predominantly privately owned nature underpinned by urbanism privatisation and significant reduction of public realms. The authors argue that such is fuelled by the rise in entrepreneurial modes of

municipal governance which has become influenced by large real-estate development that appears to dilute mainstream public development.

Figure 8 depicts where the Fourways and Sandton suburbanized settlements have developed as significant urban realms within the COJ Metropolitan Municipality with central nodes that function as edge cities to the Johannesburg CBD and create polycentric spatial structures within the overall municipality. This reference to urban realms in COJ provides enlightenment to the urban spatial development trends also happening in eThekwini Municipality while giving a forecast to the spatial outcomes that can also be anticipated in eThekwini Municipality with developments like Umhlanga and more taking shape.

Figure 8: Edge Cities in Urban Realms of COJ Metropolitan Municipality



Source: Authors Own, 2019

Hurtsharn and Muller (1989) reason that it is inevitable for edge cities to develop as core economic centres of urban realms because edge cities tend to develop with the purpose of providing specialized goods and services for a particular urban region thus further solidifying the urban realms independence from the central city. Such can also be observed for the urban realms of Fourways and Sandton, where Fourways is concentrated around developing as a commercial and residential hub and Sandton is considered a prominent financial and business

centre as well as a tourism and retail hub (Isaacs, 2004). This specialization allows these urban realms to function as independent sub-regional settlements to the central city.

4.9. Chapter Summary

From a theoretical perspective, theories of Postmodernism and Organic Decentralization give logic and reason to the development of edge cities. Both theories assert that in city expansion, it becomes inevitable and natural for economic, social and political functions of the central city to decentralize. The infiltration of Postmodernism in urban planning embraces the surge in decentralization and deconstruction that results in a dispersed urban spatial form as means of facilitating the advancement of urban development.

The above theoretical framework gave logic to the research study by tracing the theoretical discourse related to the development of edge cities in the built environment and their justification within urban planning under the postmodern planning approach. The Urban Realm urban spatial model was included to give insight and to spatially depict how edge cities are developing in South African cities, using the City of Johannesburg as a prototype. The chapter also expressed that the development of edge cities is not particularly immoral. However, the researcher highlights that the contextual state of spatial segregation in South Africa that comes from the country's history of spatial and socio-economic exclusion of the majority still remains a significant challenge in urban planning and for city development in South Africa. The call for the adoption of an integrated spatial planning under the integrated development planning approach is made with the observation that edge cities are continuing to develop at the expense of spatial integration that is meant to readdress the wrongs of the past.

5. Chapter Five: Literature Review

To discuss what is known about edge cities and their impact on urban development, a review of international and local literature will be done. A literature review plays a key role in establishing discussions and debates (Arshed and Danson, 2015) around a certain research area. This chapter aims to uncover the existing perceptions contained in existing literature about edge cities. By reviewing literature, the researcher will be exposed to different reasoning, arguments as well as scepticisms that surround the phenomenon of edge cities (Ofosu-Kwakye, 2009). The main purpose of this literature review is to give insight on already existing research around edge cities without the researcher forming any preconceived judgments. The literature review also becomes a valuable benchmark to assess the research data findings against. This assists the researcher to find knowledge gaps that may be filled within literature to provide a better knowledge base for the topic at hand.

In terms of methodology, the literature review first traces the origins of the edge city phenomenon by zooming into the American context. The evolution of the edge city is captured to showcase how the phenomena has been understood in different time eras. The determinants of edge city development are brought forth to provide a foundation upon which edge city development can be understood. International cases including China, Europe and in particular London are engaged to provide an international perspective.

To assist in addressing the aim of the study which seeks to find out how edge cities have prevailed in South Africa, a brief history accounting for city development in South Africa prior to democracy and post democracy is brought forth. Furthermore, the development of edge cities in South Africa is reviewed to capture the determinants of this phenomenon expressed by South African authors about the existence of edge cites in South Africa.

5.1. American Cities and the Emergence of Edge Cities

"Put the city up; tear the city down; put it up again; let us find the city."

Sandburg, 1992

Before the ideologies of postmodern urbanism as indicators of contemporary urban spatial change and urban restructuring, American cities were classically characterised by urban core centrality that praised the spatial concentration of economic, administrative, institutional and social activities within the CBD. Like any other city, the development of American cities has largely been around economic purpose (Longworth, 2012). The *origins* of the edge city concept from the U.S depicts how American cities have constantly reinvented themselves as a means

to fit into the global landscape through different economic and spatial content measures. Complementary to the effects of globalisation, factors such as suburbanization, the automobile and office employment relocation all facilitated through urban sprawl have been pioneering agents of urban spatial change in American cities. This has allowed edge cities to develop and exist as *"sites for large scale landscapes for consumption and the excess investment of capital, iconic architecture and design, and distinctive lifestyles"* (Sultana, 2011: Pg.1071).

The colonial city was characterised by CBD's within densely concentrated urban cores. The urban core was the holder of the greatest business, industrial employment activities. According to Von Hoffman (2005) the start of any form of neighbourhood in close proximity to the city centre -that provided space for urban dwellers- was attributed to the growth of social and commercial amenities which gave onset to the creation of a *network* of urban homes within the urban core. The continued outward expansion of the urban core gave rise to the move of industry and manufacturing activities close to the hinterland/countryside through railroads that prompted industrial deconcentration. This gave onset to the process of suburbanization that allowed the American urban area to expand further in-land. The neighbourhoods of the suburban areas absorbed large amounts of the inner-city population at the expense of the city centre.

Burgei (2017) brings forth that the suburb become a neighbourhood typology born from the mobility provided by the mass production of the automobile in the late 1920s. Provision of car use meant that a changing landscape between central cities and the countryside led to a sprouted abundance of business, retail and service shops could exist in the suburban area and decreased the need to travel to the CBD. Access to the automobile by the urban population democratized the suburbs and opened them to become the leading directors in the re-shaping of the urban landscape (Glaeser and Kahn, 2001). Thus, the automobile largely contributed to the first wave of American city decentralization. The 1930'and 1940's represented an increased suburbanization of manufacturing and service jobs. The sprawling urbanization associated with the aftermaths of World War II accelerated the outward movement of the American urban population into newer suburbs that continued the rise of suburban exodus from the inner city by means of perpetuating suburban culture as a way of city and business expansion (Von Hoffman, 2005; Gerlofs, 2010).

The second wave of American city decentralization was attributed to office/employment decentralization. The dispersion of urban employment also underwent suburbanization. Lang

et al (2009) highlight that from the 1960s onwards the relocation and development of new office space within the suburbs became an indicator for rapid urban restructuring that was sweeping across American cities. By the 1970's, close to 37% of the urban population lived and worked in the suburb. According to Von Hoffman (2005) a large number of blue-collar and white-collar jobs had relocated into the suburban areas drawing away focus from the central city through the demise of the CBD as urban and economic development gradually outpaced that of the city centre.

By the 1980s the development of edge cities (referred to then as *extra-urban concentrations* of residential and office locations) was being noticed by urban scholars and urban sociologists. Edge cities became communities that clustered together around big corporate companies and multinationals that had relocated from the CBD to the outskirts of the metropolitan area (Medda *et al*, 1998). These communities possessed majority of the central city services such as employment, offices, shops, social amenities and industrial and manufacturing services. The shift of the U.S economy to a predominantly more service sector and office-based economy along with the phenomenon of regional malls, saw edge cities represent non-contiguous urban developments at the urban edge of central cities (Cheng *et al*, 2017). The edge city contained the functions of a city but was built on land previously set aside for farming or inhabited by villagers. The edge city concept put forward by Garreau (1991) offered new insights into forms of urbanization and urban expansion in metropolitan complexes in the United States. Gerlofs (2010) argues that this was necessary as edge cities were developing as large-scale suburban agglomerations that were to a large extent underpinned by the reforms of neoliberalism and capitalism. Furthermore, how the edge city developed and functioned in the city periphery in the American city became a reflection of the extent to which the automobile and highway system and progressed. Edge cities in American cities became the home of regional, national and international office inventory (Lang and foundation, 2000; Lang *et al*, 2009). Such urbanization of the suburban and city periphery has with time translated into a defining element for contemporary urban morphology centred around the creation of smaller urban constellations possessive of full city functions that continue to outperform economic, social and spatial planning advancements of the urban core leaving CBDs *hollowed out* and less attended to.

For both suburban and inner-city residents, the expansion of the metropolitan area brought about by the growing edge city phenomena was seen to represent a *new frontier* for the traditional urban landscape (Garreau, 1991). The concept of a new frontier brought with it the

ideologies connected to a new way of life outside the CBD and its inner-city living arrangements. It also represented a newer way and form to urban development guided by the expression of the economy while further being influenced by globalisation aspects of modern city development. Thus, at the height of the edge city formation in American cities, edge cities were seen to display a potential for new freedom from existing ways of building and imagining a city (Koolhass, 1995). In relation to business and employment, Scheer and Petkov (1998); Vanderbilt (1995) assert that for large corporation's edge cities became an escape to the ties of the CBD assisted by the growth of the service sector and technological advances. As a location for business and employment mostly underpinned by office-based work and the move shift from heavy to light manufacturing industry, the edge city also represented a place where corporations could re-engineer themselves to better service a changing economy. For urban residents, living in and around the edge cities meant having access to larger residential plots and more relaxed subdivisions at a less expensive rate compared to the inner city. The edge cities fundamental characteristic of *having never been like a city 30 years before,* accelerated the notion of a new frontier as development at the urban edge manifested without pre-existing settlement patterns (Scheer and Petkov, 1998). Furthermore, for the American urban populations, edge cities gave way to escape the ills of the inner city orientated around overcrowding, heavy traffic and pollution. From a residential new frontier perspective, the edge city became place for the elite and wealthy to impose self-regulated development at large increments often through gated security communities operating separately from local governance.

5.2. Evolution of the Edge City

The common consensus in literature is that the formation and development of an edge city as a full functioning and self-sustaining development typically entrenched in office and retail space development; accompanied by the dominant rise of the service, commercial, information and leisure sector; occurs through the process of central city decentralization. This gives onset to rapid suburbanization of the metropolitan area which overtime gradually transitions the urban spatial morphology from monocentric to polycentric (Garreau 1991; Dear & Flusty, 1998; Michel and Scott, 2005; Cheng *et al* 2017).

Dear and Flusty (1998) record the history of the edge city as a product of the global shift from Fordism to post-Fordism within the manufacturing industry. This shift became the resultant of the transition from large-scale production and centralized development (mainly based in central cities) to small flexible manufacturing units and plants found slightly further away from the

central city. The rise of post-Fordism in manufacturing translated closely to how urban development would follow pursuit as well. This saw city development largely revolving around specialized urban economics rooted in the surge of capitalism and free market trade. This suggests that smaller urban pockets were starting to propel urban development as opposed to the traditional way through the centralization of urban activities within the central city.

What becomes evident in the review of the edge city's history is that the phenomenon of edge cities is much rooted in economic dimensions. Irazabal (2006) equates edge cities to forms of space production and consumption, where space production speaks to spatial development and consumption resembles economic development. For edge cities to be space producers Cheng *et al* (2017) account edge cities for helping to chart the complexity of urbanization patterns. Viewed as urban complexes by Zhao *et al* (2017), edge cities have evolved into neoliberal development expressions used to promote postmodern expansions of metropolitan areas particularly in places that do not want to transfer the central city status to other regions of the metropolitan. This highlights that the growth of edge cities has challenged the idea of how cities should develop and has provided alternative development patterns for cities.

5.3. Determinants of Edge Cities in the Global Sphere

Watson and Gibson (1995) allude that what determines the development of edge cities is not only confined to their geographical location in the urban edge in relation to an already existing city. When looked at with more depth, the phenomenon of the edge city can be used to describe an influence of radical restructuring of an urban form that contributes to diverse ways of urban environment expansion. Urban development authors Phelps (1998); Watson and Gibson (1995) highlight that what causes the development of edge cities is an interrelationship between an established close proximity suburban area and a declining central city that undergoes development changes causing newer developments to shift towards the suburban urban edge. The urban edge area then becomes an escape from confinement of the central city through a surge in increased advancements in transportation, residential and employment dynamics, therefore diminishing the need to centralize all activities only in the urban core (McKee and McKee, 2001).

Another debate put forward by Phelps (1998) and Irazabal (2006) is that although edge cities are an escape from the confinement of urban core, they do not grow as autonomous independent cities as they are a mere manifestation of urban specialization and chosen differentiation from the existing urban core. Their existence and development is dependent on the physical

movement or sometimes replication of economic, social and political activities in the urban core. As a result, they become more aligned to being creators of contemporary city image. Furthermore, Wu and Phelps (2008) allude that the main function of edge cities is to have features that drive the urban spatial structure and urban development towards a polycentric form to diffuse development. Therefore, what can be deduced from the authors above when investigating some factors that cause edge cities to develop, is that the central city or the urban core needs to have significant socio-economic activities dispersed from it and established in the urban edge in order to expand the city footprint and capitalize on the availability of peripheral urban space. Therefore, edge cities can be compared to a parasitical consumer that has its development and progression status dependent on its central city host.

In addition to the above discussion, the process of a literature review has revealed dominant factors that contribute as determinants to edge city development which include edge cities developing as a result of post-suburbia along with office relocations and office developments. Economic dimensions as mentioned before surface as dominant contributors to the phenomenon. The Growth Pole Theory, under economic expansion also emerges as a leading cause in the development of edge cities.

5.3.1. Post-suburbia

Increased urbanization of the suburban area is considered as the typical initial process as well as the trigger for edge city development (Harris and Lewis, 1998; Ding and Bingham, 2000; Hudalah and Firman, 2011). However, a significant portion of urban scholars observe that the concept of suburbanization is not enough to account for the different types of urban development patterns that can be seen taking place. Furthermore, the concept of suburbanization needs to be understood as a key facilitator of edge city development. Meaning that, the edge city produces more implications for suburban development but at an advanced spatial and morphological level.

Literature observation yields that what is mainly constituting to the rise in edge city developments as well as urban sprawl is the re-suburbanization of the already existing suburban area as well as the formation of new suburban areas. Suburbs expand spatially and economically, and newer suburban developments are further developed to encourage more urban built forms. What becomes apparent now is that the decentralization of urban life extends further into the furthest outskirts of a metropolitan area (Hudalah and Firman, 2011) resulting in the concept of *post-suburbia.* Post-suburbia embodies separating from older suburbia from

contemporary urban growth and draws attention to the evolving elements used to pursue urban developments as well as the outcomes that come from those elements used to bring about the urbanization (Wu and Phelps, 2008). Post-suburbia draws attention to the shift in urbanization patterns which are an implication of postmodern urbanization process. This means that what has previously been referred to as urban sprawl or *geographies of nowhere* continues to be the development process that transitions the monocentric city spatial structure to the rapidly developing, highly fragmented polycentric metropolitan of the 21st century. Charmes and Keil (2015) put forth the idea that the concentric segmentation of the monocentric city has been the foundation that has yielded a splintered and fragmented urban spatial structure which post-suburbia builds. Each concentric segmentation develops a spatial, economic and social identity of its own mainly perpetuated by neoliberal aspects of urban development.

Phelps (2009) brings forth that the existence of suburbia in general comes from the process of out-migration of central cities as well as being the place of residential function. Thus, the post-suburbanization of existing suburban areas depicts an era in city development that is a process of a double redefinition of the classical suburbia. Therefore, the edge city phenomenon is able to exist as it forms from the maturation of the suburban area along with that of the general city/metropolitan landscape. This concept of maturation brought forth by Phelps and Wu (2011*a*) *as cited in* Charmes and Keil (2015) speaks to how post-suburbia facilitates the incorporation/maturity of edge cities into the urban landscape. From a development yield perspective, the authors note that edge cities in the American context develop as dense, multicultural urban settlements that prioritise mixed-use developments. This can be seen to contest the unanimity in literature of low-density morphological patterns being the heart of the edge city. In Europe, post-suburbanization accounts for the stark shift from centralized dense central city to the growth of edge cities as *in-between cities.* While the Canadian context uses post-suburbanization to bring life into the most outskirt peripheral locations through edge city development. Addie *et al* (2015) alludes that in Canada city development is becoming more based on post-suburbia which produces edge settlements on the urban edges of metropolitan areas that further merge as constellations of urban development agglomerating and possessing the characteristics of edge cities. The above contexts of America, Europe and Canada show that edge city phenomenon acquires diverse qualitative descriptions against the backdrop of post-suburbia and resembles an urban production scenario that is a reaction to the dynamics of urban change.

The dynamics of urban change in a country such as Russia has currently been underpinned by a rapid explosion of urban transformation dependent on the transition of the economy. According to Golubchikov *et al* (2010), different types of cities and urban morphologies specific to Russia have always existed and have represented a socialist urbanization. However, the introduction of a market economy with *laissez-faire* elements has fuelled urban decentralization and ignited post-suburbanization to produce an abundance of newer urban development processes such as edge cities that are altering the spatial direction and morphology of the city landscape in Russia. Kulscar and Domkos (2005) bring a different perspective by suggesting that in countries of socialist origin such as Russia, it is more fitting to refer to urban change dynamics such as post-suburbanization as *post-socialism*. The authors allude that urban development is still highly a political agenda and comes as a motivation to exercise power and control over human settlements. This suggests that urban development, let alone the development of urbanisms such as edge cities is still very much associated with capitalism. However, to not fall short from global market inclusion, socialist countries are finding themselves having to open their economies to facilitate economic transformation through urban development. Cities previously used as defence cities such as Khimki, 18 kilometres from Moscow, have seen their urban and economic evolution being powered by *"opportunistic profit-making initiatives that are disconnected from the local city."* (Golubehikev *et al* 2010: Pg.1). It is this detachment and independent expansion that sees Khimki progressively developing into an edge city with favourable characteristics such as being adjacent to Moscow with primary transport links from Moscow crossing into Khimki. Furthermore, Khimki is located on the main route from Moscow to Russia's major International Airport Sheremetyevo, which also now administratively belongs to the territory of Khimki.

5.3.2. Office Relocation/Office Park Development

A common and dominant thread in literature about edge cities and their formation is the consensus that edge cities develop as a result of the decentralization of the central business district in the central city. Pioneering scholar for the edge city phenomenon, Garreau (1991) observed in the American city context that central city decentralization in most cases occurred through the relocation of office space from the urban core to the periphery of the municipality. In some different cases the development of new planned office parks can be identified as a prominent trigger for edge city development entrenched in designing the edge city as a business city (Wu and Phelps, 2008). Under the generic characteristics of edge cities office space is said to account for 5 000 000 sq. ft. (464 500m^2) or more leasable space. It is however important to

note that this generic characteristic can largely differ according to different regions in the world as office relocations and office development takes place on various local, regional and national scales.

When reviewing urban spatial expansion literature, the concept of globalization always presents itself as a contributing justification to urban expansion as well as to the relocation of office space in other parts of a city region other than the urban core. The in the article "*Beyond the Metropolis: New Employment Centres."* Romero *et al* (2014) brings forth that globalization (in particular that of employment) plays a big role in shaping the intra-urban linkages within a city region. This implies that in current times, how a city continues to design itself is highly attributed to the concept of globalization which further directs where office space and employment choose to relocate. What allows office relocation to be highly influenced by globalization is the need to connect local and regional cities to the world. Furthermore, the location of multinational companies at local and regional scales usually within the periphery of metropolitan areas supports the notion of expanded globalized cities and hinterlands as a means to connect cities globally. Thus, the formation of edge cities becomes an approach to creating peripheral and satellite poles that supplement the existing central city (Bontje, 2004; McKee and McKee, 2001).

Office relocation manifests as the physical expression of the growth in the commercial and service sector of business as well as the upsurge of the information economy which has now become the new perpetuating basis of employment opportunities currently in cities outside of the urban centrality. Bontje (2004) sees the relocation of office space as a factor used in urban development to stimulate polycentric urban spatial patterns within the overall metropolitan thus producing a dispersed but concentrated agglomeration of activities through the construction of office parks. Office parks according to Lang and Foundation (2000) facilitate the rapid development of the edge city. This contests the popular generalizations- that it is only low-density urban sprawl that produces office relocation movements and rather puts forward the version that office relocation is strategic and does involves some level of planning. In China, Beijing, the planning master plan of 2004-2008 advocated for a polycentric urban structure, with the development direction of making Yizhuang (21 kilometres away from Beijing) a major centre that would first attract a large population from central Beijing but more importantly to facilitate planned office relocation. To further encourage office relocation and new office development in Yizhuang, the 2005 11th Five-Year Plan proposed to develop Yizhuang into Beijing's *Headquarter Economy* through the use of office and business development that

would mainly work to attract the global market by having its focus on the high-tech industry (Wu and Phelps, 2008). Headquarter offices of companies like DHL and Nokia moved their operations to Yizhuang in 2007. As a result, a ripple effect emerged seeing bigger companies move into Yizhuang. One can argue that with the currently heavily populated city of Beijing, planned office relocation becomes a means of deconcentrating and dispersing an overly populated city. Creating an edge city through office and business developments triggers the edge city to rapidly develop with agglomerations of developments, in particular economic investments and opportunities that attract the need to create transportation corridors, housing and social facilities to cater to the increasing working population that starts to develop as a result of the office relocation.

Features of the edge city drive the spatial structure of a city region towards a polycentric form and globalized economy. Moreover, Wu and Phelps (2008) credit post-suburbia that has become market orientated in return making edge cities sort after office development locations. In some cases, instead of office relocations, new planned and approved office development projects are used as the primary advancements for edge cities. Office development for Romero *et al* (2014) assists the city region expand and increases a city's ability to sustain secondary economic, social, political and tourism nodes while also enacting global functions. New office developments as significant contributors to edge city development allows an edge city to become a home for large clusters of office space that spatially create office parks. Office parks according to Lang and Foundation (2000) become the triggers of rapid development within the edge city as they attract different business, economic and trade interests. Office parks in edge cities tend to advocate for the multi-sector clustering of agglomerations produced by the advancement of the service economy than that of producing hard products. Therefore, office development in the form of office parks is centred around higher-order services such as those of the information and commercial economy.

In Almere, Amsterdam, an office park development was planned to be implemented to decrease two-thirds of workers from commuting from Almere to Amsterdam municipality. With a low employment retention, the Almere Poort office park project was planned to resemble the beginning process of restructuring of the urban space as well as working to transition Almere from a town of merely 170 000 people to a rising edge city in proximity to Amsterdam (Bontje, 2004). The construction of the office park was to be spatially and economically used as a steppingstone to completely grow Almere into a city. To do this the Almere Poort office park was expected to create employment concentrations with specialization in logistics and

distributions. What made the Almere Poort office park possess the environment needed for edge city development is that holistically the town of Almere was built predominantly in suburban setting, with low densities.

When studying *"Edge Urban Geographies",* in the European context, Phelps and Parsons (2003) observe that investment in office relocation and development has led to edge cities having significant influence over the renewal of metropolitan scale of growth dynamics. In Madrid, Spain, edge cities that have developed around Madrid are being referred to as New Employment Centres (NEC) as they are emerging as new zones of development with office space mainly taken up by Knowledge Intensive Business Services (KIBS). In the case of Madrid, office development in the NEC is largely becoming attributed to advanced and higher-order services of KIBS that are heavily underpinned by professional knowledge from scientists, engineers and information technology. Such sees employment office space catering to specialized employment community thus attracting niche business markets into the edge city.

Romero *et al* (2004) highlights that the surge in the growth of KIBS in office locations in and around Madrid is the direct manifestation of contemporary global economic competition. This happens because KIBS place business interest in research, specialized worker qualifications and innovative processes and products, where the main purpose is the transmission of knowledge (Miles *et al* 1995). This accelerates the service sector and the economy around it rather than production of tangibles. Thus, KIBS offer a new face to what office development can be structured around by building knowledge economy agglomerations as new *business*. They provide metropolitan regions with the ability to gain global city status which happens through the functional integration of economic spaces, mainly those of the edge city as they are considered more modern and economically, politically and sometimes socially rescaled to attract global attention for the edge city. The Madrid case study of office development in edge cities offers a different interpretation to the meaning of diversification of traditional economic bases. Furthermore, the rescaling and refocus of office development markets leads to the repositioning of regional and local dynamics that help edge cities continue to generate new economic and spatial conditions that attract KIBS to localize themselves there.

Edge cities possess large office markets when compared to traditional central cities because of the geographic nature and space availability that allows office environment to mature into large mixed-use developments. As the presence of office parks grows in the edge city to accommodate office relocation from the CBD as well as regional and global investments that

are charmed by the functioning and new aesthetical value of the edge city, the older building stock in the CBD becomes a prime target for urban regeneration and for the re-use of housing through residential schemes such as social housing (Lang and Foundation, 2000). This process supports the argument of Saarinen (1943) under the Organic Decentralization Theory. The development of the edge city is encouraged by the theorist as the development of the edge city gives the central city time and space to regenerate itself through urban renewal methods such as social housing as a means to create an updated and modified niche for itself to repel urban decay that can typically occur as a result of decentralization.

It becomes imperative to look at the development of edge cities from an office and business relocation perspective and to follow office park trends within the edge city as the location of business through office space provides context for a changing metropolitan, in particular geographic location changes that come with office relocation as the growth of the *office* is directly linked to employment growth (Michael and Scott, 2005). This implies that if more offices and business relocate to the edge city and undergo expansion the job market is then likely to open up and absorb a larger workforce than that has existed in or held by the central city. Furthermore, the tracking of office relocation trends is important because office relocation has a spatial impact that has the potential to influence the spatial patterns that manifest in the edge city. Office location assists in identifying the spatial mismatch that occurs in relation to where people work and where they live. The logic that one could likely deduce is that the presence of office parks in edge cities exists to bring employment and economic opportunities closer to those residing in the urban edge and sometimes in rural settlements. However, Lang and Foundation (2000) dispute this by highlighting that office space in the edge city depicts a spatial disparity between economic opportunities and minority households. The business and type of investors that the office parks attract tend to not be fond of developments such as low-cost housing that aim to bring those who cannot financially live in and around the edge city closer to their place of works.

5.3.3. Economic Expansion

The outcome of post-suburbanization and office relocation combined, or as separate processes is seen to largely contribute to the basic economic viability needed to sustain edge cities. According to McKee and McKee (2001), in their article *"Edge Cities and the Viability of Metropolitan Economics."*, edge cities are important as they house and nurture the expansion of a metropolitan's economy. In some cases, this contributes to a modification of a country's local and regional economy by hosting leading service orientated businesses, industrial

production firms and office-based businesses that contribute significantly to the national economic output in cases where decentralization and relocation from the urban core has taken place to form the edge city.

The edge city is not only able to expand the economic activities of its metropolitan and regional area but also that of the national economy through the concept of *borrowed size.* Phelps (1998) brings forth that the economic dynamics of the edge city survive on the concept of borrowed size where the smaller city, the edge city, exhibits some characteristics of the larger city, typically a central city. With the edge city mimicking functions and activities of the central city, new and old business pursuits flock in large concentrations into the edge city with anticipation of benefitting from a rapidly booming economy (opposed to that of the declining central city) accompanied by larger urban space for further development due to its location at the urban edge as well as inviting spatial aesthetics achieved through architectural and urban designs.

The office component that includes the clustering of national and international company headquarters combined with the retail component (where developers construct regional shopping malls) become the most significant attributes to the development of an edge city. This shifts the edge city economy to function on a regional and global scale through its attraction of bigger cliental into the metropolitan area. For enhanced economic growth in an overall metropolitan and regional area, edge cities provide new locations that support corporate force fields desire to move out of the central city. Lang *et al* (2009); McKee and McKee (2001); Michel and Scott (2005) allude that this movement by dominant corporate and industrial giants into the edge city assists the fast tracking of the edge city economy by attracting agglomerations of local, regional and multinational business to invest in the urban edge through the edge city therefore triggering the creation of *two economies* between the central city and the edge city under a single metropolitan area. What makes such possible is that edge cities have become physical expressions of a post-modernistic form of urbanization that is largely underpinned by service, commercial, information and leisure sectors which have become large contributors to the economic prosperity of cities.

McKee and McKee (2001) and Phelps (1998; 2010) observe that the two economies that transpire in an overall city as a consequence of edge city development can be understood through the lens of the Growth Pole Theory (GPT). Scheer and Petkov (1998) concur that an edge city usually develops as a new growth centre around a strong growth pole as a result of

urban sprawl and the agglomeration of economies. The GPT *"attempts to understand change from a point of view of leadership roles of activities engaged in competitive processes."* (McKee 1993: Pg. 25 *as cited in* McKee and McKee, 2001). This implies that leading sectors and key industries in economic development have the ability to determine the direction of growth in a city's economy. As a result, economic speculation held by leading sectors such as corporate and industry have the ability to produce growth poles that grasp economic development around a specific location which produces development nodes that later grow into edge cities.

The development of edge cities can be viewed as a direct manifestation of Francois Perroux (1970) argument that is rooted in the idea that economic growth does not take place everywhere at the same time. Rather, it establishes at *poles* that seek to perpetuate expansion of an economy. Critical of this argument, Romero *et al* (2014); McKee and McKee (2001) point out that the development of edge cities through growth poles creates a spatial imbalance between the two economies of the urban core and the edge city and their surroundings. This spatial imbalance that then transpires in the city landscape brought about by the economy of the edge city is slightly overlooked. However, the impact of edge cities on their local and regional hosts needs to be understood not only from an economic perspective but also from a socio-spatial viewpoint. Spatial imbalance is also a result of centrifugal forces that emanate through a prevailing economic order that works as an instrument to link the edge city growth pole with the national and global market. Therefore, the morphological expansion of the edge city, its retail space and residential spatial patterns become the centre of development within the overall metropolitan area. This leaves settlement tensions to arise between populations of the urban core and the edge city as the edge city gathers development preference and becomes a beacon for economic prosperity within an urban region (Huriot and Thisse, 2000).

5.4. Edge Cities in International Context

5.4.1. China

In China, edge cities are described as satellite cities that develop to possess self-sufficient communities. Edge cities are used as a means to provide new geographical spaces for economic progression. Edge cities in China become engines of increasing manufacturing development that specializes in production exporting. In the Chinese context, edge cities are rather associated as being satellite cities to existing cities as means of maintaining a connection between the newly developed edge city and the existing central city usually by rail transit (Li *et al*, 2008;

Sultan, 2011). The context in which edge cities develop in China depicts the presence of polycentrism in the urban form and encourages increased economic growth in addition to the creation of heterogeneous social spaces.

A country such as China who have opened up their economic markets to the rest of the world at a rapid pace, manufacturing and industrial firms are still key drivers of Chinese economy. Current research has to a large extent emphasized the concept of the edge city and its recognition criteria. What makes the Chinese experience unique is that industrial development continues to be the foundation of urban developments at the urban edge, however these developments are specifically planned and implemented to produce industrial park orientated edge cities. Zhao *et al* (2017) highlights that with factors such as globalization and evolution in the Chinese market economy, edge cities in the form of industrial parks are being built to meet the demands of export industries as well the information and communications sector.

To keep in line with the diction of *satellite city*, Chinese edge cities are being built to represent urban complexes. What drives the planning systems in China to build edge cities into urban complexes is that the industrial park concept of an edge city is firstly driven by the high demands of the manufacturing industry. Secondly the implantation of residential and commercial services/facilities leads to a cultural and ecological urban landscaping (Zhao *et al* 2017; Cheng *et al*; 2017). Thus, what manifests are industrial parks as comprehensive urban forms and give the Chinese urban form their own version of the edge city phenomenon. The use of industry development as one of the bases for urban development to stimulate for edge city development differs from that of Garreau (1991) who attributes office relocation and development outside of the CBD as the leading reason for development at the urban edge.

5.4.2. Europe

The development of an edge city in European cities according to Bontje and Burdack (2005) is less focused on the demise of the central as opposed to the American setting, however, the developments of edge cities become a showcase of *new* spatial patterns that account for contemporary urban development. The concept of the edge city in Europe has been used as a means to create new suburban centers away from the urban core to keep up with global urban transformation trends.

The autonomous and peripheral characteristic of edge cities in Europe is usually guarded against. If edge cities are planned for development, their development is rather concentrated to the urban edge but still within the metropolitan spatial and administrative and political

footprint. This is a contrast to Garreau's (1991) *standard* that denotes that edge cities have little to no administrative and political governance which render them largely autonomous. What is then revealed, is that European authors on city development and urban transformation allude to the conclusion of rather identifying the phenomenon of edge city developments and surroundings urbanizations as *edge urban areas* (Bontje and Burdack, 2005; Phelps and Parsons, 2003.)

Development at the edge urban area is not premediated to become a competing alternative to the central city like in the American, Brazilin and South African context but rather development at the urban edge is aimed at creating economic polycentric growth poles that are complimentary to the evolution of the central city. Therefore, the relationship cultivated by land developers and urban planners in the European context is one of a symbiotic relationship between the central city and the developments at the urban edge, typically of an edge city nature (Bontje and Burdack, 2005; Sultana, 2011; McKee and McKee, 2001). Planning systems are held at the center of urban planning and development in cities of Europe, in particular in the north-western region. Therefore, this suggests that the development of edge urban areas must happen within existing planning scheme systems that facilitate their development within a metropolitan area.

In Paris, France, the urban area is considered to be largely polycentric which makes Paris one of the most advanced urban regions in Europe. The development of new economic centers in the form of edge cities emerge as compliments to the central city and the overall urban region. Bontje and Burdack (2005) highlight that this route of development occurs because European metropolitan areas do not capitalize on the decentering of the urban core that decentralizes urban functionality of the central city to the edge urban area. Rather, they capitalize on creating additional urban centers that account for urban expansion associated with urban transformation to compliment the central city. The advancement of urban development and urban planning in developed countries like Paris spills over into the urban periphery that constitutes of the countryside morphology. The focus then shifts to a significant restructuring of the urban periphery that blends into the countryside influenced by the development concept such as the edge city with the effort to produce more planned communities. Therefore, new economic poles at the urban periphery servicing both the urban area as well as the countryside become a result of deliberate planning that is underpinned by local and regional planning schemes and state intervention as opposed to private-sector and urban land developer monopoly (Burdack, 2005).

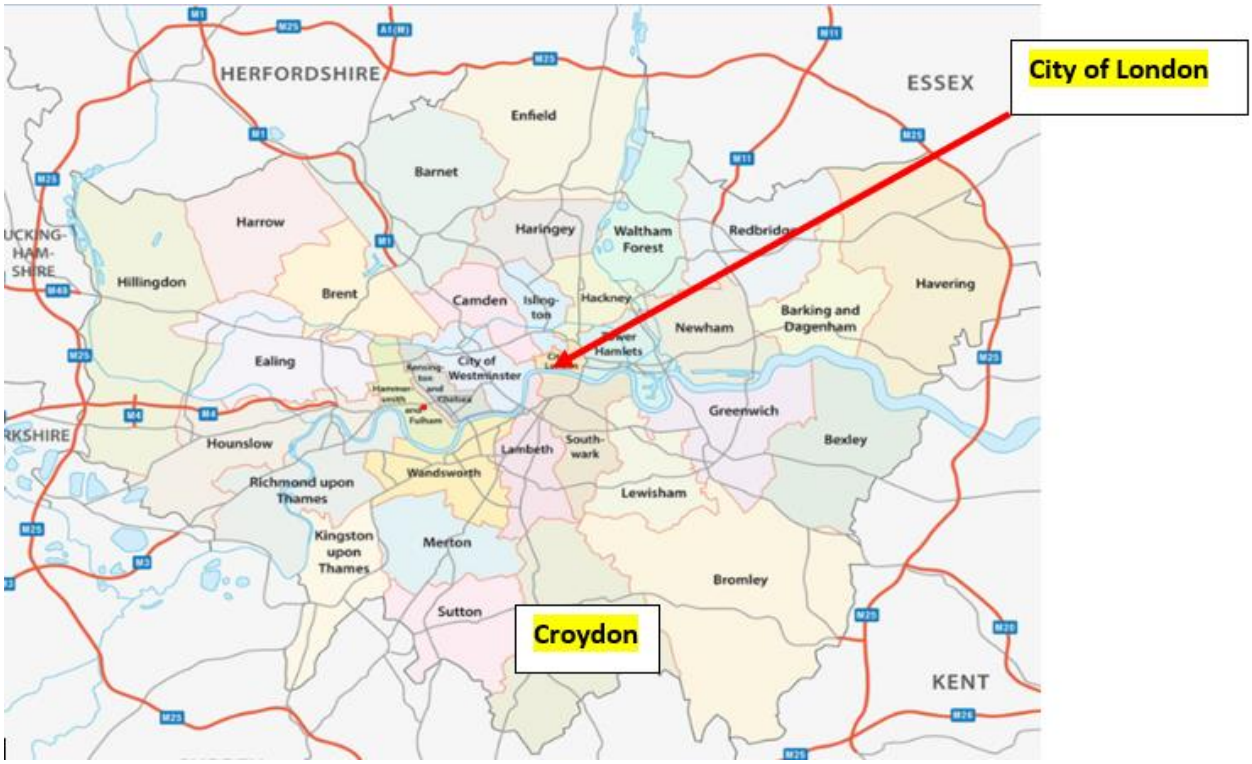
In the Randstad Region, Amsterdam, the concept of edge cities over time has been used to achieve high degrees of urban specializations within the urban environment. The global trend of urban economic specialization along with the agglomeration of alike economies allows edge cities to become urban development specializations through the rescaling of economic and social process in urban transformation (Phelps and Parsons, 2003). The central city still retains its trait as the urban core however edge cities are created to service urban development specialties within the metropolis such as the airport city in Schiphol Amsterdam. According to Guller and Guller, (2001) *as cited in* Bontje and Burdack (2005) the services offered around the airport complex are fitting to the international trend of transforming normal airports into specialized cities known as airport cities which can be viewed as an extension of the edge city phenomenon. The growth of Schiphol airport has developed the airport region into one of the major hubs of European airport traffic. This has mainly occurred through provision of services not only for airline passengers but also for train transit passengers through the presence of train stations in close proximity to airport terminals. Furthermore, Guller and Guller (2001) observe that non-aviation activities such as office parks of national companies and European multinational company headquarters have settled in and around the airport region. This factor has fast-tracked the strategy directing Schiphol airport towards functioning as an airport city under the concept of the edge city.

5.4.3. Precedent Case Study: Croydon, South London

Initially a major suburban centre, Croydon evolved over the years into an edge city maintained by the service sector. Located in the South of London, England (*see figure 9*) Croydon covers 87km^2 of land and is the biggest district in London with a population of 384 837 citizens forming 15% of England's total population of 8 173 941 people (Krausova and Carlos, 2017). Croydon has been considered one of the largest commercial districts outside of central London with a commercial-service sector and an extensive shopping centre profile.

Croydon has been seen as a leading frontier in contemporary urbanisation and economic development. From the 1950s, Croydon shed its status as a market town with dormitory suburban areas and re-developed as a significant economic engine just 18kilometres outside central London. This was attributed to the development of the Croydon Airport, a new housing estate development as well as the deployment of light engineering industries as a means to grow Croydon as an employment centre. The presence of the airport allowed Croydon to develop as an edge city along the factors of a global trends towards post-industrialism and economy of borrowed size.

Figure 9: Location of Croydon from Central London.



Source: Google (2020)

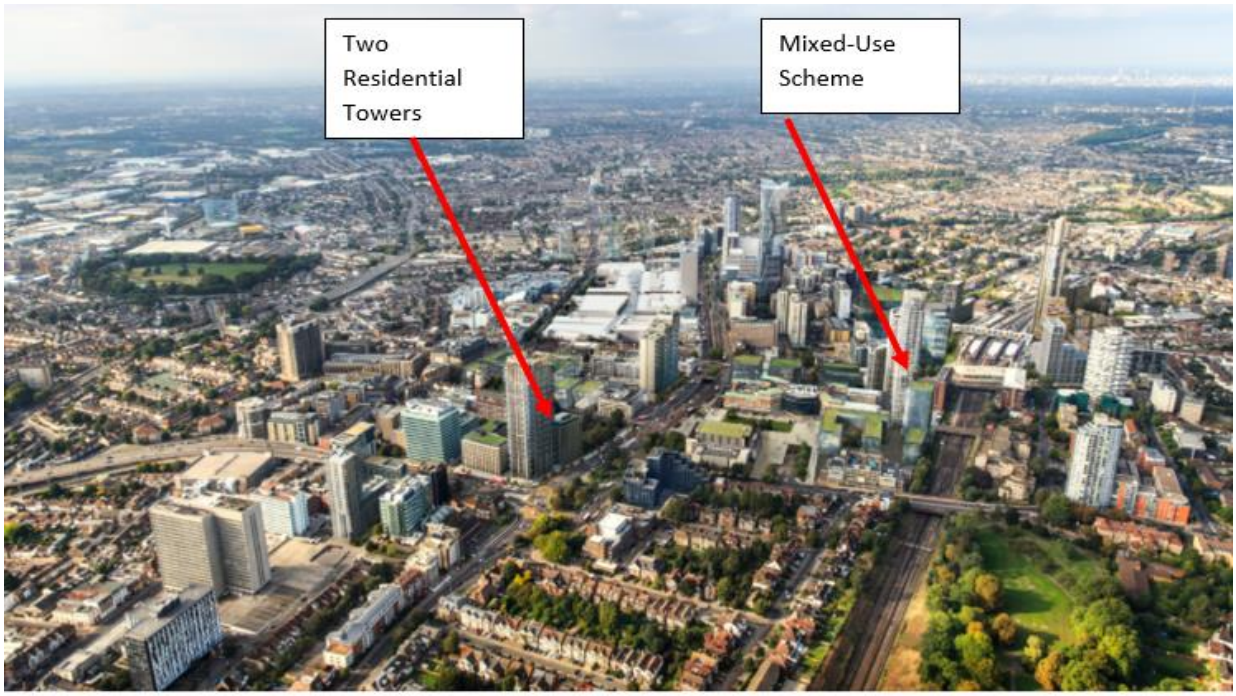
Decentralization of office-based employment from central London in the 1970's led to the urbanization of various suburbs in districts located in close proximity to the London city centre. The growth in office-based employment in the suburban areas gave birth to a post-industrialist economy in the city. Only 18 kilometres away from central London, Croydon became the ideal place to absorb decentralized office space as it was physically accessible to the greater London area and possessed a large office-related labour pool. The economy (through the airport and housing sector) was also experiencing expansion that resulted in the significant suburbanisation of Croydon. The formation of the Croydon Corporation Act of 1986 facilitated the end of building restrictions in regard to corporate development. This brought forth the surge in increased floor space assigned to office and retail floor space with retail accounting for 250 838,208m^2.

The modern architecture of the 1960s similar to that of central London started to affect Croydon's ability to attract and retain investment in the 1990's. The architecture of the built environment and the urban landscape as a whole was no longer suitable for the increasing growth in information technology within the service sector (Daniels, 1995). The need for improved urban aesthetics propelled Croydon's development as an edge city as so to improve

the physical links between different parts of the town centre while providing visual coherence between the buildings and landscape.

The rapid growth in Croydon's economic output, which was largely attributed to the increase in supply of office space, allowed Croydon to develop as the sixth largest commercial centre in the United Kingdom. For Phelps (1998) this gave Croydon the eligibility to be considered as not only an edge city but also as an emerging city fairly close to London, ultimately creating a city within a city *(see figure 10)*. What also solidified Croydon as an edge city was its affiliation in the Network of European Edge Cities. The emphasis of the network was to create a strategy based around harnessing the synergy of edge cities with their capital cities by finding ways to take economic and social advantage of the close proximity between edge cities central cities.

Figure 10: Croydon as an Edge City.



Source: Google (2020) *Altered by Researcher.*

In 2014, plans to intensify Croydon as its own city outside London saw light as the Croydon borough[16] sought its own devolution powers from the central government (Mark, 2014). Such a governance decision implies that Croydon is willing and capable to collect locally generated taxes, ultimately giving the borough metropolitan/city status and mandates that include housing

[16] In England, the term *borough* refers to a town with its own local government.

and infrastructure service delivery. A regeneration programme worth £5.25 billion was established from 2014 to induce a growth zone in Croydon that world see the construction of 8,300 homes by 2031. Furthermore, significant projects such as the Two Residential Towers in East Croydon, a mixed-use development scheme in South Croydon and approximately 400 new homes and shops all around Croydon were approved for construction with completion targeted for 2023[17] (*see figure 10*).

Lessons and Impacts for Integrated Spatial Planning.

The focus on developing Croydon as an edge city that housed a significant bulk of London's commercial and corporate sector led developments meant that the manufacturing industries both in London and Croydon experienced neglect. The rise in demand for retail spatial allocation drove up land prices beyond what manufacturing firms could afford. Strategies for local economic development sought to focus on providing office functions rather than creating a mix of land-uses and a diversified economic base in Croydon. The loss of manufacturing sites in Croydon had negative impacts for the socio-economic livelihoods of manufacturer workers. With the distribution of employment directly linked to the spatial distribution and location of a population (Bontje, 2004), the implication of Croydon developing as an edge city that did not cater to the manufacturing employment needs of the population created not only labour divisions within Croydon but also exacerbated socio-economic divisions between the affluent-middle working class (working in the office parks) and those from lower income communities. Such contributed to increased levels of social and geographic fragmentation as the economic growth of Croydon held a single identity orientated around the development of office parks and corporate led economic investments.

On the positive side, the success of Croydon as a commercial/corporate hub complementary to London central, brought about the existence of various transport links and well-developed transport infrastructure that linked London and Croydon and the surrounding areas to Croydon. Such provides the lesson that for edge cities to enhance integration within the urban spatial form, adequate public transport and transport infrastructure must be part and parcel of the initial development of the edge city. Accessibility into the edge city for surrounding citizens becomes a key factor in distributing economic opportunities that are created by the further development of the economic centres within the edge city.

[17] www.architectsjournal.co.uk

5.5. History of South African City Development

"The town is a European area in which there is no place for the redundant native."

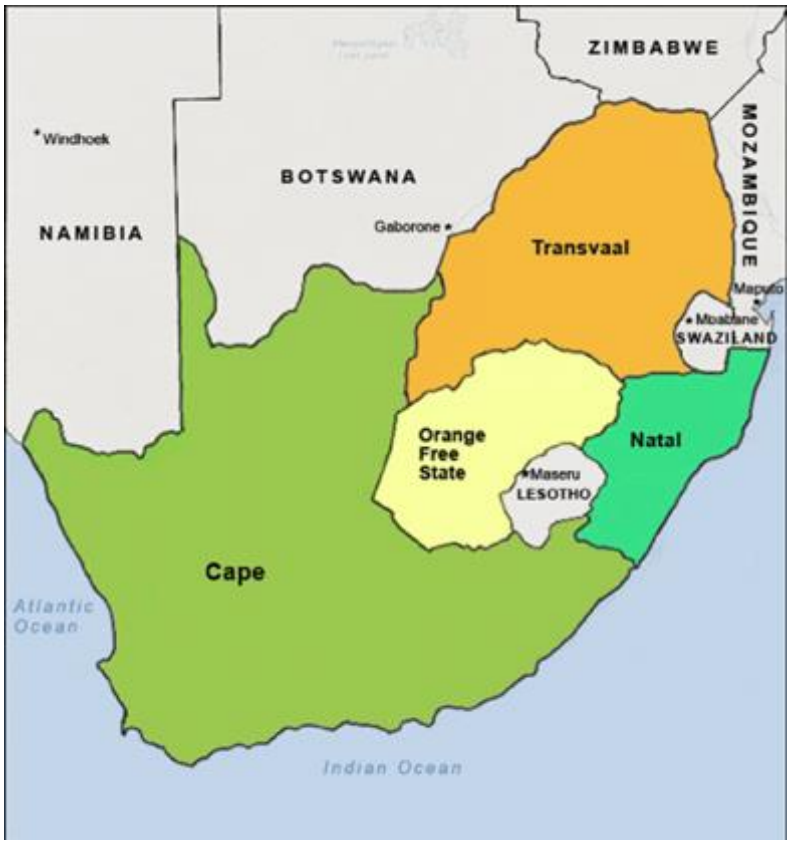
English Labour Party. Davenport, 1971.

The spatial urban form and overall city development of cities in the global South has been shaped by the process of colonialism (Horn, 2018). The impact of colonialism towards city development is a product of economic, social and political restrictions for non-White population groups deeply entrenched in the concept of discrimination. Smith (1992) argues that the colonial city in South Africa at large orientated around the curbing of African urbanization, limiting the extent to which Black people had access to the emerging urban plain.

With Dutch settlement in the Cape in 1652 and British colonial rule in 1806, city development under colonialism in South Africa represented a dominance relationship built upon the want for European settlers to *"define and control the emerging contours of space and subjectivity in the context of rapidly changing political economy."* (Popke, 2003). This implies that the era of colonialism on city development and urban living imposed a spatial layout that emphasized European White settler control and championed the exclusion of non-Europeans, such as immigrants of Indian and Asian descent but in particular the Black population. The focus of colonial urban spatial control in South African cities rested in the production of habitable urban enclaves for White population groups. To achieve urban enclaves an approach of master planning was used to shape spatial contours that would govern the colonial urban spatial form of South African cities mainly revolving around the metropolitan areas of The Cape, Transvaal, Orange Free State and Natal *(see figure 11).*

The origins of spatial organization in South African cities were centred around the concept of segregation mounted on the separation of the population along racial lines (Reddy, 2015; Horn 2018). Such trickled to social, economic and political climates and actively became the basis of the space production processes that underpinned societal development which lacked the incorporation of indigenous urban development. Therefore, intra- urban spatial organization patterns became less about integration of all populations and more about preserving the urban territory for White population consumption.

Figure 11: South African Apartheid Metropolitan Areas



Source: Google (2020)

South African cities under colonialism were modelled after the *Segregated City* Model *"directed at the achievement of group autonomy, devolution of political power on group basis and a greater degree of social segregation"* (Schlemmer, 1978: Pg.28). The model thrived on a monocentric commercial and industrial spatial urban structure that benefited from capitalistic colonial development. The implication of the segregation city model and colonial rule towards city development in South Africa at the time was that racial differentiation became the defining discourse used to regulate city development. This created a mosaic spatial complex that saw the White population develop urban spaces representing communities residing in close proximity to the urban core near the economic, social and political functions of the city. Counter to that, non-Whites (Blacks and Indians) took up space in the urban peripheries or in compounded regulated spaces further away from the city centre and in rural reserves under traditional authority rule (Davies, 1986; Mabin, 1992). The dependency of non-Whites on the White population for access to the city and activities such as employment created a dominance-dependency relationship that expressed itself in a core-periphery relationship rooted in racial and class division consistent with a social formation process underpinned by segregation.

The segregated city model later became legalised to form the Apartheid City. Social, economic and political segregation become legislated in South Africa when the National Party was ushered into power in 1948 through the national elections. The ideology of apartheid for city development was centred around the belief that racial and ethnic differences could not exist in the same urban society. The apartheid city came into physical form through the formation and implementation of the Group Areas Act 1950 that saw the manifestation of the apartheid city. The Group Areas Act assigned racial groups to different residential and business sections in the urban spatial form using a spatial planning system underpinned by urban segregation (Maharaj, 1997). Segregation operated in the form of having city centres and the suburbs around them along with major roads isolated solely for the use of citizens and residents classified as White. The working class (mostly Indian and Coloured) were located just outside these city centres. However, Lemanski, *et al* (2008) highlight that Black Africans were spatially located on the outskirts of the city, with the African poor and unmarried pushed to rural areas outside the city known as *homelands* or *Bantustans*. Bantustans included Black rural and townships[18] neighbourhoods that were zoned for the use of Black people at the urban periphery that transitioned into rural morphologies. Bantustans were governed by Traditional Authorities through the Bantu Authorities Act 1951.

City expansion under apartheid was underpinned by sectoral racial organization to facilitate movement separation. Configuration of the urban spatial form transpired as a result of institutional and legalised spatial segregation, producing a compartmentalized, fragmented spatial hierarchy (Schensul and Heller, 2010). The apartheid planning approach to city development drove an agenda of uneven development within the urban spatial from with the particular use of urban space as a means to carry out the distribution of privilege. To preserve such privilege, Beall *et al* (2002) *as cited in* Lemanski, *et al* (2008) notes that an immense contributing factor to making the apartheid city work occurred through the use of housing as a racial and spatial segregation method. Housing became a crucial method for social control, which lead to viscous spatial defragmentation, inequality and marginalization of non-White communities.

5.6. City Development Trajectory in Post-Apartheid South Africa

The post-apartheid city is considered a unique case in urban planning studies around the world. Since the inception of a democratic dispensation in South Africa, cities in the country have

[18] The term "township" is used to refer to Black African dominated living areas that were designated for Black people during apartheid approximately 25km's away from the White city centres.

found themselves wedged between two important goals that are crucial for citizen livelihood. Firstly, South African cities have had to draw near to international markets to propel economic development and their ability to attract global capital investment. Secondly, cities have had to discern strategies that will assist in the spatial transformation of the urban form to facilitate integration. With the focus of the study being the latter, this section looks at the development trajectory South African cities have taken in the post-apartheid era as a foundation for the analysis of investigating the phenomenon edge cities against the achievement of integrated spatial planning in South Africa.

Greenberg (2004) brings forth that the institutional development direction of South African cities since 1994 has been underpinned by the objective of initiating an urban restructuring system that seeks to attain urban spatial organization in an equitable manner. Urban planning discourse in South Africa has been orientated around the need to work towards lessening segregation patterns among citizens and in the urban settlements they live in. The use of legislation, socio-economic policies and spatial plans has displayed the government's political commitment in attempting to desegregate cities (Schensul and Heller, 2010), *see Chapter 6, Section 6.2.* However, what becomes apparent in South African urban literature is that the political commitment to spatial transformation along with a planning discourse pushing for integration has not been enough to bring about significant spatial integration and alter the development trajectory of cities towards an integrated city approach (*see* DuPlessis, 2013; David *et al*, 2018; Lemanski, 2007; Lemanski *et al* 2008; Schensul and Heller, 2010; Todes, 2014; Totaforti, 2020).

The approach to city development that South African cities have largely adopted post-apartheid has been that of the privatisation trajectory towards (urban) planning. This means that city development and urban spatial expansion has largely been left to the market economy through the use of a laissez-faire approach[19] (Herbert and Murray, 2015). Soon after 1994, South Africa worked to re-enter the international market by modernization of its formal economy to facilitate participation in the global economy. South Africa as a country found itself pressed to embrace a development model centred on the centrality of markets that advocated for market-driven development across all sectors as a means to facilitate economic growth (Greenberg, 2004). With the principles of capitalism and neoliberalism driving overall development in South

[19] The concept of Laissez-Faire refers to an economic system that priorities transactions between private groups of people. It advocates for lessened government involvement and intervention within an economy with a belief that business will thrive better and by extension so will a society as a whole (Gaspard, 2004).

Africa post-1994, the infiltration of neoliberal principles in the urban planning and urban spatial development scene quickly overtook the intended transformation agenda of fostering spatial integration in cities. As result, city development and urban planning has been left to uninhibited market forces that have led to the high commodification of urban spaces. This has limited citizen access to the urban form for a vast majority of the population because of disparities in affordability. In the article *"Transforming South Africa's Divided Cities: Can Devolution Help?"* Turok (2013) brings forth that what has caused city development in South Africa to be embedded in privatised urban planning is a result of South Africa's negotiated political transition. Negotiated outcomes have allowed the constitution to safeguard private property rights by restricting government's ability to direct how landowners should develop land in line with urban restructuring measures that contribute to spatial transformation. Consequently, what has occurred is an entrepreneurial methodology to urban development underpinned by master planning that is mostly initiated and carried out by private sector, leaving little room for urban restructuring that emulates integrated spatial planning.

For Bremmer (2000) the privatisation of urban planning is a result of local government's deficiency in pushing for racial and economic desegregation in cities. Local governments (essentially municipalities) have been subjected to the strength of the property market which has directed spatial planning in South African to follow private sector led building patterns which have reflected the power of real estate capital in shaping the built environment (Herbert and Murray, 2015; NPC, 2012). Turok (2013) argues that urban spatial change remains stagnant in South African cities as the development trajectory of cities has largely been skewed towards private investor partialities that translate the polarized economic structure of the country's economy. The inclination towards practising a highly privatised urban planning in South Africa has challenged the legislative and policy intent towards the fast-tracking of integrated development and urban spatial justice. The restructuring of the urban landscape to provide equitable spatial and socio-economic access to the city for all citizens, in particular those who were previously spatially marginalized by the colonial and apartheid planning system has been found wanting.

Giraut and Vacchiani-Marauzzo (2009) bring forth that urban restructuring of South African cities remains a challenge as the degree of urbanisation and attention to spatial development remains unequal. The pursuit of stitching together previously segregated townships and former Bantustans with former well-developed apartheid urban cores has been surpassed by the perpetuation of peripheral development resulting in continued geographical and spatial

disparities. Attention in developing the urban periphery has occurred in a two-fold manner. Firstly, Huchzermeyer (2005) and Horn (2019) highlight that public development (typically housing projects) have developed in the outskirts of cities due to the challenge of attaining land within the urban core territory. Both authors argue that this has reproduced existing spatial segregation patterns by continuing to marginalize citizens from lower-income housing brackets as peripheral developments significantly lack equitable infrastructure and service delivery. Secondly, on the opposite end, private sector led high-end peripheral development projects showcase private sectors preferred direction for city development by taking favour in developing the urban periphery through gated housing estates and housing complexes that are unconnected to existing city fabrics (Horn, 2019). As a result of the above urban periphery development extremes, the South African urban spatial form continues to produce compartmentalized urban spatial morphologies characterised by distress, overcrowding and poor provision of amenities for areas dominated by public development. The contrast is affluence, functionality and adequate utility provision in areas underpinned by private sector led development.

5.7. Edge Cities in South Africa

One of the key objectives of the study is to find out the determinants that have caused the phenomena of edge cities to prevail in South Africa. This objective will be attended to using the data findings in Chapter 7, Section 7. 2. However, a brief review of South African literature is done to get insight about edge cities in South Africa from different perspectives.

5.7.1. Political Climate Change and City Decentralization

The historical review of South African city development (Section 5.6) depicts that the political atmosphere and legislation governing citizen movement according to race has to a very large extent produced fragmented and compartmentalized urban spatial morphologies in South African cities. The development of edge cities in South Africa can be traced back to the late 1980s and early 1990s where South African cities started to experience higher population volumes into the urban cores as apartheid segregation and movement laws started to relax. Mdlalose (1996) highlights that as previously marginalized populations (mostly the Black population) started to manoeuvre within city spaces that were exclusively kept for the White population, central business districts started to decentralize into the urban edges of municipalities that were often just vast vacant greenfield. As seen in the international context review, decentralization of traditional cities, combined with suburbanization of employment

(office space) is what has largely contributed to the popularity of the edge city phenomenon and the same can be noted in South Africa. However, because of the uniqueness of apartheid spatial planning, Mdlalose (1996) argues that the attention to edge city development found favour with private sector in the late 1980s as a reaction to the decline of apartheid rule.

With the global economy experiencing rapid economic reforms and adopting more neoliberal approaches to city development, the transition from apartheid rule to democracy in 1994 allowed the South African urban economy to deconstruct and recentralize in geographical locations that pushed city boundaries further outwards into the urban peripheries (Michel and Scott, 2005).

5.7.2. The *Normalisation* of the South African City

According to Isaacs (2004), the rapid rise in the development of edge cities in South African cities after the year 2000, particularly the metropolitan cities of Johannesburg, Cape Town and Durban is a result of urban planning systems in South Africa adopting the Normalisation Thesis. The end of apartheid rule permitted South Africa to be viewed by the international community as a *normal* country. Therefore, the adoption of the Normalisation Thesis pushed for South African cities to develop within the economic and spatial contexts of a global system. In the context of urban planning and spatial city development, the use of the Normalisation Thesis assumed that legacies of apartheid spatial planning rooted in racial segregation would spontaneously disappear and the once distorted spatial segregation patterns would be corrected (Khumalo, 2004; Todes, 2001).

Todes (2011) argues that the normalisation of South African cities should be about providing citizens with equitable and efficient access to cities as well as the placement of employment opportunities closer to places of residence. However, Isaacs (2004) brings forth that normalising the South African city and its urban spatial form has largely been about replicating North American urban spatial morphologies characterised by the phenomenon of regional mall development in urban suburbia upheld by office park estates and gated residential communities which when combined form development nodes that begin to mimic the functions of the central city. The replication of North American urban spatial patterns through the development of edge cities meant that more investment attention could be drawn into post-apartheid cities propelling their economic status as potential global cities. The investment in edge city development, largely by private sector developers both from international and local planning spheres

represents the postmodern urbanisation trend of having privatised urbanism as the key driver to city expansion in the 21st century (Herbert and Murray, 2015).

5.8. Chapter Summary

The above chapter has engaged in a multi-layered literature review that has investigated the development of edge cities and how they impact a city's development trajectory when introduced into the urban landscape. A key aspect of the above literature review was to discover different attributes that contribute to edge city development outside of Garreau's (1991) fixed description and characteristics of what a typical edge city is.

The prevailing consensus in international literature is that edge cities are best understood as communities that cluster around big corporate and industrial economic nodes (Medda, 1998; Gerlofs, 2010). Significant determinants that attract edge cities to locate around economic nodes at the urban edge include the re-suburbanization of the suburban area, also known as the phenomenon of post-suburbia. The relocation of business from the urban core into the urban edge reflects the self-organizing effect that business, commercial, retail and leisure sectors have in directing where agglomeration economies occur within the urban form. Both post-suburbia and office relocation are seen as direct outcomes of economic expansion that a city naturally experiences when economic growth points occur at different geographical locations within the city territory (McKee and McKee, 2001).

At a national sphere, edge cities in South Africa represent the restructuring of the outskirts of the city periphery as a response to the deindustrialization, decentralization and the *Africanization* of the previously secluded apartheid core city (Mdlalose, 1996). The urban sprawl away from the city core into the urban edge has also manifested as an expression of the regional and global economic forces that have extended into the local economy by a way of *normalising* South African cities to fit into the global urban economy in the post-apartheid era.

6. Chapter Six: Contextualising Integrated Spatial Planning within International and South African Planning Frameworks.

The point of the research study is to initiate a discussion where stakeholders involved in urban planning become honest about the effects that neoliberal, post-modern approaches have towards integration measures within cities and their urban spatial forms. The discourse around city development has to a very large extent shifted towards bridging urban inequalities while simultaneously growing economies. This has led to the recognition that spatial planning needs to go beyond just land-use planning (Morphet, 2009) for spatial integration to transpire. Counsell *et al* (2006) brings forth that for spatial planning to produce integrated built environments, planning law has to hold statutory guidelines for urban planning. Therefore, the concept of integrated spatial planning in this study is positioned within international and national planning frameworks that articulate how integrated spatial planning should be carried out as well as the targets it should achieve. This chapter brings forth some of the most significant policy intents and legislations created at both international and national planning levels that govern the outputs of spatial planning and urban development along the path of integration. Although there are various polices and legislations governing urban development, particularly in South Africa, the researcher has brought forth some of the most relevant ones for this study.

6.1. International Perspective

Cities are experiencing exponentially increasing rates of inequalities as they continue to develop and expand their economic and spatial territories. Inequalities expressed by physical segregation related to different incomes and social-ethnic differences have led to poor working conditions and living spaces (UN Habitat III, 2016). Cities continue to be fragmented as negative externalities caused by unsystematic city development has resulted in severe urban sprawl, environmental degradation and increased traffic congestion. Furthermore, unregulated functioning of land markets has reinforced the production of spatial separations between urban elites and the rest of the urban population. Consequently, spatial inequalities experienced by urban dwellers in cities have become a growing concern for the international community. As an international community concern, the urban inequalities being perpetuated in cities around the world have been placed at the centre of international policy and urban sustainability discussions.

The UN-Habitat argues that growing urban divides that see more urban populations being subjected to spatial inequalities is a result of urban spaces being divided into high-value and low-value spaces. Such intra-urban divisions disconnect urban spaces that are in close proximities by cultivating an urban culture that deems some urban landscapes and their populations more important to the global economy than others. What then prevails are enclaves of prosperity that are underpinned by socio-economic and cultural exclusion traits (UN-Habitat, 2016). The desire for cities to transform their local economies to align with the global economy has resulted in unbalanced urban development patterns that are yielding spatial configurations that reproduce exclusivity within the urban form. In the World Cities Report of 2016, the UN-Habitat emphasizes the need for newer planning strategies and policies as well implementation tools that can usher cities along the route of evolving into inclusive cities. Thus, spatial planning supported by an integrated development approach becomes the advocated for approach for city development. The study's concept of integrated spatial planning sits firmly within this trajectory. Therefore, to achieve spatial integration, integrated development approaches need to consider integration within three important dimensions of: physical space where planning orientated around land-use planning and housing provision is done; at a socio-economic level that provides all citizens with decent work opportunities; and at a civic level that makes provision for the recognition of rights to the city for all citizens (ibid).

The need to address urban inequalities while working towards providing a global planning framework for the pursuit of sustainable urban development rests in the custody of the United Nations-Habitat. This entity has set up the adoption of the Sustainable Development Goals (SDGs) and the New Urban Agenda (NUA) as a means to promote transformative change in cities and human settlements by advocating for the adoption of strategic and integrated approaches towards the challenges faced by cities.[20]

6.1.2. Sustainable Development Goals

As part of the United Nations resolution towards sustainable development in cities, the SDGs are 17 interlinked goals developed in 2015 as part of the 2030 Agenda geared toward the commitments of eradicating poverty and achieving sustainable development by 2030[21]. The

[20] https://unhabitat.org/about-us
[21] https://ec.europa.eu/environment/sustainable-development/SDGs/index_en.htm

SDGs are described by the United Nations (2017) as a blueprint set out to achieve a better and sustainable urban future for all. The use of an integrated spatial planning approach to foster spatial inclusiveness in cities is exemplified by SDG number 11. SDG 11 which is centred "*around creating sustainable cities and communities by making cities and human settlements inclusive, safe, resilient and sustainable"* is a standalone goal that recognizes the urgency for cities and their urban developments to transform urban areas towards an integrated city model. Some of the relevant objectives of SDG 11 to the research study include:

-11.1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

-11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, and children, persons with disabilities and older persons.

-11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

Figure 12: United Nations Sustainable Development Goals for Sustainable Development

Source: Google (2020).

6.1.3. New Urban Agenda

The NUA is a document outcome of the United Nations Conference on Housing and Sustainable Urban Development held in 2016 otherwise known as UN-Habitat III. The NUA was formulated as a complementary urban dimension for the implementation of the SDGs. The NUA has been envisioned as the leading international urban planning framework that is intended to enhance participation and inclusiveness in cities (Cities Alliance, 2015).

"The New Urban Agenda reaffirms our global commitment to sustainable urban development as a critical step for realizing sustainable development in an integrated and coordinated manner at the global, regional, national, subnational and local levels, with the participation of all relevant actors. The implementation of the New Urban Agenda contributes to the implementation and localization of the 2030 Agenda for Sustainable Development in an integrated manner, and to the achievement of the Sustainable Development Goals and targets, including Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable." - United Nations (2017: Pg.4)

The commitment to assisting cities to work towards an integrated development approach is encapsulated in the NUA's implementation strategy under the sphere of Planning and Managing Urban Spatial Development where commitment number 98 and 99 articulate the study's concerns around integration within the urban form (United Nations, 2017: Pg. 25).

- *98. "We will promote integrated urban and territorial planning, including planned urban extensions based on the principles of equitable, efficient and sustainable use of land and natural resources, compactness, polycentrism, appropriate density and connectivity, and multiple use of space, as well as mixed social and economic uses in built-up areas, in order to prevent urban sprawl, reduce mobility challenges and needs and service delivery costs per capita and harness density and economies of scale and agglomeration, as appropriate."*

- *99. "We will support the implementation of urban planning strategies, as appropriate, that facilitate a social mix through the provision of affordable housing options with access to quality basic services and public spaces for all, enhancing safety and security and favouring social and intergenerational interaction and the appreciation of diversity."*

This contextualisation of integrated spatial planning in the international urban planning sphere (the SDGs and the NUA) has showcased the vision and objectives envisaged for integrated development in cities globally. As an international custodian of addressing development challenges, the UN-Habitat has put forward the desired outcomes for sustainable development which is embedded in spatial inclusivity for cities around the world. The evolution from UN-Habitat II to UN-Habitat III has highlighted the importance of urban governance in working

towards integrated forms of urban development to support city expansion (UN-Habitat, 2016). Urban law serves to mediate and stabilize competing interests that exist

between public and private sector. Thus, practising urban governance using transformative legislation is viewed as an effective way to support the path towards sustainable development (ibid).

To explore South Africa's commitment to its spatial transformation agenda, the following section will look at the relevant legislations and policies that have been enacted at different spheres of government to address spatial segregation in the South African urban spatial form.

6.2. South African Perspective

For urban governance to prosper and support the discourse of integration, institutional analysis of legislations and policies that govern spatial development is necessary to gage the government's commitment, vision and objectives towards practicing integrated spatial planning that fosters equitable spatial transformation. Legislation for urban development works to bring about standardized regulation within the urban form. For Khuluse (2015), legislation related to development has been targeted at redressing the distortions related to the spatial inequalities inherited at the commencement of the democratic dispensation in 1994. The study explores the phenomenon of edge cities in South Africa against integrated spatial planning, therefore, it is important for the researcher to briefly depict the spatial transform and urban restructuring commitments related to spatial planning and integrated development that the South African government has engaged in from a legislative and policy intent perspective to encourage the work towards achieving spatial integration in the urban landscape.

6.2.1. Constitution of the Republic of South Africa [Act No. 108 of 1996]

Considered the highest law of the land, the Constitution of the Republic of South Africa Act No. 108 of 1996 forms the overarching political framework for any legislation and policies in the country. The constitution provides lawful protection for all citizens by epitomizing the importance of civil rights, equality and good governance, drawing strongly from the concept of justice (Duminy, 2007). The constitution has endorsed the creation of reformist frameworks towards the management of pursuing a spatial transformation agenda unshackled from the legacies of apartheid spatial planning.

6.2.2. National Development Plan Vision 2030

Administered by the National Planning Commission (NPC) in 2011, the National Development Plan Vision 2030 (NDP) currently stands as South Africa's overarching development plan. It represents the country's long-term vision geared towards eliminating poverty and reducing inequalities among the population. The fundamental objectives of the NDP are to foster inclusive growth across urban and rural regions while increasing equitable access to economic opportunities, typically those found in cities (NPC, 2011).

From a spatial development perspective, the NDP highlights that new strategies for spatial restructuring centered on spatial integration measures are necessary for the transformation of livelihoods for the marginalized. The NDP's commitment to the spatial transformation agenda has largely revolved around the re-conceptualization of a national spatial development framework and the development of normative principles for spatial development that prioritize spatial justice, sustainability, resilience, quality and efficiency.

Echoing the study's sentiment of redressing spatial inequalities and segregated spatial development patterns, Chapter Eight of the NDP titled *"Transforming Human Settlement and the National Space Economy"* recognizes the urgency needed to institutionally and systematically respond to spatial patterns that are reflected by segregation geographies that continue to perpetuate spatial and socio-economic inequalities in urban, peri-urban and rural human settlements. Hence, some of the objectives presented by NDP related to the transformation of human settlements in South Africa include:

a) A strong and efficient spatial planning system that is well integrated across the spheres of government.

b) The upgrading of all informal settlements onto suitable well-located land by 2030.

c) More people living closer to their places of work and more jobs in dense, urban townships.

d) Provision of better-quality public transport.

6.2.3. Spatial Planning and Land Use Management Act [Act No.16 of 2013]

Enacted in 2013, the Spatial Planning and Land Use Management Act (SPLUMA) legislates for the creation of a single integrated planning system to govern the country (SA Cities Network, 2015). The act currently serves as the overarching legislation that guides spatial planning and land-use planning in South Africa. Thus, all spatial development applications, processes and implementation strategies are mandated to align with the regulations of the act

to aid in the provision of efficient and effective planning and land-use management. By providing law dedicated to spatial planning, land-use management and land development, SPLUMA has been lobbied as a significant legislative tool for urban governance in relation to facilitating noticeable spatial transformation where the transformation objective requires inclusivity, mobility and economic development to be met across all spatial regions (SA Cities Network, 2015).

To foster spatial planning that is integrated and is on route towards an integrated city model, Chapter Four of SPLUMA requires national, provincial and municipal spheres of government to prepare Spatial Development Frameworks that establish long term visions and guides to spatial planning and development decisions that will address inclusion and integration measures across social, economic and environment sectors of development (eThekwini Municipality, 2017). Furthermore, the act advocates for the use of SDFs to outline specific arrangements for prioritizing, mobilizing, sequencing and implementing public and private infrastructural and land development investments in priority spatial structuring areas identified in the spatial development frameworks (ibid).

For urban restructuring in South Africa to occur and decrease spatial fragmentation, vertical integration between municipal, provincial and national planning spheres must be coherent and functionally existing. For the greater convergence and alignment between planning and budgeting processes across all spheres of government, SPLUMA makes provision for the mandates and functions each government sphere:

Municipal Planning is responsible for:

a) The compilation, approval and review of integrated development plans.

b) The compilation, approval and review of the components of an Integrated Development Plan prescribed by legislation and falling within the competence of a municipality, including a spatial development framework and a land use scheme.

c) The control and regulation of the use of land within the municipal area where the nature, scale and intensity of the land-use do not affect the provincial planning mandate of provincial government or the national interest.

Provincial Planning is responsible for:

a) The compilation, approval and review of a provincial spatial development framework, approval, review and implementation of land use management systems.

b) The planning by a province for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use.

c) The making and review of policies and laws necessary to implement provincial planning.

National Planning is responsible for:

a) The compilation, approval and review of spatial development plans and policies or similar instruments, including a national spatial development framework.

b) The planning by the national sphere for the efficient and sustainable execution of legislative and executive powers insofar as they relate to the development of land and the change of land use.

c) The making and review of policies and laws necessary to implement national planning, including the measures designed to monitor and support other spheres in the performance of their spatial planning, land use management and land development functions. SPLUMA seeks to promote consistency and uniformity in decision-making and procedures.

To optimize the work towards spatial integration, Chapter 2, Section 7(a)-(e) of SPLUMA requires that all SDFs give effect to five development principles. The use of these development principles in any form of planning is envisaged to better address the fragmented and unsustainable spatial development patterns characterized by exclusion and segregation (Department of Rural Development and Land Reform, 2016). The development principles are briefly presented below in accordance with their relevance to the research study.

a) Spatial Justice: Advocates for past spatial and other development imbalances to be redressed through improved access to and use of land, essentially providing land reform measures.

b) Spatial Sustainability: Relates to cost effective development that can be afforded by the municipality and greater population (Department of Rural Development and Land Reform, 2016). To promote land development in sustainable locations and limit urban sprawl. To consider all current and future costs to all parties in the provision of infrastructure and social services to ensure the creation of viable communities

c) Spatial Efficiency: To optimize the use of existing resources and infrastructure along with the densification of human settlement areas.

d) Spatial Resilience: To provide flexibility in spatial plans and land use management systems to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and climate change shocks are protected spatially.

e) Good Administration: Calls upon all spheres of government to ensure an integrated approach for land use and land development.

The development principles listed above embodied by SPLUMA are a directive of the NDP's commitment to spatial development. This observation shows that there is alignment within governments planning frameworks and the discourse for spatial transformation is one that exists firmly within legislative and policy intent.

6.2.4. Integrated Urban Development Framework 2016

Developed by CoGTA, the Integrated Urban Development Framework (IUDF) is a policy framework designed to stipulate and guide development towards "*inclusive, resilient and livable urban settlements, while addressing the unique conditions and challenges facing South Africa's cities and towns*" (eThekwini Municipality, 2017: Pg.32). The IUDF is regarded as government's policy position to the NDP 2030 mandate of creating an urban development policy focused on planning and devoted infrastructure provision within urban areas.

The urban planning fraternity in South Africa recognizes that cities and their urban areas in the country have inherently become places to generate economic growth, supply employment and provide access to urban amenities (CoGTA, 2016). Thus, the IDUF also forms part of South Africa's response to the Sustainable Development Goals, in particular to Goal 11 that focuses on "*making cities and human settlements inclusive, safe, resilient and sustainable"* (see section 5.1.2). Furthermore, the IUDF extends on the NDP's Chapter 8 that seeks to bring attention to *"Transforming Human Settlements and the National Space Economy"*.

To maximize urban development alignment towards spatial integration the IUDF brings forth that capital, infrastructural and planning investments must be made by cities towards the primary drivers of urban development which include transportation, human settlements, infrastructure networks, land-use regulations and governance to ensure that primary drivers to development are equitably accessible to all citizens. Dedicated to the betterment of cities and

towns, the IUDF's key objective is also spatial transformation (CoGTA, 2016). The IUDF presents four strategic goals as indicators for the achievement of transformation, which include:

a) Spatial Integration: To forge new spatial forms in settlement, transport, social and economic areas.

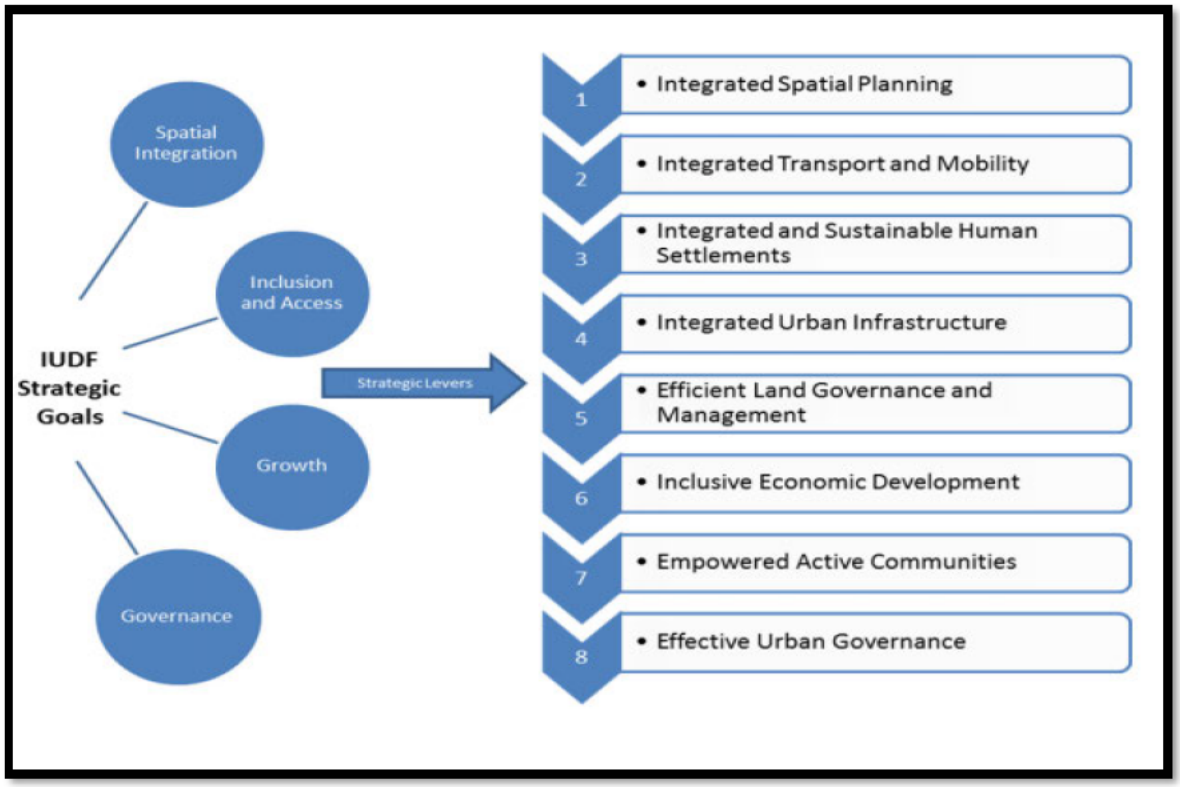
b) Inclusion and Access: To ensure people have access to social and economic services, opportunities and choices.

c) Growth: To harness urban dynamism for inclusive, sustainable economic growth and development.

d) Governance: To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

The strategic goals presented above inform policy levers (*see figure 13*) and priorities dedicated to maximizing the potential of urban areas, by integrating and aligning investments in a way that improves the urban form. The intention is to retrofit existing city footprints to produce compact, coordinated and connected cities, using transit-oriented planning strategies to yield desirable social, economic and environmental outcomes (CoGTA, 2016).

Figure 13: IUDF Strategic Goals and Policy Levers for Spatial Transformation



Source: eThekwini Municipality SDF (2017)

The eight levers have been developed on the premise that for spatial planning to produce integrated urban spatial forms, both public and private sector developers must acknowledge that:

a) Spatial planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions.

b) Integrated transport investment in integrated human settlements, underpinned by an integrated infrastructure network system is vital.

c) Efficient land governance is required to trigger economic diversification, inclusion and the empowerment of communities.

d) Deep governance reform is needed to enable and sustain all of the above.

6.2.5. Kwa-Zulu Natal Provincial Growth Development Strategy

The Kwa-Zulu Natal Provincial Growth Development Strategy (PGDS) is a strategic framework designed to accelerate the benefits associated with inclusive growth through sustainable catalytic development interventions within the KZN province (KZN Provincial Planning Commission, 2016). As a long-term strategy aimed at propelling KZN to develop as a gateway economy that improves the quality of life for its residents, the PGDS brings forth that integrated development requires coherent and equitable spatial development architecture to deliver spatial integration. The PGDS has seven strategic goals dedicated to achieving KZN's vision of being a *"Prosperous Province with a healthy, secure and skilled population, acting as a gateway to Africa and the world"* (KZN Provincial Planning Commission, 2016: Pg.12).

Because the case study Umhlanga is located in eThekwini Municipality, in KZN, goal seven which speaks to the practice of Spatial Equity becomes relevant to the study as it relates to the desired outcome of integrated spatial planning. The envisaged outcome of spatial equity for the province is in the indication of *"improved population physical access to goods as services."* Integration within spatial planning is considered crucial in promoting spatial co-ordinations within approved development projects. The PGDS endorses the concept of integrated spatial planning as an important tool that can be *"utilized to co-ordinate the distribution of population, land uses, existing resources, and proposed initiatives in relation to each other in order to create an improved sustainability to such uses of scarce land resources."* (ibid: Pg.104).

To better elaborate the intentions of achieving spatial equity within the province, Spatial Equity as a development goal is further divided into two objectives with interventions (see *table 5*) to assist the attainment of spatial equity by using integrated spatial planning as a fundamental approach.

Table 5: PGDS Strategic Objectives for Spatial Equity.

Strategic Objective 7.1: Enhance the resilience of new and existing cities, towns and rural nodes, ensuring equitable access to resources, social and economic opportunities.	**Strategic Objective 7.1 Interventions:** a) Establish a classification of Provincial Nodes with clearly defined functions and interventions per node. b) Develop specific Corridor Plans to co-ordinate interventions around provincial corridors. c) Monitor progress in the implementation of the Small-Town Regeneration and Rehabilitation Program. d) Formalize Strategic Rural Nodes (which might include the dedicated establishment of new towns). e) Review, implement and monitor a Densification Strategy.
Strategic Objective 7.2: Ensure integrated land-use management across the Province, to ensure equitable access to goods and services, attracting social and financial investment.	**Strategic Objective 7.2 Interventions:** a) Promote and monitor the development of Ward-Based Plans. b) Implement land use management schemes across the Province. c) Align District and Local municipal Spatial Development Frameworks with the Provincial Spatial Development Framework. d) Formulate Provincial Planning Norms, Standards and Guidelines (Including Rural Settlement Planning). e) Improve alignment for integrated planning through the Provincial Infrastructure Master Plan.

Source: KZN Provincial Growth Development Strategy (2016). *Altered by Researcher*

6.2.6. Municipal Systems Act [Act No. 32 of 2000]

The Municipal Systems Act (MSA) forms part of national legislation that sets out the responsibilities and functions of local government in accordance with Chapter Seven of the Constitution that governs Local Government. Khuluse (2015: Pg. 71) brings forth that one of the fundamental aims of the MSA is to offer *"core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities."* The MSA is dedicated to the well-functioning of municipalities for the betterment of local communities. This is seen in Section 23 (b) of the act that states that for municipal planning to be development orientated, planning in municipalities must *"give effect to its developmental duties as required by section 153 of the Constitution."* Relevant to the study, section 153 (a) of the Constitution calls for municipalities to *"structure and manage its administration and budgeting and planning process to give priority to the basic needs of the community, and to promote the social and economic development of the community."*

The advocacy for planning processes within municipalities to prioritize social and economic development is further defended by the development of Integrated Development Plans (IDP). Chapter Five of the MSA mandates municipalities to adopt municipal IDP's that are to be used as inclusive and strategic plans for the development for a municipality (Municipal Systems Act No. 32 of 2000). Hence, the core outcomes of the IDP are set:

- To link, integrate and co-ordinate development plans and consider proposals for the development of the municipality.
- To align the resources and capacity of the municipality with the implementation of the IDP.
- To form the policy framework to which annual budgets must be based.
- To be compatible with national and provincial development plans and planning requirements.

The legislative mandate bound to municipalities to produce IDP's is considered an integral principle of integrated development planning (Mzimela, 2013). To ensure integrated development is considered at all spheres within municipalities, Section 26 (e) of the MSA mandates the provision of a *"spatial development framework which must include the provision of basic guidelines for a land-use management system for the municipality."* For the benefit of the study, the production of a Spatial Development Framework as a core component of the IDP

illustrates the importance of spatial planning in translating the development propositions presented in IDP's. This supports the premise of the study that argues that integrated development requires spatial planning processes to be embedded in integrative measures to yield spatial integration in cities to counteract social inequalities. Legislated by both the Municipal Systems Act and the Spatial Planning and Land Use Management Act, SDFs have become chief strategic plans that are set to guide spatial development both in urban and rural areas in South Africa. The MSA helps the study understand the context in which integrated spatial planning is placed in local government. Furthermore, the MSA emphasizes the critical influence that IDPs and SDFs have in developing the urban spatial form of municipalities. The MSA therefore becomes a key legislation input towards the work of achieving integrated spatial planning.

6.3. Chapter Summary

The above chapter has contextualised integrated spatial planning within international and national planning frameworks. This has been done to showcase where integrated spatial planning sits within local, provincial, national and global planning spheres. What the review of planning policies and legislation reveals is that spatial planning in rapidly expanding urban areas (which is a phenomenon experienced by majority of cities) should be used as a strategic approach that is meant to co-ordinate and integrate the spatial dimensions of planning policies into the broader institutional system (Wong and Watkins, 2009).

At an international level, planning framework review has brought forth that international guidelines to city planning and development have been endorsed to bring much needed attention to intra-urban divisions among neighbourhoods, suburban areas and urban cores.

At a national level, legislation and policies intended to foster spatial integration by advocating for an integrated spatial planning appear to be closely aligned with international urban development trajectories seeking spatial, socio-economic and cultural integration among urban dwellers. South Africa's (spatial) planning frameworks hold the discourse of spatial transformation dearly, emphasizing that a single planning system needs to be co-ordinated vertically and horizontally across all government spheres. Secondly, to foster and sustain spatial integration, urban governance in South Africa must be orientated around: good administration, equitable spatial development, architecture, adequate public transit, and economic development that creates employment opportunities. With such planning law

formulated with the intention of facilitating spatial transformation and spatial justice, the question still remains as to whether the legislative importance of integrated spatial planning is considered when edge city development takes place in the urban edges of core cities. Answers to this question will be revealed in the data analysis chapter.

7. Chapter Seven: Data Findings, Analysis and Discussions

This chapter presents the findings of the study and engages in data analysis and discussion. The study adopted a qualitative research approach as a means to collect, analyze and present the research findings. The qualitative research approach was chosen to assist the researcher in understanding different realities that were unpacked by the study (Cooper and White, 2012). These were associated with the phenomenon of edge cities in South Africa; the perception of Umhlanga presenting features of an edge city; and the implications Umhlanga has had on the concept of integrated spatial planning. Such realities were observed through the lenses of the residents of Umhlanga, private sector and public sector of eThekwini Municipality.

The aim of the study was to investigate the extent to which the phenomenon of edge cities has prevailed in South Africa and how it has affected integrated spatial planning. In doing so, the study set to ascertain the impact Umhlanga development had on the work of trying to achieve integrated spatial planning in eThekwini Municipality. To attend to the aim of the study and the research questions, structured interviews with key-informants from Tongaat Hulett Developments (THD), eThekwini Municipality Land-Use Management (LUM), eThekwini Municipality Strategic Spatial Planning (SSP), KZN CoGTA were conducted. Semi-Structured interviews were done with residents. Secondary data collection was done through desktop research. The chapter first presents the case study Umhlanga by providing a contextual geographical location and a socio-economic profile. Secondly, the chapter presents the data findings, analysis and discussions associated with the data presented.

7.1. Presentation of Umhlanga

7.1.1 Contextual Location

The case study chosen to investigate the implications of edge cities against integrated spatial planning is Umhlanga. Umhlanga is located in Kwa-Zulu Natal, South Africa (*see figure 14*). In the provincial context, Umhlanga is located within the northern growth corridor along the coast that runs between Durban and Richards Bay (North Coast Spatial Framework Plan, 2004).

Located in eThekwini Municipality, Umhlanga is located in the Northern Municipal Planning Region (NMPR) of eThekwini Municipality (*see figure 15*). The Northern region has approximately 1, 5 million people who account for 34% of the municipality's population which sits at 3,5 million (Stats SA Community Survey, 2011). The NMPR starts from the Clermont/KwaDabeka area and extends to the northern Tongaat area. Rivers that bisect the

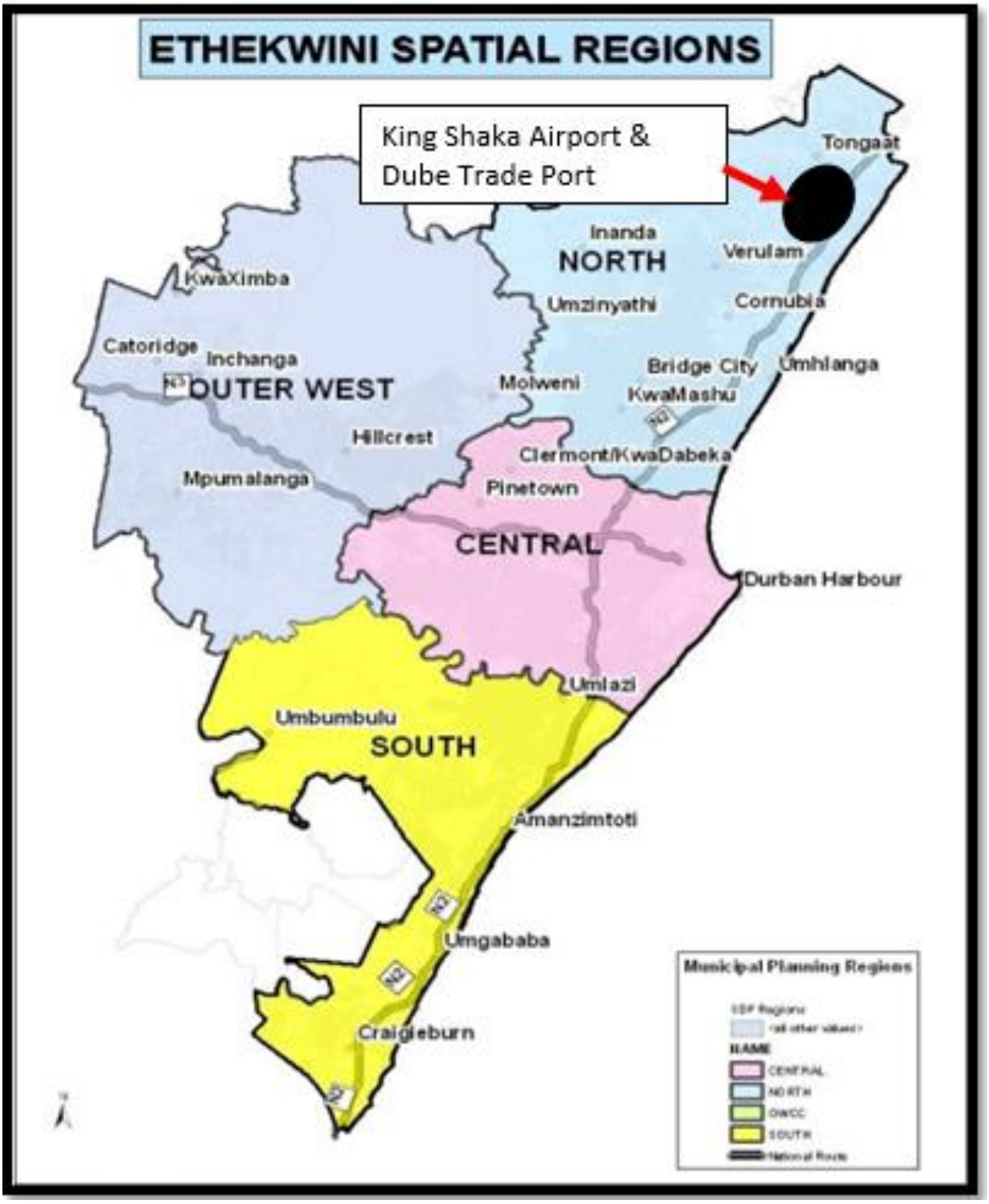
region include the Umgeni, Ohlanga, Umdloti and Tongati Rivers, (NSDP, 2013). The NMPR region covers a total area of 56920 hectares, representing 26% of the eThekwini Municipality land (NSDP, 2008: 4). Approximately 84% of the land in the NMPR which is about 11 178 hectares of prime land, is privately owned by Tongaat Hulett (Tongaat Hulett, 2018).

Umhlanga (*see figure 16*) is an affluent residential and commercial urban settlement, located 17, 5 kilometres form Durban central and 18, 6 kilometres from King Shaka International Airport and the Dube Trade Port in the north coast of eThekwini Municipality in Kwa-Zulu Natal. Umhlanga is bounded by the N2 corridor in the West and the Indian Ocean in the East (eThekwini Municipality, 2007). Umhlanga covers approximately 40 hectares of land and has been developed under Tongaat Hulett Developments. The main zoning categories in Umhlanga include General Commercial, General Residential and Special Zone (eThekwini Municipality, 2007). Umhlanga has rapidly developed into a significant economic investment , leisure and tourism node (ibid).

Figure 14: National Locality of eThekwini Municipality

Source: Authors Own (2020)

Figure 15: Umhlanga Locality within eThekwini Municipality's NMPR



Source: EThekwini Municipality (2017) *Altered by Researcher*

Figure 16: Locality of Umhlanga.

Source: EThekwini Corporate GIS (2020)

7.1.2. Socio-Economic Profile of Umhlanga

According to Stats SA (2011) the total population of Umhlanga is 24 259 people, with the majority being White and accounting for 53, 3% of the total population (*see table 6*). The Indian/Asian population is the second largest population, accounting for 26, 2% of the population. The Black African and Coloured communities are the smaller populations with 4 120 and 509 people, respectively. It was found that 1, 2% of the population is uncategorized but however is still captured as part of the total population.

Table 6: Racial Composition in Umhlanga.

Race	**Population**	**Percentage %**
Black African	4 120	17,1
Coloured	509	2,1
Indian/Asian	6 423	26,2
White	12 899	53,3
Other	290	1,2
Total Population	**24 238**	**100%**

Source: Stats SA (2011).

Of the total population, 52, 8% are female and 47, 2% are male. This explains why there are more female headed houses at 32, 3% (see *table 7*). The average household size is 3 people, and the total number of households is 9 256. Umhlanga is considered to be an urban development located on prime coastal land (Tongaat Hulett, 2018). 98, 4% of the dwellings are formal with 61,3% of them being housing that is owned or in the process of being paid off (Stats SA, 2011).

Table 7: Household Information.

Number of households	9 256
Average household size	2,5 (Rounded up to 3 people)
Female headed households	32,3%
Formal dwellings	98,4%
Housing owned/paying off	61,3%

Source: Stats SA (2011).

Table 8 below depicts that the living conditions in Umhlanga are above average and actually fulfil basic needs requirements. 98, 6% of the houses have access to piped water inside the dwelling and there is 98, 7% connection to flush toilet sewerage. Connection to electricity is provided at a rate of 99, 3% and weekly refuse removal is provided at a capacity of 98, 6%.

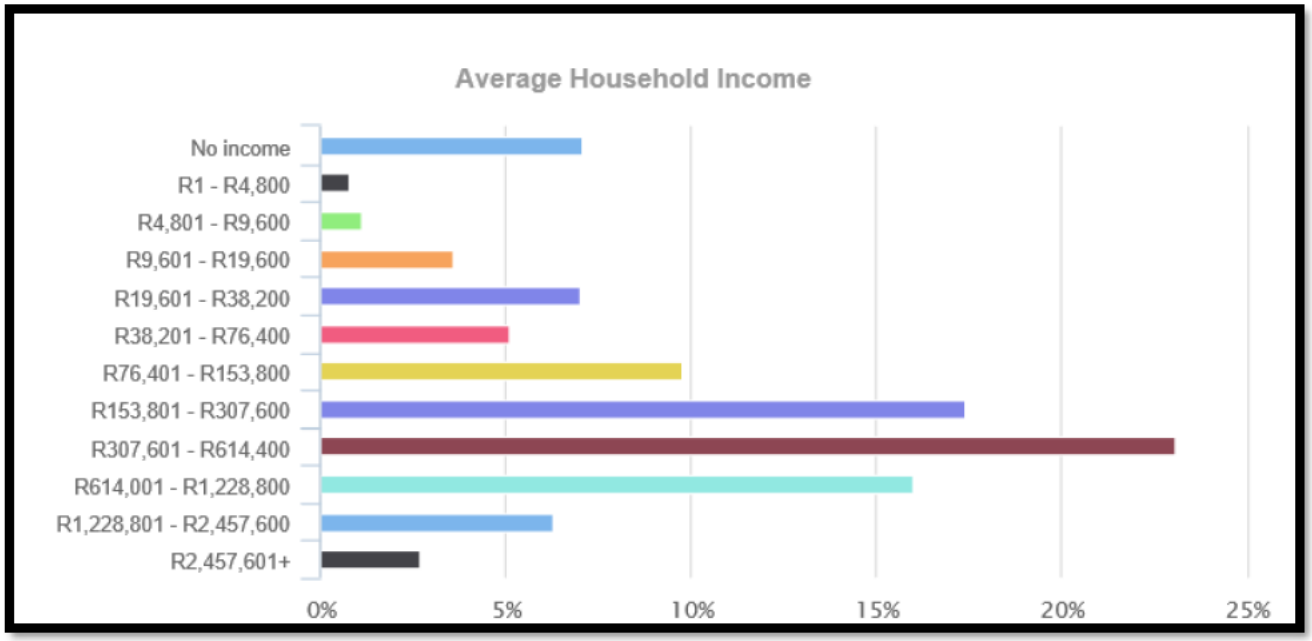
Table 8: Infrastructure Resources in Umhlanga.

Infrastructure	**Availability**
Flush toilet connected to sewerage	98, 7%
Weekly refuse removal	98, 6%
Piped water inside dwelling	98, 6%
Electricity for lighting	99, 3%

Source: Stats SA (2011).

The income spectrum in Umhlanga is highly varied (*see figure 17*). The average household income ranges from 7, 1% of households receiving no income while 2, 7% of households have an income of R2 457 601 million and more. Data from Stats SA (2011) shows that majority of the households receive a household income of R307 601 – R614 000.

Figure 17: Household Incomes in Umhlanga.



Source: Stats SA (2011).

7.1.3. Background of Umhlanga

Umhlanga has its origins as a coastal settlement characterised by the reputation of attracting tourists and offering luxury hospitality as early as 1869. Ofosu-Kwakye (2009) highlights that the attraction to coastal luxury settlements is a common phenomenon in countries that experienced colonial rule, particularly in Africa. Thus, the foundations to which Umhlanga has been built on are the same. Coastal settlement in Durban started with Umhlanga Village which overlooked the Indian Ocean. The oldest landmark in Umhlanga is the Oyster Box, previously known and the Oyster Lodge, built merely as a beach cottage in 1869. Umhlanga as a town was founded by Sir Marshall Campbell in 1895 -a sugar magnate in Durban. Umhlanga was anchored by the Victoria hotel in 1920, the lighthouse in 1954 as well as the KwaZulu-Natal Sharks Board.[22] The Borough of Umhlanga was formed to formalize the town by the amalgamation of Umhlanga Village, Umhlanga Rocks and the suburban area of La Lucia. For over a century the surrounding areas of Umhlanga extensively farmed sugarcane and created various sugar mills that operated in the then Natal and Zululand areas. Umhlanga has always been a settlement embedded within vast hectares of sugarcane farming.

The 1980s saw Umhlanga expand from just a coastal strip with hotels and up-market developments to a steadily developing town more focused on inland development with the inclusion of a residential sector with Prestondale as the oldest residential community (Nomico and Sanders, 2003). The post-democratic era brought about plenty of development opportunities for all cities in South Africa. For the top three central cities: Cape Town, Durban and Johannesburg, expansion of the core cities was largely underpinned by central city decentralization that often presented itself as the recentralization of corporate business and office space in greenfield locations (Michel and Scott, 2005) often located 20-30kilometeres outside of the inner cities. For Mdlalose (1996), such development trajectories were not only part of the evolving agglomeration economies that South African cities were experiencing as a result of the democratic dispensation but also largely and subtly fortified by private sector's urban development response to the demise of apartheid.

In the Durban context, Rushby (2001) points out that the capital flight experienced by the Durban CBD to La Lucia and Umhlanga is a result for the need to decentralize. More pressingly, it was the need to find space that had security, no traffic congestions, with adequate parking as well as to move out of the shadow of the declining image of the Durban CBD post-

[22] http://www.kznnorthhappenings.co.za/umhlanga_rocks_homepage.htm

apartheid. The capital flight experienced by the Durban CBD was deeply felt when big companies such as Deloitte, Illovo Sugar and Price Factory moved their offices out of the CBD. The movement of such big and influential companies to the Northern region of eThekwini Municipality, mainly in and around Umhlanga, saw capital flight rise in Durban and consequently triggered the rapid expansion of Umhlanga, which was supported by various developers, mainly Tongaat Hulett who own majority of the land in the Northern region of eThekwini Municipality (Freurd and Padayuchee, 2002: Pg.12 *as cited in* Rashby, 2001). The main development project that functioned as a strong growth pole and saw the rise of Umhlanga as a new investment pole in the Northern region of eThekwini Municipality was the opening of the Gateway Theatre of Shopping in the year 2000. It still functions as a major catalyst for other developments even beyond Umhlanga.

7.1.4. History of Tongaat Hulett

The company known as Tongaat Hulett currently was formed in 1982 through a merger between the Tongaat Company and Hulett Corporation Limited (Tongaat Hulett, 2018). Trading as Tongaat Hulett Group, the company's main business activity was sugarcane cultivation in Kwa-Zulu Natal however, it also participated in cotton farming, textile, consumer food and aluminium production. The land owned by Tongaat Company and Hulett Corporation Limited was owned under freehold title and spanned from the then Natal northwards into the Zulu Land Region. According to Ofosu-Kwakye (2009), the ownership of such vast landholdings through the merger has always given Tongaat Hulett the power to direct urban growth in the Northern region of eThekwini Municipality by holding economic power through land ownership as well as having access to capital and resources needed to respond to market-driven urban development trends. The 1990s saw Tongaat Hulett amend their portfolio into maize agri-processing as well as land conversions, land management and property development.

7.1.5. Tongaat Hulett: From Agriculture to Urban Development

According to Todes (2014), the many crisis targeting the apartheid government in the late 1980s became an opportunity for Tongaat Hulett to undertake a Planning Forum in 1988 which was focused on developing a future plan for the Durban Functional Region. This region included the Durban urban core but more predominantly the Durban North, La Lucia, Umhlanga and Mt Edgecombe suburban areas, ultimately the areas along the coast. Moffett and Freund (2004) describe the Planning Forum as a strategic plan devised to revitalize the property division in Durban as the inner city was beginning to experience economic decline in

relation to corporate and property stock investment. With participation from various stakeholders (developers, urban planners, Durban Municipality and the African National Congress) the Planning Forum became a strategic spatial planning exercise that was based on emulating provincial plans created in the early 1980s that sought to develop the Northern region of Durban, where provincial planning argued that the Durban economy was largely lop-sided to the south basin of Durban.

From as early as 1981, Tongaat Hulett had come to recognize the prospective benefit associated with property and urban development (Todes, 2014). This realization gave birth to Morelands Property Company, now called Tongaat Hulett Developments (THD). THD has now become the development arm of Tongaat Hulett (Tongaat Hulett, 2018). The pressures of increasing urbanization trends around the world as well as in South Africa in the 1970s resulted in suburban residential expansions (VARA, 1988b *as cited in* Ofosu-Kwakye, 2009). In Durban, suburban residential expansion was linked to increased access the White population had to motor vehicles. Secondly, the growth and densification of the Phoenix settlement[23] (comprising of a large Indian community) meant that urbanisation was already shaping Durban's urban spatial form. Tongaat Hulett land conversions from agriculture to property development began as early as the 1990s. Strategic development on prime land parcels put Tongaat Hulett on the horizon as premier land developers with developments such as La Lucia Ridge, La Lucia office Park, Mt Edgecombe Estate and Umhlanga Town Centre during the 1990s. These developments were all administered by Tongaat Property. For Tongaat Hulett (2018), urban development is about responding to demand drivers and providing market solutions for different economic sectors. Demand drivers for urban development on Tongaat Hulett landholdings as of 2018 include[24][25]:

- Medium & high intensity mixed-use residential neighbourhoods
- Urban amenities
- Retirement settlements
- Tourism
- Office market
- Warehousing (Logistics and industrial)

[23] Phoenix is an apartheid established township which retained the Indian population under the Group Areas Act 1950 that separated places of residence according to racial profiles.
[24] www.tongaat.com
[25] www.thdev.co.za

7.2. Contributing Factors to Edge Cities developing in South Africa

The bold consensus that arises from private sector when engaging in factors that have caused edge cities to develop in South Africa is the concept of opportunity. More so, increased economic opportunity associated with better employment opportunities. With South Africa having undergone various spatial and socio-economic changes since the dawn of democracy, all respondents brought forth that growing the economy has been an important factor for city development. The need to *open up* the economy to more urban dwellers and provide continuous employment was noted as a prominent concern alongside the expanding South African urban territory. According to McKee and McKee (2001), edge cities play an important role in facilitating the economic expansion of a city, in particular in metropolitan cities. As observed in the literature review, Phelps (1998) highlights that the concept of borrowed size allows edge cities to exhibit economic dynamics and characteristics similar to that of a core CBD, therefore, becoming another node for profound economic activity.

For South Africa, the freedom and mobility that came with the new democratic dispensation obligated economic development to transpire beyond artificial boundaries of traditional core cities in order to accommodate the increased flock towards economic and employment opportunities. By pushing economic boundaries away from the core, South African cities developed newer growth nodes with the development of edge cities. Such reflects the tenants of the Growth Pole Theory observed in the literature review that arguments that economic growth in cities will occur at different spatial *poles*. This implies that the economy attached to the edge city creates an additional investment and revenue base for an already developed city. What is interesting to observe is that *Respondent 4*, at THD, describes the economic expansion activated by edge city development in South Africa as one that seeks to "*look out for Black people*" and "*provide the poor with services as well as housing opportunities closer to where they work*". This portion of the finding related to the economic opportunity of cities is slightly different as it is explicitly linked to affording Black people in particular with better access to employment and housing opportunities. However, such an expression should be expected as the history of city development in South Africa (indicated in Section 5.6) depicts the racial, social and economic prejudice Black people experienced during the colonial and apartheid era, where access to the city and economic opportunities for self-betterment was prohibited with the intention to segregate and exclude Black people.

The second consensus from both private and public sector respondents, was that South African core cities needed to decentralize to fully embrace the new democratic dispensation. The

concept of decentralization is embedded in the overall urban spatial form. *Respondent 3*, at THD described the decentralization of South African urban centers as merely the "*natural progression of city development that can be seen all around the world".* This is encapsulated by the Organic Decentralization Theory developed by Saarinen (1943) (presented Section 4.6.2). According to Shao (2015), city decentralization can be considered as normal and much needed for economic and geographical expansion of a city. Saarinen (1945) argued that organic decentralization becomes a key driver of land use distribution as it is the dispersion of human activity within different land-uses that expands the spatial boundary of an urban form. It can be argued that decentralization of cities in South Africa has been much needed as a means to distribute various land-uses as economic activity has largely been concentrated in specific cities around economic drivers such as mines and seaports.

Respondent 1 highlighted that *"urban centers in South Africa cannot meet the demand for private sector"*. This alludes that such results in there being a core city and another nucleus at the urban edge of the city. Two respondents from public sector (representing SSP and CoGTA) conveyed that decentralization in South Africa's cities worked as a methodology to "*create new nodes*" of development underpinned by the need to decentralize office space into newly developed suburban areas to "*save corporate image"*. The want to save corporate image might relate to declining business investment and capital flight South African inner cities were experiencing from the onset of the 1990s (Michel and Scott, 2005; Rushby, 2001). *Respondent 2*, at THD provides a significant ideology related to edge city development and decentralization, which is presented as the *Red Ocean and Blue Ocean Strategy*. The respondent describes the Red Ocean and Blue Ocean strategy as *"everybody wanting to be in same space doing the same thing. So as the term says Red Ocean, there is lot of blood there, fighting over space, it is really a battle. But Blue Ocean if you go to blue seas it is friendlier, quiet, and open. You start to experience something new, away from what you would've battled with in the same market."* Garreau (1991); Vanderbilt (1995); Romero (2014) equate such an analogy with the need for corporates to re-engineer themselves by seeking to settle in new locations for business as to signify a new era of business opportunities that connects with both the local and global economy.

The third contributing factor identified by both private and public sector respondents is that of urban blight (also referred to as inner city decay) and urban flight. What is brought forward is that the investment decline experienced by South African cities in the early 1990s carried on at an even faster rate post-democracy. Urban blight is defined by Brueckner and Helsley (2009)

as the deficient reinvestment in older central city properties. In South Africa, urban blight/decay multiplied rapidly as crime, grime and overcrowding contributed towards urban centre deterioration. For Bayoh *et al* (2002), urban blight is highly characterised by the presence of high crime rates that infiltrate urban areas. This suggests that crime levels have significant implications for spatial health and overall safety in cities, inferring that populations and business will move out of the urban core when their safety is infringed upon regardless of the impact this might have on planning strategies that sought counteract urban sprawl. Furthermore, accumulative decreasing property values is seen as a consequence of the *"municipalities failure to upkeep the inner cities causing the dilapidation of services"* ultimately perpetuating urban blight-*Respondent 1*. Such a response is valid as Bayoh *et al* (2002) argue that once a central city's ability to provide public goods and services becomes inferior, urban decay is almost always inevitable. In the South African case, "*a lack of urban management"* (*Respondent 7-SSP*) has fed urban blight and has consequently pulled urban investment away from South Africa's inner cities leaving them economically, socially and at times culturally hollow shells of built environment concrete.

Close to urban blight is the concept of urban flight. *Respondent 7*, at the SSP brought forth a striking ideology which claims that the relation of urban blight to that of urban flight and the development of edge cities in South Africa is "*attached to people of colour having access and moving into the inner cities"*. According to the Respondent, this is because South African cities were previously accommodative of only a particular race group-White people. This response became significant as it alluded that the presence of Black people in previously advantaged urban spaces posed discomfort for the previously advantaged, ultimately resulting in urban flight. To unpack the concept of urban flight, Haines (2010) describes it as the out-migration of the White population and (majority White owned) business away from the inner city into the suburban areas of the city. Such then brings about the question of interracial living intolerances and realities still attached to race in South Africa. These realities of possible intolerance and inequality infiltrate the direction of urban development and further become apparent in the configuration of urban spatial forms.

Respondent 1 also refers to this ideology on the basis of class, by highlighting that the "*effect of South Africa's urban centres opening up to all classes"* of the population "*causes urban deterioration to some point".* Equating the deterioration of urban centres to the increased accessibility of the city for all classes of the population highlights the stark levels of social polarization that exist within the urban landscape of South African cities. Part of the persistent

themes found under postmodern urbanisation is social polarization that captures the existing socio-economic disparities that exist within a population's livelihoods (Machema, 2019).

Sultana (2011), studying edge cities as mega projects in North Carolina, United States observed similar trends. She notes that urban disparities are exacerbated between racial lines when edge cities develop as a result of urban fight, finding that 95%-100% of the population in edge cities in North Carolina are of the White population when Black and Hispanic populations seek to access inner core cities for employment, social and residential services.

The humanistic outcome of how human settlements are developed certified itself as a fourth contributing factor. All the respondents from THD and *Respondent 9* from SSP agreed that the pursuit of affluent lifestyle choices played a significant role in propelling the demand for edge cities in South Africa. Furthermore, it was relayed that this demand for affluent lifestyle living orientated around delivering better quality of services, security and bringing about "*recognition and preservation of affluent lifestyle choices for middle-class and upper-class citizens in relation to the income spectrum*"- *Respondent 11*. The concept of affluent lifestyle choices being a significant driver of new cityscapes such as edge cities is found by Dear and Fusty (1998); Ofosu-Kwakye (2009) to be a product of the postmodern urbanism philosophy that allows greater flexibility in urban spatial production. It is aligned with the expression of lifestyle that influences the construct of distinctive city spaces that are sophisticated socio-economic enclaves. To highlight the growing market demand gravitating more towards affluent lifestyle choices, *Respondent 1* highlighted the expanding economic, social and classist divisions among the population by indicating that *"some South Africans are fit for 1st world countries and the other half are fit for 3rd world countries. As you move towards the middle and upper class, and affluent classes, lifestyles play a bigger role in the decisions of where to live, it's more for the guys who want to create a sense of place".* What the researcher can deduce form the first world and third world comparison is that inequality in South African cities is exponential and has seemingly divided the population into stark economic groups that reflect the unequal economic and spatial legacies of not only apartheid but also those of the post-democratic era. Singh and van Eeden (2017) bring forth that segregation and inequality has divided South African society on levels of class, income and social prestige.

An interesting contributing factor brought forth by only *Respondent 10* from CoGTA, is that a *dual planning system* that existed post-1994 has endorsed the development of edge cities. Planning legislation was said to not be coherent with the development outcomes desired by the

democratic dispensation. When describing the dual planning system, the respondent refers to the clash between apartheid planning legislation such as the Town Planning Ordinance Act 27 of 1947 and the Subdivision of Agricultural Land Act 70 of 1970 with the democratic dispensation swiftly after 1994. From the respondent's perspective, these apartheid laws and others were carried over from apartheid planning and essentially still functioned as development approval legislations for development applications in the new democratic area.

A second factor that facilitated a dual planning system highlighted by *Respondent 10,* is the opposing legislative mandates between the Development Facilitation Act 67 of 1995 (DFA) and the autonomy of municipalities to approve rezoning of land and the establishment of Townships and other significant projects. The DFA initiated duality in South African planning by giving all spheres of government the power to conduct municipal planning which contradicted the autonomy granted to municipalities by section 156 (1)(2) of the Constitution[26] (City Scope Planners, 2010). For City Scope Planners (2010) and Urban Landmark (2010) such saw development applications under the Development Facilitation Act divert significantly from SDF proposals and local policies founded by municipalities. The DFA concurrently gave exclusive powers to provincial spheres of planning through Development Tribunals that were largely succumbing to provincial influence. The same is echoed by the respondent: *"Projects like Umhlanga and Isibaya in eThekwini Municipality got off quickly, but we still have housing project applications on our desks sitting with petty issues."* This suggests that mega projects brought forth by private sector have been pushed forward for approval and projects anticipated to benefit the broader public and rectify spatial inequalities have to some extent lagged behind.

7.2.1. How then has Umhlanga Developed?

The factors that contribute to the development of edge cities in South Africa largely correlate with those of city decentralization, office relocation and economic expansion brought forth by the conceptual framework (Section 3.2 – 3.5) and literature review (Section 5.3.2 -5.3.3). Umhlanga has also largely developed along the above reflected findings that both private and public sector respondents attribute the development of edge cities in South Africa to. What

[26] Section 156 of The South African Constitution covers the "*Powers and Functions of Municipalities*". Sub-section (1a) entails that, "A municipality ha the executive authority in respect of and has the right to administer (a) local government matters that listed in Part B of schedule 4"- where municipal planning is listed as function of local government.

became apparent to the researcher during data collection was that majority of the respondents gave specific factors that better explained how Umhlanga had developed.

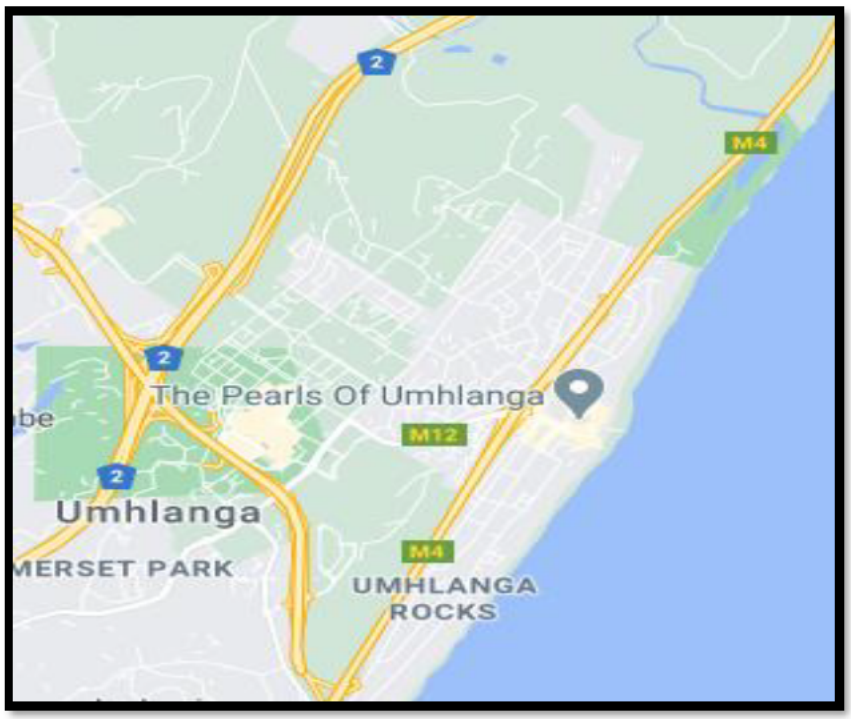
What both the private and public sector respondents agreed on was that a large portion of the land in the North of the eThekwini Municipality, where Umhlanga is located, is owned by one landowner-Tongaat Hulett. The land owned by Tongaat Hulett was considerably large enough to absorb the decentralization Durban inner city had undergone. The decentralization of Durban inner city and the consequences of urban blight and economic flight meant that Tongaat Hulett could provide geographical space for the city to expand. *Respondent 7* and *9* from SSP highlighted that THD developed infrastructure in Umhlanga that made it appealing for corporate to relocate business into Umhlanga. In relation to the departure of business from the inner city, *Respondent 10* from CoGTA referred to the development of Umhlanga as one that was conceptualized to *"solve corporate problems as Durban had become a dirt bin as a result of urban grime and a lack of safety".* The combination of land availability, infrastructure provision and the expansion of Durban through urban and office decentralization is viewed *by Respondent 9* as the driving force of the Umhlanga development. Henderson and Mitra (1996) argue that when private sector has the capacity to install infrastructure themselves while having majority land ownership on land, it removes any leverage that the public sector may have in relation to urban development. The ownership and infrastructure advantage by THD depicts the institutional power landowners/developers can possess over urban development and spatial planning. The development of Umhlanga will always be embedded in private sector planning vision and encompassed with provisions of meeting market demands. For Medda *et al* (1998), such large-scale landowners cumulatively attain sole power that can direct spatial development patterns. The spatial development patterns of eThekwini Municipality remain fragile and still emulate apartheid spatial planning, thus the researcher advocates for the observation and caution of enclave developments that result from highly privatised urban planning.

By virtue of land ownership as well as being prominent developers in eThekwini Municipality, Tongaat Hulett had significant control in the development direction that occurred in the North of the municipality as well as what Umhlanga represented as a newer development node. Respondents from SSP and *Respondent 3* from THD alluded that the development of Umhlanga into a secondary economic node to Durban was part of the natural extension of development outwards from the CBD. The development of Umhlanga as a node is viewed by respondents of public sector as a means to address the insufficient physical capacity of the inner city by operating as a place that can accommodate business parks for head offices, service sector and

commercial led corporate as well as residential developments. What Umhlanga essentially represents is a metropolitan sub-node that is supplementary to the Durban CBD. Such falls within the polycentric urban spatial structure discussion in Section 3.4, where polycentric spatial development is a key indicator for edge city development.

From a location perspective, Umhlanga is seen to be located at a strategic prime location. Its location along the N2 and M4, which are national and metropolitan corridors respectively (*see figure 18)* that allow Umhlanga to be accessible to business opportunities and economic investment.

Figure 18: Strategic Location of Umhlanga between N2 and M4.



Source: Google Maps (2020)

The N2 is a prime investment corridor not only in eThekwini Municipality but also for Kwa-Zulu Natal. Therefore, the development Umhlanga responded and continues to respond to the provincial imperative of increased investment and infrastructure development along prime urban corridors to facilitate and uphold economic activity. The incorporation of the provincial benefit of Umhlanga by planners in SSP suggests that Umhlanga has become a significant cornerstone of local and provincial development going forward. This implies that influence on regional planning is not only reliant on provincial planning factors, however, the efforts of local planning may also hold even greater influence. Mc Donagh (1995) brings forth that what transpires at the local level in relation to property and urban development feeds directly into the regional sphere and sets the urban planning agenda at a regional sphere. Further asserting

the importance of Umhlanga as a provincial economic and infrastructure development asset, *Respondent 2* from THD highlighted that the development for Umhlanga has played a momentous "*role in creating the development link between Durban and Richards Bay similar to that of Johannesburg and Pretoria in Gauteng*."

It was surprising to the researcher to discover that there were some perceptions from both private and public sector about Umhlanga being a planned as a city and continuing to mature as a city. *Respondent 1* from THD differed significantly from their colleges *Respondents 2* and *3* who described the development of Umhlanga as a natural progression of city development and indicated that Umhlanga had been planned as a *"mini city." Respondent 8* from LUM boldly stated that viewing Umhlanga from the apartheid planning context, *"Umhlanga is now a city within a city."* These perceptions of Umhlanga being more than an edge city and rather being planned as a small city and already settling into the perception of being its own city was reinforced by *Respondent 9* from SSP who brought forth that "*the airport was planned for the north quite early in the 1960s".* The indication of the King Shaka Airport in the North of eThekwini Municipality being a pre-planned development from as early as the 1960s alludes that developments like the airport as well as Umhlanga in the North of the municipality are inherited pre-planned developments from an apartheid planning. Padayachee n.d. *cited in* Moffett and Freund (2004) argues that the push for the location of the airport to be in the North of eThekwini Municipality is implicit of Tongaat Hulett's commitment carry out the provincial plans set in the 1980s (as determined in the 1988 Planning Forum) to alter working and living patterns in the city of Durban by reversing and concentrating economic activity away from the industrial Durban South basin and towards the Northern region.

The above can be seen as the direct implication of having a dominant landowner who has had the ability to directly impact the configuration of development within their land holdings including national infrastructure development such as the airport. One can argue that the rapid development of the airport as well as Umhlanga and its surrounding areas towards the 2010 FIFA World Cup accelerated (Todes, 2014) the desires and intentions of an already pre-conceived planning framework and urban design system conceptualized under the previous urban planning regime. Therefore, the perceptions of Umhlanga being planned and functioning as a city by both private and public sector respondents (who are planners) is enlightening as one can assume that this reflects the general discussions pertaining to the future status of Umhlanga.

7.2.1.1. Catalytic Developments Contributing to the Expansion of Umhlanga

Umhlanga has developed through the contribution of various catalytic developments. A noteworthy analogy explaining how Umhlanga has developed was given by *Respondent 3* from THD. The Respondent brought forth that Umhlanga had emerged out of the *"Pearl on a String"* concept. The symbolism of Umhlanga being a pearl denotes that the development of Umhlanga had been strategically planned and embedded in high-end capital investment. To showcase urban projects that have stimulated and sustained the economic lifestyle and aesthetic investment dedicated to Umhlanga, the researcher found catalytic developments that have occurred in and around Umhlanga from the early 1990s till now. Catalytic developments are described as developments that are planned and designed to instigate corresponding and complementary development reaction in surrounding property[27] sites with potential for development. Leinberger and Loh (2018) argue that land parcels with planned catalytic development projects need to be in close proximity to other land parcels in order to activate contiguous development and provide reasonable return. The developments identified below have had a large impact of the preservation of Umhlanga's status as an affluent coastal residential area and tourist town (Michel and Scott, 2005). *Table 9 and Figure 19* below capture the developments (adjacent to and inside Umhlanga) deemed by literature, key-informants and residents as having been catalytic to the development of Umhlanga.

Table 9: Catalytic Projects in the development of Umhlanga.

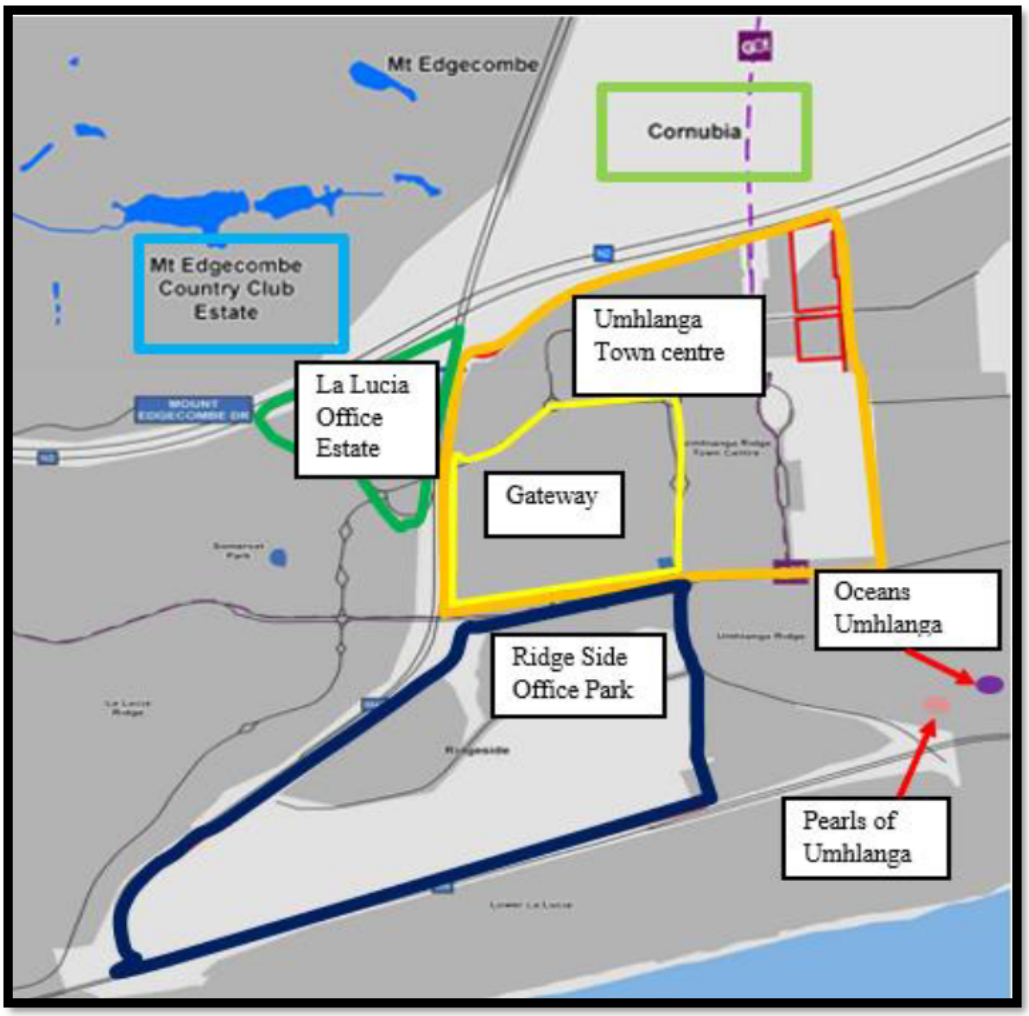
Development	**Features**
Mt Edgecombe Estate	• Country Club Estate with 1228 residential Units • 205 Hectares • Built in the 1990's
La Lucia Ridge Office Estate	• Office Park for Corporate Headquarters • 84 Hectares • Built in 1997
Gateway Shopping Mall	• Retail, Entertainment and Leisure (Part of Umhlanga Town Centre) • 18 653 Hectares

[27] https://www.portlandoregon.gov/transportation/article/186821

	• Built 2001
Umhlanga Town Centre	• Nucleus of Umhlanga • Mixed-use development (residential, commercial, retail, medical, leisure, educational) • Linked to Cornubia
The Pearls	• Luxury Residential (apartments & penthouses) • Built 2017 • Worth R3 Billion
Oceans Umhlanga	• Luxury Residential (28 apartments) • 100 Commercial shops • One Hotel • Worth R3,1 Billion • Construction in progress
Ridgeside Office Park	• Supplementary to Umhlanga Town Centre • Commercial & Residential Node • 140 Hectares
Cornubia	• Presidential Mega Housing Project • Anticipated to provide 24 000 Housing Units (Low & Middle Income) • 8,5 Hectares- Cornubia Shopping Centre (Built 2017) • 12 Hectares Business Hub • 24 Hectares Business Estate • Worth R25 Billion

Source: Authors Own (2020)

Figure 19: Catalytic Projects in the development of Umhlanga.



Source: Tongaat Hulett Developments. *Altered by Researcher.*

7.2.2 Can Umhlanga be considered an Edge City?

The researcher's interest in the very beginning was to get more knowledge and reason behind the rapidly growing rate of development outside the traditional core cities of South Africa. The interest was first sparked by the observation of built environment trends underpinned by the agglomeration of regional shopping malls, office parks and gated community residential structures that existed at close proximity to each other emerging at the *urban edges* of core cities. Literature relating to city development and urban spatial expansion defines this agglomeration as the phenomenon of edge cities. According to Lang *et al* (2009), edge cities are a result of post-suburbia which advocates for the relocation of economic activities and commercial services into the suburban and exurban territories of the urban form. Edge cities are propelled by agglomeration economies, office, industrial, residential and leisure

developments that are established to create a multi-functional and nodal nucleic development outside of the city core.

The adoption of Umhlanga as a case study in this research is a result of various observations made by the researcher using preliminary literature to identify key development traits that see Umhlanga align with classic characteristics presented by Garreau (1991) and Phelps (1998) of what makes an edge city. In investigating how the phenomenon of edge cities has prevailed in South African cities, it was also the researcher's intention to demonstrate that to a very large extent Umhlanga possesses majority of the traits that make and sustain an edge city. The study uses primary and secondary data findings to present the characteristics that showcase that Umhlanga has developed into an edge city.

Office Space

Most edge cities are identified by how much office space they have to offer. Office relocation from traditional CBDs into the urban periphery is a prominent trait of edge city development. In other circumstances, planned office space in the form of office parks in greenfield developments is what triggers businesses to relocate and create business estates in the urban edge, therefore laying a foundation for the edge city to further develop (Wu and Phelps, 2008). Garreau (1991) asserted that an edge city has 5 000 0000 sq. ft^2 **(464 500m^2)** or more of leasable office space. Umhlanga has approximately 5 031 536 sq. ft^2 **(467 445m^2)** of leasable office space. *Table 10 below* depicts how office space in Umhlanga is currently accounted for.

Table 10: Office Space in Umhlanga in m^2

Location in Umhlanga	**Size (m^2)**
La Lucia Ridge Office Estate	175 000
Greater Umhlanga	146 545
Ridgeside Precinct 1	55 000
Millennium Bridge Business Park	40 000
Park Square	36 000
Ridge 7	7 700
Umhlanga Arch	7 200
Total Office Space available in Umhlanga	**467 445m^2**

Source: www.thdev.co.za

Retail Space

According to Ding and Bingham (2000) the reality of people following employment results in the decentralization of office space from the urban core into the urban edge to have a ripple effect on other sectors in the economy. One of the sensitive sectors to office and business relocation is the retail sector. Edge cities are commonly developed along the suburbanization of regional shopping malls. The diseconomies experienced by the CBD becomes a foundation for agglomeration economies (Ricardson, 1995) between corporate and retail to emerge and sustain the development of the edge city. An edge city is said to have a minimum of 600 000sq ft^2 (55 740m^2) or more of leasable retail space.

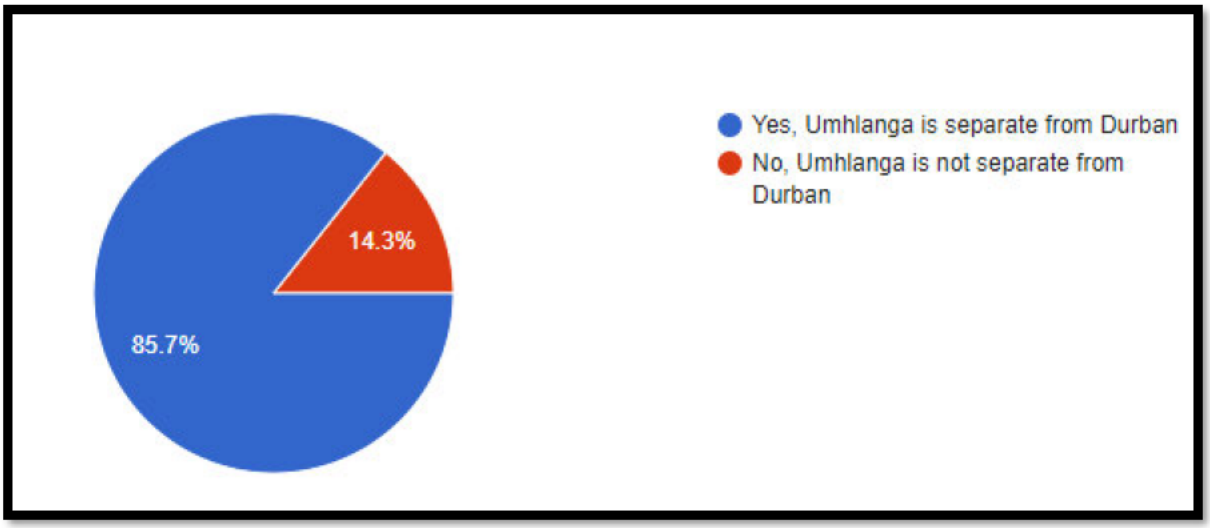
Umhlanga has two prominent retail developments-Gateway Theatre of Shopping and The Crescent. The Gateway Shopping Mall, forming the retail node of Umhlanga Town centre is considered as regional shopping mall in eThekwini Municipality and is one of the biggest retail outlets in Africa.[28] After four development extensions, Gateway currently has a floor area space of 186 526m^2 with approximately 120 000m^2 accounting for leasable retail space. The Crescent also located in Umhlanga Town Centre, is a Shopping centre covering a floor space of 27 529m^2.

Perceived by Population as One Place

The majority consensus from residents of Umhlanga is that Umhlanga is a well-developed urban place that is separate from Durban. Residents attached the inner-city CBD as the main landmark in identifying Durban in eThekwini Municipality. 85, 7% of the residents interviewed expressed that they viewed Umhlanga as a fully-fledged human settlement (*see pie chart 1)* separated from Durban which has marked its own significant spatial territory within the municipality's urban spatial form. *Residents 1,6,11,12,13,14* all shared the same views that emphasised that Umhlanga possessed all the crucial amenities residents needed such as shopping malls, hospitals, as well as the airport being nearby. *Resident 10* expressed that there was no need to travel to Durban (inner city) as *"it's easy to get to everywhere, everything is right on your doorstep"* in Umhlanga.

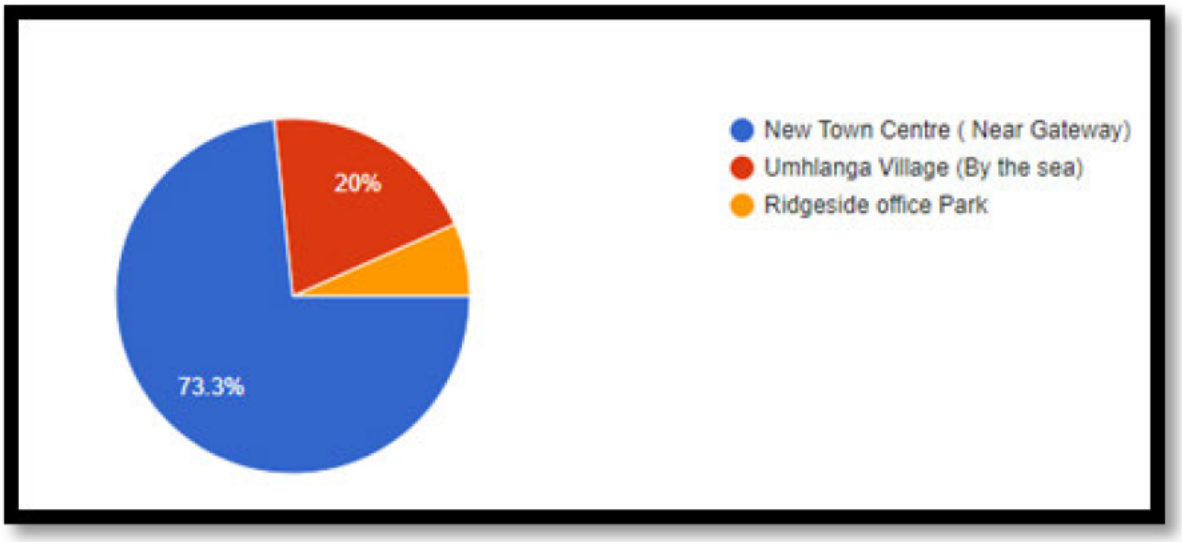
[28] www.durban.gov.za eThekwini Online-Gateway. Web.archive.org

Pie Chart 1: Umhlanga Residents View on Umhlanga



Source: Primary Data. *Compiled by Researcher*

Pie Chart 2: Residents View on where Umhlanga Central Business District is Located



Source: Primary Data. *Compiled by Researcher.*

Residents cemented their view of Umhlanga functioning as one place, independent from Durban by identifying Umhlanga Newtown Centre has the economic nucleus of Umhlanga with 73, 3% residents identifying Umhlanga New Town Centre as having the characteristics of a CBD (*see pie chart 2*). 20% of the residents identified Umhlanga Village which overlooks the Indian Ocean as the CBD, while only 6, 7% chose Ridgeside Office Park as a representation of the settlements CBD. The resident's identification of a CBD within Umhlanga embodies the

concept of suburbanization that contributes to the advancement of suburban areas and their ability to re-configure urban economic centrality (Ding and Bingham, 2000). For Harris and Lewis (1998), suburbanization allows edge cities to develop suburban economic centres that have the same economic, social, industrial and political activities as the traditional inner cities and therefore upscale the importance of the edge city to that of the central city.

Have Not Been Anything Like A "City" Thirty Years Ago.

Although the definition of the concept of a city has taken various meanings in the last 50 years, the common thread in urban development literature is that edge cities are a smaller type of emerging city that is placed in limbo between being located at the urban periphery and having city-like traits (Dear and Dahmann, 2008; McGee, 2013; Soja, 1989; Watson and Gibson, 1995). As edge cities develop, they often spatially depict a form of urbanization that explains the progression of an urban spatial structure from monocentric to polycentric form (Cheng *et al*, 2017). However, before their battle for classification as a city, Garreau (1991) argues that what makes an edge city is its historical spatial background. By this, Garreau puts forth that the development of edge cities must be traceable to not having been anything like a city 30 years before.

Up until the late 1970s, land in Umhlanga and its surrounding areas was primarily used for sugarcane cultivation. Urban development in Umhlanga was only contained in Umhlanga Rocks overlooking the Indian Ocean, which functioned as a luxury coastal strip and beach resort (Nomico and Sanders, 2003). Umhlanga Village operated as the nucleus of Umhlanga Rocks retaining tourist resorts and leisure facilities (The Ridge Magazine, 2017). *Figure 20 below* depicts Umhlanga approximately 30 years, in the late 1980s during the conceptualisation of the Gateway Theatre of Shopping Mall developed by Old Mutual Properties. Building stock in the centre represents municipal offices. Prestondale residential neighbourhood is situated on the left and represents the oldest primary residential settlement in Umhlanga. Development boarding the ocean is Umhlanga Rocks.

Figure 20: Umhlanga 30 Years Ago.

Source: The Ridge Magazine (2017).[29] *Modified by Researcher*

Figure 21: Umhlanga in 1965.

Source: northglennews.co.za[30]. *Modified by Researcher*

[29] www.thdev.co.za
[30] https://northglennews.co.za/114977//book-chronicles-history-umhlanga-lifesaving-club/

To further illustrate that Umhlanga has gradually over the years developed into a significant urban development, *figure 21* depicts Umhlanga from the forefront of the Indian Ocean. The portion segmented in yellow in the picture shows the spatial reflection of Umhlanga in 1965 as a sugar cultivation site with development only occurring in Umhlanga Rocks along the coastal contour.

The *model* formulated by Garreau (1991) has been used to showcase that the development of Umhlanga largely aligns to the characteristics that underpin the edge city phenomenon. Phelps (1998) differentiated edge cities into three typical categories that give explanation to the types of edge cities: boomers, uptowns and greenfield (see Section 1.1).

The findings from the case study presentation and the above presented analysis affirm that Umhlanga resonates as a *"boomer"* and *"greenfield"* edge city. As a boomer edge city, capital and infrastructure development in Umhlanga has largely been drawn in by the successful catalytic nature of the Gateway shopping mall that has initiated urban development in Umhlanga to be mall orientated. Secondly, Umhlanga lies between two northbound corridors, the N2 and the M4 (*see figure18*). These corridors allow traffic from both the Southbound and Northbound to penetrate Umhlanga with high volume access, bringing a broader population into the edge city. Furthermore, the M41 to Verulam intersects the N2 and produces the now called Mt Edgecombe interchange. This indicates a *"classic"* position of an edge city that provides accessibility and connections to the surrounding regions. Umhlanga can also be characterised as a greenfield edge city development, as it is situated on what was previously a large stretch of cultivated sugarcane land (Michel and Scott, 2005). The findings above affirm that Umhlanga possesses the key traits that typical edge cities portray. Therefore, Umhlanga can indeed be deemed as an edge city within the eThekwini Municipality's urban spatial footprint.

7.3. eThekwini Municipality's Response to Spatial Segregation?

To find out the municipality's work towards integrated spatial planning, the researcher probed respondents from Strategic Spatial Planning about the spatial vision for eThekwini Municipality. All respondents articulated that the spatial vision for eThekwini Municipality is integration. The concept of integrated is embodied as a means of creating a multifunctional municipality. To create and preserve a multifunctional municipality, sowing the municipality

together was seen as crucial to responding to spatial segregation. The respondents brought forth that to address spatial segregation in the municipality, integration measures using public transport and constructing compact dense urban areas in the municipality is imperative for responding to spatial segregation. It was further highlighted by *Respondent 7* that the spatial vision of the municipality is to carry out balanced development between urban, rural as well as informal settlement areas to create spatial morphologies that are equitable with services required by each settlement category.

With the spatial vision established, the above research question sought to enquire what strategies the municipality had implemented to respond to and address spatial segregation across the municipality. Primary and secondary data collection revealed that eThekwini Municipality had focused on carrying out both institutional and spatially target implementation strategies to address spatial segregation. Vigar (2009) highlights that the institutional aspect of spatial planning is the first point of reference when working towards integrated spatial planning. Institutional planning assists in the formation of policy agendas. Planning strategies generated by planning sectors in a municipality should be translated into spatial plans that encompass both policy and pragmatic approaches to spatial planning. This was also found to be true by the researcher's review of South Africa's spatial planning legislation in Chapter Five.

Desktop and the primary data collection revealed that the overarching spatial planning framework for eThekwini Municipality is the Spatial Development Framework (SDF). The researcher was referred by respondents to the SDF as the first point of contact when seeking to find out strategies the spatial planning frameworks of eThekwini Municipality had implemented to respond to and address spatial segregation as the second research question of the study.

As noted in Section 5.2.3 and Section 5.2.6 of the dissertation, the SDF is seen as the spatial translation of the Municipality's Integrated Development Plan, therefore the spatial vision, strategies and outcomes of the SDF are linked to both the short-term and long-term strategies of the IDP (eThekwini Municipality, 2017). As noted in the background of study, spatial planning using SDFs and the IDPs is a legislative mandate for South African municipalities. This is firstly underpinned by the Municipal Systems Act No 32 of 2000 in which Chapter Five, legally mandates the production of IDP's by municipalities which are to be translated into SDF's by municipalities to ensure that development proposals do not perpetuate patterns of

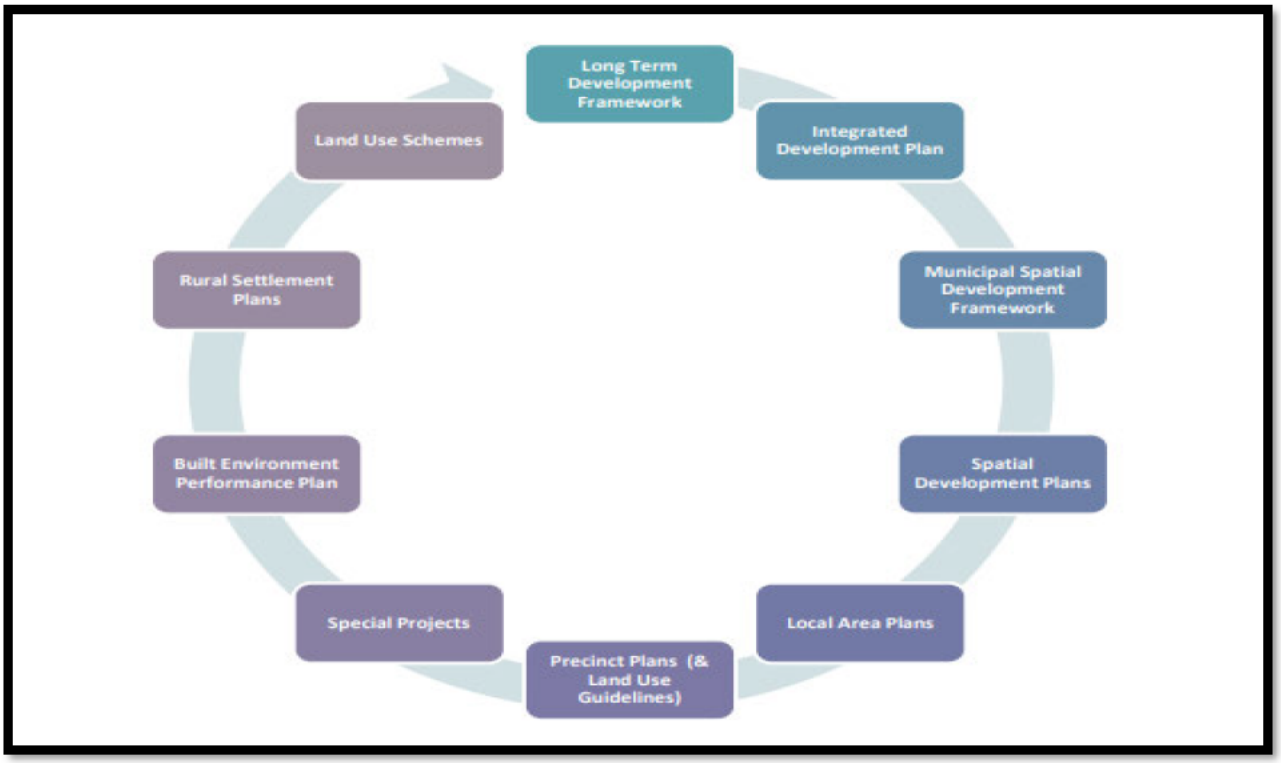
segregation. Secondly, Chapter Four of the Spatial Planning and Land Use Management Act 16 of 2013 regulates the creation of the SDF.

The examination of the eThekwini Municipality's SDF and other lower hierarchy plans that speak to spatial planning along with data collected from Land-Use Management and Strategic Spatial Planning respondents revealed that the strategies to address spatial segregation in eThekwini Municipality have been executed at an institutional and implementation echelon. This includes the institutional conceptualization of a Planning Approach, the creation of a City Planning Commission as well as Spatially Targeted Implementation projects and are presented below.

7.3.1. Planning Approach

To respond to and address spatial segregation, eThekwini Municipality uses a planning approach that is underpinned by creating a comprehensive and multi-layered Land-Use Management System. The system is developed through the creation of a Planning and Development Management Toolbox that comprises of a Package of Plans (see *figure 22 below*).

Figure 22: Planning and Development Management Toolbox Package of Plans.



Source: eThekwini Municipality Spatial Development Framework (2017)

The Package of Plans is a direct outcome of the Planning and Land-Use Management By-law of 2016[31] created by eThekwini Municipality to inform social, economic, environmental and infrastructural development in the municipality (eThekwini Municipality, 2017). The Municipality describes the creation of packed plans as an integrated process that communicates the strategic intent of municipal development. The plans are briefly deconstructed and explained below:

Table 11: Package of Plans Functions.

The Long-Term Development Framework (LTDF)	Provides a long-term vision for the Municipality to achieve strategic, economic, social and environmental objectives. The plan is spanned over 20-50 years.
The Integrated Development Plan (IDP)	The IDP is the principal strategic planning instrument which guides and informs all planning, budgeting, management and decision-making processes in a municipality. It provides for the strategic implementation direction in the short to medium term spanning over 5 years and reviewed annually.

[31] Section 11 of the "EThekwini Municipality: Planning and Land Use Management By-Law, 2016" mandates the preparation of plans that will emulate the vision and planning and development strategy of the municipality.

Spatial Development Framework (SDF)	The SDF seeks to guide the overall spatial distribution of current and desirable land uses within a municipality in order to give effect to the vision, goals and objectives of the municipal IDP. It also provides for the strategic spatial development objectives of the municipality at different timeline periods of 5 years; 5-10 years and long-term timelines 10-20+ years. The SDF is reviewed annually based on the LTDF and IDP by: -providing a long-term vision of the desired spatial form and spatial structure of the Municipality -assists in the spatial coordination, prioritisation and alignment of public investment in terms of the IDP - identifying the areas with development opportunities, areas not suitable for development and areas where the impacts of development need to be managed -Developing a capital investment framework that articulates how the spatial proposals are to be achieved sequentially, with attention to what key interventions need to take place, where they need to occur and by whom. -The identification of key spatial priorities
Spatial Development Plan (SDP)	The SDP is used to consolidate, review and update information for specific spatial planning regions. It translates the spatial development intentions of the SDF into land use, transport, environmental and infrastructure implications.

The Local Area Plan (LAP)	The LAP is a detailed physical plan that translates the intentions of these broader plans into a greater level of detail and thereby informing the preparation of a future Land Use Management Scheme for the Municipality. LAPs are based on specific geographical areas such as towns and suburbs.
Precinct Plans	Precinct Plans ensure the implementation of broader strategic spatial objectives of the SDF at the local level. Areas with special environmental, economic and heritage characteristics, Urban and Rural CBD / Nodal Plans, Urban Corridor Plans, Urban Renewal Plans, and Township / Urban Regeneration Plans are all types of a Precinct Plan. They contain detailed urban design directives or proposals and include implementation proposals.
Special Projects Plans	These plans provide for the preparation of spatial policy, strategies, plans and guidelines relating to a specific geographic area or theme and may include the City Densification Strategy, Rural Development Strategy, Transit Oriented Development Strategies or Climate Resilience Strategies for Spatial and Land Use Plans.
The Built Environment Performance Plan (BEPP)	The BEPP is key component of the municipal package of plans and is used annually to articulate investment and institutional arrangements by the municipality to address spatial transformation of the urban form as well

	as the integration of the relevant line departments.
Rural Settlement Plan	A Rural Settlement Plan is not cadastral based but gives guidance to current and proposed land uses, access and the provision of bulk services. Such a plan acts to guide and facilitate orderly development. These plans need to consider transportation, environmental, economic, social, agricultural and geotechnical requirements as well as access to bulk infrastructure. In developing the plan, indigenous knowledge and practice needs to be considered as these areas fall under Ingonyama Trust Land and are administered by Traditional Councils and the Ingonyama Trust Board.
Land-Use Schemes	Land-Use Schemes more commonly known as Planning Schemes, is a statutory planning document together with an associated set of maps used to manage and promote development within a municipal area. A land use scheme is a critical component of the integrated spatial planning system and deals the details of the land use zoning and built form controls.

Source: Authors Own, 2020.

The Package of Plans created by eThekwini Municipality are dense and multi-layered. They seek to address more than just spatial segregation by prioritising economic, social and infrastructural advancement of the municipality as well as the preservation and protection of the natural environment. Mashiri *et al* (2017) study findings in *"Towards a Framework for*

Measuring Spatial Planning Outcomes in South Africa." reveal that the integrity of a spatial morphology is directly linked to how well a spatial plan can be integrated with other plans within national, regional and local institutions. EThekwini Municipality's Package of Plans to a large extent adhere to institutional integration as the plans are created in hierarchies that feed into each other to carry out the vison of the municipality. Furthermore, the Package of Plans is underpinned by national and local legislations in the form of the Municipal Systems Act 2000, the National Development Plan, the Spatial Planning and Land-Use Management Act 2013, the Integrated Urban Development Framework as well as eThekwini Municipality's Planning and Land-Use Management By-law 2016, respectively.

7.3.2. City Planning Commission

To propel its long-term vision and strategic (spatial) plan, eThekwini Municipality has established a City Planning Commission as another way to respond to spatial segregation within the municipality. The commission is concerned with making the city of Durban *"Africa's Most Caring and Liveable City"* and *"fundamentally changing the development profile of its people and consequently shedding all vestiges of apartheid and colonialism, especially from a spatial planning perspective."* (eThekwini Municipality, 2017: Pg.35). To address spatial segregation, the City Planning Commission has developed three work streams with thematic areas that feed into the city's implantation strategy of the IDP. The thematic area that speaks to responding to spatial segregation is that of Quality Spaces and Spatial Integration. The focal areas of this theme include:

- Strengthening existing economic nodes
- Strengthening future economic investment areas
- Densification of well-located areas
- Reinforcing well located informal settlements
- Careful sequencing & management of development elsewhere

It is evident from the above focal areas that the municipality considers the strengthening of the city's economic hubs and investment areas along with improving human settlement areas as key factors in addressing to spatial segregation. Ozkan and Ozer (2014) allude that the spatial configuration of the city must produce a spatial morphology accompanied by quality architecture that supports equitable access to the economic and social services of the urban

form. For Hillier *et al* (1993), spatial configuration that is approached using the concept of integration becomes crucial in not only sustaining the economy but also in aiding social relationships among the population to develop. This suggests that a municipality's response to spatial segregation in the pursuit of improving spatial integration is not solely dependent on the physical built environment, but that spatial integration is largely produced through the provision of quality spaces that enable shared human experiences to occur.

7.3.3. Spatially Targeted Implementation

Public transport was viewed by all respondents in public and private sector as a continuous key component in addressing spatial segregation in the municipality. For public sector respondents, the provision of adequate public transport plays an important role in creating more spatial linkages in the municipality. This correlates with the SDF which emphasizes that transport linkages are an important means to *"integrate areas of need to wider metropolitan opportunities"* (eThekwini Municipality, 2017: Pg.398). The emphasis on creating spatial linkages in the municipality using public transport, brought forth by planners from strategic spatial planning and land-use management, reflects the municipality's use of an Equity Planning approach to spatial planning that encompasses social inclusion (Fainstein, 2005). A large portion of urban dwellers in the municipality are situated in spatial morphologies that represent deep legacies of apartheid planning, therefore the implementation of improved public transport linkages promotes integrated spatial planning within the municipality. It is planners who should seek to improve the integration of those previously marginalized.

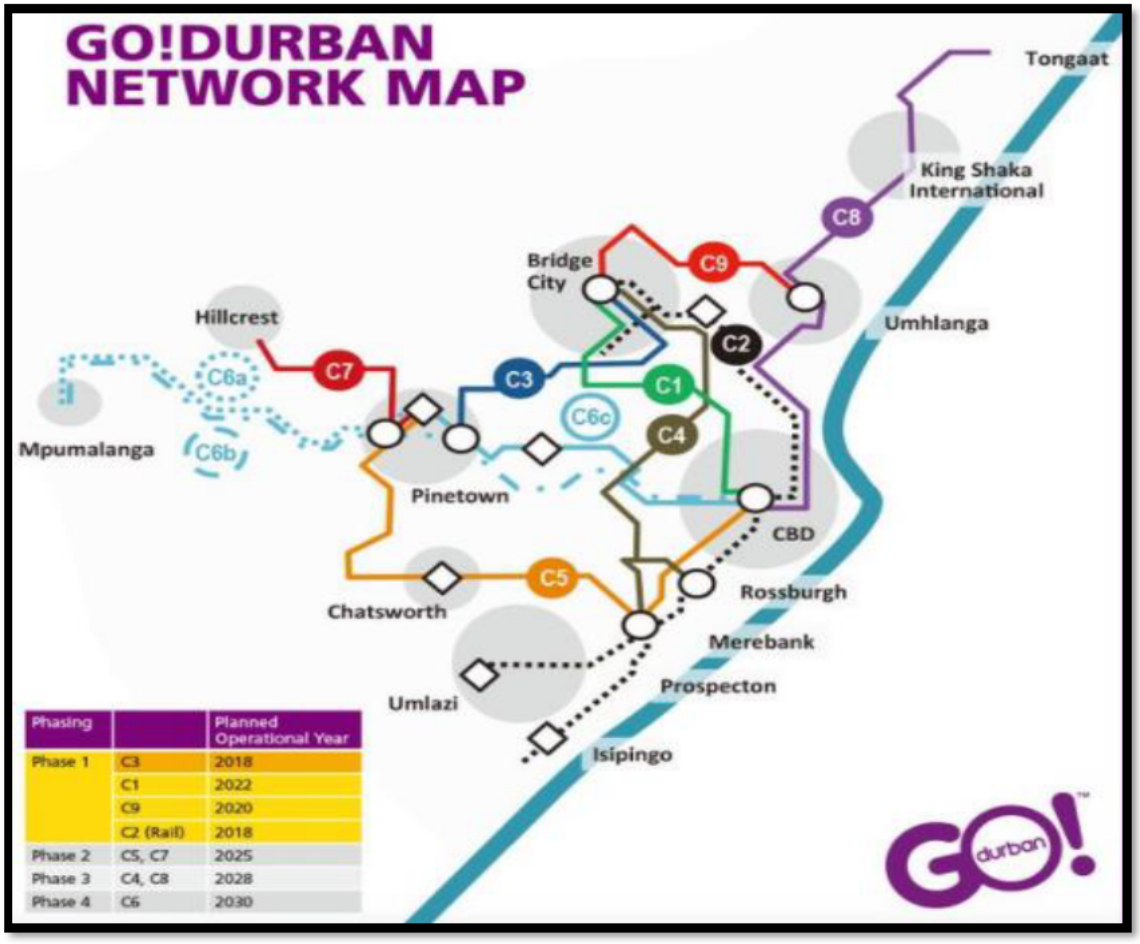
From a spatial planning focus, the municipality recognizes that improving spatial linkages includes upgrading existing links, constructing new links as well as integrating various modes of transit to facilitate integrated and equitable accessibility around the municipality. A quantifiable strategy implemented by the municipality is that of the GO! Durban initiative. GO! Durban is a public transport system underpinned by the concept of creating an Integrated Rapid Public Transport Network (IRPTN) which includes bus, rail, taxi and non-motorised transport measures. The IRPTN is considered by the SDF and BEPP as a wall-to-wall transit plan that is set to achieve:

- Equity of access to opportunity
- Reduce the overall impact of transport on the environment
- Promotion of a liveable city

- Restructuring of spatial structure to rectify imbalances created by apartheid
- Quality of service that is acceptable to car users
- A positive impact on the city's economy

Respondent 7, from SSP stressed that IRPTN links in the municipality are *"a tool for spatial transformation"* and play a role in "*connecting previously disconnected areas to the main economic engine"* of the municipality. The Respondent roped in areas of Inanda, Ntuzuma, Kwa-Mashu and Umlazi as some of the wedged areas in the municipality that have suffered great urban spatial segregation and need the IRPTN to connect them to prime corridors economic opportunity.

Figure 23: GO! Durban's Integrated Rapid Public Transport Network Routes/Corridors



Source: eThekwini Transport Authority, eThekwini Municipality SDF (2017)

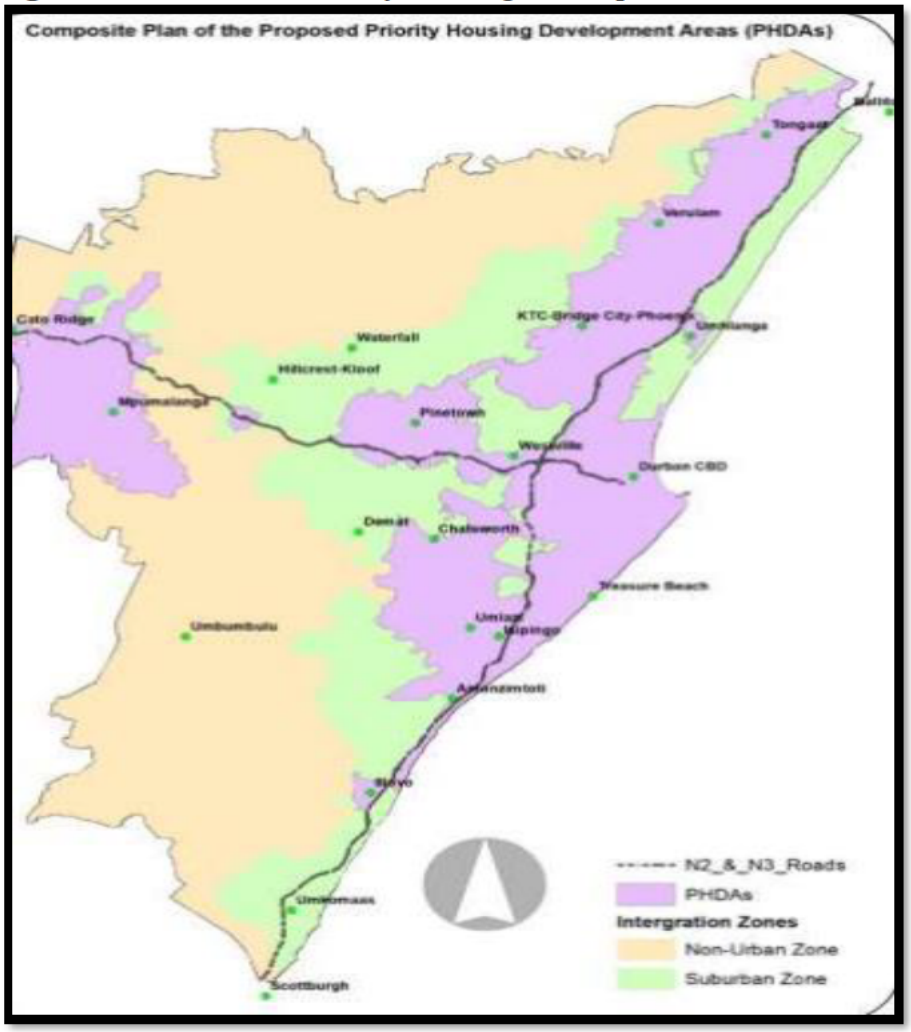
The IRPTN comprises of a system of network trunk, feeder and complimentary routes that will respond to current and forecasted transit demand (*see figure 23)*. The travel route from Pinetown to Kwa-Mashu (Bridge City) known as C3 is already operating while travel route C9 connecting Kwa-Mashu (Bridge City) to Umhlanga is also underway.

With the impacts of globalisation and the need to create functional cities, Hensher and Golob (2008) note that there continues to be a growing interest in both developed and developing countries and how public transport systems can be improved to better service growing populations and their movement within cities. With a population of 3,7 million people and the third largest city in South Africa as well as being a metropolitan municipality seeking to be *"Africa's most liveable City by 2030"* it has become even more important for eThekwini Municipality to regenerate its approach to its public transport system to better service the growing population. Moodley *et al* (2011) highlight that public transport in South Africa has been embedded in a mammoth of problems mainly rooted in the spatial inequalities and fragmentation left behind by apartheid planning. Public transport has thus previously been unresponsive to spatial segregation patterns in South African cities. It is not surprising that respondents from public sector have put emphasis on the creation of an IRPTN as one of the most important strategies to address spatial segregation. Sislak (2000) indicates that the implementation of integrated rapid public transport systems in cities is a fundamental strategic planning approach to carry out effective urban reform. With eThekwini Municipality's spatial vision being integration, the implementation of the IRPTN under the GO! Durban public transport initiative can be seen as a way to render conducive and equitable access across the municipality.

Both Land-Use Management and Strategic Spatial Planning respondents agreed that the provision of high-density residential developments runs parallel to the importance of an efficient and sustainable public transport system. Housing provision at a high-density level has been adopted by the eThekwini Municipality as a prominent strategy to respond to spatial segregation in the municipality. Lemanaski *et al* (2008) reiterates that residential development in South Africa has always been based on exclusion and segregation. For the researcher, the manner in which residential development occurs in South African cities still holds great power in translating the type of economic and social opportunities populations of previously disadvantaged decent have. Furthermore, with legacies of the apartheid regime still deeply embedded in the South African spatial morphology, adequate and strategically located integrated residential developments hold some potential in the re-organization of urban, suburban as well as peripheral areas in South African cities. Such becomes crucial as *"jobs are not where people live and vacant land for housing is not where jobs are"* (eThekwini Municipality, 2017: Pg.201).

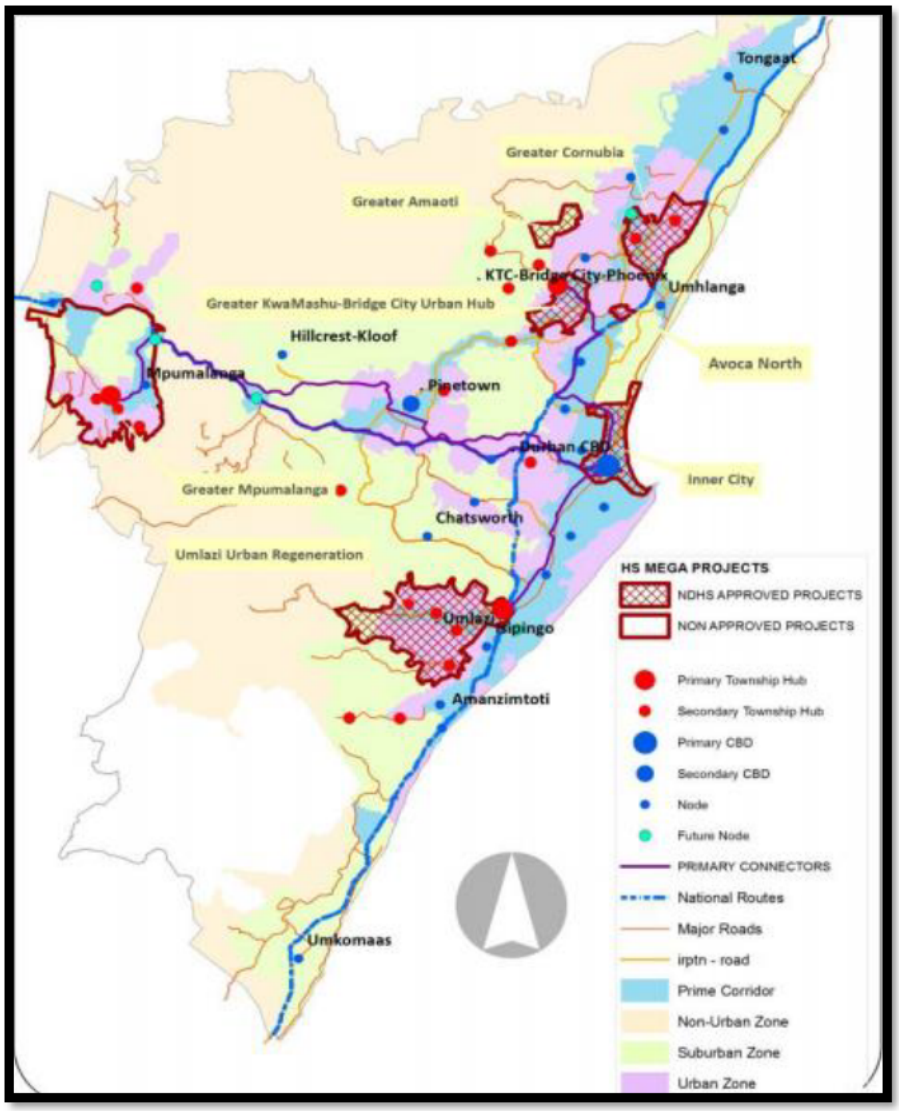
With the current housing backlog estimated at 440 000 units in the municipality, high density residential developments have been embraced with the intentions to adhere to the call for spatial justice by the National Development Plan and the Integrated Urban Development Framework that advocate for the reversal of segregated development and poverty pockets in peripheral areas by integrating previously excluded areas and reviving declining urban areas. To facilitate the provision of high density residential development, the municipality has identified Priority Housing Development Areas that have been set to accommodate Mega/Catalytic Housing Projects which include: Greater Cornubia (comprising Cornubia Phases 1 and 2 and Cornubia North); KwaMashu-Bridge City; Inner City; Greater Amaoti Informal Settlement Cluster; Greater Mpumalanga; Umlazi Urban Regeneration; and Avoca North (*see figures 24 & 25*) all approved by the National Human Settlements department as a strategy to deliver integrated human settlements as a means to respond to spatial segregation in the municipality (eThekwini Municipality, 2017).

Figure 24: Location of Priority Housing Development Areas in eThekwini Municipality.



Source: eThekwini Municipality Spatial Development Framework (2017)

Figure 25: Mega/Catalytic Housing Projects in Priority Development Housing Areas



Source: eThekwini Municipality Spatial Development Framework (2017)

The researcher also found that high density residential development was not only a strategy for housing provision intended to aid integration, but that it was also part of the municipality's densification strategy. According to SA Cities Network (2014) the concept of densification is part of the sustainably agenda as well as the compact city model which both emphasize densification as an urban development approach used to work towards inclusive and sustainable cities. The UN-Habitat III (2016) considers compact development using densification measures as a spatial planning strategy that brings back development to the human scale while servicing expanding urban economies and protecting the natural environment. For eThekwini Municipality, using the densification strategy to respond to spatial

segregation is fundamentally based on "*the promotion of compact, integrated and efficient city form. This can be achieved by limiting urban sprawl, by promoting higher densities, infill and re-development in and around the urban core and other activity nodes and by the promotion of mixed-use activity corridors."* (eThekwini Municipality, 2017). *Respondent 8,* planner for catalytic projects at LUM indicated that the municipality is advocating for *"increased densities because we do have a problem with housing there is a housing shortage as there are more people".* As seen in *figure 24 above*, three of the seven mega/catalytic housing project are located in the North of the municipality.

The SDF brings forth that there is a significant economic and employment axis growing rapidly towards the North of the municipality. The development direction towards the North of the municipality is not surprising as key national infrastructure sites -King Shaka Airport and Dube Trade Port are situated there. Furthermore, *Respondent 8* refers to there still being more greenfield sites in the North which the municipality considers an advantage as the municipality can better direct private landowners in the better planning of Northern region when compared to other regions in the municipality.

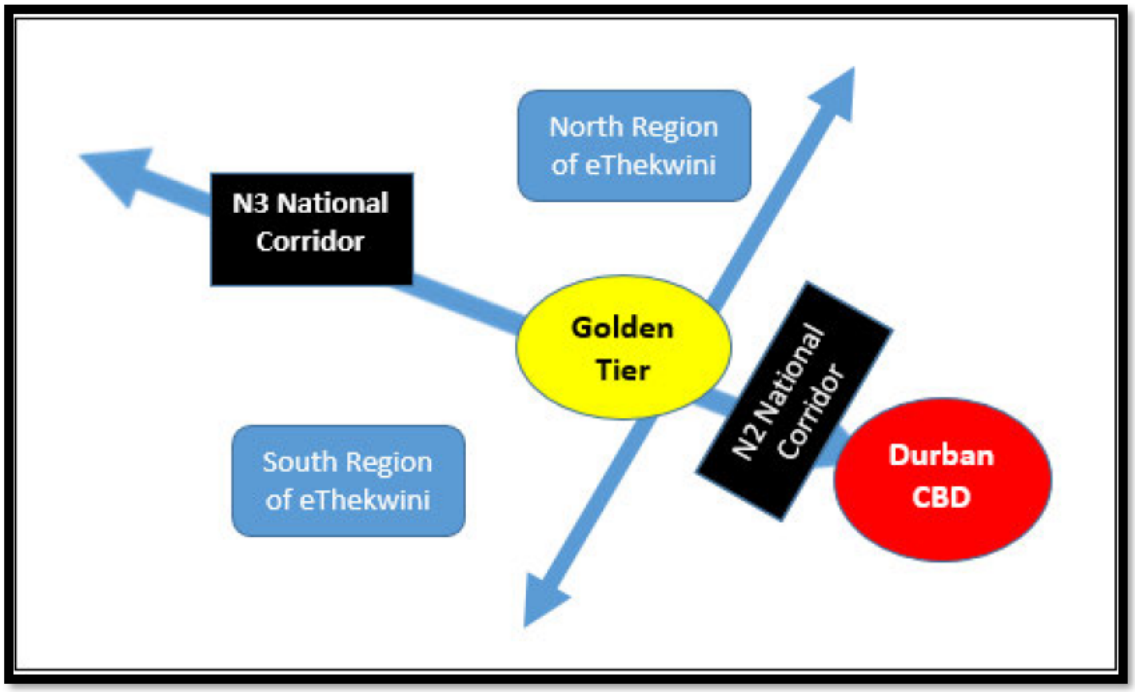
What becomes apparent is that although eThekwini is a metropolitan municipality, there is little to no desire of expanding its urban spatial footprint. Spatial planning tools like the urban development line continue to be the municipality's borderline efforts to control urban sprawl. It becomes noteworthy to observe how the municipality will sustain densification measures spatially as low-density, privatised developments are still rapidly emerging.

The above three mentioned strategies of developing an IRPTN, providing high-density residential developments and the focus on densifying the city, combined, form eThekwini Municipality's core strategy of developing the municipal spatial form using corridor development. *Respondents 7,9,11* from SSP all concurred that the implementation of corridor development within the municipality is related to harnessing spatial integration and compacting the urban form to counteract the implications associated with urban sprawl. *Respondent 9* emphasized that eThekwini Municipality's corridor development is *"geared towards spatial transformation"*, highlighting that the core business of the branch of Strategic Spatial Planning is to integrate the municipality.

Brand (2014) defines corridor development as development axis's that have nodal development and concentrated infrastructure within the same vicinity and express strong forces of urban development. Corridor development encompasses liner mixed land-use elements of urban

structure that usually occur along transportation routes that are developed to support each other and support the initiation of development (The Council of Scientific and Industrial Research, 2013). The commitment of using the concept of corridors in urban development is to create links between prominent nodes underpinned by an increased intensity of development to provide efficient access to higher order economic and social opportunities which would rather be limited in a dispersed urban morphology (eThekwini Municipality, 2017; Geyer 1998). *Respondent 7* and *Respondent 3* from SSP and THD, respectively, brought it to the researcher's attention that eThekwini Municipality and mainly the city of Durban had been developed along the national roads of the N2, spanning to the north and south and the N3 spanning to the west. These corridors *"intersect to form the Golden Tier"-Respondent 3 (see figure 26).*

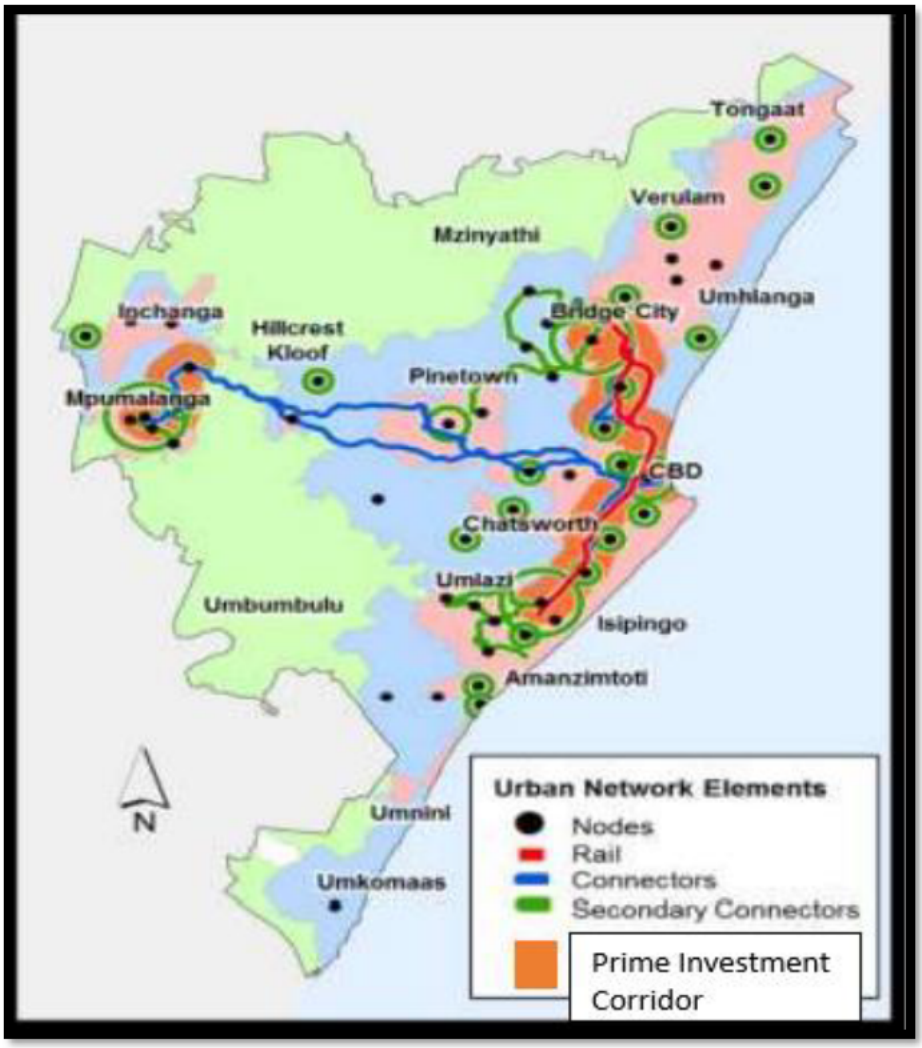
Figure 26: Illustration of eThekwini Municipality's Golden Tier National Corridor.



Source: Interview with Respondent 3 from THD (2018).

The municipality has taken advantage of the *golden tier* by implementing the Prime Investment Corridor (PIC) as an outcome of corridor development planning. The PIC is a spatial zone (*see figure 27*) that has been strategically targeted for investment and is a long-term approach set to cultivate inclusivity and improved service delivery as a means of responding to spatial segregation (eThekwini Municipality, 2017).

Figure 27: EThekwini Municipality's Prim Investment Corridor.



Source: eThekwini Municipality Spatial Development Framework (2017).

The skeleton of the PIC is the IRPTN intended to intensify housing density, employment, and infrastructure and capital investment along the IRPTN inside the PIC. *Respondent 7* and *9* from LUM both stated that the purpose of corridor development in responding to spatial segregation is to bring people closer to the city by providing access to housing, work and play activities at shorter distances as well as facilitating access to land in places where it was difficult to reside and work in before.

7.4. Has Umhlanga Redressed or Reproduced Existing Spatial Segregation Patterns?

The consensus from all respondents was that as a development which holds economic and corporate prominence in the eThekwini Municipality as well as the province at large, Umhlanga has to a large extent not redressed existing spatial segregation patterns inherited

from apartheid planning. Segregation patterns evident in other South African cities as well were still existing, with the majority of public sector respondents arguing that Umhlanga had replicated and still is perpetuating patterns of spatial segregation, socio-economic exclusivity and reproducing enclave development.

The common theme from respondents from THD is that the development of Umhlanga has improved the situation. This has been done by maturing Umhlanga as an urban centre that has all the components of a CBD such as: corporate, commercial and service sector-led amenities, office and industrial parks, and retail and residential developments. *Respondent 1* and *3* emphasized that this is what makes Umhlanga an all-inclusive urban development that links economic activity to the better provision of job opportunities for the population in the North of eThekwini Municipality.

It was also shared by *Respondents 1*, *2* and *3* from THD that the adoption of inclusionary housing had been used as a method to redress spatial segregation through housing development. In South Africa, inclusionary housing has been adopted as a policy that encourages private sector developers to offer affordable housing within their developments (Klug *et al*, 2013). In some parts of Umhlanga, inclusionary housing was mandated by the municipality, where 10-20% of housing units in residential developments needed to be sold at a rate that was 12-20% lower than the average units as so to accommodate for citizens who are civil servants, who would not normally afford to live in developments underpinned by affluent property values which are a powerful trait of residential development in Umhlanga. *Respondent 2* highlighted that the inclusionary housing units were designed to be the same as the other more expensive housing units and were mixed into the residential landscape to enhance socio-economic integration between all dwellers across the income spectrum.

In conjunction with inclusionary housing, *Respondent 3* brought forth that to get people of different income spectrums to reside in Umhlanga, the area had experienced a range of property selling prices with some apartments in Umhlanga Ridge and Manhattan Mews selling from R400 000.00. Compared to inclusionary housing, the range of property prices is highly reliant on the fluctuation of the real-estate sector. Therefore, relying on this method to redress spatial segregation patterns in cities is largely bias to the market-driven approach to development whose primary concern is financial gain and has limited space for measures of integration and compaction of the urban spatial form. Although the above interventions have been implemented as a means to use the Umhlanga development to redress spatial segregation

patterns, the respondents were all open about acknowledging that the implications of Umhlanga as an urban development had not done enough to pursue integrated spatial planning nor provide socio-spatial integrated patterns. Data findings from respondents at THD also found that Umhlanga had to a larger extent reproduced and perpetuated existing spatial segregation patterns. The findings reveal two prominent themes of intentional segregation and unintentional segregation measures that account for the perpetuation of spatial segregation patterns.

Intentional segregation is largely characterised by the factor of class division filtered by affordability and access to capital. *Respondents 1* and *2* both brought forward that the need to have significant access to money was what eliminated and excluded others, resulting in the development of a specific class structure existing in Umhlanga. The maintenance of a certain class structure is maintained by the lack of affordability for the average person. Furthermore, the reality of having people from lower income spectrums working and servicing Umhlanga however not having access to places of residence in Umhlanga continues to maintain a status quo of class divisions. *Respondent 3* brought forth that another factor aiding intentional segregation was the contribution made by THD towards the construction of secured, gated developments. The respondent further stated that such secured developments created enclaves which are now not based on colour[32] but rather on wealth status. Although the demand for such developments has been market driven the respondent alluded that in relation to the rapid urban development in the North of the municipality, the development of secured and gated communities has played a significant role in reproducing spatial segregation patterns inherited from apartheid spatial planning.

Cecchini (1999) *as cited in* Cameron (2000) puts forth that gated developments reproduce pocket enclaves in cities, making it possible for isolation of particular populations to occur. Rooted in the perception of protecting public spaces (Cameron, 2000) and protecting livelihoods (Sosibo, 2016), the vast development of gated communities in South Africa represents a development culture underpinned by segregation which is largely encapsulated by racial division and racial fears. Such division relates to the inheritance of apartheid spatial planning which previously used the Group Areas Act of 1950 to pursue the ideology of spatial separation as a means to keep *safe* from *harm*.

[32] The term "colour" in the *Respondent 3* statement is used as an alternative, colloquial phrase to describe the concept race.

All the respondents from THD highlighted that there are different implications resulting from the Umhlanga development that produce unintentional segregation measures. *Respondent 4* indicated that to fast-track development, THD had installed their own infrastructure in Umhlanga and in other developments, thus the need to regenerate the capital invested results in the products offered in Umhlanga (largely residential and office space) to contribute to affordability issues which directly impact economic and spatial accessibly. Secondly, it was alluded by *Respondent 3* that the need for private sector to make a profit, combined with infrastructure investment and a narrow affordability spectrum renders the scope of the property ownership index as one that is incapable of reaching the lower-income continuum.

When asked if: *"Spatially do developments like Umhlanga seek to only protect private sector and wealthy elite interests"*, *Respondent 1* outlined that it was not a conscious decision but rather the nature of development carried out in Umhlanga that at times can have the effect of seeming to only protect interests of private sector and the wealthy. *Respondent 2* pointed out that nobody in the urban development chain from investors, developers and end users would answer aloud or admit to the question posed. However, analogies suggesting the provision of superior security, services, and urban design aesthetics are used to justify the segregation implications. What becomes evident from Respondent 2's response is that the development chain is very much aware of the implications edge cities may pose against spatial integration. Development inclination is more geared towards creating spatial havens rather than integrated human settlements that embody holistic city inclusion. *Respondent 3* highlighted that what made Umhlanga appear as a development catering to the wealthy and elite only comes as a result of eThekwini Municipality's lack of constructing more public facilities in Umhlanga even though the municipality owned some land in Umhlanga. *Respondents 5* and *8* from LUM verified that the municipality did own land in Umhlanga.

For South African cities, public facilities are seen as the backbone for ensuring integrated spatial planning as a means to defragment the urban spatial form (Charman *et al*, 2017; Harrison and Todes, 2015; Holdern, 2012 and Counsell *et al*, 2006). However, as argued by the researcher in the conceptual framework in Section 3.6 – 3.8, public facilities need to form part of the tangible deliverables for spatial integration to indicate a pro-active spatial planning. Public facilities are a component of integrated spatial planning thus the lack of public facilities in Umhlanga after such development maturity suggests that the provision of public facilities was not a priority for both private and public sector during development inception of different projects in Umhlanga.

From the public sector assemblage, it was only respondents from LUM who were of the view that Umhlanga had spatially evolved and redressed spatial segregation patterns. This was defended by bringing forth the presence of different land-uses that were more varied than just the residential that existed before. Secondly, the promotion of densification from both private and public sector had shifted the spatial form of Umhlanga from low-density to high-density patterns with parcels of land being developed in a continuous manner avoiding the phenomenon *of leapfrogging.* This can be viewed as an effort to narrow the existence of fragmented developed land parcels not only in Umhlanga but also in the Northern region of the municipality. For Hebbert (2008), the edge city phenomenon is closely linked to haphazard and fragmented land development. At a social socio-spatial level, *Respondent 8* emphasized that at a community level Umhlanga had managed to a large extent to redress segregation by having different religious community facilities –a Mosque, Hindu temple and a Church all in the same spatial vicinity in Sommerset Park.

On the opposite end, respondents from SSP and CoGTA were resolute in the view that holistically Umhlanga had reproduced existing spatial segregation patterns and to a large extent perpetuated these patterns with its continued development. Responses from *Respondents 7* and *11* from SSP stress that the perpetuation of spatial segregation by the Umhlanga development is a result of institutional factors associated with land ownership patterns and land conversions processes that convert agriculture-based land to land for urban development.

Respondent 7 highlighted that the observation of land ownership patterns along with the racial profiling of those owning the land Umhlanga has developed on is a major indicator as to whether redress of spatial segregation has occurred. According to the Respondent, Tongaat Hulett's transition from predominantly farming sugarcane to participating in property development through land conversions puts the priority of urban development on at same scale as that of farming, however the land ownership profile has not changed regardless of the mix in racial groups now living in Umhlanga. The Respondent's rhetorical question of *"Is it emerging indigenous landowners that own the land- No. Is it something that was an outcome of apartheid benefit- Yes"* posed to the researcher was brought up as a means of emphasizing that if land ownership still aligned with those who were previously advantaged[33] then developments like Umhlanga will continue to predominantly serve as *"new economic nodes of which the city can benefit from in terms of generating revenue and taxes"*. The above infers

[33] The term *previously advantaged* refers to the socio-economic and political benefit the White population experienced during the Apartheid era in South Africa.

that land ownership profile is directly linked to the spatial planning outcomes of an urban form. Furthermore, it suggests that in the context of eThekwini Municipality, the development of Umhlanga is barely seeking to restructure portions of eThekwini Municipality that are fragmented but rather Umhlanga is a spatial and economic extension to what has previously been confined as Durban. This is defined by Phelps (1998) as the concept of *borrowed size* which edge cities use to expand the urban economic footprint of the central city into their geographical location.

The economic benefit of Umhlanga as a node was recognized by all respondents from public sector, however, explicit reference to the lack of spatial and socio-economic accommodation for those working in Umhlanga was also brought forth:

"*Even the people who work there, do they reside there? Particularly those of colour? They probably work there then go back to their dormant living areas as was with apartheid."*-Respondent 7

"You come here, work/shop then go back home, bye-bye. We have public transport to take you back where you come from."-Respondent 11

"When you are in there, you do not feel welcome, you feel that you're a day visitor. The entrance and exit points are clearly marked so you can know when to leave."-Respondent 10

The arguments brought forth by the above Respondents is that Umhlanga has created a spatial urban structure that uses residential settlements on its periphery as suppliers of labour. This can be seen as being reminiscent of the Bantu Authorities Act of 1951 formed during apartheid. This legislation created reserves known as *Bantustans* (Lemanski et al, 2008) at the urban periphery of core cities to house Black people far from the urban core but close enough to supply labour to the urban core when needed. Such depicts the severity in which apartheid legacies are still deeply engraved in the urban spatial form of South African cities where spatial segregation patterns are noticeably reproduced in newer developments as well.

Respondent 10 from CoGTA asserts that the development of Umhlanga has merely mutated apartheid planning rather than contribute to any spatial transformation - "*we have taken apartheid planning, moved it from a colour-based thing to a class-based thing, which is really a colour-based thing."* Such infers that although legalised formal racial segregation has been abolished, class and monetary divisions have taken over across all racial profiles. Umhlanga still has a class profile that emulates the socio-spatial racial divisions achieved by apartheid spatial planning which is directly proportional to the level of access one can attain towards wealth to maintain a particular lifestyle.

7.5. Umhlanga's Spatial Role towards Improving Integrated Spatial Planning in eThekwini Municipality?

Developments have the ability to bring about new approaches to the spatial development of the urban form. The accelerated spatial development experienced by Umhlanga has had significant influence on the advancement of eThekwini Municipality's town planning scheme, compelling it to adopt newer zoning regulations and controls to support developer and market-driven demand that was not catered for in older schemes. Respondents from LUM highlighted that Umhlanga has been largely developed using the zoning category of *special zone* which has brought to life the concept of mixed-use developments and facilitated the close proximity of different land-uses in close vicinity to each other. Gerlofs (2012) argues that it is typical of local planning structures to regulate zoning specific to the development of an edge city. Such zoning is then seen as a way to control the densities and development trajectory within the edge city. One may argue that planning is ever evolving thus planning schemes and their zoning regulations need to align with current development needs and at times current development trends. However, local planning schemes still need to be scrutinized to regulate the possible reproduction of spatial exclusions at an institutional level.

For *Respondent 8* at LUM, to attend to integrated spatial planning in the municipality, the success of special zoning in Umhlanga is now being emulated by the municipality in other projects across the municipality to fast-track development approval and bring infrastructure and economic activities closer to residents. Secondly, to improve spatial inclusivity, Umhlanga has had a ripple effect that has altered the zoning regulations of low-income communities adjacent to Umhlanga. These are said to have become more relaxed to accommodate low-cost development and lower densities while maintaining a controlled planning environment.

The consensus by both THD and public sector is that Umhlanga's dominant spatial role towards improving integrated spatial planning in eThekwini Municipality has been orientated around developing a new spatial norm underpinned by bringing low-cost housing projects (local and national scale projects) accommodating low to middle income residents closer to high-income residents and providing better access to commercial and industrial services. *Respondent 7* indicates that by having low-cost housing projects in places where they would have not been before speaks to the "*influence of government on private sector is beginning to show and, in that way, we are trying to achieve integrated development, where we try and accommodate people from the entire economic spectrum and not only cater or provide for the super-rich or people of middle to high income." Respondents 2, 3* and *5, 8* from THD and LUM respectively

agree that Umhlanga has fostered the development of lower income human settlements as a means of integrating people closer to the opportunities that are yielded with the existence of affluent developments. The respondents all emphasized that the priority is to not only develop low-cost housing but to create human settlement environments where people can live in close proximity to their places of work, particularly in the Northern region of eThekwini Municipality.

7.6. Implications of Umhlanga Development in Achieving Integrated Spatial Planning

In seeking to investigate the extent to which the edge city phenomenon has occurred in South Africa, the study has simultaneously drawn attention to the prevailing urban spatial patterns and settlement configurations in the South African urban form. The study has highlighted that the spatial, social and economic configuration of cities in South Africa is still underpinned by the legacies of apartheid spatial planning. The implication of this is that urban development in South African cities has continued to occur along spatial fragmentation contours that have continued to reproduce and perpetuate spatial inequalities. The study has argued that continued development of spatial enclaves and pocket urban developments within the urban form possess a threat to the spatial transformation agenda set out by South Africa's spatial planning fraternity. Although urban development and the expansion of cities is a natural progression of the urban environment, South Africa's spatial planning circumstance is unique and requires intentional spatial planning embedded in both institutional and physical planning implementations measures to counteract the deepening spatial distortions seen in the post-apartheid spatial form.

The study has ascertained that edge city developments in South Africa have been left to neoliberal market forces that have lynched onto inner city decay to establish secondary economic nodes which are rapidly mimicking central business districts and marking their spatial territory as emerging satellite cities. The preservation of affluent lifestyle living, privatisation of urban planning and globalization influences on city development has propelled edge cities to greater heights however at the expense of spatial integration and integrated spatial planning in South Africa. What has been established in the findings is that spatial planning embedded in spatial inclusivity, spatial diversity and equitable access to infrastructure for all levels of the economic spectrum does not occur at the conceptualization and implementation stages of edge city development. However, integrated spatial planning and components of integrated development occur as an aftermath to high-end luxury urban developments.

Therefore, the major implication of edge city development on integrated spatial planning is the deficiency in understanding the consequences of (spatial) inequalities in cities (Brill and Reboredo, 2018).

The study found that Umhlanga possesses characteristics that depict it as an edge city in eThekwini Municipality (Section 7.2.2). Furthermore, it was found that Umhlanga has to a large extent developed along socio-economic segregation patterns and has at large reproduced spatial segregation patterns. The implications of Umhlanga as an edge city on integrated spatial planning in eThekwini Municipality have been found to revolve predominantly around: urban sprawl, deepening socio-economic divisions, and the lack of public social facilities. These implications arising from the development of Umhlanga are further discussed below.

7.6.1. Urban Sprawl

The success of Umhlanga as an edge city harbouring commercial, residential, industrial and leisure land-uses has generated a rapidly growing development pattern that has its direction towards the King Shaka International Airport. Planners in the public sector brought forth that edge city development has become a way to create secondary investment nodes in the municipality. This has been done to accommodate the sporadic development of human settlements along the northern urban development corridor. The development of Umhlanga has been a catalyst for the further optimization of both privately and publicly owned land in the Northern region of eThekwini Municipality.

The pursuit to link Umhlanga with further developments such as Sibaya and the aerotropolis development around the Kinga Shaka Airport has been found to be contributing to increased urban sprawl. As an implication to integrated development, Bontje (2004) argues that urban sprawl is a direct consequence of edge city development as edge cities thrive on the availability of vacant land and corridor accessibility. *Respondent 10,* from CoGTA argues that availability of land in access such as that seen in the Northern region of eThekwini Municipality propels edge cities such as Umhlanga and those beyond to contribute to increasing spatial fragmentation trends because of the potential investment gain of the valuable land. Urban sprawl perpetuated by edge city development reduces the equitable provision of public infrastructure as well as negatively impacts transportation effectiveness (Yusuf and Allopi, 2010). Therefore, the capacity to stitch together the urban spatial form falls short and segregation patterns are further exacerbated.

7.6.2. Deepening Socio-Economic Divisions and Spatial Exclusivity

As an edge city, Umhlanga has assisted the city of Durban to become regionally and internationally recognized as an investment hub. As a rising investment location, the development of "*Umhlanga has tapped into existing capitalism economic forces that are further underpinned by systematic segregation in the South African urban form" –Respondent 9, SSP*. Golubehikev *et al* (2010) describes the ability of edge cities to automatically harness existing socio-economic divisions that transpire spatially as *wild capitalism*. Wild capitalism in urban development supresses the ability for citizens to demand an integrative approach to spatial development as capitalism and return on investment become the dictators for the urban spatial structure. In the context of Umhlanga, the priority associated with preserving affluent spatial developments has reproduced spatial segregation along class and affordability lines that favour the elite. The implication of Umhlanga on integrated spatial planning is deepening socio-economic divisions and spatial exclusivity. Although *"open"* to all citizens, *Respondent 8* from LUM brings forth that the development trajectory of Umhlanga has been one that lacks identification of citizens from the lower end of the economic spectrum. Its appeal has been largely globalized to identify with international citizens rather than local citizens. Thus, the reinforcement of an urban core and an urban periphery population dynamic continues to increase and aggravate societal polarizations (Van Noorloos and Kloosterboer, 2017). The urban periphery population services the edge city while residing in dormant neighbourhoods tainted with spatial distortions that resemble inherited spatial ills.

7.6.3. Lack of Public Social Facilities

One of the premises of the concept of integrated spatial planning is to interrogate the level of equitable access to public social facilities. Morphet (2011) emphasizes that the main concern of spatial planning under the integrated development agenda is to foster redistribution of the general public in an equitable manner across the urban spatial form. The chorus of disappoint from both THD and public sector respondents as well as some the residents was the lack of social facilities in Umhlanga. The social facilities referred to are those that take on a public consumption nature such a public schooling, clinics and public hospitals to name a few. *Respondent 7* and *11* from SSP highlighted that social facilities that do exist, in particular hospitals, are under privatisation and hence do not accommodate the working class as well as the lower income scales of the economy, citing examples of domestic workers and nurses. Public social facilities provide a platform for community engagement that works to narrow the divide in the city between different populations by challenging enclave territory spatial patterns

that are strengthened by socio-spatial polarization (Brill and Reboredo, 2018). Such a lack in the provision of public facilities in Umhlanga can be argued to reflect a lack of advocacy planning from municipal planners, particularly those working within the Umhlanga area. Advocacy planning advocates for the reduction of urban disparities between the affluent and the underprivileged (Davidoff 1965, Acheampong, 2019). With Umhlanga having developed as an edge city that largely caters to affluent lifestyles as well as having public facilities that are predominantly privatised raises concern for the pursuit of urban transformation in eThekwini Municipality. The implications of deepening socio-economic division and spatial exclusivity along with a lack in development of public social facilities suggests that there are limitations for planners within the municipality to practice a spatial planning embedded in spatial integration advocacy. A continued lack of advocacy planning in Umhlanga that would guard the interests of surrounding local communities puts the development of Umhlanga at even greater risk of functioning as a spatial enclave that does not only exclude people on an economic basis but also on a social scale.

7.7. Chapter Summary.

The above chapter has dealt with the core function of the research study by presenting the data findings obtained from field work that involved undertaking a qualitative research approach. This included conducting structured interviews with key-informants, mostly planners and development executives, from public sector and private sector, respectively. Semi-structured interviews were also conducted with residents of Umhlanga to obtain citizen perspective on the research study.

The chapter first presented the case study which is Umhlanga. This was done by presenting the socio-economic profile of Umhlanga along with its spatial history in Durban/eThekwini Municipality. Secondly, the chapter indulged in presenting the data findings that answered the set research questions put forth by the researcher (see Section 1.6). Significant as well as juxtaposing debates and discussions brought forth by respondents and residents were also presented and put up against the theories, concepts, legislation as well as literature the study had engaged in. The aim of the study which set to investigate the extent to which the phenomenon of edge cities has prevailed in South Africa and how it has affected integrated spatial planning has been achieved. The objectives of the study have also been achieved. Thirdly, to answer the main research question which sort to find out what impact Umhlanga development has had on the work of trying to achieve integrated spatial planning in eThekwini

Municipality, the chapter consolidated the major findings that constituted the implications that edge cites have towards integrated spatial planning and presented these in Section 6.6. The implications of Umhlanga (as an edge city) towards integrated spatial planning in eThekwini Municipality were found to be urban sprawl, deepening socio-economic divisions, and a lack public facility provision.

8. Chapter Eight: Summary of Findings, Recommendations and Conclusions

In concluding the research study, this chapter serves to bring the dissertation full circle. The chapter presents a summary of the major findings, recommendations for the issues and challenges revealed by the data findings and provides a final conclusion. The study has taken on a two-fold approach, firstly, by exploring the edge city phenomenon and the tenants attached to it and secondly, by investigating the implications of edge city development against integrated spatial planning. Essentially the study has sought to seek answers towards the impact of edge city development on the work towards achieving spatial integration in the South African context considering South Africa's spatial past, with the focus being on eThekwini Municipality.

The main question for this study was to find out what impact the Umhlanga development has had on the work of trying to achieve integrated spatial planning in eThekwini Municipality. Apart from exploring the determinants that have caused edge cities in the South African urban landscape, the researcher also set to find out how eThekwini Municipality was responding to spatial segregation within the municipality, if the development of Umhlanga had redressed or perpetuated existing spatial segregation as well as to establish the spatial role played by Umhlanga in improving integrated spatial planning within the municipality. The data gathered to answer the research questions included primary data sources that entailed the use of interviews for key-informants and residents as well as secondary data sources for the review of literature.

The study found that the development of Umhlanga cannot be separated from the vison and intended spatial development outcome as well as the capital and infrastructure development carried out by the Tongaat Hulett as the landowner and key developer. As an edge city, Umhlanga represents the evolution of Tongaat Hulett's journey from predominantly being cultivators of sugarcane to influential urban spatial development engineers in the Northern region of eThekwini Municipality. The implications of neoliberalism and that of agglomeration of economies has seen Umhlanga have implications for integrated spatial planning that largely contribute to the perpetuation of spatial segregation and continued spatial distortions inherited from apartheid spatial planning characterised by fragmentation, exclusivity and the creation of a core-periphery urban spatial structure. This proves the hypothesis for the study to be largely correct in envisaging that edge city developments produce implications for integrated spatial planning that result in continued spatial segregation and spatial inequalities in urban communities. Nevertheless, positive outcomes have also materialized from the development of

Umhlanga towards the concept of integrated spatial planning with residents citing the various mix of racial populations in Umhlanga as a key win for integration. For majority of the private and public sector key-informants, the establishment of a decent private-public partnership between THD and eThekwini Municipality has resulted in the acknowledgement of gaps that need to be addressed towards achieving integrated spatial planning. These include attention towards: continuation in providing public housing in close proximity to urban economic centres; the creation of an efficient and sustainable public transport system as well as increased provision of public social facilities to counteract the privatisation of social facilities such as schools and hospitals in Umhlanga and in the overall municipality.

8.1. Summary of Findings

Umhlanga has matured greatly from its status as a coastal holiday resort and tourist attraction site. The ushering of a new democratic dispensation after 1994 in South Africa saw the significant decline of most inner-city CBDs in South Africa's core cities. Underpinned by urban decay and White capital flight, the Durban CBD underwent city decentralization (Rushby, 2001) that saw the rapid development of Umhlanga into an activity node assembled by agglomeration economies of corporate office parks, commercial business, a regional shopping mall and an expanding residential market motivated by gated community living. The significant architectural advancements made by Umhlanga and its ability to draw in economic investment has resulted in Umhlanga being labelled as a sub-metropolitan node (eThekwini Municipality, 2017) that supports economic development at city level in eThekwini Municipality and at provincial level in Kwa-Zulu Natal. Essentially, the development of Umhlanga has not only occurred as an expansion to Durban's urban spatial footprint, but it has also been a means to support and supplement the Durban city centre. As a priority economic investment hub in Kwa-Zulu Natal and a business nucleus in eThekwini Municipality, Umhlanga finds itself having developed as an edge city that has continued the polycentric urban spatial form of eThekwini Municipality by attracting a particular business image coupled with the distribution of employment opportunities along with social and leisure activities.

The researcher came across various perceptions that are attached to Umhlanga and how it has developed. For the majority of the respondents, Umhlanga has maintained its historic status as a luxury holiday destination that is consumed by both locals and international tourists. However, in the post-apartheid era, Umhlanga has been largely viewed as a lavish suburban area characterised by affluent residential neighbourhoods. What becomes interesting is that the

researcher and findings from secondary data identify Umhlanga as an edge city that possess majority of the traits that define an edge city development (*see section 6.2.2*). However, perceptions held by 85% of the residents interviewed along with 2 respondents from THD and 1 respondent from LUM infer that Umhlanga is a *full* city on its own. The respondents from THD and LUM alluded to Umhlanga being an unofficial city in eThekwini Municipality and an aspiring world city, respectively. For residents, the perception of Umhlanga developing as a city in its own right was supported by the opinion of 73, 3% residents who perceived Umhlanga New Town Centre to be playing the role of a CBD in Umhlanga. Almusaed and Almssad (2019) bring forth that it is the social relations that inhabitants develop in their human settlements that allow them to conceptualize and identify the morphology of a city even outside formal administrative boundaries. Hence, the view held by Umhlanga residents of Umhlanga being its own city speaks to the *city within a city* phenomenon. Iveson (2013) highlights that the city within a city phenomenon has always existed in urban theory as it brings focus to various spatial urban practices that are used to restructure the processes of urbanism that are still underpinned by orthodox city development.

What the phenomenon of the edge city does, is it provides an alternative conceptualization to urban development prone to developing at the urban edge due to the suburbanization of core city functions, where decentralization seeks to maximize the urban economic base by expanding the urban spatial footprint. The Organic Decentralization Theory captures the development of an edge city as the natural evolution experienced by traditional core cities and their municipalities. In the context of eThekwini Municipality, the power of Tongaat Hulett as a landowner has contributed largely to the spatial morphology that has taken shape in the Norther region of the municipality. The current development patterns, socio-economic relations, architectural and infrastructure investments are a direct translation of the landowner's spatial development vison. For Ofosu-Kwakye (2009: Pg.140) ,Tongaat Hulett's contributions to eThekwini Municipality's development have been enormous over the last century and has remained critical to the economic productivity of the region. Developments like Umhlanga and the broader Northern region depict the power that developers have over the development direction and composition of an urban form. As seen with Tongaat Hulett, the shift from agriculture to property and urban development represents the autonomy large scale developers possess in developing products for consumption for the urban population (Medda *et al* ,1998).

Once the researcher had established that Umhlanga was indeed an edge city, the attention of the research sought to ascertain the implications that the development of Umhlanga had on the

spatial transformation agenda in eThekwini Municipality, ultimately questioning the impact towards integrated spatial planning. Major findings revealed that lessening the spatial segregation patterns already existing in the municipality was not necessarily part of the initial conceptualization of the Umhlanga development. Work towards achieving integrated spatial planning within Umhlanga and its surrounding areas arose as an afterward strategy that was responding to the rapid maturation of Umhlanga as a sub-metropolitan node.

Key-informants from THD highlighted that to a large extent Umhlanga had significant shortfalls in addressing spatial segregation inherited from apartheid planning. Findings further revealed that the planning and provision of public transport was not in the initial transportation network plans. Respondents at LUM brought forth that the realization for the need of public transport by both private and public sector was generated by increased population volumes which serviced Umhlanga but however did not reside there. The significant lack in public transport in Umhlanga and the difficulty in connecting it to its surroundings areas, particularly those inhabited by populations from the lower income spectrum exposed the gap hindering equitable accessibility to public transport as well as public housing. The implications for integrated spatial planning equated to reinforced spatial fragmentation through urban sprawl and socio-economic segregation that has continued to transpire spatially.

The demand for efficient public transportation within Umhlanga coupled with the increasing provision of public housing (which local government in partnership with THD has embarked on) such as Cornubia has reinstated the importance of equitable access to transport and housing as core pillars needed when working towards spatial integration. To foster spatial re-structuring embedded in integration, it is imperative for planning associated with the development of edge cities to consider development strategies geared towards addressing urban inequalities and socio-spatial disparities. Counsell *et al* (2006) and Holden (2012) affirm that to spatially stitch together the South African urban spatial form away from segregation, proactive physical delivery of different housing densities, improved public transport links, public facilities and public open spaces is necessary to nurture spatial inclusivity for all populations.

Umhlanga has provided an extended economic base in eThekwini Municipality which has offered economic opportunities for corporate as well as the population at large. However, what the study has revealed is that the development of Umhlanga as an edge city has occurred along existing segregation patterns that have harnessed further class divisions through socio-economic segregation elements such as residential affordability and market-driven neoliberal

approaches to urban development that prioritize affluent urban living. Such approaches to urban development in the post-apartheid city continue socio-spatial disparities that still see neighbouring settlements functioning on the periphery of well-built suburban developments. With noticeable legacies of deeply rooted spatial segregation still present in South African cities, development that brings about spatial justice and enhances spatial equity within the urban form is the sought-after outcome by South Africa's myriad of legislation and policies formulated around spatial planning.

What the researcher observed in the case of Umhlanga is that majority of the participants in the study (including professional planners) understood the concept of spatial integration as an outcome of integrated spatial planning that is grounded in the provision of various land-uses in close proximity to each other. The incorporation of land-uses other than those catering to residential needs was perceived as a significant contribution spatial transformation.

Lastly, the development of Umhlanga has presented itself as a case study example to future projects of the same scale. For eThekwini Municipality, Umhlanga has reinforced the need to ensure that all parcels of land within the municipality have spatial planning processes presiding over them that safeguard integration and spatial inclusivity. With more developments extending further from Umhlanga, the shortfalls relating to integrated spatial planning in Umhlanga become critical lessons for how spatial integration measures should be included and accounted for at the conceptualization of projects. Integrated spatial planning should not occur as a post-development resolution to segregation.

8.2. Recommendations

This section presents the study's recommendations for the implications presented by edge city development on integrated spatial planning. The key findings collected from fieldwork and the major discussions that have emerged from the data findings on edge cities and their implications for integrated spatial planning have been used to present the recommendations. The recommendations are centred around providing eThekwini Municipality with practical resolutions towards achieving better spatial transformation and integration in the municipality even with the existence of an edge city.

8.2.1. Institutional Formalization of the Tale of Two Cities

It was established in the data findings that Umhlanga was considered a sub-metropolitan node at both local and provincial level. This was attributed to the significant capital investment that

the Umhlanga development had managed and continues to attract. At a neighbourhood level, majority of the residents expressed that Umhlanga represented a functional city that possessed all the economic, social and leisure amenities they needed. What was apparent from the study is that although some respondents from both private and public sector saw Umhlanga as having developed as a city, a large portion of the key-informant respondents were still very reluctant at fully classifying Umhlanga as a city, instead the concept of a node was predominantly used to highlight the function of Umhlanga within the municipality.

With the observation made above accompanied by the implications of urban sprawl, deepening socio-economic inequalities and lacking public social facilities in Umhlanga, the researcher makes the recommendation of formalising Umhlanga into an official city within eThekwini Municipality. Firstly, the institutional formalization of Umhlanga from an edge city node to a formal city may enable Umhlanga to become a recognized secondary city in eThekwini Municipality within local government structures. Pain (2008) brings forth that the dynamics of a rapidly changing world economy have influenced cities to become the new predominant spatial scales that hold a country's economic growth and productivity. Essentially, cities have replaced countries in the world economy. A country's success is now measured by how well its cities are doing economically, socially and politically. Therefore, the researcher argues that if edge cities like Umhlanga are going to hold local, provincial and national prominence economically and investment wise, then they ought to be given institutional formalization.

Secondly, McGovern (1998) highlights that edge cities generally have outstanding planning success in their economic development plans and urban designs but lack tremendously in providing social amenities such as public transit, affordable housing and infrastructure service delivery for all populations in and around the edge city. The same has been discovered about Umhlanga. Institutional formalization is important as it mandates local government to equitably invest in the edge city as a means of balancing privatization of development that occurs from private sector dominance. Huang and Kuo (2013) allude that formalization of an edge city into a fully recognized city creates a purpose that seeks to provide a better quality of life for all residents and not just the middle-elite populations. Therefore, formalizing the edge city allows the greater public to have equitable access into the edge city development at a spatial and socio-economic level.

8.2.2. Protection of Municipal Owned Land

The provision of public transit, housing and social facilities is the mandate of public sector, i.e., local government. Although the study has found that public-private partnerships between eThekwini Municipality and Tongaat Hulett Developments have been crucial in the development of projects like Cornubia opposite the N2 highway and Bridge City Node in KwaMashu, it was still noted by both private and public sector and some residents that public service delivery geared towards decreasing spatial inequalities needs to be initiated by the public sector. It needs to be more than just at policy level but more pressingly at an implementation level. In order for the municipality to carry out physical built environment deliverables towards integrated spatial planning, it becomes imperative for the municipality to have access to land. The study found that eThekwini Municipality did in fact own some parcels of land in the Northern region of the municipality as well as in Umhlanga. It was also brought to the researcher's attention that some parcels of land owned by the municipality in Umhlanga, positioned at strategic locations had been sold to private developers.

The researcher recommends that eThekwini Municipality must refrain from selling any of their land holdings, especially those existing in developments that are predominantly underpinned by private development such as Umhlanga. To respond to the implication of deepening socio-economic urban inequalities and the lack in provision of public social facilities, eThekwini Municipality has to actually develop the land parcels they own in Umhlanga to bridge the gap between the concentration of privatized urban development and the spatial, social and economic interest of the previously disadvantaged communities who live in very close proximity to Umhlanga.

Anderson and Pienaar (2003) argue that in South Africa, municipal legislation encourages local government to act as agents of development. Therefore, the reality of a municipality owning land within the urban spatial form (which is highly contested in South Africa) becomes a significant driving force for the initiation of local urban development. The land issue in South Africa remains a sensitive debate, linked to population dispossession and spatial disparities. With this reality, Afesis-Corplan (2013) assert that attaining land for the development interest of the greater public that is situated in suitable geographic locations is very challenging. This infers that South African municipalities that own parcels of land in suitable locations should be developing those parcels of land to service the interest of the public. For the relevance of this study, the best way eThekwini Municipality can use the land they own in Umhlanga, is by developing public social facilities that can be used by both the Umhlanga residents and

commuters to Umhlanga to counteract the perception of Umhlanga as an enclave that only caters to the middle-elite class.

8.3. Concluding Discussion

The expansion of cities has over the years become a manifestation of the commanding influence that capitalism has over the city form as well as the rapidly changing dynamics of how citizens consume the urban form. The advancement in lifestyles, business operations and the infiltration of globalization aspirations in local planning spheres has warranted the emergence of micro-spatial urban practices that are actively restructuring how cities produce urban morphologies (Zardini, 2008 *as cited in* Almusaed and Almssad 2019). The development patterns of cities around the world have come to reject concentric urban spatial patterns that concentrate urban activities only in the urban core. Society's move into post-industrialists and post-Fordism epochs have modified city development to occur around agglomeration economies that bring about economic specializations. Thus, the expansion of the urban form footprint has become largely based around the clustering of service-sector and knowledge-based economies (Duminy, 2007).

For urban development, this has meant that capitalist influences and neoliberal approaches have been the driving forces behind the urban expansion in cities. Urban morphological change has been largely underpinned by the commodification of urban space to the highest bidders. The prominence of specialization economies in business has directly translated into how cities develop. Such has resulted in increased urban fragmentation as the fight for exclusivity within the built environment supersedes the need to create equitable and inclusive cities for all populations. Patchwork capitalism continues to spatially structure the urban form (Wu and Phelps, 2008) by perpetuating spatial divisions that are derivatives of socio-economic disparities, labour inequalities and racial-ethnic tensions. Essentially, social polarization has become an intrinsic feature of urban development.

The attributes of segregation and class divisions in cities globally have long existed throughout time. Therefore, the question becomes: how realistic is spatial integration in the further expansion of cities? Spatial inequalities continue to depict the deepening social, economic and political inequalities that different populations experience. In South Africa, the inequalities around accessibility and connectivity to the urban territory comes from a place of generational institutional segregation that has produced resolute spatial distortions for the majority of the

population. The spatial urban structure and how human settlements form in South Africa still represents an urban development system that perpetuates inequality. If critical observations are applied, the reality for spatial integration is minimal for South African cities as urban development still reflects a continuation of a core-periphery approach to urban expansion. Circular migration from the urban periphery to the urban core and back to the urban periphery (David *et al*, 2018) is still a reality for many South Africans. South Africa's spatial response to inherited spatial disparities has been left wanting when compared to the legislative support, policy intent and political commitment towards a spatial transformation agenda rooted in integration.

For Vermeulin (2006), progress towards the integrative city model in eThekwini Municipality and South Africa at large is compromised by increasing urban sprawl activated by greenfield urban projects located at distances inaccessible to the larger population. The escalation towards privatised urban development in the post-apartheid city has led to a surge in the demand for private urbanisms in the form of secured and gated communities. What is then reflected, is that exclusion along accessibility contours is not only an impact of the privatization of planning, but it also depicts who has consumer power over the urban form. Therefore, real-estate development characterised by enclaves really just represents a continuation of spatial exclusivity measures. Consequently, what we have in South Africa is an unconnected city fabric that is increasingly entrenched in socio-spatial exclusion towards those without the capital means to dictate where they live and how they consume the city.

The urgency towards re-structuring urban development away from reproducing spatial segregation patterns appears to remain stagnant. As seen with Tongaat Hulett in eThekwini Municipality, the reality of landownership is the key determiner for progress towards equitable spatial integration. Therefore, the land debate remains an intricate component to the spatial transformation agenda. For as long as municipalities which are approving development applications find themselves wedged between the collection of larger rate bases from private sector led developments and reducing spatial inequalities that affect the majority of the population, spatial transformation in South Africa will remain an ideal in policy documents without tangible implementation.

8.4. Final Conclusions and Lessons

What the researcher has come to understand is that the configuration of an urban form is influenced by various factors and stakeholders with different interests. The warfare between public sector seeking to create cities that provide economic opportunities for its citizens and private sector's interest of attracting regional and global investment is one that is unwavering. Power over the urban landscape is highly determined by landownership, money and institutional power. The efforts of working towards an integrated city model that provides some levels of spatial justice has to insert itself within these dynamics.

The surge in capitalistic approaches to urban development and the desire to create world cities that reflect globalized urban forms has subjected urban planning to planning dispositions that chase aesthetic architectural wins rather than the reduction of urban plagues that bear inequality, urban poverty and the marginalization of the have-nots. The displacement of the underprivileged urban dweller will continue to prevail if local planning spheres continue to engage in planning process that side-line equity-based planning principles. For South Africa, creating sustainable urban communities that have equitable access to transit systems, adequate housing options and social facilities will remain a battle if spatial planning continues to rest largely towards the preservation of affluent human settlements.

What has become evident to the researcher is that the normative discourse of spatial transformation in South Africa remains challenged as urban expansion is still yielding spatial fragmentation. What is reflected is a reproduction of spatial segregation patterns along issues of affordability, class and exclusivity. It is harder now than it was in 1994 to alter apartheid urban geographies (CoGTA, 2016). For the South African urban landscape, investment in the components for spatial integration appear to not be coordinated with existing urban spatial problems. The case study of Umhlanga in eThekwini Municipality has shown that measures to foster spatial integration occur as reactionary development measures. The impact of opulent urban development projects developed in close proximity to urban settlements still faced with widening spatial and socio-economic inequalities is not considered in the initial planning stages of newer planned cities and development nodes.

In conclusion, the researcher has also learnt that the expansion of cities is inevitable. What is being observed currently in the 21st century is the creation of different types of urbanisms that are providing alternative trajectories to city development. To better ensure that integrated spatial planning becomes an attainable reality, public sector based urban planning needs to

robustly invest in capital contributions that are consistent towards a transformation agenda that prioritizes service delivery that is orientated around infrastructure delivery that provides for efficient citizen accessibility to the city (Morphet, 2009).

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Annexure 1: Addressing Research Objectives

Objective	How Objective Was Met	Section	Page
1. To explore the determinants that have promoted and perpetuate Edge City development in South African cities.	a) A review of South African specific literature was conducted. The factors contributing edge city development were looked at from a political, theoretical and development perspective.	Chapter 5 Literature Review, Section 5.8	109
	b) Data collected from the key-informants was analysed to find thematic consensus that explained edge city development in South Africa.	Chapter 7 Data Findings and Analysis, Section 7.2	136-140
2. To explore how the spatial planning frameworks of eThekwini Municipality respond to spatial segregation.	a) The eThekwini Municipality SDF was reviewed as a form of secondary data.	Chapter 7 Data Findings and Analysis, Section 7.3	152-167
	b) Planners from eThekwini Strategic Spatial Planning Branch were interviewed as the SDF is formulated by this sector of the municipality.		153
3. To investigate if the Umhlanga development has dismantled or reproduced spatial segregation patterns of that are a legacy of apartheid planning.	a) All study participants were asked the question of whether in their view the development of Umhlanga had dismantled or reproduced spatial segregation patterns inherited from	Chapter 7 Data Findings and Analysis, Section 7.4	167-172

	apartheid. Data findings were coded and divided into themes of “redress” and “reproduction” of spatial segregation patterns. b) “Deepening Socio-Economic Divisions and Spatial Exclusivity” was used as a significant data finding to form a conclusion for the set objective.	Chapter 7 Data Findings, Section 7.6.2	176
4. To establish the spatial development role played by Umhlanga in enhancing integrated spatial planning in eThekwini Municipality.	a). Private Sector and Public Sector key-informants were asked to determine some specific spatial develop roles derived from the development of Umhlanga.	Chapter 7 Data Findings, Section 7.5	173-174

Annexure 2: Interview Questions for Study Participants

A. Tongaat Hulett

1. From private sector perspective, what initiates or causes developments at the urban edges of cities of South Africa and what stimulates developments like Umhlanga?

2. Since the dawn of democracy in South Africa what have been the factors that have encouraged edge city developments in South African cities and in particular Durban, with reference to Umhlanga?

3. In current times what perpetuates developments like Umhlanga besides profit making?

4. A large portion of the prime land in the north of eThekwini Municipality is owned by Tongatt Hulett, does this allow private sector developers like Tongatt to guide/direct developments desired by them and to what extent has Tongatt Hulett purposefully driven and directed the spatial development of Umhlanga?

5. To what extent has Umhlanga development redressed or reproduced existing spatial segregation patters inherited from Apartheid planning.

6. What does Tongatt Hulett consider the role of Umhlanga to be in encouraging and enhancing spatial integration in eThekwini Municipality?

7. Spatially do developments like Umhlanga seek only to protect private sector and middle-class/wealthy elite interests? If so, how has/does this transpire spatially.

8. What has Tongatt Hulett as the private sector, the majority landowner in the northern region of eThekwini Municipality done to assist the municipality achieve an integrated spatial planning?

9. How is Tongatt Hulett collaborating with municipality in the further planning and development of Umhlanga that promotes integrated spatial planning?

10. What are the possibilities of Umhlanga growing into its own city and what factors could drive this?

11. Would you consider the development strategy of Umhlanga one of expansion from the central city or one that is founded upon the optimization of land/space?

12. What role do you think private sector has to play in working towards integrated spatial planning, in particular in South African cities?

B. EThekwini Municipality: Land-Use Management Northern Regional Office

1. From a land-use perspective, what initiates or causes developments at the urban edges of cities of South Africa and what stimulates developments like Umhlanga?

2. What role does the privatization of land play in encouraging developments at edge of the city as well as developments like Umhlanga?

3. Does the eThekwini Municipality own any land parcels in the Umhlanga region. If so, what is the land used for or future plans for it, if not what is the reason for not owning land?

4. To what extent has the Town Planning scheme and zoning regulations that govern Northern Region perpetuated the rapid development of Umhlanga?

5. What are the majority development applications (residential, commercial, industrial etc.) that the office receives and how do these applications motivate for spatial integration or spatial justice?

6. How does the land-use management system of the Northern Region use Umhlanga to encourage integrated spatial planning?

7. To what extent do the dominant land-uses in Umhlanga promote spatial transformation or do they in any way perpetuate and increase segregation inherited from Apartheid planning.

8. What role can the land-use management system of eThekwini Municipality play in curbing/decreasing urban sprawl within the municipality?

9. How does the office of land-use management check if developments/projects have lived up to their motivations for spatial justice?

10. What role does the office of land-use management play in encouraging the development corridor that is taking shape from Umhlanga onwards within the eThekwini Municipality?

11. What is the general intended development direction for eThekwini Municipality (Northern region) and how does LUMS assist in achieving this spatially using Umhlanga?

C. EThekwini Municipality Strategic Spatial Planning Branch

1. From a spatial planning perspective, what initiates or causes developments at the urban edges of cities in South Africa, and what stimulates developments like Umhlanga?

2. Since the dawn of democracy in South Africa, what factors have encouraged the developments of edge cities (location wise), in particular in Durban?

3. From a spatial outlook, what is the overall spatial vision for eThekwini Municipality and what is the envisioned spatial development pattern for the Northern Region of eThekwini Municipality.

4. Has the development of Umhlanga caused polycentricism in the municipality in relation to Durban city? If so, how has this polycentricism influenced the spatial morphology of the northern region within the municipality?

5. What have been the main strategies that the spatial planning frameworks of eThekwini Municipality have implemented to respond to and address spatial segregation in the municipality/City?

6. A large portion of the land in and around Umhlanga is privately owned, how does this affect general spatial planning and notion of spatial integration in the northern region of eThekwini Municipality?

7. What is the municipality doing to ensure a spatial planning that is rooted in integrated planning in Umhlanga and lessons the emergence pockets of isolated developments.

8. To what extent has the Umhlanga Development redressed or reproduced existing spatial segregation patterns inherited from Apartheid planning?

9. Has the Umhlanga development accelerated of deaccelerated the need as well as work towards integrated spatial planning within eThekwini Municipality?

10. Does the municipality view Umhlanga as a development that seeks to protect private sector interest?

11. What role has Umhlanga played in improving, encouraging or facilitating spatial integration in eThekwini Municipality?

12. In terms of spatial development, what role does Umhlanga play in developing the northern region as well as the overall municipality?

13. How can the need for an integrated spatial planning guide the future development and expansion of Umhlanga?

14. What are the relevant plans and strategies that can be anticipated from the municipality (SSPB) to better carry out integrated spatial planning and achieve spatial integration through the expansion of Umhlanga (As well as the north)?

15. What does the municipality foresee happening spatially and towards the notion spatial integration with the continued development of Umhlanga?

16. How is the municipality collaborating with private sector in the further planning and development of Umhlanga in a manner that will promote more means of spatial integration?

D. Kwa-Zulu Natal Department of Co-operative Governance and Traditional Affairs

1. From a provincial spatial planning perspective, what initiates or causes developments at the urban edges of cities in South Africa, and what stimulates developments like Umhlanga?

2. What is the general overall perception of Umhlanga spatially to the province/COGTA?

3. What is COGTA's view on developments that occur at the urban edge of traditional core cities?

4. What significant measures has KZN COGTA taken/implemented to fast-track integrated spatial development in eThekwini Municipality?

5. To what extent does COGTA consider eThekwini Municipality spatially responsive in addressing past spatial imbalances and segregation compared to other municipalities in the province?

6. How is KZN COGTA (spatial planning) ensuring that spatial planning is rooted in spatial integration within eThekwini Municipality?

7. To what extent has the Umhlanga Development redressed or reproduced existing spatial segregation patterns inherited from Apartheid planning?

8. In terms of spatial development, what role does Umhlanga hold in relation to spatial development within the province?

9. From COGTA's perspective, what strategies can eThekwini Municipality implement to better carry out and achieve integrated spatial planning through the expansion of Umhlanga?

10. How is KZN COGTA collaborating with eThekwini Municipality to better achieve integrated spatial planning?

11. Umhlanga falls under the node hierarchy one in the Provincial Spatial Economic Development Strategy, what does this mean for the province, eThekwini Municipality and general surrounding areas?

12. To what extent has the development of the Integrated Urban Development Framework assisted in working towards integrated spatial planning within eThekwini Municipality?

E. Umhlanga Residents

1. What attracted you to live in Prestondale Umhlanga and not anywhere else and what does it mean to you and your family?

2. What makes living in Umhlanga more convenient for you?

3. Do you see Umhlanga as being separate from Durban? If so why, if not why?

4. Which part of Umhlanga do you see as having the characteristics of operating as a central business district?

5. Do you think Umhlanga development has redressed or reproduced spatial segregation patterns inherited from Apartheid?

6. Do you think the Umhlanga (Prestondale) possesses elements of exclusion or inclusion as a human settlement?

7. In your opinion, does the continued development of Umhlanga enhance or hinder spatial integration within eThekwini Municipality?

8. What measures would you take to increase integration in and around Umhlanga?