



**THE ROLE OF THE HABITAT POLICY AGENDA IN
ADDRESSING URBAN PLANNING CHALLENGES IN
SOUTH AFRICA: A CASE STUDY OF THE CITY OF
JOHANNESBURG**

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ABSTRACT

Urbanization is a worldwide phenomenon that has gained traction into becoming the most significant megatrend of the 21st century, making cities the focus of most of the world's development challenges. The United Nations predicts that by 2050, African cities will be home to 2.5 billion people (60% of the population), double the number in 2015 of approximately 1.23 billion people. The global south and African cities are experiencing the most rapid urbanisation rates and cities in South Africa are not indemnified. The City of Johannesburg, like the rest of the world, is facing a rapidly growing population. As it stands Johannesburg is South Africa's largest city with an urban population of 99.8% and it is predicted that by 2040 four in five people could be living in urban areas. The history of South Africa however, had not prepared for this rate of urban population growth. Colonialist and apartheid planning produced highly inefficient, inequitable, and environmentally damaging outcomes to the spatial landscape of the city and left the city's urban areas with vast urban planning challenges. These include spatial segregation, urban sprawl, lack of affordable quality housing, and inadequate infrastructure and services, *inter alia*.

To address these glaring urban issues, the City of Johannesburg has recently embraced the Habitat III: New Urban Agenda. This policy is the third-generation document of the Habitat Agenda Policy which seeks to create a mutually reinforcing relationship between urbanization and development. It intends on reinvigorating the global commitment to sustainable urbanisation and making cities and human settlements equitable, prosperous, sustainable, and safe.

Against this backdrop, this research study is aimed at establishing what feasible strategies and policy guidelines the Habitat III: New Urban Agenda can provide to reduce the urbanisation crisis and promote sustainable urban development in the City of Johannesburg. The research study uses the City of Johannesburg as a case study and takes on both qualitative and quantitative approaches as it has many dimensions and layers which are portrayed in its multifaceted form.

The analysis revealed that the strategies, projects, and programmes developed by the City of Johannesburg to address urban planning challenges experienced by the city, are overall well aligned to the principles of the New Urban Agenda. What is not translated well is the detail stipulated in the sub-themes of the five pillars outlined by the New Urban Agenda, which exposes a gap within the urban legislation, urban economy, municipal finance, and local implementation of the city. This directly contributes to the slow pace and unrealised potential of sustainable urban development within the city. The study recommends, *inter alia*, that the city places more resources on implementation of instruments prescribed by the descriptions in the sub-themes of the Action Implementation Framework of the New Urban Agenda and prioritise the four pillars of sustainability by incorporating the institutional and environmental pillars more strongly in plans and project. This will enable Johannesburg to better realise sustainable urban development.

Key words: City of Johannesburg, Habitat III: New Urban Agenda, Urbanisation, Urban challenges

DECLARATION OF ORIGINALITY

With this, I declare and confirm that: -

- I am the sole author of the written work herein.
- I have compiled the work in my own words and where other peoples` work have been used, their work has been acknowledged and referenced as per the University referencing guideline.
- I am aware that the work may be screened electronically for plagiarism; and
- This work has not been before submitted to any university.



Ms MS CHEMANE

__21 September 2021__

DATE

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ACRYNOMYS

AFINUA	Action Framework for Implementing the New Urban Agenda
BEPP	Built Environment Performance Plans
BRT	Bus Rapid Transit
CBA	Critical Biodiversity Area
CBD	Central Business District
CMDA	Cato Manor Development Association
CoJ	City of Johannesburg
COGTA	Department of Cooperative Governance and Traditional Affairs
CPI	City Prosperity Initiative
DCOG	Department of Co-operative Governance
DMOSS	Durban Metropolitan Open Space System
EIS	Ecologically Important and Sensitive
ESA	Ecological Support Areas
FAR	Floor Area Ratio
GCRO	Gauteng City Region Observatory
GDARD	Gauteng Department of Agriculture and Rural Development
GDS	Growth and Development Strategy
GHG	Greenhouse gas
IDP	Integrated Development Framework
ISOCARP	International Society of City and Regional Planners
ITPN	Integrated Transport and Public Network Plan
ITN	Integrated Transport Network
IREA	International Renewable Energy Agency
IUDF	Integrated Urban Development Plan
JHB	Johannesburg
JMOSS	Johannesburg Metropolitan Open Space System
JPC	Joburg Property Company
JRA	Johannesburg Roads Agency
kW	Kilowatts
kWh	Kilowatt hours

LA21	Local Agenda 21
MCPP	Municipal Climate Protection Programme
MDGs	Millennial Development Goals
MIG	Municipal Infrastructure Grant
MWh	Megawatt hours
NDP	National Development Plan
NGO	Non-governmental Organisation
NMT	Non-motorised transport
NUA	New Urban Agenda
NYC	New York City
PES	Present Ecological State
PRASA	Passenger Rail Agency of South Africa
PV	Photovoltaic
RDP	Reconstruction Development Programme
SALGA	South African Local Government Association
SACN	South African Cities Network
SDF	Spatial Development Framework
SDGs	Sustainable Development Goals
SDBIP	Service delivery and budget implementation plans
SPLUMA	Spatial Planning and Land-use Management Act
SITPF	Strategic Integrated Transport Plan Framework
SSEG	Sustainable Source of Energy Generation
TOD	Transit-oriented Development
UN	United Nations
UNDP	United Nations Development Plan
UNCED	United Nations Conference on Environment and Development
WSSD	World Summit on Sustainable Development

CHAPTER ONE: INTRODUCTION

1.1 CONTEXT OF THE RESEARCH

In 2016, I had the privilege of attending the fifty-second International Society of City and Regional Planners (ISOCARP) conference. The conference was themed “Cities we have vs Cities we need”, and one of the key plenary sessions was centred on the introduction of the United Nations Habitat III New Urban Agenda 2030. The discussions of the session focused on various arguments of the post-2015 development agenda. These included, inter alia, 1) the introduction of the new development agenda and whether it would be successful in strengthening international political commitments to enable true sustainability for cities across the globe and 2) whether local governments can deliver on the implementation of this development agenda. These discussions sparked an interesting debate within me and have since continued to unravel themselves. This study is therefore focused on identifying the role of the Habitat Policy Agenda in addressing urban planning challenges in South Africa. A case study of the City of Johannesburg will be used to focus the study.

In the Global South, rapid urbanisation is occurring regardless of whether the nations and cities are prepared to meet the demands of their growing populations. By 2050, African cities will be home to 2.5 billion people (60% of the population), double the number in 2015 of approximately 1.23 billion people (DCOG, 2016: 11). African cities are experiencing the most rapid urbanisation and cities in South Africa are no different.

The City of Johannesburg, similarly to the rest of the world, is facing a rapidly growing population. Figure 1 below depicts the socio-economic profile of Johannesburg. As it stands Johannesburg at 1644km² is South Africa’s largest city with an urban population of 99.8% (SACN State of Cities Report, 2016:344) and it is predicted that by 2040 four in five people will be living in urban areas. The history of South Africa however, had not prepared for this rate of urban population growth.

During the colonialist and apartheid era, the city underwent stringent population controls and forced removals to keep the races segregated. Apartheid planning practiced racial land use development which ensured that rural areas catered for the bulk of the non-white citizens, while urban areas were reserved for only white citizens. Townships were characterised by deliberate under-investment in housing, physical infrastructure, and social facilities (Turok, 2015). Consequently, colonialist and apartheid planning produced highly inefficient, inequitable, and environmentally damaging outcomes to the spatial landscape of the city (National Planning Commission, 2012; Republic of South Africa 2014; Presidency 2014;

Turok, 2015). Furthermore, this planning left the city's urban areas with serious challenges of spatial segregation, urban sprawl, poor quality housing without adequate infrastructure services, and unsustainable urban developments, *inter alia*.

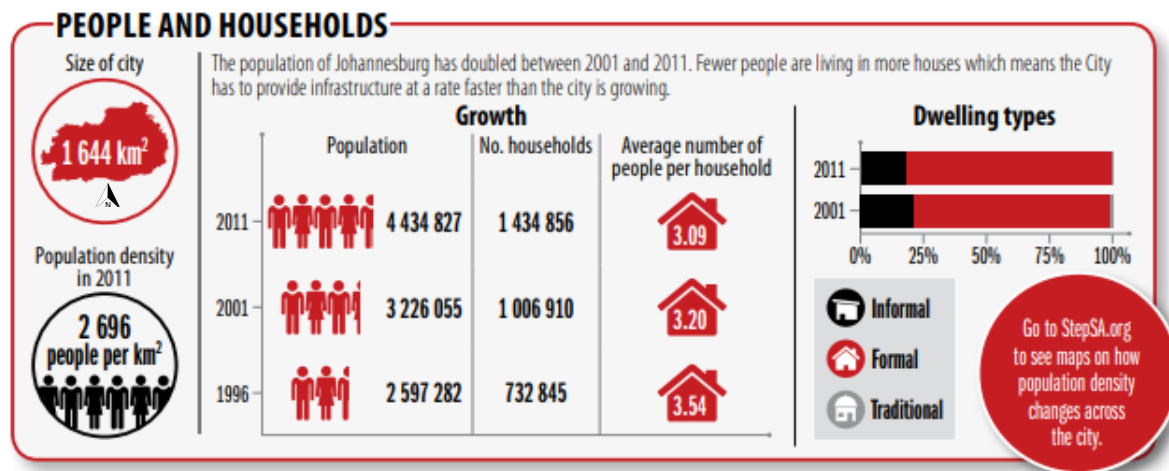


Figure 1: Population and household Statistics in Johannesburg

Source: SACN State of Cities Report, 2016

Recently the City of Johannesburg's spatial challenges do not only affect the poor and vulnerable residents but, have impacted all the people who inhabit and experience the city. Over the past twenty years, due to disinvestment in traditional nodes such as the city centre (CBD) and investment in new centres in the north such as Sandton and Midrand. The city's economic and physical profile has dramatically altered. While some reinvestment is now occurring in the CBD, private sector development had largely turned its attention northwards, resulting in the rapid construction of new business and residential properties. This development has consumed vast amounts of underutilized or undeveloped agricultural land, thus reducing the land available for settlement by the low-income population.

The City of Johannesburg Spatial Development framework (SDF) of 2040 collaborates this narrative as it states that "*the apartheid planning and urbanisation have led to the development of a spatial structure with many shortcomings which include spatial inequality (Including a stark job-housing mismatch), fragmentation and spatial disconnection, urban sprawl and limiting densities, limited land-use diversity, and pressure on the natural environment*" (City of Johannesburg SDF, 2016).

Against this backdrop, it is evident that with each era, the city is faced with vast urban challenges that present themselves in different natures and forms. To address these issues, the City of Johannesburg has adopted and implemented various national and international policies that were aimed at reducing the impacts of rapid urbanisation in South Africa. Most of the policies and strategies implemented have attempted to bridge this gap and some success

has been achieved however, the SDF states that “although there is evidence of some reconstructive developments over the past decade the current structure and development patterns require revisiting to meet the future urban challenges in a sustainable manner” (City of Johannesburg SDF, 2016). Thus, to holistically address these glaring urban challenges, the City of Johannesburg committed to implementing the Habitat III New Urban Agenda policy.

This policy is the third-generation document of the Habitat Agenda Policy which constitutes the world’s contract of principles. It intends on reinvigorating the global commitment to sustainable urbanisation and making cities and human settlements equitable, prosperous, sustainable, just, equal, and safe for the future (Cities Alliances, 2015). The Policy is also said to lay the groundwork for policies and approaches that will have a long-lasting impact for cities internationally.

1.2 PROBLEM STATEMENT

The recently adopted Sustainable Development Goals, the National Development Plan, and the Integrated Urban Development Plan (IUDF) *inter alia*, are significant international and national legislation and policy documents that encourage and prioritise sustainable urban development to eliminate poverty and reduce inequality in South and the world at large. Against this backdrop, the Johannesburg 2040 Spatial Development framework aims to provide a spatially just world-class African city, which will be able to accommodate the 7 million projected population increase. The city envisions development centres around the existing inner city that are linked to well-functioning public transit systems. Furthermore, the city aims to “reduce the negatives effects on the natural environment, curb development outside the urban boundary which exacerbates urban sprawl, reduce the spatial disparities, bring jobs closer to where people are residing, reduce the approval of low densities which do not serve the growing number of people in the city and increase land-use diversity by 2040” (City of Johannesburg SDF, 2016).

The above vision and objectives of a future Johannesburg are spatially just and transformational. However, currently, fragmented urban development and spatial inequality remain a defining characteristic of the settlement pattern within Johannesburg. The location and concentration of jobs do not match that of where people live. The job-housing mismatch significantly contributes to inequality in the city for many residents and access to economic opportunities is stifled by costly and distant commuting. Housing provision for the increasing number of people also remains a prominent challenge. These realities are largely influenced by the legacies of colonialist and apartheid planning as well as post-apartheid planning. Consequently, the SDF highlights that the city cannot afford to maintain a business-as-usual approach to development as this only exacerbates existing socio-economic disparities and

spatial inequality. It also places significant pressure on the natural environment and increases the cost of infrastructure provision (City of Johannesburg SDF, 2016). Furthermore, some of the highest densities of housing inherited from apartheid spatial planning, are also some of the most deprived areas in the city, with limited land use diversity (mainly residential), and located far from areas of economic opportunity. If the City of Johannesburg does not find alternative and effective strategies to address the above-mentioned urbanisation impacts, the city will fail to achieve sustainable urban development which will efficiently respond to the needs of the increasing urban population. This further increasing urban poverty and socio-economic decline in the city.

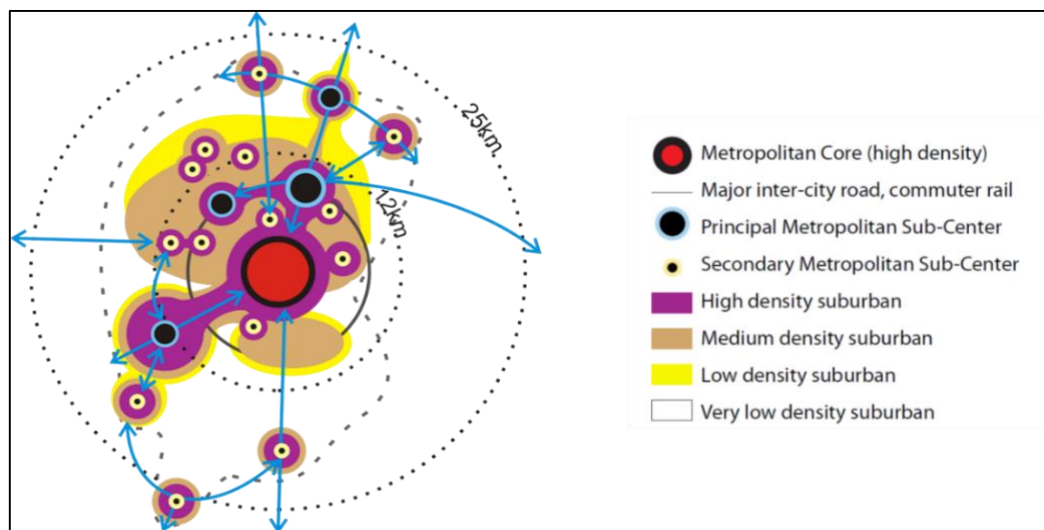


Figure 2: Johannesburg Future City Model

Source: City of Joburg SDF, 2016

Cities and urban areas will be the cradle for most of the world's population in the future. Thus, a concrete plan and implementation strategy ought to be developed, to equip cities on creating sustainable and liveable spaces that respond to the needs and challenges of the people and to create a mutually reinforcing relationship between urbanization and development (Cities Alliances, 2015).

In line with this background, the research problem which needs investigation is whether the Habitat III New Urban Agenda can present a sound and adequate policy guideline to address urban challenges and their impacts at the level of metropolitan cities. In the interest of the study, this dissertation will focus on the City of Johannesburg as a case study. If the investigation reveals that the Habitat III: New Urban Agenda policy can be utilised to adequately address the challenges faced by the City of Johannesburg, South African urban municipalities and implementing agents will need to understand and align themselves to this policy guide.

1.3 RESEARCH OBJECTIVES

The main overarching research objective for this study were **to establish what feasible strategies and policy guidelines the Habitat III New Urban Agenda can provide to reduce the urbanisation crisis and promote sustainable urban development in the City of Johannesburg.** Upon this main objective, the dissertation focused on other sub-objectives which were to:

- a. Unpack the Habitat III New Urban Agenda 21st century urbanism vision in the South African and City of Johannesburg context.
- b. Evaluate the success rate of the previous Habitat Urban Agenda on achieving sustainable urban development internationally.
- c. Derive lessons learned from cities that have implemented past habitat agenda policies and achieved sustainable development.
- a. Access existing strategies developed by the City of Johannesburg to reduce urban planning challenges against the proposed guidelines of the Habitat III policy
- b. Explore strategies and methodologies to ensure successful implementation of the Habitat Urban Agenda in the context of the City of Johannesburg.
- c. Assess the role of local government in the global arena and explore how local government and civil society will be able to track the implementation of the New Urban Agenda.

1.4 RESEARCH QUESTION

The main research question for this dissertation is as follows:

In what ways and to what extent can the Habitat III Policy Agenda Address the urban challenges in the city of Johannesburg?

The Sub- research questions for the study are as follows:

- 1.4.1 What is the Habitat III New Urban Agenda and how does it advance the global commitment to sustainable urbanisation?
- 1.4.2 Have the previous Habitat Urban Agenda been successful in reducing the impacts of urbanisation and urban planning challenges in other cities?
- 1.4.3 What is the empirical methodological framework for assessing the role of the Habitat III policy agenda in addressing urban challenges in the city of Johannesburg? and
- 1.4.4 What systems need to be in place to ensure successful implementation of the Habitat III New Urban Agenda in the City of Johannesburg?

1.5 DISSERTATION STRUCTURE

This dissertation is divided into seven chapters which are arranged to meet the research question and objectives of the study. Below is a detailed outline of the focus of each chapter.

Chapter One: Introduction

The primary aim of this chapter is to introduce as well as set out the scene for the research study. The chapter begins by providing context to the research study which is premised on identifying the role of the Habitat III Policy Agenda in addressing urban planning challenges in South Africa, case studying the City of Johannesburg. The chapter proceeds to present the problem statement which details the urban planning challenges faced by the City of Johannesburg and how the Habitat III Policy Agenda can assist in addressing the challenges. This is followed by the research objectives, research question which the study seeks to respond to, and the research methods and approach that was employed during the research study.

Chapter Two: Theoretical and Conceptual Framework

This chapter provides a theoretical and conceptual framework of the research study. It identifies various concepts and theories that inform the development of an urban agenda and subsequently urban sustainability. The chapter considers the role the habitat agenda has played in shaping sustainable urban development and how it has influenced the reduction of the myriad of challenges faced by urban areas in other cities. Furthermore, the chapter provides a review of existing literature on the theories that emerged from the concepts and approaches, and assists in placing the urban agenda, sustainability, and urban resilience within a predefined framework of processes and practices.

Chapter Three: Precedent Studies

This chapter presents precedents by accessing cities in developed and developing countries which have been instrumental in achieving sustainable and resilient urban areas using key elements committed to in the Habitat III New Urban Agenda. Subsequently, the chapter examines the experiences and accesses the success and failures of the developed and developing countries in reducing urban challenges and advancing the Habitat III Agenda. The chapter also demonstrates how South African cities have fared regarding achieving sustainable urban areas.

Chapter Four: Research Design and Methodology

This chapter provides a detailed description of the research design and methodology used to answer the research question. The chapter develops techniques and methods for data

analysis to ensure that the validity and reliability of findings are maintained. The chapter also provides a clear and detailed framework on what research methodology and philosophies will be used to determine how the habitat agenda policy can assist in achieving sustainable urban development in the City of Johannesburg, how data will be collected, sampled, and analysed as well as outlining the ethical consideration for the study.

Chapter Five: Contextualising the Implementation of the Habitat III: New Urban Agenda in the City of Johannesburg

This chapter provides context to the City of Johannesburg as the identified case study. The chapter outlines the spatial planning challenges of Johannesburg and detail how the city is addressing the challenges faced. Additionally, the chapter provides a detailed outline of the Habitat III: New Urban Agenda and its proposed guidelines for driving good urbanisation and enabling sustainable development in cities.

Chapter Six: Analysis and Discussion of Findings

This chapter presents the analysis and findings of the primary and secondary data compiled. The chapter uses secondary data and case studies the City of Johannesburg and its urban challenges. This includes an analysis of the tools and mechanisms the agenda proposes to achieve sustainable urban development in cities. In addition, the chapter analyses primary data obtained, from semi-structured interviews, to investigate the feasibility of implementing the New Urban Agenda as a policy tool that will assist in addressing urban challenges faced by the city. Consequently, findings on secondary and primary data are further discussed through cross-referencing the literature review and precedent studies undertaken in previous chapters of the research study.

Chapter Seven: Final Conclusion and Recommendations

This chapter provides the conclusion and recommendations of the research study. These recommendations are based on the research aims and objectives as well as the research question that was posed. The recommendations are also based on the literature review, the precedent studies, and the findings from the data analysed in the chapters preceding this one. Ultimately, this chapter presents the researcher's reflections on whether the main objectives of the research study have been met. In the process, the chapter assesses whether the researcher has theoretically and empirically established a new body of knowledge that will contribute to the emancipation and positive transformation of knowledge.

CHAPTER TWO: CONCEPTUAL AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

The purpose of this chapter is to provide and identify various concepts and theories that inform the development of an urban agenda and subsequently urban sustainability. The conceptual framework considers the role the habitat agenda has played in shaping sustainable urban development and how it has influenced the reduction of the myriad of challenges faced by urban areas in other cities. This chapter will also provide a review of existing literature on the theories that emerged from the concepts and their approaches. The theoretical and conceptual framework will assist in placing the urban agenda, sustainability, and urban resilience within a predefined framework of processes and practices. The researcher will provide her opinions as a substantive means of foundation in understanding the main research objective and questions to be answered at the end of the section.

2.2 CONCEPTUAL FRAMEWORK

2.2.1 URBANISATION

Urbanization is a worldwide phenomenon that has gained traction into becoming the most significant megatrend of the 21st century, making cities the locus of most of the world's development challenges now and into the future (SACN South African Position Paper, 2018:4). Urbanisation is largely defined by scholars as to the process of migration from rural to urban areas or cities. McDonnell and Pickett (2005) define urbanisation as a process of relative growth in a country's urban population accompanied by an even faster increase in the economic, political, and cultural importance of cities relative to rural areas. Swanepoel & Van Zyl (1997) state that, urbanisation can be described as a worldwide process of transformation whereby communities change from a rural to an urban place of residence, workplace, and lifestyle (Swanepoel & Van Zyl, 1997). It, therefore, is deduced that urbanisation is synonymous with the increase of population in cities or towns through migration from rural areas because of social and economic changes, or a transformation from rural to urban-based societies (Pravitsari, 2015). From a demographic point of view, the level of urbanization is measured by the percentage of the population living in urban areas (Davis, 1962) and in some cases, urbanization has a strong relationship with the level of economic, social, and cultural development. In which developed countries usually have a higher level of urbanization than in developing countries.

The origins of urbanisation can be traced from the preindustrial era which dated more than 5000 years ago. During these times cities had populations of less than 10 000 people. Residential, retail, and commercial land uses were not as separated as they are today (Houghton, 2016). Most artisans and traders worked at home, although people with the same

trades tended to live in the same areas of town. People in cities also segregated themselves from one another according to class, ethnicity, and religion with little or no chance for social mobility or interaction with other groups (Houghton, 2016). During the 18th century, between 1700 and 1900, increasing numbers of people moved into cities due to Industrialisation. Industrialization produced the mechanization of agriculture, which, in turn, limited the amount of work available on farms. This lack of employment forced farm labourers to move to cities to find work. This migration of workers from rural to urban areas then gave rise to the industrial city, resulting in the urban revolution (Houghton, 2016).

During the urban revolution in the 1900s, as a result of Industrialisation, the majority of the people in British, European, and American countries lived in cities. The industrial city was larger more densely populated, and more diverse than its preindustrial counterpart. It comprised of many people with varying backgrounds, interests, and skills who lived and worked together in a defined amount of space. The industrial city also served as a commercial centre, supporting various businesses and factories. This attracted large numbers of immigrants from other countries hoping to better themselves by securing stable work and finding new beginnings. More Industrial cities developed in countries and these cities became larger and spread outward in the early 1900s, they formed metropolises (large cities that include surrounding suburbs, which are lands outside the city limits, usually with separate governance) many metropolises have a population of a million or more residents. All of this growth led to the development of “urban problems” such as air and water pollution, traffic congestion, crime, social class, and exclusion to name a few. These “urban problems” have since been in existence and affect the world today.

In the 21st century, urbanisation is occurring at a more rapid rate. The South African Cities Network discussion paper of 2018 states that, in the Global South, rapid urbanisation is happening regardless of whether the nations and cities are prepared to meet the demands of their growing populations. *“By 2050, African cities will be home to 2.5 billion people (60% of the population), double the number in 2015 of approximately 1.23 billion people”* (DCOG, 2016: 11). Africa is the fastest-urbanizing region in the world (UN Habitat, 2017) and will enter the urban age in about 20 years, where 50 percent of its population will be urban, presenting considerable opportunities and challenges for the region’s growth and transformation agenda as outlined in Agenda 2063. Rapid urbanization is thus a challenge as urbanisation in Africa.

Small and medium cities are growing the fastest in African countries. If one considers qualitative aspects in urbanisation trends, the income gap between rich and poor has reached its highest levels both in developing and developed countries in the past three decades. Within the built environment, this is an example visible through informal settlements that have

continued to grow, fuelled by rural-urban migration, and advancing numbers of gated communities. One can thus deduce that urbanisation in Africa has in most cases been unplanned and poorly managed, and thus characterized by informality, inequality, environmental degradation, and poverty.

This need not be the standard, as urbanisation can be an enhancing opportunity with planned urbanisation that yields quality services of all kinds, diversity of income sources, and affordable access to opportunities for human development, social interaction, leisure, and participation in governance developing a sustainable urban environment.

2.2.2 SUSTAINABLE URBAN DEVELOPMENT

As previously alluded to and based on the research objective, the past decades have birthed many challenges in urban areas around the world (Rasoolimanesh, 2011). Cities have had to face economic, social, and environmental challenges as well as fast urban changes, rapid population growth, and social-spatial changes. Rural areas have had to face out-migration and stagnant economic and physical development, inter alia. These factors have had a significant impact on urban and rural areas in developing countries (UN-HABITAT, 2009). As of today, around 75 percent of the global population growth is concentrated in developing countries. Nearly 40 percent live in cities, this estimate is expected to reach 52 percent by 2020 and, eventually, 67 percent by 2050 (UN-HABITAT, 2001 and UNDP, 2003). Such changes are affecting the areas of the economy, social condition, and the environment.

Consequently, the concept of sustainability and sustainable urban development was curated to assist urban areas manage and better plan for these challenges. The definition of sustainability has up to 200 different definitions and has advanced many debates amongst researchers (Parkin, 2000 as cited in Keivani, 2010). Rasoolimanesh (2011:3) states that the definition of sustainability was postulated in 1972 at the United Nations Conference on the Human Environment in Stockholm and was further brought forward during the Habitat I in Vancouver in 1976. Stolkhom (1997:10) however, argues that the classic definition of sustainability is derived from the Brundtland report of 1987 which states that "Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations Brundtland Report, 1987). A clear definition or conceptualization of "sustainable development" is still vague however, from the review of the definitions, the aim of sustainable urban development has emerged several urban settlement theories, which include "Healthy City", "Sustainable City", "Low Carbon City", "Transit-Orientated City", "Compact City", "Smart City", "Green City", "Resilient City" and, "Liveable City" (Abu Ghazalah, 2008). These theories and definitions may come with different concerns in different areas, however, they share one central idea, to

achieve maximum development with minimum resource consumption and environmental impact to ensure the well-being of both humans and the earth (Tang and Ming Lee, 2005).

This idea is further supported by Local Agenda 21, which was proposed at the United Nations Conference on Environment and Development (UNCED) in 1992. The Local Agenda 21 is a policy document that sets out guidelines to achieve sustainable development at more localised levels of governance (Nakaguchi, 2004, p. 28 as cited in Tonami & Mori, 2007). According to LA21, sustainability has four dimensions, namely, social, economic, environmental, and institutional or governance aspects (Spangenberg et al., 2002). The LA21 provides a fourth element to the widely discussed sustainability pillars as opposed to the classical three pillars theory. Thus, sustainable urban development as a process creates a balance between economic, environmental, social, and institution/governance necessities.

Diamantine and Zanon (2000: 22) state that this balance can be achieved by using smart systems that combine the above aspects to create a sustainable urban vision. Diamantine and Zanon (2000: 34) argue that urban planning plays a key role in sustainable urban development as it is the traditional tool that has been used in history to strike a balance between these aspects and promoting interaction between and among city planners, officials, and the local community. MalkinaPykh (2002: 15) echoes this idea and states that city planning tools are used in the evaluation of the social, economic, and environmental impacts of urban policies. Thus, by using methods that require the participation of decision-makers and stakeholder's new tools will enable decision-makers to respond properly as they allow for a systematic analysis of the relationship between social, economic, and environmental developments, which describes the mutual dependence between urban planning and sustainable development at the strategic and operational levels (Rotmansa et al., 2000). In contrast, Rotmansa et al (2000: 82) argue that sustainable urban development planning should be a response to the global changes and trends affecting cities, especially in developing countries. The strategic urban planning systems developed should consist of frameworks that are linked with a set of indicators that evaluate the sustainability of urban policies (Rotmansa et al., 2000).

While there is a plethora of ideologies that suggest how sustainable urban development should be implemented, it can be agreed upon that the broad concept of "sustainability" and "sustainable urban development" should be the goal of policies and plans that inform other disciplines in the built environment space and enable the planning for multiple futures rather than focusing solely on the present (Calthorpe, 2010). The inclusion of the fourth pillar "governance/institution" is relevant as sustainable urban development includes a strong element of politics, as it requires co-creation and collaboration of many disciplines and states.

For this reason, the challenges of sustainable urban development call for professionals who can bridge disciplinary borders. Well qualified individuals with a holistic understanding of the various areas of this field will be able to successfully adapt design practices to the environmental conditions and societal-economic needs of the future.

2.2.3 URBAN FUNCTION & TRANSFORMATION

Several researchers argue that the definition of the concepts “urban transformation” and “urban function” in planning theory changes constantly and the approach to urban transformation in the planning practice differs from each other concerning the paradigm shifts in planning history. Currently, researchers state that “urban areas are considered to be centres that agglomerate economic opportunities, housing, social and recreational facilities to enable access to the services efficient for all residents who live in the city (South African Position Paper, 2018). They are also viewed as areas with many challenges which include little access to economic opportunities, hunger, poor access to basic services, and stark social and spatial inequalities (South African Position Paper, 2018). It is important to understand and determine how urban areas reached their current characterisation. Thus, this section will focus on the role of cities and the transformation thereof, from ancient settlements to the function of urban areas in the 21st century.

Rykwert (1976) states that Until the 19th century, the function of cities was to provide shelter for people. They were also used as military bases and agricultural cities. This paradigm led to the urbanization of cities. “Beliefs and practices of urban formation and urban growth were achieved through the implementation of authoritarian principles and procedures in the formation and management of cities.” (Rykwert, 1976).

Hillier and Healey (2010:29) state that in the 20th century, liberal thought was challenged by multiple multi-dimensional challenges rooted in capitalist ideology. (Hillier & Healey, 2010). Heritage conservation together with political and economic factors were identified as a basic challenge to achieving urban transformation. Freestone (2000:50) agrees with this notion and further states that the shift from post-industrial to post-modernist cities emphasizes the process of urban change (Freestone, 2000). In parallel with this, urban transformation has been re-examined and its various components have been refined at various levels. Additionally, urban transformation as a concept has diversified in theory and in practice. (Warrd, 2004).

The various forms of urban transformation were influenced by the various paradigm shifts which brought about by the post-World War II recovery and the globalization process. Thus, the paradigms of urban change have created a set of multi-dimensional frameworks that can help guide the transformation of cities.

Gulerasoy and Guler (2011:12) state that the 21st century has brought about a variety of multi-paradigmatic debates and challenges that move beyond liberalism. Birabi (2007:5) states that the shift from post-industrial to sustainable cities has led to the development of a paradigmatic urban regeneration process, which has been highly enforced and enabled by knowledge cities in urban studies. Regarding this progress, urbanization processes have been reformulating and urban transformation has been considered a concept that has started to be redefined. Approaches for urban transformation focus on the process of developing strategies and implementing them in an integrated manner across various levels of spatial and organizational complexity. The neo-liberal and postmodern debates are focused on the preservation of historical and cultural diversity, and the integration of sustainable urban development. Therefore, Urban regeneration is a process that draws on multiple paradigmatic frameworks to create new ideas and solutions for transforming cities. The notion provided by these researchers leads one to make the conclusions that the evolution of urban transformation from the 19th to the 21st century could be characterised according to three major categories 1) *heritage conservation*, 2) *urban regeneration*, and 3) *redevelopment/ renewal* through the ages.

1) Heritage conservation in that, urban areas which have a historical and cultural significance in the city are generally engaged in heritage conservation-based urban transformation in which the protection of heritage is a fundamental concern. Consequently, it focuses on historic preservation and urban conservation as well as urban restoration, restitution, renovation, and reuse as methods in the process. It develops plans, programs, and policy-based frameworks by public and institutional leadership models for producing international systems in planning theory. 2) Urban regeneration in that, existing urban areas have dilapidated conditions and have economic potential but are still have functional and industrial areas. Urban transformation refers to the process of restructuring an area to make it more attractive and sustainable. Consequently, these focus on urban renewal, revitalization, reform, and land-use change as methodologies in the process

3) Re-development-based urban transformation which refers to the process of transforming an area into a productive and attractive urban space. This can be done through the demolition of rundown structures and vacant lands, as well as the upgrading of public infrastructure. Consequently, it focuses on urban revitalisation as well as regeneration, restoration, and adaptive reuse as methods of its process. It develops co-collaborated and public participated planning policies and frameworks to achieve this approach.

These categories show that changes in the theories of urban function are related to the planning system regulating at the organizational level whereas changes in the practices of

urban transformation are related to the urban space epitomizing the spatial level of urban planning and design. Equally, it reveals that there is complexity within the concept of urban transformation, in that the history of planning history captures the issues of urban development, urban change, and urban conservation. Moreover, paradigm shifts in urban planning persistently reform the content of theory and practice and thus change the context of the concept of urban function and transformation.

2.2.4 INTERNATIONAL URBAN POLICY FORMULATION

The concept of formulating international urban policies to achieve sustainable urban development in cities of the world has been sparingly debated by scholars and researchers. The debates that do exist are, however, robust, and largely of parallel opinions. Horner (2014:2) for example, argues that the approach of international development framing of urban policies to address urban development challenges is increasingly ill-fitting to the 21st century. He argues that this approach is heavily reliant on the North-South Global divide which he explains as the Northern countries providing aid to the South countries thus neglecting urban complexities that are the actual issues within the Northern countries, especially with regards to environmental sustainability (Horner, 2014:6). He further states that international urban policies have been “universal” in nature thus creating difficulties in national countries implementing them in their local contexts (Horner, 2014:8). Horner (2014) instead, advocates for a “relational global development approach, acknowledging the need for critical attention to the enduring tensions between universalization and geographic variation” Horner (2014:2).

The United Nations Research Centre (2016) argues against the narrative, the institution states that international urban policies are a global commitment to sustainable urban development at all levels (global, regional, national, subnational, and local), and that international urban policies encourage the UN-Habitat and other relevant agencies and role-players “*to generate evidence-based and practical guidance for the implementation of the urban dimension of the sustainable development in close collaboration with member States, local authorities, major groups and other relevant stakeholders, as well as through the mobilization of experts*”. (UN-Habitat, 2016: 33). The research centre further states that this process provides an opportunity to control and capitalize on the opportunities of urbanization. By doing so, it can help to promote productive prosperous, and environmentally sustainable cities around the world (UN-Habitat, 2015: 10).

To further divulge these parallel arguments, it is important to understand and define the concept of urban policy. The ministry for regional development of Czech Republic (2010) defines urban policy as a conceptual and systematic activity by a public authority aimed at the development of cities. The objectives of urban policy formulation are mostly derived from the identification of major urban development issues and challenges within a city centre and aimed

at eradicating or managing the identified issues. Turner (2011) expands on this definition and states that urban policy isn't just about central cities anymore. She argues that the city and suburban jurisdictions that constitute metro areas are so interconnected that it does not make sense to focus attention exclusively on core cities (Turner, 2011:1). Burnam (2010) amplifies the notion argued by Turner and states that urban policy formulation should cover national or regional structures and that this definition implies a cross-cutting and interdisciplinary nature, i.e., *"the making and implementation of the policy involves the joint and coordinated involvement of individual sub-policies; regional policy and land-use planning provide a substantive and territorial framework for this coordination"* (Burnam, 2010:5).

Burnam (2010) further states that the starting principle for the creation and application of urban policy is sustainable urban development and integrative economic, environmental, and socio-cultural aspects. These principles cut across disciplines, amalgamate and complement each other, and as a whole provide a framework for improvements in the quality of life enjoyed by the inhabitants of towns and for increasing the attractiveness of towns as places to live, invest and work. These principles should also assist in coordinating existing policies affecting the development of towns and urban areas, initiate consideration for the territorial factor in these policies, and support local authorities in implementing an integrated approach to the governance of their towns. The implementation of the principles of urban policy will therefore be based on joint and coordinated action at all levels of government.

Taking the above arguments into consideration one can deduce that the concept of urban policy formulation is a procedural activity undertaken by a public authority to address urban development challenges in any urbanised geographical location. The aim of urban policy formulation is largely set out to achieve sustainable urban development and to do this there, are various elements/principles that must be adhered to which include, *inter alia*, economic, environmental, and socio-cultural aspects.

2.2.5 EVOLUTION OF INTERNATIONAL URBAN POLICY

This dissertation probes into the actions of the United Nations as a practical example of a public institution that has pronounced and championed urban policy to achieve global urban sustainability, specifically on addressing the urbanisation surge faced by cities across the globe.

The increasing global inter-dependence between governments and markets became the driving force to seek new possibilities for international cooperation and governance in the 20th century (Bruckner, 2018). The United States particularly took a leading role to create this international framework to cooperate and discuss political challenges with the primary goal to maintain peace and security after the experience of World War II. This led to the formulation

of the United Nations in 1945 (Ruggie 2003: 15). Before the United Nations, there was no institutionalised public authority to reach a global consensus on urban matters. Yet, supranational discussions occurred during the colonial empires in the interwar period between World War I and World War II (Bruckner, 2018:15). Nevertheless, after the establishment of the United Nations in 1945, the institution only convened a global discussion on urban policy in 1976 at a conference in Vancouver entitled Habitat I: fully United Nations conference on human settlements.

Habitat I

This conference was the first impellent to discuss development and human habitation. With the Vancouver Declaration on Human Settlements, the conference directed sixty-four (64) recommendations at a national level that the UN General Assembly urged their member states to consider when passing policies pertaining to human settlements (Busch & Bruckner, 2016:18).

The three main achievements of Habitat I were first to agree upon founding a UN Centre for Human Settlements in Nairobi, Kenya that started its work in 1978 and later changed its name in the today-known UN Habitat (UN Human Settlements Programme) agency. With this agency's foundation, global policy conversations on human settlement and cities became institutionalized. Second, it was to call upon all governments to factor in human geography in development policies also by allocating the topic to then small, institutionalized ministries and agencies responsible for land use planning and management. Third, it was to promote establishing civil society organizations that focus on urban issues (Cohen, 2015: 37). Even when urbanization levels had yet to increase, it was already a distinct development phenomenon that generally remained of rather scarce importance at the conference (Busch, 2016).

The Habitat I conference yielded what is known as the Vancouver declaration. This declaration encouraged national authorities to improve human settlements and highlighted that *"the problems of human settlements are not isolated from the social and economic development of countries and that they cannot be set apart from existing unjust international economic relations"* (United Nations Conference on Human Settlements, 1976:2). A second important aspect addressed in the Vancouver Declaration is the recognition of adequate shelter and services as basic human rights including a right to housing (United Nations Conference on Human Settlements, 1976:2). The third normative aspect within the declaration is the aim at developing human settlement by giving most attention to rural development as disparities between the urban and the rural shall be lowered. It understood urbanization on the one hand as highly interlinked with economic changes that pull people into cities and thereby affect rural

areas. On the other hand, when speaking about cities, it was especially the urban poor's vulnerability to environmental risks that was highlighted (Busch 2016).

The Vancouver Declaration became an important point of reference when discussing global urban policy, especially for civil society groups. Habitat I represented a "moral imperative" that no succeeding conference has reached (Wheeler 2013: 227). At the same time, it is apparent that it had never become a powerful policy foundation for nations to follow; neither did it find a serious follow-up by the responsible UN bodies (Cohen, 2015:38). Considering the rise of neoliberal policies in the 1990s and the preparatory deregulations before, it is obvious that Habitat I did not affect member states' macro-economic or sector policies.

Habitat II

In 1996 the second Habitat conference took place in Istanbul, many times referred to as *City Summit* or Habitat II. At this conference, two main documents were agreed upon. The Habitat Agenda with hundreds of commitments by governments and an Istanbul Declaration of Human Settlements, a short version of the former (UN Conference on Human Settlements, 1996). One of the key qualities of Habitat II was its extensive preparation process through hosting meetings around the globe during 1991 and 1992, perceiving urbanization as an opportunity and first spotting the importance of cities in global policy (Cohen, 2015:39).

The two main goals of the Habitat Agenda were to ensure adequate shelter for all and to guarantee the resonate development of human settlements in an urbanizing world. With Habitat II's link to the Earth Summit, environmental issues gained comparably more attention than during Habitat I with intentions on tackling "unsustainable consumption and production patterns, particularly in industrialized countries" (United Nations Conference on Human Settlements, 1996). An intent to protect open and green spaces, reduce transport demands, and save energy. Habitat II was the first conference of its kind that gathered the international community to address urban development strategies and exchange on best practices (Wheeler, 2013:228). The participants agreed that the earth's future will depend on the quality of life provided in cities just as our social, economic, and political future will depend on the way urban issues get tackled. The document called upon better urban planning and more resources for the urban poor. Albeit most of the focus was placed on housing rather than urban issues, and environmental concerns were mostly excluded. The debates reflected a lack of cross-sectional and interdisciplinary perspectives, not grasping cities' functionalities (Cohen,1996: 430).

Compared to the “moral imperative” Habitat I represented; Habitat II was a rather defensive conference. It did not pose the crucial questions to the challenges of human habitat at the time (Wheeler 2013: 228). At the same time, it broke new grounds through its open conference design, impacting many UN-Habitat conferences to come. Similar to Habitat I, its policy follow-up was underwhelming. This was due to a lack of mechanisms to monitor commitments. Finally, considering global urban policy, Habitat II certainly became an arena for taking steps forward in recognizing the pace and importance of urbanization. Whereas it perceived it as an opportunity, it still lacked in becoming the fuel of change to urban policy discourse (Cohen 2015: 40).

Habitat III

The shift in discourse displayed through Habitat I and II indicates the reality that times are indeed changing. With increasing urbanisation, cities gained more attention during Habitat II than during Habitat I but remained to be deficiently discussed. With increasing awareness around globalization, global governance evolved in the steps towards Habitat II, giving more actors, such as local authorities more possibilities to impact the course of the conference. The discussions have also indicated how both Habitat I and Habitat II interplayed with their then-current discourse on development. The sustainable urban development discourse was first set out during Habitat I and had gained more influence during Habitat II whereas, at both conferences, the “Es” for equity and economics still overshadowed the third E for the environment.

Understanding the dynamics of shifts between Habitats I and II will assist to approach the latest Habitat conference and its significance for global urban policy. Habitat III, the United Nations Conference on Housing and Sustainable Urban Development was discussed in Quito, Ecuador from 17-20 October 2016. The specific mandate was to agree on the New Urban Agenda.

The New Urban Agenda is a document that was yielded as a result of the latest Habitat conference. The purpose of this document is to lay a foundation for national governments across the globe to approve policies and guide the efforts on cities of manifold actors for the upcoming 20 years (Buckley and Simet, 2015: 65). In the same breath, this document is intended to present a global consensus about the dual importance and challenges of cities across the globe (Cohen 2016: 36).

Habitat III was the first United Nations global summit to take place after the adoption of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs)

in 2015. In contrast to the former framework of the Millennium Development Goals (MDGs) that addressed the developing world, “the SDGs apply universally across the globe and present a single normative base for all nations” (Huchzemeyer 2017: 3). Taking global urban policy into consideration, the greatest deficiency of the Millennium Development Goals was that they did not tackle the altering urban realities (Bruckner, 2018). The MD goals applied to rural just as in urban settings. The only urban MDG was aimed at “improving the lives of ten percent of the global slum population by 2020” (Huchzemeyer 2017: 2).

The New Urban Agenda, however, takes on a different approach. The document was approved together with seventeen global goals that are broad-based and independent. Moreover, there is a goal, Sustainable Development Goal 11 of the New Urban Agenda which aims at making cities and human settlements inclusive, safe, resilient, and sustainable. This goal targets housing, basic services, transport, urbanization, heritage, risk of disasters, environmental impacts of urban development, needs of people disabled, urban-rural linkages, urban policy and planning, and sustainable building. This is a much more focused and extended mandate that attempts to address urban challenges holistically, as opposed to the sole MDG “slum” upgrading (Huchzemeyer, 2017:3).

The New Urban Agenda is premised on the notion that urbanisation should be viewed as a positive phenomenon and should be “well planned and well managed”, only then will it become an effective tool for sustainable urban development for cities across the globe (United Nations, 2017:7). The document identifies national urban policies, urban legislation, urban planning and design, financing urbanisation, and local implementation as key pillars to achieve this sustainable urban development. The internationally negotiated document further proposes a specific model of city planning which follows the ideals of compact cities and appropriate density with polycentric growth, mixed-use streetscapes, the prevention of urban sprawl, and transit-oriented development.

If one takes note of the discourse on global urban policy the New Urban Agenda can be perceived as a paradigm shift in the way, it recognizes the functional interaction of cities and development. This is represented in the elevation of cities and their importance in suitably managing urbanization. This newly found relevance of cities contrasts the previous development discourse in the MDGs that failed at tackling altering urban realities. The New Urban Agenda highlights a shift in global policy which focuses on city-centric development. Whether cities are important or not to achieve sustainable development is no longer a question. (Parnell, 2016: 529f). The focus is now on interrogating why and how urban space

will affect our future. And this interrogation is framed in a pro-urban discourse that perceives cities to become “drivers of sustainable development” (United Nations 2017: 9).

In conclusion, a researcher that intensely studied the participatory methods of the Habitat III journey stated that the significance of the New Urban Agenda will be measured by the way it affects the lives of 3.5 billion urban dwellers (UN-Habitat World Cities Report, 2016). The urban poor will measure it by whether their living conditions improve or not. Mayors will measure it by the way it can improve their stake in national and global decision-making. Investors will measure it by the way it simplifies their work. The technology industry will measure it by the way it boosts its business in smart technology. And many civil society groups will measure it by the way it balances its contradictions such as to what extent the smart city and the growth paradigm trump the right to the city (Bruckner, 2018).

2.3 THEORETICAL FRAMEWORK

This section of the research study will focus on the theoretical components that inform the urban agenda, urban sustainability, and urban resilience. The theoretical component will assist in placing the research problem under studies and or theories that exist which can be considered in providing better planning direction for the new urban agenda and consequently cities around the world.

2.3.1 CITIES AS GROWTH CENTRES

The cities as growth centre theory is defined as service centres (rural or urban) that have a potential for further development and need to be supported by further public and private sector investment (Gaddery, 2013). It is a powerful strategy for micro-level planning for both urban and rural areas. The main theoretical base of the growth centre concept is the ‘growth pole’ theory.

2.3.1.1 THE GROWTH POLE THEORY

The growth pole theory originated from the British Economist, Sir William Petty (1623-1687), who was fascinated by the high growth in London during the 17th century and conjectured that strong urban economies are the backbone and motor of the wealth of nations (Gantscho, 2008). However, it was the French Economist, Francois Perroux (1903-1987), who is credited with formalizing and elaborating on the theory (Gantscho, 2008). Since then, the growth pole theory has been subject to various definitions and interpretations, and its application has spread across the globe considerably.

Growth pole theory, as originally formulated, assumes that growth does not appear everywhere at the same time, but it manifests itself in “points” or “poles” of growth (Perroux, 1955:154). With variable intensities, the growth spreads by different channels and eventually affects the economy (Vanneste, 1971). It is widely argued that Perroux’s initial concept of

growth pole denoted an individual plant; one that occupied an abstract economic space, rather than a specific geographical space such as a city or region (Vanneste, 1971 and Monsted, 1974). In his later writings, as Vanneste (1971) points out, Perroux refined his concept of growth pole as a dynamic unity in a defined environment.

Based on these features of the growth pole concept, other authors (Davin, et al, 1950) associated a functional attribute to the theory. They suggested that a growth pole is formed when an industry or multiple industries can create a growth pole by contributing to the regional economy's development. They also suggested that a growth pole should form when an industry can create new jobs and stimulate the development of other industries related to it. In his book, Vanneste argues that the concept of the growth pole has a functional character, and it would be wrong to neglect the spatial aspect and the geographical implications of the concept (Vanneste, 1971).

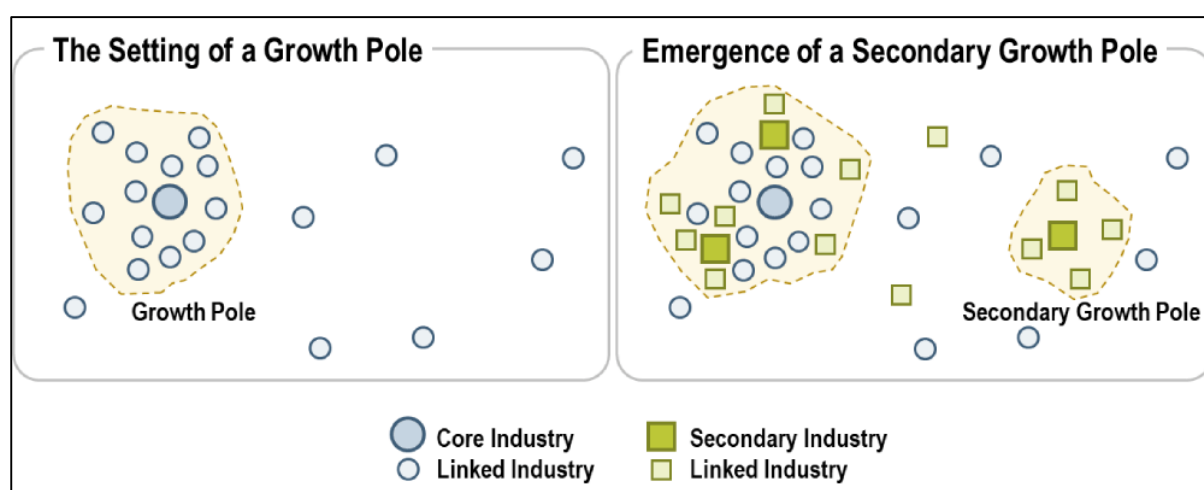


Figure 3: Growth Pole Theory Diagrammatic Illustration

Source: Jean-Paul Rodrigue (2017)

As discussed previously, the growth pole theory was originally based on development through the economy however, later and an additional feature of geography was added as an enabler of a growth pole. By viewing growth poles as geographic features which exist in space, economists were working to prove a mutually beneficial relationship between the growth pole theory and urban compaction. (Monsted, 1974 and Strobl, 2003). The assumption was the urbanization and concentration theory proposed that cities with a high concentration of capital resources and population could become growth poles. In this instance, Penouli (1972) and Friedman (1966) have presented growth poles as centres that reinvigorate development through innovation.

According to Berry (1993), the practical strategies related to the growth pole theory were widely considered and implemented in the 1960s. By the late 1970s, the concept and

strategies of the growth pole was being implemented particularly in developing countries (Gail, 1978:168). However, the growth pole theory was mostly abandoned during the 1980s due to dissatisfaction with the lack of coherence between the various notions of growth poles. This was attributed to the fact that the majority of the policies developed using this theory as a strategy were not successful in realising real economic growth in areas. This was particularly evident in developing countries (Dawkins: 2003).

It has been observed that despite creating balanced regional development, growth poles had created regional inequalities. Stohr and Todtling (1977:53) synthesised the case studies and found that growth pole strategies could not bring development to rural areas. They concluded that the growth pole strategies may have been successful in reducing inter-regional disparities but, as local spread effects were weak, moreover, they had at the same time caused intra-regional, and rural-urban disparities (Christans, 1997:60).

(Turok:2015) argues that the growth pole concept seems to suggest that as countries become more urbanized or industrialized and less dependent on agriculture, urban areas are more likely to become important for fostering positive externalities, nourishing innovation, providing a hub for trade, and attracting human capital accumulation. However, empirical studies conclude that urbanization is not the driver of income growth per se (Bloom and Khana, 2007). The findings are that at low levels of economic development, the association between the level of urbanization and income per capita is weak. This implies that simply concentrating firms and people in a specific geographic location does not necessarily guarantee that agglomeration economies will be achieved for the region.

There is a view that the use of the growth pole concept as growth diffusion theory does not work for African nations (Mabogunje, 1971; Mitchell-Weaver, 1991 and Kessides, 2005). On a similar note, Mitchell-Weaver (1991) argues that development models based on hypothetical relationships positioned to exist in a mature capitalist urban economic system is inappropriate in most third-world countries. Against this backdrop, the crucial question to address is whether the growth pole concept itself is flawed? or is its application and timing for African countries that is questionable? Whatever it is, the growth pole approach as described in this dissertation has not attracted much attention in Africa, compared to Asia and Latin America. Nevertheless, through international partnerships and governments' commitment to redress the negative repercussions of the high rate of urban growth in Africa, the interest in the growth pole concept has been roused.

2.3.2 THE THEORY OF PLANNING

Planning has been defined as the process of thinking through and implementing a set of appropriate actions to achieve a variety of goals (Johnston 1983). Planning generally includes

actions and designed to solve problems, for the present, and in the future. Oxford dictionary of geography defines it as “*Planning presupposes an ability to foresee events and a capability for analysing a situation and solving problems*” (Mathew, 2004).

Misra et al (1976:11) state that planning is a continuous movement towards desired goals and because of this all-major decisions must be made by agencies informed of those goals and the social purpose behind them. Even in considering a five-year period, forward and long-term planning has always to be kept in view. It can thus be deduced that planning is an important requirement for the overall development of any region and the basic purpose of planning is to achieve definite targets and objectives within a specified period.

Stohre and Todtling (1977: 56) state that planning can be classified based on different criteria. The first being non-spatial and spatial planning. Non-spatial planning includes spatial dimensions which are not explicit, such as national economic planning, family planning, energy, and social planning. However, all of them when applied uniformly in all parts of a country can generate geographical effects. Spatial planning is defined as the planning in which geographical dimension is explicit.

Sectorial planning is essentially non-spatial planning focused on the development of various sectors of the economy such as agriculture, and industry *inter alia*. This kind of planning lacks an integrated structure and may lead to social and human problems like environmental pollution, increasing inequality, and poverty resulting in spatial imbalances. Sectorial developments can be implemented within a spatial framework according to the specific requirement of the different spatial units which may differ from each other in terms of physical, economic, social, and cultural conditions. Sectorial development may not be achievable if due attention is not given to the regional context.

The second criterion is centralized and decentralized planning. Centralized planning is based on the top-down approach where a central authority is the supreme decision-making body. The entire planning process is based on bureaucratic control and regulation. Whereas decentralized planning is based upon the bottom-up approach. Under it, a plan is formulated by the central planning authority in consultation with the different administrative units of the country. The state plans incorporate regional and precinct-level plans which are formulated at the respective levels.

2.3.3 COMPACT POLYCENTRIC THEORY

The concept of polycentric was first envisaged by Michael Polanyi in his book “*The Logic of Liberty*” in 1951 (Tarko, 2013:5). Since then, Geddes and Howard had used the theory although, they had not named it as polycentric as yet. The polycentric theory had since been used in multiple disciplines. Micheal Polanyi used it in science and later the theory diffused to

law studies (Chayes, 1976; Horowitz, 1977), urban networks studies (Davoudi, 2002; Hague & Kirk, 2003), and governance studies (Aligica&Boettke, 2009).

From a policy and planning perspective, the polycentric theory is defined or associated with two theoretically distinct aspirations 1) functional balance and 2) spatial integration (Lambregts 2009; and Vasanen 2013). These two perspectives when combined have become the new objective of 'functional polycentric' development which if applied at a regional scale is said to possibly deliver an 'integrated polycentric region'.

A defining feature of polycentric therefore is a polycentric model which encourages balanced development between regions and cooperative urban-rural relationships. Thus, polycentric development is not about cities making massive investments to grow bigger. Instead, it is about building linkages and joining forces with neighbouring cities and towns to borrow size and quality, to ensure positive spill over effects for the development of wider regions. In this way, polycentric development can contribute to reducing regional disparities at all levels (European Regional Development Fund, 2017).

Since the early 1990s, the global trends towards the compact polycentric model of development had already started to shift. The British government had made urban compactness a central element of its sustainable development policy (United Kingdom Department of the Environment, 1994) and the Dutch government had taken similar action (Sorensen et al., 2004). Most recently, the Japanese government has introduced the concept of "Eco-Compact City" as one of its top-priority urban policies (Ministry of Land, Infrastructure, Transport and Tourism, 2009).

The compact city strategy aims at intensifying urban land use through a combination of higher residential densities and centralization, mixed land uses, and development limits outside of a designated area (Churchman, 1999). Compact cities also typically involve concentrations of urban services, jobs, and transportation options in a highly dense and interconnected core, composed of sub-centres extremely close one to the other.

Furthermore, compact polycentric development prioritizes development close to and radiating from an urban core, where the definition of high-density development is based primarily on the concentration of jobs, businesses, and dwelling units. Cities such as New York, London, and Tokyo, show a compact form of polycentricity in their core. They depict this as the core of the economic activity, which is not scattered over vast land but shows patterns of extreme concentration matching and patterns of extreme connectivity. Global cities, that are efficient for mitigating climate change, while ensuring high economic growth depict what is called compact polycentricity wherein, a series of complementary sub-centres are interlinked by dense and traversing transit networks (Urban Morphology and Complex Systems Institute,

2015:15). This dissertation will further converge best practices of cities that have achieved relative success in creating compact polycentric development within the precedent studies section.

2.4 CONCLUSION

The literature that has been evaluated within the conceptual and theoretical framework is underpinned by the ability of the Habitat III New urban agenda to address urban challenges particularly in the City of Johannesburg. The literature evaluated indicates several key aspects in achieving sustainable urban development. The first key aspect is that more than half of the world's population currently live in cities, and a projected 70 percent will be living in urban areas by 2050. Urban settlements are growing and will continue to grow whether this is planned or unplanned. This phenomenon is termed urbanisation and the high rate of urbanisation experienced by cities across the world, specifically African cities poses challenges to the urban form and sustainability of cities within African countries. Africa is the fastest-urbanizing region in the world and will enter the urban age in about 20 years, where more than 50 percent of its population will be urban, presenting considerable opportunities and challenges for the region's growth and transformation agenda.

If one considers the qualitative aspects of African urbanization trends, the income gap between rich and poor has reached its highest levels both in developing and developed countries in the past three decades. Within the built environment, this is visible through informal settlements that have continued to grow, fuelled by rural-urban migration, and advancing numbers of gated communities. One can thus deduce that urbanisation in Africa has in most cases been unplanned and poorly managed, and thus characterized by large informality, inequality, and poverty while posing growing risks for the environment. The second key aspect is that much of how cities progress, stagnate or become dysfunctional depends on the extent to which their evolution is planned, coordinated, and well-managed. These factors in turn depend on the skills, money, and political will available and used in the best possible way to improve the lives of millions of people. The alternative is poor transport networks, insufficient water supplies, public health crises, vast informality, and informal settlements, *inter alia*.

Literature indicated that governments in many countries have taken the initiative and have developed policies to coordinate and manage the process of urbanization in their respective countries. Due to different contexts, histories, skills capacity, and other features. Each country's urbanization process is different, with varying goals and unique challenges. No one urbanization policy fits all scenarios, but there is much to be learned from other countries' experiences and attempts at creating universal urban policies. This was evident in the shift in

discourse displayed through Habitat I and II indicating the reality that times are indeed changing. With increasing urbanisation, cities gained more attention through urban policies, during Habitat II than during Habitat I, but remained to be deficiently discussed. However, if one takes note of the discourse on global urban policy the Habitat III New Urban Agenda can be perceived as a paradigm shift in the way it recognizes the functional interaction of cities and development. This is represented in the elevation of cities and their importance in suitably managing urbanization. This newly found relevance of cities contrasts the previous development discourse in the MDGs that failed at tackling altering urban realities. The New Urban Agenda highlights a shift in global policy which focuses on city-centric development. Whether cities are important or not to achieve sustainable development is no longer a question (Parnell, 2016: 529f). The focus is now on interrogating why and how urban space will affect our future. This interrogation is framed in a pro-urban discourse that perceives cities to become “drivers of sustainable development” (United Nations 2017: 9).

The third and final aspect that the literature identified is that achieving sustainable urban development requires stakeholders, through a participatory and collaborative process, to foster urban policies that promote more compact, socially inclusive, integrated, and connected cities that are resilient to climate change. The theories cities as growth centres, growth theory, and compact polycentric theory all allude to the development of compact functional cities as one of the best theories applied to achieve results in sustainable urban areas within European and Asian Cities.

Literature indicates that for long periods within African cities, the traditional model of urban form used was and still is the monocentric city. Organized around a single and dense central business district and a gradient of densities when moving away from the city centre. This simple structure theoretically emerges from a trade-off between access to economic opportunities in the city centre and transport costs. However, recent models acknowledge a higher complexity of the spatial structure of many cities, particularly in emerging economies, with polycentric structures emerging from a trade-off between agglomeration forces and distribution forces. In more simple terms, the compact polycentric theory of development encourages intense and diversified land uses, higher densities, and economic opportunities to be clustered around a connected public transport system with supporting social and recreational facilities to achieve mixed-use precincts that are sustainable and meet the needs of the residents within a city. Ultimately, the literature evaluated revealed that role players that assist in shaping cities need to review the methods of urban development. With increasing urbanisation and the urban challenges experienced by cities across the world, including the City of Johannesburg, need to evolve. Business as usual will not assist in curing urban challenges. Thus, a new model and approach ought to be investigated and implemented.

CHAPTER THREE: PRECEDENT STUDIES

3.1 INTRODUCTION

A recurring theme that is evident within this dissertation is the importance of cities in curating sustainable, inclusive, and liveable habitats in an urbanising world with increasing urban challenges. To address new and emerging urbanisation challenges and encourage the development of sustainable cities, the United Nations adopted the Habitat III New Urban Agenda in 2016.

The New Urban Agenda is an urban policy document that is universal in scope, participatory, and people centred. The policy document has committed to eight key factors that cities would need to guide and implement to achieve sustainable urban areas. The eight key commitments were adopted to envision a city that offers “1) the right to adequate housing as a component of the right to an adequate standard of living, without discrimination, 2) universal access to safe and affordable drinking water and sanitation, 3) equal access for all to public goods and quality service such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality and livelihoods, 4) participatory, civic engagement and social cohesion and inclusion, 5) women’s full and effective participation and equal rights in all fields and in leadership at all levels of decision-making, 6) reduced disaster risk, 7) sustained, inclusive and sustainable economic growth and lastly 8) protection, conservation, restoration and promotion of city’s ecosystems, water, natural habitats and biodiversity” (United Nation Discussion Document, 2016).

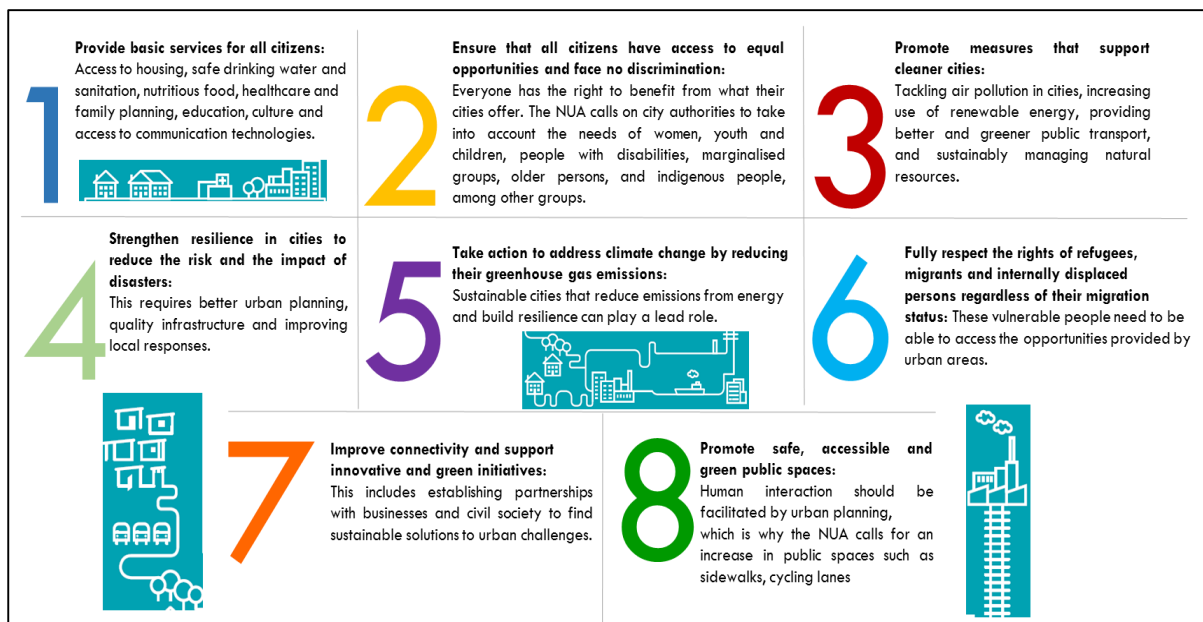


Figure 4: New Urban Agenda Eight Commitments

Source: Own Source, 2020

Apart from these eight key commitments, the New Urban Agenda is a policy that represents a global compact for advancing the Sustainable Development Goals. The agenda also focuses on altering the narrative of urbanisation in that, urbanisation can be valuable if it is well planned for and well organised. Moreover, the agenda indicates that good urbanization does not happen by chance, but rather by design. Thus, it requires supportive rules and regulations, sound planning and design, and a viable financial plan. As whenever and wherever cities manage all three, they function as transformational drivers of sustainable development.

However, the literature indicates that the intent of the Habitat Agenda has not remained the same since the adoption of Habitat I in 1976. Consequently, the Habitat Agenda in its evolution has yielded numerous different successes and failures within the various mandates. Taking this into consideration, it would be premature to access the precedent studies on cities that have achieved success in developing sustainable urban areas through implementing the Habitat Agenda. As the sole Habitat Agenda that has truly focused on creating holistic sustainable urban areas is the latest Habitat III New Urban Agenda which was adopted in 2016.

Against this backdrop, this chapter will access cities in developed and developing countries which have been instrumental in achieving sustainable and resilient urban areas using the identified key elements committed to in the Habitat III New Urban Agenda. Subsequently, the chapter will examine the experiences and assess the success and failures of the developed and developing countries in reducing urban challenges and advancing the Habitat III Agenda. As well as study how South Africa and its cities have fared in this regard to achieve sustainable urban areas.

3.2 IMPLEMENTING THE HABITAT III NEW URBAN AGENDA KEY COMMITMENTS TO ADDRESS URBAN CHALLENGES IN DEVELOPED COUNTRIES

Most countries in the developed world, particularly in North America, Asia, and Europe are at an advanced stage of sustainable urban development and can offer lessons for developing countries in Africa and South America, notwithstanding that there are some virtuous precedents set by developing countries.

3.2.1 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN TOKYO, JAPAN

Tokyo provides a good illustration for sustainable urban development through intentional design and urban form. The genesis of achieving sustainable development for cities in Japan began with clear strategic national policies which proclaimed a focus on a specific goal, being the “Eco-Compact City”.

The Japanese government introduced the concept of “Eco-Compact City” as one of its top-priority urban policies (Ministry of Land, Infrastructure, Transport and Tourism, 2009). This city

strategy aims at intensifying urban land use through a combination of higher residential densities and centralisation, mixed and intensified land uses and limiting intensified development outside of the urban development boundary (Churchman, 1999).

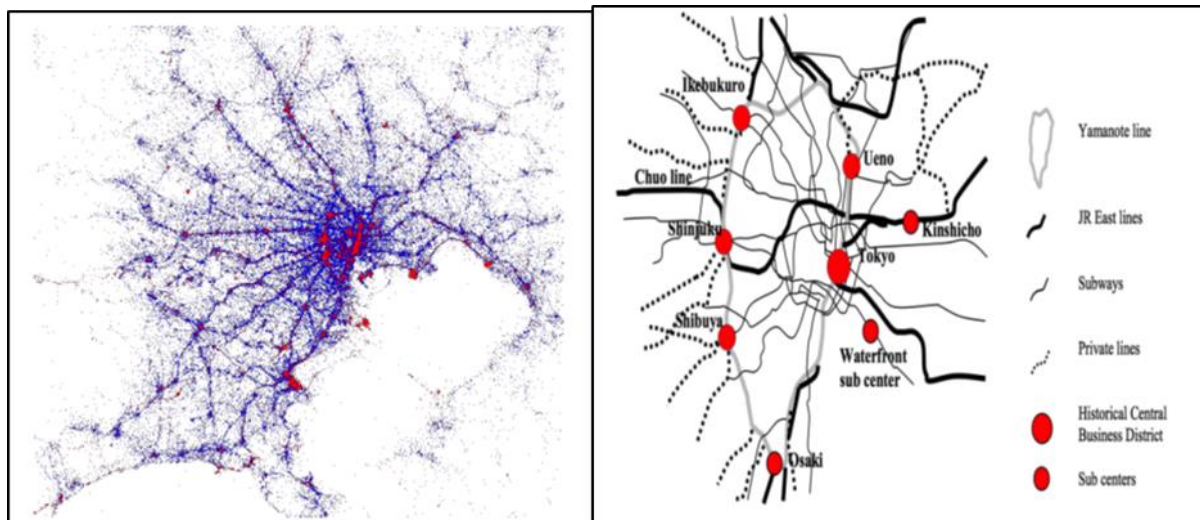
The Eco-Compact City concept is essentially a polycentric model of development with transit-oriented development as the strategy to unlock sustainable development. Subsequently, In Tokyo the sub-centers of the city present high peaks of value creation and high densities of jobs and housing concentrated along the main transit line. This urban form has been created by more than one century of integrated transport and land use planning with public investment around transit nodes leveraging huge amounts of private investment, and with land value capture mechanisms to finance investments in transit (Urban Morphology and Complex Systems Institute, 2015:18). The results of implementing these factors have been reduced trip generation, which means commuters spend less money and time on traveling, reduced carbon emission into the environment, creation of more efficient urban areas which promote quality mixed-used precincts that is well-located, close to public transport networks, and easily accessible to job opportunities, with a range of mixed-use developments and social facilities to create well-balanced communities.

Below are maps that indicate the activity of the complex polycentrism of Tokyo and the connectivity that has created a highly compact polycentric form. The Yamanote line, which is Tokyo's rail public transport line, is 34.5 km long. It has 29 stations and encloses a relatively small area of about 60 km² where most of the economic density of Tokyo is concentrated. Besides being a dominant mode of transportation with a market share of over 50% within Tokyo 23 wards, the urban railways have also played a decisive role in shaping Tokyo's urban structure.

During the period of enormous economic growth after World War II, it was largely the railways that facilitated the development of Tokyo. As a result, large areas of land have been developed around the railway lines that radiate outwards from the city center. The integrated development of railways and their surroundings was stimulated by the fact that private railway developers owned not only the railway infrastructure but also large parts of the areas surrounding it. The structure of the private railway network in Tokyo has supported the formation of sub-centers. The network consists of several radial lines running from the suburbs to the center of Tokyo.

Furthermore, as one of the world's largest metropolitan area with 37 million citizens, Tokyo has invested substantial amounts of money into becoming a Smart Energy City. This entails increasing the percentage of energy from renewable sources to 30 percent by 2030, reducing emissions from vehicles through creating hydrogen-fuelled cars, reducing emissions by expanding pedestrian zones and establishing bike-sharing programmes as well as

implementing an efficient and low carbon public transport system (Masuzoe, 2017). Through Tokyo's cap and trade schemes, it has achieved a 25 percent reduction in emissions through public-private partnerships and the willingness of the private sector to run low carbon footprints (Masuzoe, 2017) since the devastating earthquake and tsunami in 2011.



Map 1: Spatial Connectivity of Tokyo

Map 2: Structure of Tokyo's Railway Network

Source: Eric Fisher and Chorus, Bertolini 2011

Tokyo is also investing in its water infrastructure, which has been a fabric of the city's economic and cultural life for hundreds of years. This is to ensure that waterways are used sustainably to promote economic development. Most recently in the aftermath of the 2011 tsunami, Tokyo has invested in disaster preparedness to be a more resilient city in the event of extreme weather events or natural disasters and also to create a cleaner environment. The "Eco-compact City" compact polycentric development model has yielded sustainable development for Tokyo. This has enabled the environmental, economic, and social landscape to work together in creating a sustainable urban form that caters to the needs of the residents of Tokyo and subsequently developing a resilient and functional urban area.

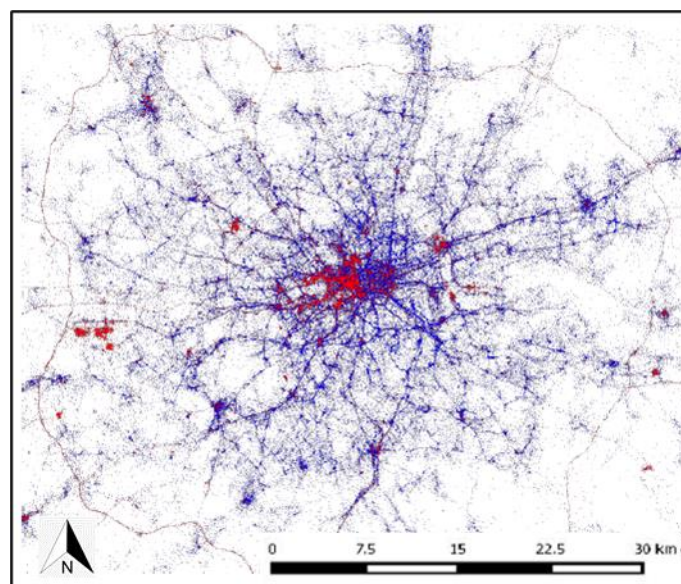
Concerning the Habitat III New Urban Agenda, Tokyo has implemented, complemented, or in the process of implementing several of the key elements committed to in the New Urban Agenda, to ensure a sustainable, resilient urban area is created. However, a report published by the UN indicated that Tokyo is becoming less affordable particularly with regards to affordable quality housing. The city thus needs to work on implementing a framework for access to affordable quality housing for all its residents.

3.2.2 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN LONDON, UNITED KINGDOM

In 2018, Arcadis published the Sustainable Cities Index which ranks 100 global cities on three pillars of sustainability namely people, planet, and profit in close alignment with the United Nations SDGs (Leban, 2018). The City of London was ranked among three of the most

sustainable cities in the world. Similar to Tokyo, London achieved this accolade by adopting clear and intentional strategic spatial policies which aim at concentrating jobs and people in core areas of the City, thus implementing a compact polycentric model of development within the City (Salat 2016:18, Bourdic, 2016:18 and Labbe 2016:18).

In London, economic densities and jobs densities show extreme peaks of concentration within a spatially limited and hyper dense core and with several sub-centers spatially close linked together at less than 20 minutes by transit, and highly accessible from the periphery. Practically this translates in space as forty-one percent (41%) of the jobs are concentrated in two percent (2) of the city area, creating a strong agglomeration economy force (Salat et al, 2016:20). Policies of jobs concentration in global cities are further accompanied by investments in connectivity to make these highly concentrated job areas accessible to many people. For example, Crossrail in London Investment in new transit lines aims at increasing people accessibility to these core densities of jobs will bring 1.5 million people more at less than 45 minutes by transit from the central core jobs.



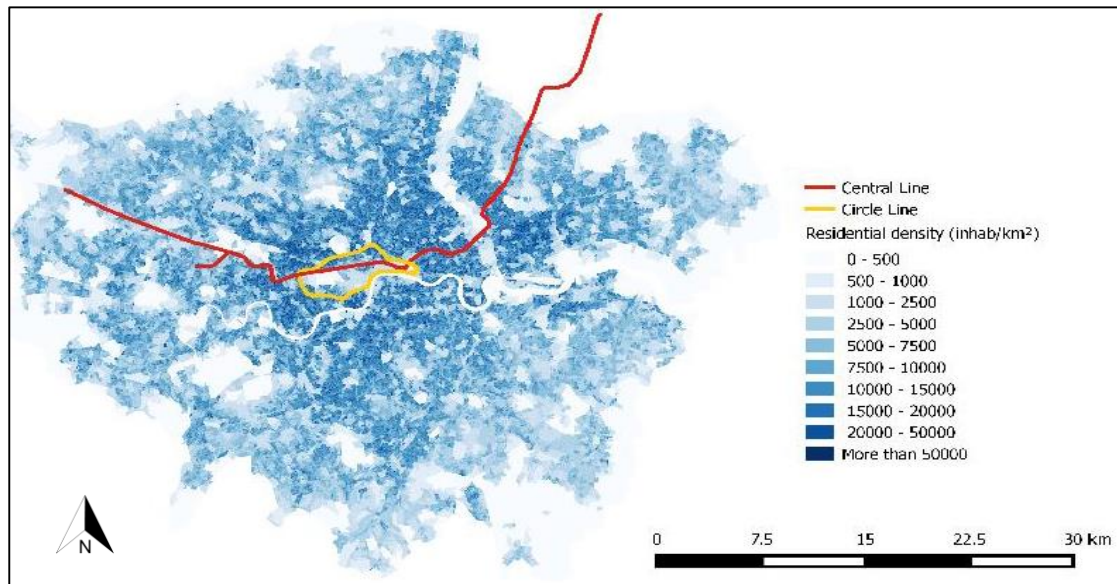
Map 2:Heat Map of Greater London

Source: Eric Fisher, 2015

The map above indicates the activity in London which reveals the complex intersecting of transit lines that concentrate the economic activity in a highly compact and concentrated form of polycentrism in the city core.

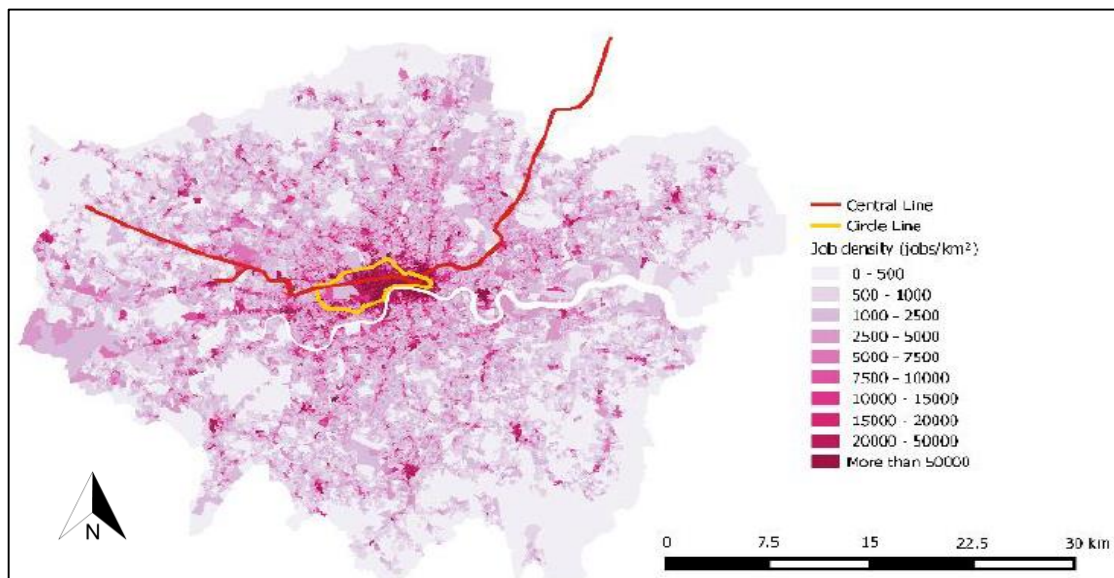
Residential densities in Greater London are more evenly distributed than jobs densities (that are highly concentrated in Central London), but transit ensures a high accessibility to jobs with 53 % of the population living less than 1 km from mass transit (with 22% less than 500 m and 82% less than 2 km) and 67 % of jobs less than 1 km from mass transit (with 43 % less than

500 m and 87 % less than 2 km). Jobs densities in Greater London are mostly within Circle line that defines Central London and along transit lines with higher densities around the nodes.



Map 3: Residential densities in Greater London

Source: Urban Morphology Institute, 2016



Map 4: Job densities in Greater London

Source: Urban Morphology Institute, 2016

Maps 3 and 4 above indicate that the high accessibility to jobs is ensured by their high concentration in the core, which fosters agglomeration economies. This hyper concentration of jobs is a strength, and it generates agglomeration economies provided an efficient transit system is in place to avoid agglomeration diseconomies such as congestion and travel time. Providentially, London boasts one of the most efficient mass public transport systems in the

world. The city has a 402km underground railway line, with over 8000 busses that operate twenty-four hours and serve over 6 million residents, which is a considerable amount as the city has approximately nine million inhabitants.

The city is not without its challenges, for decades the City of London has been struggling with environmental quality specifically air quality and pollution, traffic congestion, and affordable housing. The city however has made great strides in addressing these challenges through ambitious climate-neutral strategies, renewables, and green transport. With regards to transport, the city of London has invested in diesel-electric hybrid buses, which deliver around 40% carbon reduction, along with other types of alternative fuel busses. Almost half of the busses in London operate on biofuel, hybrid, or simply electric. The famous red buses are now back on the streets in a greener form with solar panels and wooden floors with the introduction of many more electric vehicle charging points.



Image 1:Eco Trams Public Transport, London

Source: UK Government, 2016



Image 2: Hydrogen Red Busses

Source: City of London, 2018

With regards to traffic congestion London has made considerable efforts to move to a greener model of mobility with the introduction of urban tolls which limits vehicular traffic, many new cycle lanes have been added to the road networks, and a free bike rental service introduced. This strategy has proved to be successful as there are now 550 bike docking stations and as a result, bikes have been used for more than 22 million additional journeys since 2010.



Image 3: Bike Share, London

Source: London bicycle Tour Company 2017

The City of London also maintains 35000 hectares of public green spaces, which equate to about forty percent (40%) of the city's geographical landscape. Through sustainability measures and climate reduction policies that work to encourage public transit and cycling. London strives to reduce greenhouse gas emissions by more than 60% by 2025. The City is also investing heavily in renewables and dedicated zero waste policies as well as introducing

strategies such as green roofs and walls to enhance the environment, promote biodiversity, reduce the urban "heat island" effect, improve insulation and reduce rainwater run-off. The city has not been instrumental in curbing the challenge of affordable housing.

However, in the greater scheme of proceedings, The City of London has been instrumental in advancing some key commitments stipulated in the Habitat III New Urban Agenda. The city has also demonstrated that to achieve sustainable and resilient cities there needs to be a balance between space, the economy, the needs of people, and the conservation and protection of the environment.



Image 4: Hyde Park, London

Source: Leban, 2017

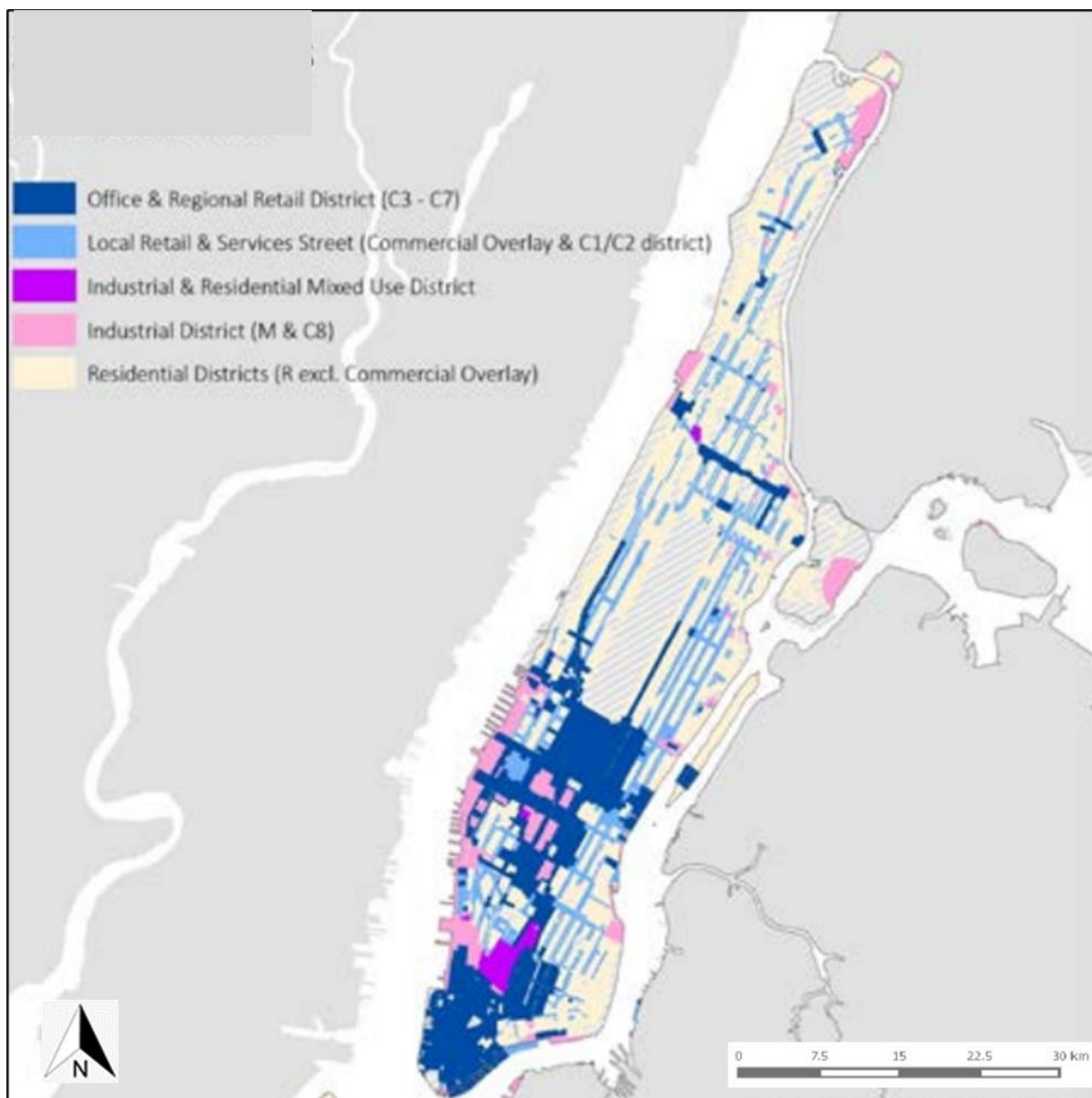
3.2.3 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN NEW YORK, UNITED STATES OF AMERICA

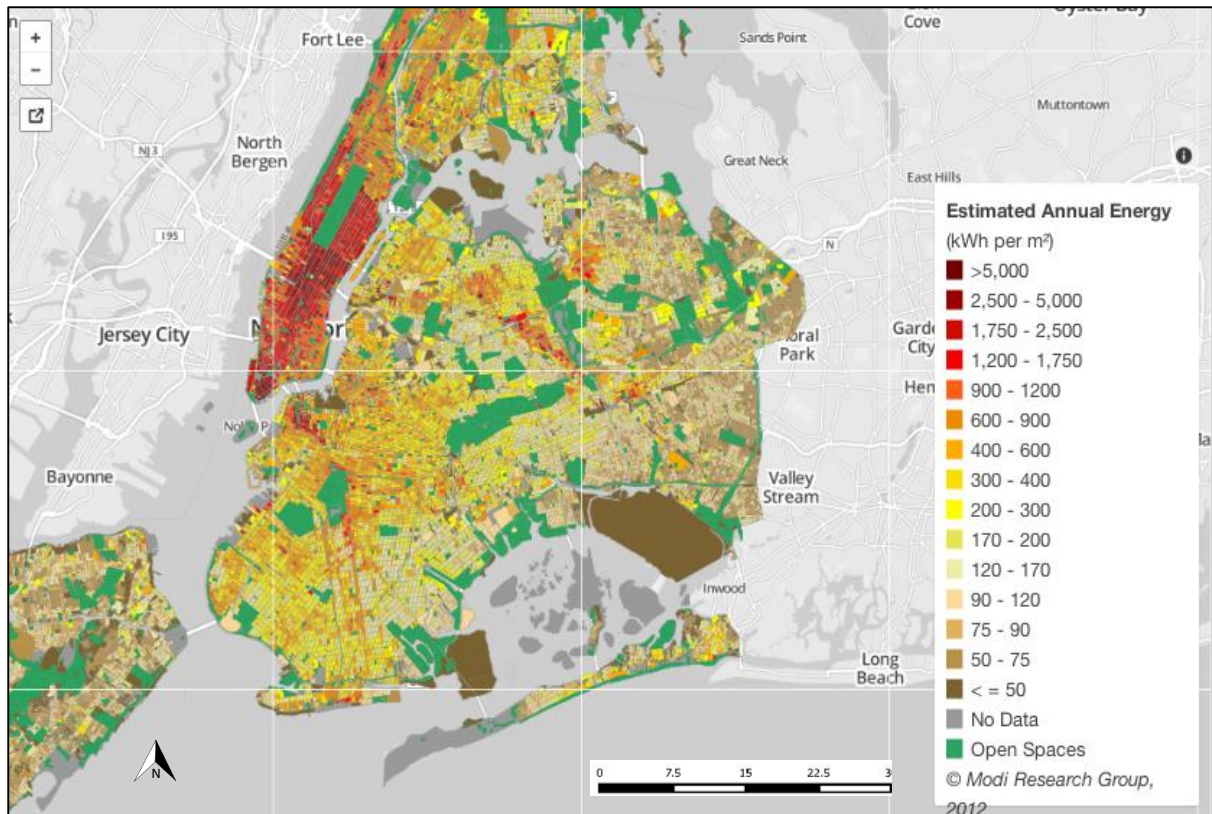
New York City is an economic and cultural beacon of the United States of America. It is also one of the most sustainable cities in the United States of America, and arguably in the world, since the introduction of its pro-sustainable development public policy, named *NYC on the path towards sustainability 2030*.

The city's public policy indicates a polycentric model of development, as it shows several sub-centers and two CBDs, Midtown, and Lower Manhattan. Most of the jobs and value creation is concentrated in the 66 km² of Manhattan, which is transversed by a connected and interlinked road network as well as an average public transport system. The maps below echo the polycentric form of development as they indicate the concentration of information and economic activities that match the accessibility map at 30 minutes by transit from midtown and the energy density map that is a proxy of the density of land development and jobs concentration. Essentially, the fine integration of jobs concentration, economic activity, and transit contributes to lower carbon emissions, increased accessibility, and efficiency for the residents of New York City. However, it is noted that the city has not yet intensively invested in reliable and convenient public transit to allow access for all, as evident in London and Tokyo,

which illuminates the average 30-minute travel time and traffic congestion within the city (Javorsky, 2018). The city thus has not fared well with regards to commitment three of the Habitat III New Urban Agenda.

However, with regards to environmental sustainability, the City is demonstrating that the most efficient way towards viable environmental sustainability is through a dedicated public policy. In 2014, the city pledged to reduce greenhouse gasses emissions by 80 percent by 2050. The outputs of this pledge are evident through the city's growing number of dedicated bike lanes, the rehabilitation of dead space into public parks, introduction of urban gardening as a key component of city development as well as the implementation of environmentally friendly building regulations as a mandatory legislative component to the approval of buildings within the city.





Source: Eric Fisher, 2015



Source: New York City Planning, 2019

New York City is pioneering in the development of buildings that do not have a high tax on the environment but instead contribute to a sustained continued energy consumption after the building has been constructed through means such as encouraging passive buildings, recycling waste and water as well as managed stormwater drainage. The city provides tax incentives for developers who obtain a green building certification which encourages developers to build low-energy buildings. Moreover, New York City identifies the need to encourage and educate the public to invest in environmental buildings so that building designers know that people are willing to purchase sustainable housing, (Lancaster, 2017).

Furthermore, according to the life science report 2018, New York City has one of the lowest carbon emissions per person in the United States. The residents of the city make up six percent of the American population. However, they only consume one percent of the country's industrial power and emit less than three percent (3%) of the greenhouse gasses (Ombelilini, 2018). The environmental authority of the City indicates that the major factor in achieving these targets is attributed to the growing efforts of the country to move into cleaner fuel which the city has established its strategies to implement the changes within its systems and industries (Ombelilini, 2018).

The precedent study of New York City indicates that a clear and intentional public policy is essential to achieve the sustainability of a city. Secondly, the city fares well in most of the categories to enable a sustainable and resilient city. However, New York City still needs to establish a framework to ensure access to affordable and quality housing for all its residents. This will assist in the displacement of residents and decrease traffic congestion within the city.

3.2.4 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN BARCELONA, SPAIN

Barcelona is the second-largest city in Spain with approximately 1.6 million residents, as of the population census in 2012. The city of Barcelona had been experiencing various urbanisation challenges which included housing and urban infrastructure deficiencies, loss of economic activity, and environmental degradation. In response to these challenges the city council, in partnership with citizens and the private sector, formulated an integrated plan to rehabilitate the state of the city (Joan Clos, 2005). Since the implementation of the integrated plan, the city has been performing well and was rated as the fourth sustainable city in the world, in the 2018 Arcadis Sustainable Cities Index.

An efficient and reliable public transport system is one of the key factors contributing to the sustainability of Barcelona. Apart from the modern metro bus system, the City of Barcelona boasts of five railway lines which connect the city over a trip distance of 5 to 30 minutes as well as a 16km tram which links the city center with the north-western suburbs (Boyle, 2016). The city is currently constructing a new high-speed train. To complement the public transport

network, the City of Barcelona has recently invested in developing a pedestrian-oriented environment through a programme named superblock. This programme is aimed at increasing green spaces in Barcelona, building world standard pedestrian-oriented environments, and minimizing traffic congestion. The first initiatives implemented under this programme were 1) implementing restrictive measures on private vehicles and 2) introducing cycling and cycle lanes as a means of commuting. As such, the city now has over 500 bicycle stations where people can collect bicycles from these stations to ride to and from their places of destinations (Boyle, 2016). These initiatives have contributed to the reduction of greenhouse gasses emitted.

Walking as a form of urban mobility has increased in Barcelona. In a comparative study on the financing of public transportation in European metropolitan cities, Barcelona was rated the highest with 41% of residents traveling on foot (European Metropolitan Transport Authority, 2010). This is enabled by the compact model of development of the city. Whereby, access from residential areas to places of employment and recreational activities are located within proximity. With regards to housing, The City has catalysed affordable residential development through the construction of more than 2000 public residential dwellings and a further 22,400 residential dwellings rehabilitated (Barcelona Integrated Plan, 2006). The residential units have served to resettle residents affected by a new urban development plan, opening new spaces, and providing for new roads. Urban redevelopment and social policies have improved the life expectancy of the city residents, its educational levels, household income, and economic activity which has consequently reduced the economic and social gaps that existed within the City (Barcelona Integrated Plan, 2006).

The City of Barcelona is characteristically a tourism city. As such, the city has introduced a policy to facilitate eco-tourism to minimise some of its negative impacts on the city. The city is also moving towards eco-design where strategic actions and indicators for a neighborhood are established and monitored including energy, water, wastes, green space, mobility, and public space (Farreny et al, 2011).

The reduction of environmental pollution is a major contributor to the sustainability of a city. Barcelona has introduced two approaches to achieving environmental sustainability within the city. The first being management of the source of pollution and the second being the involvement of the citizens through environmental awareness programmes (Farreny et al, 2011). The participation of civil society has been one of the major contributors in achieving the transformation of the city. One of the most noteworthy outcomes includes the collaboration between networks of associations in which over 4,600 bodies came together including

educational, economic (public and private sectors), social and administrative institutions to address the challenges faced by the city (Farreny et al, 2011).

In conclusion, the key lessons learned from Barcelona is that the renovation and rehabilitation of a city, which has been experiencing considerable decline can be an effective and a major contributing factor to overall urban economic development, environmental sustainability, and social inclusion. The revival of the inner-city core has restored much of the splendour of the city as well as providing an attractive area for tourists and residents alike. One of the key issues is to avoid is over gentrification, which destroys the initial social fabric and character of the inner city. Public-private partnerships and civic engagement are key contributing factors to successful urban redevelopment, providing for a balanced approach between the need to foster economic development, the difficult task of renovating historic heritage, and improving inner-city housing, infrastructure, and social services to promote social equity.

3.3 IMPLEMENTING THE HABITAT III NEW URBAN AGENDA KEY COMMITMENTS TO ADDRESS URBAN CHALLENGES IN DEVELOPING COUNTRIES

Successful sustainable urban development is often synonymous with developed countries. There are, however, numerous developing countries that are making great strides in creating cities that are resilient, sustainable, and meet the needs of the people. Consequently, this dissertation will focus on two developing countries that have been instrumental in achieving sustainable urban development in their cities.

3.3.1 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN BEIJING, CHINA

Since 1978, China has been experiencing the greatest rural-urban migration in the history of the world, and its urban population rate has doubled from 18 percent of the total population in 1978 to 36 percent in 2000 and nearly 38 percent in 2001 (China Statistical Bureau, 2002). This indicates that China is currently amid a very rapid urbanization process and the Chinese government has made planning for urbanization a developmental priority. The development priority commitment is evident in Beijing, the capital city of China.

The City of Beijing is home to approximately twenty-one million people (China Census Bureau, 2018) and has been known for decades as China's sprawling city. Beijing has faced many societal and environmental challenges such as the dramatic increase in population over the years, the increased number of vehicles on the roads, unpleasant working and living conditions, lack of water, and severe air pollution (Meng, 2016:16). However, during the last three decades, Beijing has achieved great leaps in implementing strategies to attain a sustainable urban city.

In the late 1980s, Beijing signed off on the Work Plan for Vehicle Emission Control resolution. In this resolution, the city committed to preparing for its projected rapid urbanisation through

promoting economic growth, providing safe and efficient pedestrian orientated accessibility in and around the city, reducing greenhouse gases, traffic congestion, and air pollution to zero carbon footprint by 2030.

As such, the Beijing municipal government made a great investment in the public transportation industry. In 1987, the city constructed an extensive pedestrian-orientated subway system with low carbon emission (Shi, Wu & Jin, 2011). Beijing is the first city in China to introduce and implement strategies to reduce carbon emissions within the transportation sector. These include the low emissions zones and congestion pricing strategies imposed on vehicles which alternates access for cars coming into its city center according to number plates. The City of Beijing further made alterations to distribute traffic flows by improving infrastructure designs and services, to reduce using private vehicles, and improving road planning (Shi, Wu & Jin, 2011). The Beijing municipality then diversified modes of transport within the city to enable people to make a convenient, comfortable, and pleasant traveling experience.

In 2005, Beijing opened its first Bus Rapid Transit (BRT) line, and currently, there are a total of four BRT trunk routes in the city (Shi, Wu & Jin, 2011). A survey conducted by the Institute of Transportation Engineering at Tsinghua University in 2007, after the first BRT line was put into use indicated that the BRT had a great influence on several users including taxis, cars, bus, and pedestrians. Participants' average satisfactory degree on safety, price, punctuality, speed, information, and IC card system was high, but the score on crowding was low due to the buses being too crowded during rush hours (Shi, Wu & Jin, 2011)



Image 5: BRT bus stop in Beijing, China

Source: Jin Hong, 2016

In 2014, there were a total of 23667 buses in Beijing running in 877 bus routes with a daily average carrying capacity of 12.84 million people (Beijing Transportation Research Center, 2015). The metro system in Beijing in recent years serves the public well (Sachs, 2015). The

metro system also utilises underground spaces to distribute traffic flows and increase carrying capacities for the metro system.

The City of Beijing integrated biking and walking as a major public transport system in their development strategy to reduce the carbon footprint and traffic congestion. The city noted that when encouraging people to bike or walk, good environments should be created. Consequently, the City of Beijing provided safe bicycling areas, sufficient and convenient bike parking areas, and facilities without charges (Ming, 2016:22). The city also ensured that parking areas are not only limited to places close to metro or bus stations, but also communities, commercial areas, office buildings, or places where public services locations are concentrated. Ensuring that parking areas next to bus and metro stations are convenient for people to transfer to their next travel modes. In 2014, an average of 3.59 million people traveled by bike every day (Beijing Transportation Research Center, 2015). To further reduce harmful emissions and improve air quality Beijing introduced extensively planting around the city to create green walls. This approach has been instrumental in alleviating the ferocity of the sandstorm effect within the city (Harrison, 2016).

As previously stated, the City of Beijing has continually experienced urbanisation due to its metropolitan core function within China. The city experienced an increase in population which doubled from 10.6 million people in 1990 to 19.6 million people in 2010 and a mobile population of approximately 7 million people a year (Chiu, 2013). This rapid urbanisation caused many housing shortages and marginalisation of the lower-income groups within the city. The City of Beijing thus needed to ensure affordable housing strategies are effectively implemented to achieve sustainable urban development within the city.

In 2011 the City of Beijing introduced various affordable housing strategies to combat the rising housing challenge. The city committed to building 36 million affordable homes for residents of the city over five years from 2011. This strategy is similar to the Reconstruction and Development Programme (RDP) introduced in South Africa in 1996, where free housing would be provided to lower to no income band of South African citizens, *inter alia*. The marginal difference between the two strategies is the spatial targeting of housing provision and the long-term sustainability implemented by Beijing.

The City of Beijing provided the proposed housing through a combination of direct and indirect government funding, regulatory controls on housing provision, and increased redevelopment efforts as opposed to greenfield developments. The City of Beijing designed its scheme of housing under the policy mandated by the national government (Chiu, 2013). The housing scheme designed by the city targeted to produce two hundred thousand affordable units annually. Fifty percent of the proposed units are subsidized by the city for sale or rent to

middle- and low-income families on market value. The other fifty percent of the units are sold or rented to the middle to low-income families on price-regulated value or size of the unit-regulated value. This housing strategy is inclusionary whilst maintaining the sustainability of operating and maintenance of the units. Furthermore, the City of Beijing strategically located the inclusionary housing units around public transport routes and ensured densification was a priority, thus increasing the quality of life for residents within the city.

In conclusion, the key lesson learned in achieving sustainable urban development in Beijing is that cities in developing countries have more dynamics to consider in addressing urban challenges. For instance, the rapid growth of the economy and productivity in the city presents both challenges and opportunities in that, the city is required to respond rapidly to pressures of a growing economy in a shorter timeframe than that of cities in developed countries. The fast speed of urbanisation and rapid population growth thus requires a responsible government to effectively manage the economic, social, and natural resources of the city to ensure effective urban transformation.

Ultimately, the city of Beijing has demonstrated four main aspects which enabled sustainable urban development in the city. These include 1) a strong public transport movement system that is integrated with the pedestrian environment and key economic nodes. 2) The use of smart building infrastructure and green technology to reduce the ecological footprint of a city. 3) Ensuring inclusive housing strategies to benefit all residents of the city and increase their quality of life and 4) the inclusion of green spaces and effective waste management to enable a city where people can enjoy, live, and work in.

3.3.2 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN HONG KONG, CHINA

Hong Kong is one of the Asian cities that were colonised by the British Empire and only received its independence in 1997 (Zuman, 2019:10). The city was originally constituted of sparsely populated areas used for farming and fishing. Today, Hong Kong is the special administrative region of mainland China, a major world financial center with a diverse economy based on banking, tourism, electronics, and textiles (Zuman, 2019:10). Hong Kong also boasts of the most skyscrapers and is one of the densely populated areas in the world, with a population of over 7.4 million people and a population density of 6160 people per km² (Lau and Hing Mei, 2016:15). The total size of the city is approximately 1100km², 70 percent is mountainous and only 20 percent is available for urban development. Consequently, the city is characterised by a compact and dense urban form which is the result of its topography. In that, the shortage of flat land, the sea, and high immigration rates from mainland China have resulted in the high density of population and buildings in Hong Kong.

The geographical constraints and fast-paced rapid urbanisation experienced by the city in the last three decades had presented Hong Kong with various urban challenges which included housing shortages and affordability, traffic and congestion, waste management, renewable energy constraints, and air pollution, *inter alia*. The challenges experienced by the city have arguably been positive albeit their negativity, as they have enabled the city of Hong Kong to rethink urban development and the shape it took within the city (Karakiewicz, 2005:2).

In 2018, the Arcadis Sustainable Cities Index ranked Hong Kong the 9th most sustainable city in the world, and the 2nd most sustainable city in Asia (Arcadis Sustainable Cities Index, 2018). The city achieved this accolade through a commitment it made to address the challenges it faced through sustainable development principles, guided by Habitat II and Millennial Development Goals (Kenworthy et al., 2007). One of the key commitments the city made to achieve sustainable urban development was investing in public transit systems.

Hong Kong boasts of one of the most efficient public transport systems in the world. The city invested billions into developing an integrated public transit system. The urban rail system in Hong Kong is one of the most heavily used public transport and by 1993, 50% of the population in Hong Kong lived within 500m of a mass transit railway station (Kenworthy et al., 2007). The development of the urban rail system began in the early 1970s and has since been a core part of the public transport strategy in Hong Kong. Metro busses, taxis, airports, seaports, and light rail also form part of the city's public transit system and link the city to mainland China. Currently, the public transit system serves approximately 11 million passengers daily and almost ninety percent of the population in Hong Kong utilise public transport (Hong Kong Special Administrative Government-Transport Department, 2016). This is attributed to the affordability, safety, reliability, and efficiency of the system.

The efficient public transport system reduces the need for private vehicles within the city. However, with a dense population like Hong Kong, the city ensured stringent measures were developed to discourage the use of private vehicles. In 1974, the city introduced stringent car ownership regulations such as the first registration tax which made driving cars expensive in Hong Kong (Lau and Hing Mei, 2016:15). In 1982 and 1994 further regulations were imposed on private vehicles such as higher tax, higher petrol prices, limited and expensive parking facilities which contributed to keeping car ownership to a very low (Lau and Hing Mei, 2016:15). These interventions have enabled the city to reduce its carbon footprint in transport emissions and have contributed to Hong Kong being ranked as a city with one of the lowest energy-use per capita in the world. In 2001 the City of Hong Kong developed a sustainable development strategy. The main objective of this strategy was to conceptualise an overall strategic vision that describes the long-term aspirations for the city. The development strategy

tabled three broad themes the city would focus on namely, solid waste management, renewable energy, and urban living spaces (Hong Kong Special Administrative Government-Sustainable Development Unit, 2001). To implement the development strategy the City of Hong Kong updated the town planning and building control regulatory frameworks to increase development rights such as height, density, and coverage to a maximum value that made development costs more feasible and cost-effective. The main objective of increasing the development rights was to maximize the intensity of people and jobs with proximity to transport systems (Zuman, 2016:10). This assisted in shaping Hong Kong's high density and compact urban form.

The compact urban form has resulted in various advantages for the city which include economic use of land through vertical space, the high accessibility to a variety of land uses, reduced traveling time to and from work, pedestrian-friendly road networks, and viable public transport, *inter alia* (Long and Wong, 2005). Furthermore, High-density development around transport systems, otherwise known as transit-oriented development, has enabled the economies of scale for services and infrastructure to be financially effective for the city (Zuman, 2016:13). As more people are accommodated, the government's capital expenditure for infrastructure provision is reduced. Hong Kong also adopted a policy named *Brownfield first*. This policy was aimed at reducing the development pressure on the natural resources of the city while ensuring that the needs of the city are met (Sapru, 2012). The policy promoted the conservation and protection of green zones, parks, and important natural resources of the city by encouraging developers to identify existing built-up spaces that can be modified for proposed developments instead of greenfield developments (Sapru, 2012). The development strategy identifies solid waste management as another key focus of the city. Given the population and economic function of the city, Hong Kong produces an average of 3.8 million tonnes of municipal waste a year. In 2018, 5.89 million tonnes of waste were generated, this has been the highest figure in the last decade (Robson, 2017).

Solid waste management has been a complex and evolving process in Hong Kong. Most of the waste is disposed of in landfill sites, 13 landfill sites have already been cycled through and the remaining two are almost at capacity (Hong Kong Government, 2014). To help ease this problem, the Environmental Protection Department of Hong Kong has placed a high priority on promoting waste reduction and recycling and the city is also developing a regional modern large-scale organic resources recovery center in phases to turn source-separated food waste into useful resources by advanced biological treatment technologies (Hong Kong Government, 2014). Furthermore, Hong Kong implemented a landfill restoration policy which ensures that the landfill sites that are up to capacity are converted and restored into recreational facilities, sports facilities, and parks, *inter alia* (Robson, 2017). This minimises the potential adverse

impacts to the environment and renders landfill sites safe for beneficial use (Robson, 2017). All 13 landfill sites have been converted and restored and one of these is the former Jordan Valley Landfill. This site has been developed into Jordan Valley Park which opened in 2010 and offers a radio-controlled model car racing circuit, horticulture education center, community garden, children's play areas, elderly exercise corner and a jogging track (Hong Kong Government, 2014). The former Tseung Kwan Landfill site has also been restored and converted to a model airplane training field for the Hong Kong Air Cadet.

Although 30% of municipal solid waste generated in Hong Kong is recycled, the city's main objective is to reduce waste production and promote increased recycling. Environmental programmes for different sectors of society have been designed to change the behavioural habits of residents, especially in separating municipal solid waste at the source and in recycling (Hong Kong Green Building Council, 2017). Producer responsibility schemes have also been implemented which stipulate that everyone who produces waste pays the cost of its collection, recycling, and proper disposal (Robson, 2017).



Image 6: Jordan Valley Landfill Site after conversion

Source: Yong Smith, 2014



Image 7: Tsung Kwan Landfill Site before and after conversion

Source: Yong Smith, 2014

Hong Kong has also developed an EcoPark, in which long-term land is provided for the establishment of recycling industries and environmentally friendly product manufacturing enterprises (Hong Kong Green Building Council, 2017). The objective of these measures is to build a future with less unnecessary waste disposal.



Image 8: Recycling EcoPark in Hong Kong

Source: Hong Kong Green Building Council, 2017

The third key focus area identified by Hong Kong's 2001 sustainable development strategy is ensuring renewable energy strategies are implemented. In 2003, the city committed millions in ensuring renewable energy infrastructure and facilities are applied on a wider and larger scale with the public sector taking lead to encourage the private sector to adopt renewable energy strategies (Hong Kong Government, 2019). In 2006 Hong Kong constructed various solar panel farms to contribute to green energy generation. The largest solar farm was constructed at a sewage treatment works with a generation capacity of 1100 Kilowatts (kW) and other solar panels were developed at the complex of the victoria park swimming pool and the complex of the Kwun Tong swimming pool & recreation ground have also contributed an installed capacity of 468 kW and 337 kW respectively (Hong Kong Government, 2019).



Image 9: Solar farm at the SiuHo Wan Sewage Treatment Works

Source: Hong Kong Government, 2019

The Water Supplies Department has explored the potential for electricity generation from floating PV systems on reservoirs by installing two small systems of 100 kW each on two

reservoirs in the city and based on these results the city is installing large-scale floating PV systems at suitable locations in reservoirs (Hong Kong Special Administrative Government-Water Supplies Unit, 2018). In addition, the city also earmarked billions for the installation of small-scale renewable energy facilities at government buildings, venues, and facilities.



Image 10: Floating Solar Panel on ShekPik Reservoir& Solar power lamp at the recreational center

Source: Hong Kong Government, 2019

In conclusion, the key lessons learned in achieving sustainable urban development in Hong Kong is that, although the city has various geographical constraints, urban challenges and have developed at a rapid rate in a short space of time, Hong Kong has been successful in responding to their challenges using sustainable urban development principles. In so doing, the city has been shaped in a compact urban form that responds and meets the needs of the people efficiently and effectively.

3.4 IMPLEMENTING THE HABITAT III NEW URBAN AGENDA KEY COMMITMENTS TO ADDRESS URBAN CHALLENGES IN SOUTH AFRICA

Sustainable urban development is a concept that has only recently been an integral part of urban development in the South African context. This is primarily attributed to the colonial and apartheid regime under which the country had been for approximately 10 decades. The apartheid regime, being the most recent era before South Africa attaining democracy in 1994, promoted fragmented, sprawling, mono-functional, socially, and economically exclusive unequal spatial cities that favoured minority groups and spaces. Consequently, South Africa in the past decade has been gradually introducing and, in some cases, implementing the international trend of sustainable urban development to combat the spatial and socio-economic injustice created by the colonial and apartheid regimes.

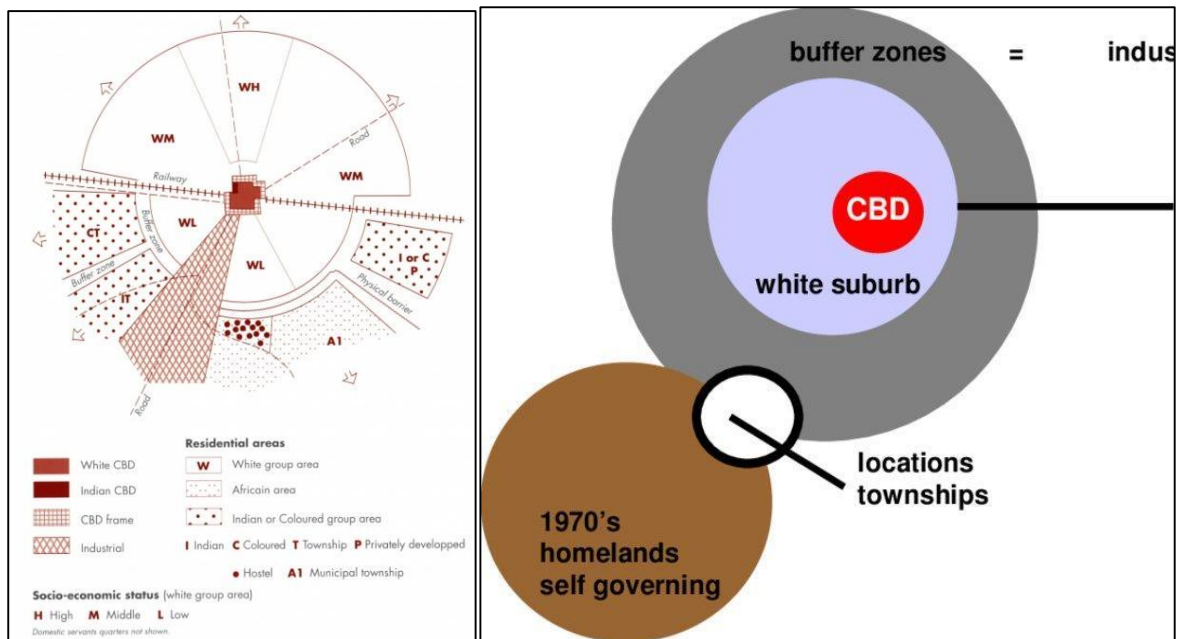


Figure 5: The structure of South African cities inherited from the Apartheid era

Source: Amira Osman, 2006

South Africa's first significant commitment to the implementation of sustainable urban development principles, under the Habitat II and Millennium Development Goals (MDGs), was made at the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 (Potgieter, 2016:41). The purpose of the WSSD summit was to review the progress made by countries since the 1992 Rio conference and to agree on a new global agenda to address the difficult challenges of sustainability (Von Schirnding, 2005).

Following the international conference, the Department of Environmental Affairs, and the Department of Tourism in partnership with private urban planners drafted South Africa's newly adopted mandate which called for the development of green or sustainable Integrated Development Plans (IDPs) and the greening of national policy perspectives (Potgieter, 2016:42).

Integrated Development Plans (IDP) have been one of the key policy mechanisms driving sustainable urban development in South Africa. IDPs are budget-driven broad strategic frameworks developed by all municipalities under the mandatory requirements of the Municipal Systems Act of 2002 (South Africa's Cities Network, 2005). The main purpose of IDPs is to eliminate poverty and unemployment, address housing shortages, develop the economy, and protect the environment whilst promoting the process of reconstruction and development in municipalities. The plan thus functions as the municipality's business plan, whereby all proposed infrastructure, services, social and economic developments are identified, and the plan is used to access funds from the provincial and national government for the delivery process of the identified development. The IDPs are developed in a

participatory manner where all relevant and required stakeholders are consulted and play an integral part in shaping the outputs of the plan. The impact of IDPs since their introduction has arguably been less than satisfactory in achieving sustainable urban development across South African cities and municipalities. This is attributed mainly to the lack of “follow-through” of the plans due to budget constraints, political instability, silo planning, and implementation to name a few.

Following the IDPs was the National Framework for Sustainable development which was adopted in 2008. This framework was later altered in 2011 and became the National Strategy for Sustainable Development (Department of Environmental Affairs, 2011). The strategy aimed to move South Africa into a sustainability path for urban, rural, and peri-urban areas. The strategy was progressive in the sense that it proposed local governments take the lead in developing a sustainable South Africa before the constitution relegated local government powers. The Plan proposed five strategic interventions to be implemented and focused on to move South Africa forward. These strategic interventions are depicted in the figure below: -

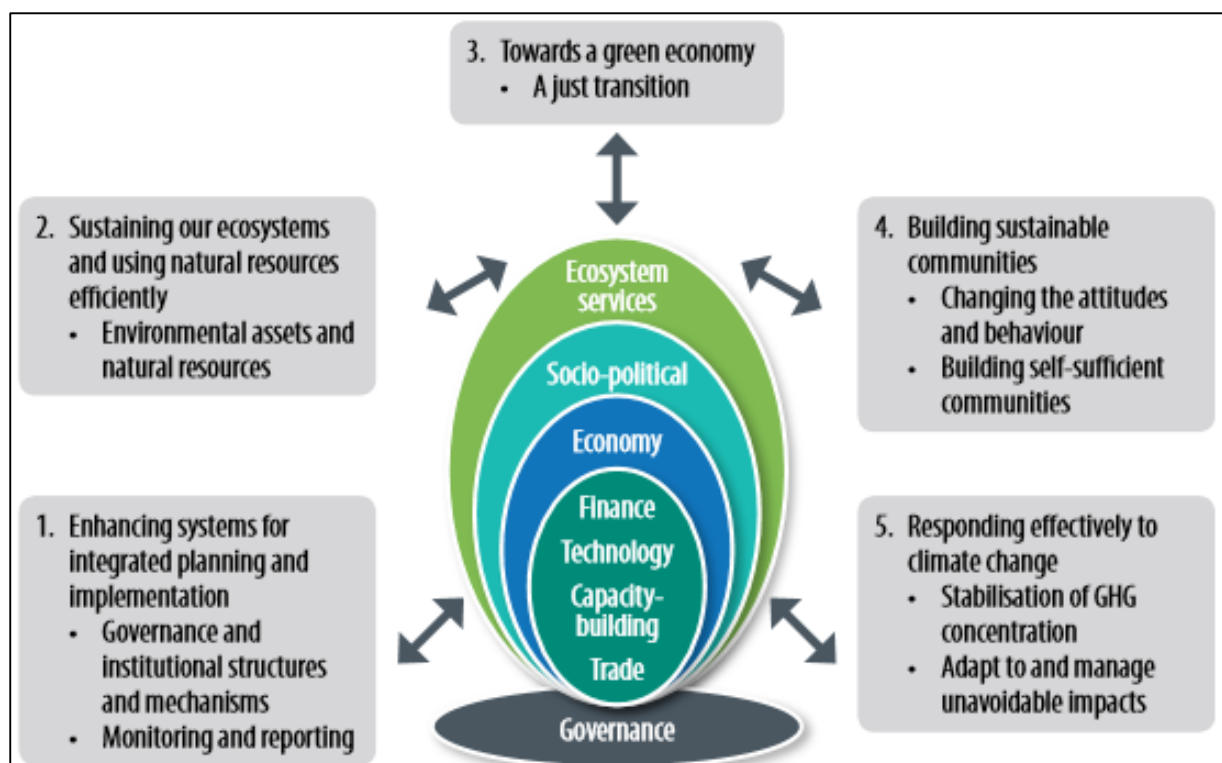


Figure 6: Proposed 5 Strategic Intervention for National Strategy for Sustainable Development

Source: Department of Environmental Affairs, 2011

More recently, in 2016 the South African government adopted the Integrated Urban Development Framework (IUDF) to ensure sustainable urban development is achieved within cities and urban areas. The IUDF is also a policy initiative developed and coordinated by the Department of Cooperative Governance and Traditional Affairs (COGTA) to encourage mutual

consensus through government and civil society on the best way to manage urbanisation and its challenges, achieve the goals of economic development, job creation, be resource-efficient, ensure the provision of adequate and quality housing and ultimately create better living conditions for the people of South Africa (Department of Cooperative Governance and Traditional Affairs, 2016).

The IUDF identified nine policy levers which it will focus on toward achieving sustainable urban cities and towns in South Africa. These levers or priority objectives include and are premised on “(1) *integrated urban planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions: (2) integrated transport that informs (3) targeted investments into integrated human settlements, underpinned by (4) integrated infrastructure network systems and (5) efficient land governance, which all together can trigger (6) economic diversification and inclusion, and (7) empowered communities; all of the above will demand effective (8) governance and (9) financial reform to enable and sustain these policy actions. The levers thus seek to address in combination the structural drivers that maintain the status quo*” (Department of Cooperative Governance and Traditional Affairs, 2016).



Figure 7: Nine core elements of IUD

Source: Department of Human Settlements, 2019

The elements and packaging of the IDPs and IUDF covers many principles of sustainable urban development, under the Habitat III New Urban Agenda and Sustainable Development Goals (SDGs). However, the key argument towards achieving sustainable urban development

in South Africa is that focus has been placed more on policy perspectives and policy formulation and less on implementation of the policies (Westin and Rennkamp, 2013). There are however cities in South Africa that have successfully implemented some strategies towards achieving sustainable urban development. This study will focus on two cities in South Africa namely the City of Cape Town and the City of Johannesburg which is the case study of this research thesis.

3.4.1 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN THE CITY OF CAPE TOWN

Cape Town is a coastal city located in the Western Cape Province. The city houses approximately 3.7 million people and has a population density of 1535 people per square kilometer (Statistics South Africa, 2016). Cape Town is internationally renowned for being one of the world's best tourist destinations and it boasts, to name a few, of main attractions such as Robben Island, Table Mountain, Cape of Good Hope, and the Cape vineyards.

Beyond the opulence and elegance of Cape Town, lays a city with various challenges rooted in the historical context of the country. These challenges include destitute areas and people living in impoverished conditions struggling to live day to day lives in the grossly unequal city of Cape Town (City of Cape Town Municipal Spatial Development Framework, 2018), a sprawling post-apartheid urban area, segregated communities from core economic opportunities, imbalances in land uses, lack of affordable housing, depleting natural resources, rising transportation costs associated with urban form of the city and thousands of people migrating to the city in search of better living conditions (City of Cape Town Municipal Spatial Development Framework, 2018).

The City of Cape Town has addressed some of the challenges facing the city through applying sustainable urban development principles. One such example is evident in the traffic congestion challenges experienced by the city. In 2008 Cape Town was rated the most congested city in South Africa, with 80% of the traffic generated from private vehicles (City of Cape Town Transport Department, 2019).

In 2003 the city developed an integrated public transport plan which focused on identifying strategies to 1) bring people closer to where they work, 2) provide access to affordable public transport, and 3) address traffic and congestion in the city while reducing the carbon footprint (City of Cape Town, 2016). In 2007 the City of Cape Town constructed the MyCiti BRT networks to respond to the fragment spatial form of the city.



Image 11: MyCiti Busses Operating in Cape Town

Source: Reyneveld, 2015

The MyCiti BRT network was planned to be implemented in four phases to integrate the spatial form of the city. Currently, two phases have been implemented that consist of trunk lines that operate 28 routes within the city (Reyneveld, 2015:6). The network carries approximately 54 000 passengers per day and has 214 bus vehicles and 42 stations (City of Cape Town, 2019). Two of the busy MyCiti routes, *inter alia*, include the trunk route which runs northwards from the waterfront to the city center and along the west coast of the Dunoon informal settlement, and the airport service route which runs southeast along the highway to Mitchells Plain and Khayelitsha (Reyneveld, 2015:6). Both these routes provide access to where most of the city's low-income population resides. Another public transport anchor in the City of Cape Town is the railway network. The railway network consists of 610km of the rail of which 169kms is passenger rail. Approximately 621 833 rail trips are conducted in a day within the city, with most trips operating to and from the Cape Town CBD, Epping, and Bellville (City of Cape Town Transport Department, 2019). The railway also consists of 9 major routes and has 118 stations (City of Cape Town Transport Department, 2019). The ITPN encourages the integration of transport nodes and as such the stations have facilities for other modes of transport which include metro busses, minibus taxis, private car parking, and non-motorised pedestrian infrastructure (City of Cape Town Transport Department, 2019). This enables commuters to interchange between various modes of transport freely and efficiently and also promotes effective transit-oriented development.

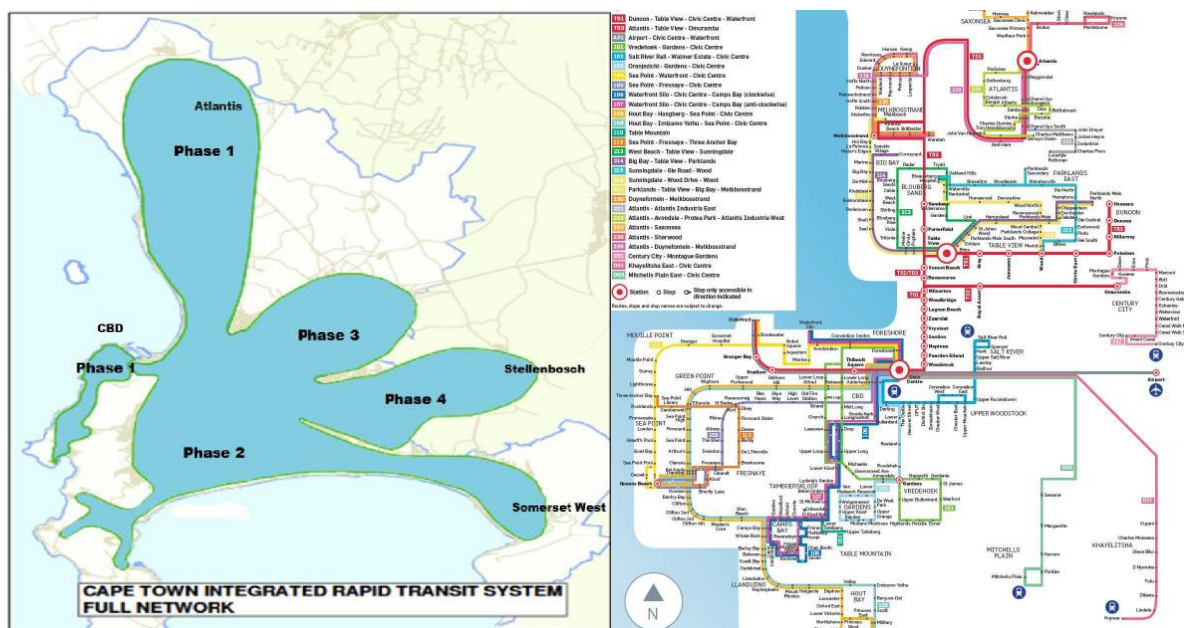


Figure 8: Four planned phases of MyCiti BRT Network

Source: City of Cape Town Business Plan, 2012

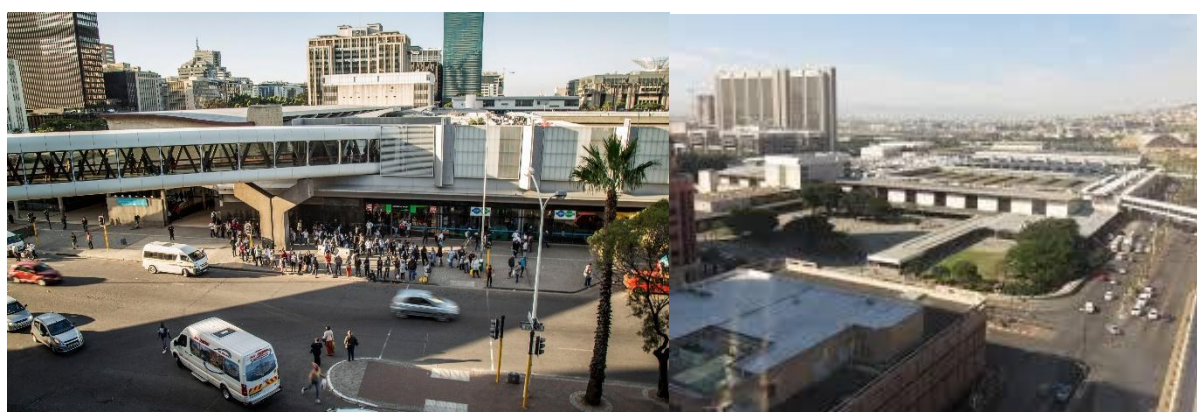


Image 12: City of Cape Town Railway Station with integrated modal facilities

Source: City of Cape Town, 2009

The City of Cape also prioritised the implementation of non-motorised transportation to assist in curbing congestion challenge. Non-motorised transport in the city includes walking and cycling. Presently, the city has implemented over 450Km of dedicated cycle lanes. The City's Integrated Public Transport Network (ITPN) of 2023 identifies walking and cycling as an important public transport network that should be incorporated in all design platforms (City of Cape Town ITPN, 2019). Furthermore, the ITPN aims to increase the pedestrianisation and cycle lanes and integrate them into a continuous network within the transport system of the city (City of Cape Town ITPN, 2019).



Image 13: Cycle Lanes in the City of Cape Town

Source: City of Cape Town, 2016

Between 2013 and 2015, the City of Cape Town approved its Transit-Oriented Development (TOD) Framework to address the challenges of sprawl, inefficient land use mix, and the low densities within the city (City of Cape Town Strategic Development framework 2018:12). The TOD strategy aims to ensure that there is an efficient use of public infrastructure networks developed by the city by developing transit nodes to ensure people live, work, and play in close proximity to affordable housing and socio-economic amenities (City of Cape Town Strategic Development framework 2018:12). To implement the TOD framework, the City of Cape Town has identified precincts which the city will focus on to develop TOD precincts, through land readjustment, development rights adjustment, and packaging of land to ensure its readiness for development.

Recently, the City of Cape Town has experienced immense challenges concerning water and energy shortages in the city. As such, the City of Cape Town has partnered with the private sector and planned major improvements in the production and utilization of renewable energy in both the power and water departments (City of Cape Town: 2017:23). Some improvements in the energy sector include increase “renewable energy power generation (deploying 247 kW of capacity and incentivising SSEG), as well as reducing electricity consumption across Cape Town. Activities include an electricity savings campaign encouraging both behavioural and technological change; a solar water heater marketing and accreditation programme; and the establishment of the technical and legislative conditions for rooftop solar PV to be legally connected to the electricity grid” (City of Cape Town: 2017:23).

Cape Town has installed rooftop solar PV at numerous municipal buildings and facilities with additional installations currently planned. This includes the Wallacedene taxi rank, the first public transportation facility in South Africa to be rated by the Green Building Council of South Africa. The Wallacedene complex has a maximum daily output potential of 130 kilowatt-hours (kWh) and is supported by a storage system of 24 batteries with a capacity of 72 kWh to

provide uninterrupted electricity supply (Transport for Cape Town, 2014; GIZ, 2017). The city also maintains four micro-hydro generation turbines at its water treatment plants. The electricity generated at these four sites is sufficient for meeting 5% of the total electricity demand for municipal operations (City of Cape Town, 2015b).



Image 14: Solar PVS and solar retrofitted green taxi rank in Cape Town

Source: City of Cape Town, 2019

The City of Cape Town is steadily achieving its renewable energy targets as more than 274 small-scale embedded generation projects have been approved from 2018. Furthermore, the city is also aiming to procure more renewables from independent power producers to increase reliability as well as building retrofits and the installation of solar water heaters to save energy (International Renewable Energy Agency, 2019:5).

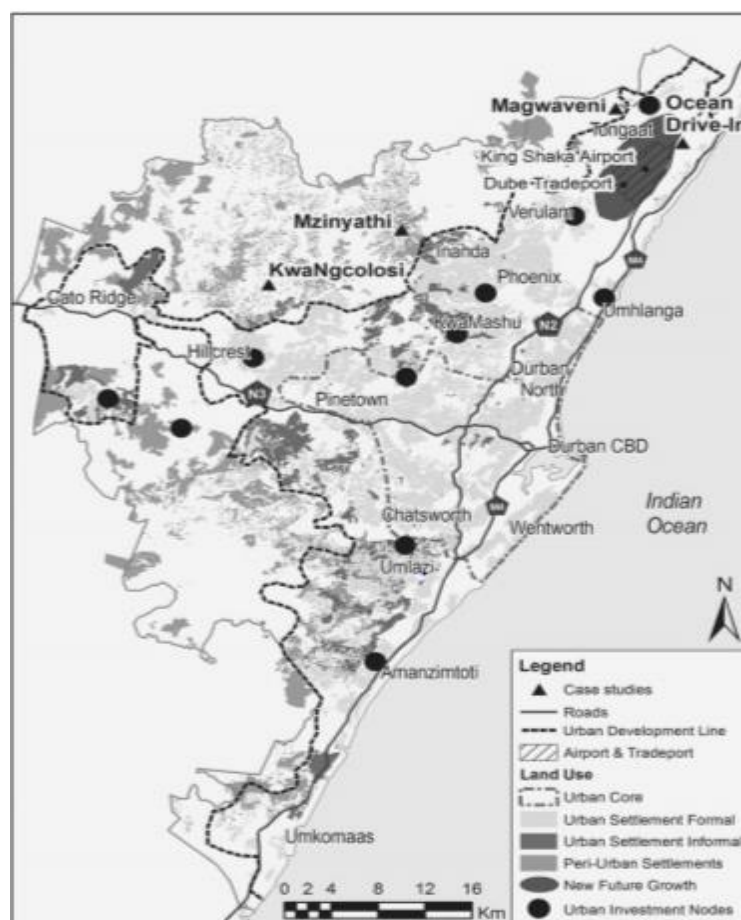
In conclusion, the City of Cape Town remains a city with various urban challenges that require urgent attention. Albeit the challenges, the City of Cape Town has introduced and implemented good strategies to shift the city towards a sustainable urban city that caters to the needs of its people while safeguarding the natural resources of the city. The city has fared well in the sectors of public transport, water, and alternative energy, and the reduction of greenhouse gases through encouraging efficient green building and precinct development. The City of Cape Town also introduces the integration of open spaces networks as an important aspect for the development of a sustainable city. This is an important component specifically for the South African context as open spaces were not considered in the apartheid land use planning for townships and non-white areas.

3.4.2 ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN DURBAN, ETHEKWINI METROPOLITAN MUNICIPALITY

eThekweni Metropolitan Municipality is on the east coast of the KwaZulu Natal province. The municipality is 2555km² in size and houses approximately 3.7 million people which equates to a third of the population of KwaZulu Natal province (Statistics South Africa, 2016). The municipality is unique in relation to other metropolitan municipalities in South Africa as it

consists of both urban and rural areas. Durban is the core urban area in the municipality and is the largest city in KwaZulu Natal. This section will therefore focus on the city of Durban. The city of Durban is typically known for housing the 1) busiest port in South Africa, 2) the African and Indian colonial influences demonstrated in the city's architecture, 3) a tourist destination due to the subtropical climate and blue flag beaches, and 4) being the second biggest manufacturing hub in South Africa.

Like other major cities in the world, Durban is experiencing urban challenges relating to rapid urbanisation and climate change. The city has been grappling with a fragmented and low-density sprawling city, inefficient movement and transportation networks that are not accessible to all communities, environmental management, and insufficient linkages of its rural areas to the urban spaces and economies, *inter alia*. To address these myriad challenges and work towards achieving a sustainable city, the eThekweni Metropolitan Municipality has integrated the principles of the New Urban Agenda and Sustainable Development Goals into the development methods and policies of the city. This is evident in the environmental challenges of the city and the approach applied to reduce the carbon footprint of the city.



Map 7: eThekweni Municipality urban core and rural periphery

Source: Sutherland, 2015

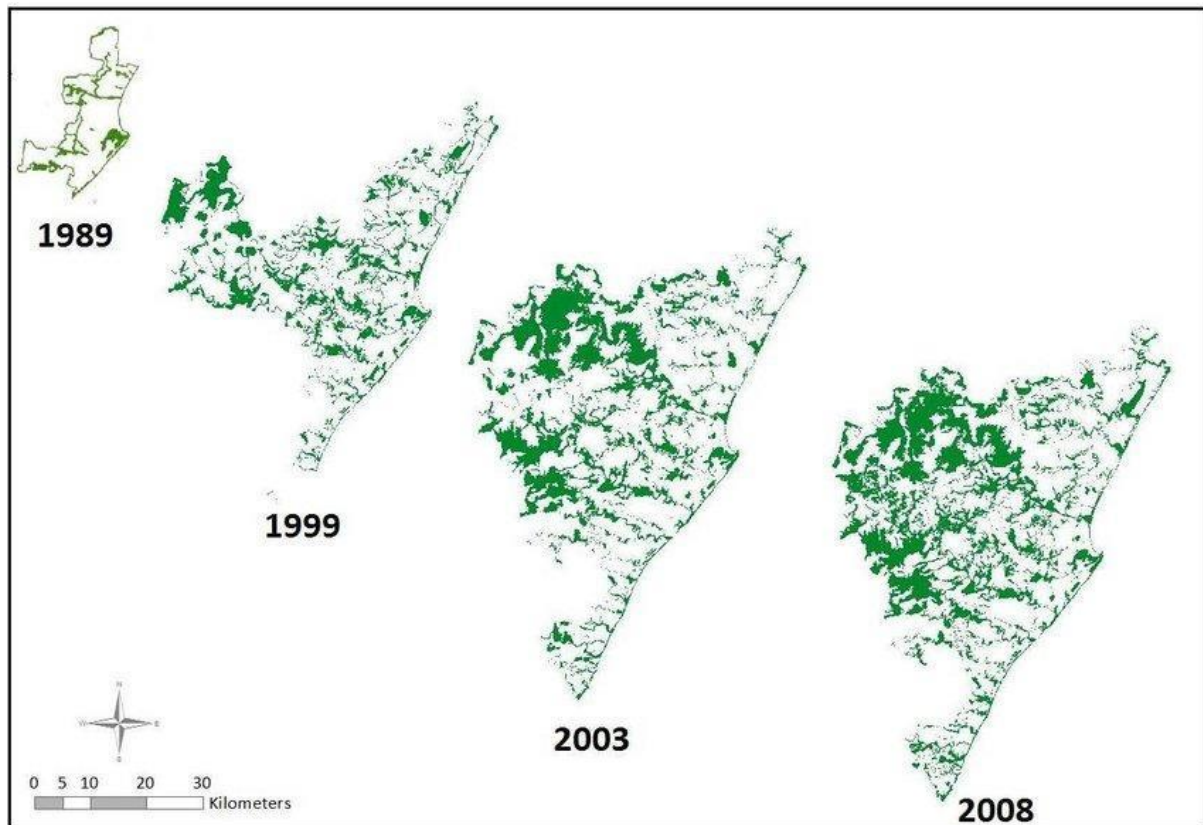
The city of eThekweni introduced and implemented the Durban Metropolitan Open Space System (DMOSS) which is a spatial planning tool for prioritising and planning for all public spaces within the city. This tool connects the private, public, and tribal open spaces including natural and transformed spaces into the local planning scheme to be conserved and protected (eThekweni Metropolitan Municipality, 2020).

To ensure the effectiveness of DMOSS, the city entrenched the system in the local planning schemes which enables protection of all environmental areas that are covered by the system not to be developed unless approval is authorised by the Environmental Management Department (eThekweni Metropolitan Municipality, 2016). If development is granted, the department and the city can place stringent controls and measures to ensure minimum development impact is placed on the natural resources and open spaces of the city (eThekweni Metropolitan Municipality, 2016). This system has played an integral role in mitigating climate change impacts in the city. Husqvarna Urban Green Space index undertook a study in 2016 which revealed that DMOSS stores approximately 24.7 million tons of carbon dioxide per annum and distributes 66% of urban green spaces in the city (Husqvarna Urban Green Space index, 2016). Furthermore, 60% of urban spaces are covered by grass or trees and the urban green space per capita is 185.8m² within eThekweni Municipality (Husqvarna Urban Green Space index, 2016). Subsequently, the Husqvarna Urban Green Space index rated Durban as the greenest city in the world, followed by Austin and Rio de Janeiro.

The City of eThekweni has moreover directed large amounts of its allocated budget to develop the *Municipal Climate Protection Programme* better known as the MCPP (Citego, 2012). This programme was introduced in 2004 and is aimed at developing a resilient city that can effectively and timeously respond to climate change impacts as well as reducing negative development impacts (eThekweni Municipality Spatial Development Framework, 2020). To ensure the aims and objectives of this plan are realised, the municipality entrenched the plans into institutional, planning, and political structures of the city (Citego, 2012). These structures include the Integrated Development Plan and the Disaster Management Framework, *inter alia*. This has also enabled integrated planning and co-creation between the planning, environment, and disaster management departments which is an achievement towards eradicating the culture of silo planning in South African cities.

The MCPP has achieved various accomplishments since its adoption which include 1) ensuring climate risks are identified, assessed, treated, monitored and reported on timeously, 2) an analysis of the carbon storage and sequestration as well as an audit of all local impacts of climate change, 3) subsequently a toolkit was developed to assist in evaluating plans and policies to determine their potential negative climate impacts and 4) the MPCC programme

gave birth to many projects and initiatives geared towards creating a resilient city and reducing negative climate change impacts such as encouraging green roofs in brownfield and retrofitted buildings within the city, event greening, sea-level rise assessment and modelling, reforestation projects in Paradise Valley, developing the Durban Botanic Gardens and implementing climate change partnerships between public and private stakeholders aimed at consolidating efforts to protect the environment and raise awareness of the benefits thereof (Citego, 2012).



Map 8: Expanding DMOSS Open Space System

Source: Research Gate, 2012



Image 15: Botanic Gardens and Green roof initiatives in eThekweni Municipality

Source: eThekweni Municipality, 2015

To further decrease the carbon footprint and implement sustainable energy solutions, the city of eThekweni Municipality utilised pollution and gas from three landfill sites to generate electricity (World Bank, 2008). This project was introduced in 2004 and implemented in 2006. The project entailed extracting methane from Marianhill, Bisasar, and La Mercy landfill sites converting the pollutant into an electricity-generating output (eThekweni Municipality, 2011). To date, the landfill site emissions have been reduced and the combined electricity generating capacity from the three landfill sites is approximately 50 000 MWh per year (South African Cities Network Sustainable Cities Report, 2019:15). Furthermore, this initiative has reduced carbon dioxide emissions by 20 000 tonnes per month since its inception and the city is equally generating revenue from the sale of certified emissions reductions to the World Bank and the sale of green electricity generated which contributes to the sustainability of the approach (eThekweni Municipality, 2019).



Image 16: Landfill gas to electricity project in eThekweni Municipality

Source: eThekweni Municipality, 2011

To complement the recycling of the waste with the aforementioned project, the city of eThekweni's Cleansing and Solid Waste department in 2007 implemented the *Domestic Orange Bag Project* which was aimed at supplying households with three months of orange bag supply which would solely be utilised for recycling cardboard, plastic, paper, and polystyrene to name a few (South African Cities Network Sustainable Cities Report, 2019:26). By 2015 the project had yielded results of approximately 1 million households actively participating in the project and in 2017 an extension of the project was planned to the townships and rural areas within the municipality (South African Cities Network Sustainable Cities Report, 2019:26).



Image 17: Domestic Orange Bag Project in eThekweni Municipality

Source: Van Rensburg, 2009

To address the challenge of low-density and sprawling cities, the eThekweni Municipality developed a densification strategy in 2013 focused on the core urban areas within the municipality. The strategy was aimed at guiding where densification should take place within the city, how should it look with regards to urban typology and design, what type of controls should be in place to enable this function, and ultimately identify areas under pressure for densifications and the infrastructure required to unlock the latent potential within the city (Aurecon, 2018).

The City's densification strategy proposed higher densification along public transit routes and in areas of agglomeration of economic opportunities and social amenities. The City of eThekweni utilised the approach of transit-oriented development to introduce sustainable density within the city (eThekweni Densification Strategy, 2013). The first pilot of this approach was with the Chatsworth Development Framework, which proposed high densities along main trunk routes and mixed nodes and medium to lower densities along feeder routes and mono-functional residential areas (eThekweni Densification Strategy, 2013). The city of eThekweni has not achieved the vision of a compact dense city, however, with time, capital investment, efficient public transport, and integrated planning the city will be well on its way to integrating the rural and peri-urban communities into its urban core in a sustainable manner.

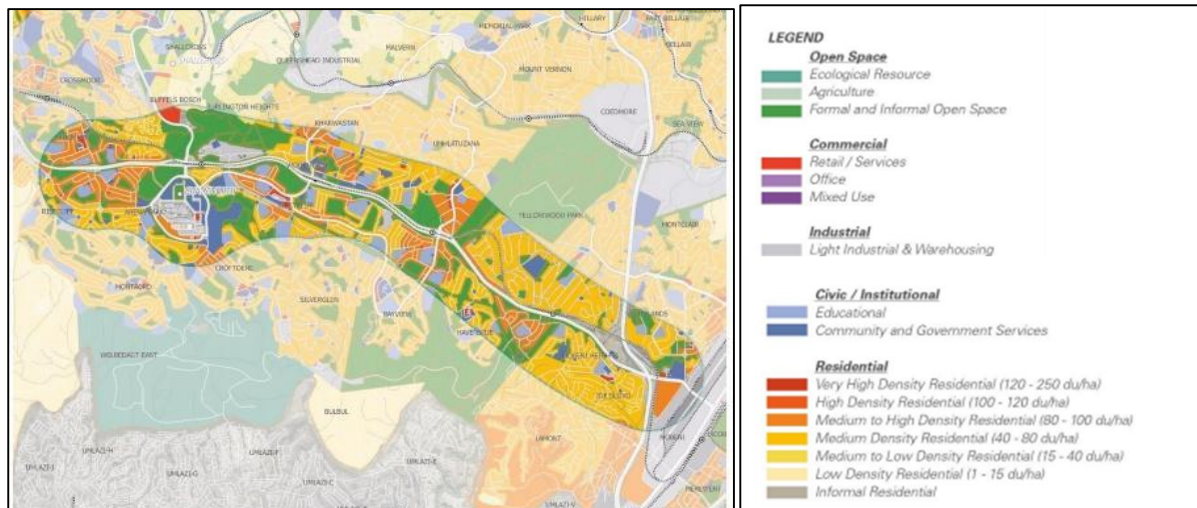


Figure 9: Chatsworth land use framework

Source: eThekweni Municipality, 2015

The City of eThekweni's legacy of segregated spatial planning has often resulted in households being located on the outskirts of urban areas distant from economic and social opportunities as well as affordable transport routes. This coupled with the challenges of rapid urbanisation which include poverty, high housing costs near job centers, and higher transportation costs have resulted in the significant growth of informal settlements and insufficient affordable inclusive housing opportunities within the eThekweni Municipality. Currently, there are 500 informal settlements within the city which comprise approximately 200 000 households (eThekweni Municipality Integrated Housing Development Plan, 2016:5). There is also a back log in the provision of RDP houses for the no income to the lower-income population of the city (eThekweni Municipality Integrated Housing Development Plan, 2016:5).

To address these challenges, the city pronounced a courageous plan to “*eradicate more than 40 years of housing backlog through its focus to find suitable and well-located land to deliver houses and eradicate informal settlements while putting an end to land invasions*” (eThekweni Municipality Integrated Housing Development Plan, 2019). To date, the city has identified over 700 properties that are planned to be developed for housing and to accommodate residents of various informal settlements that are not well located or located on environmentally sensitive land (eThekweni Municipality, 2019). Moreover, the city has declared a non-traditional strategic approach to housing development through allocating some of the 700 serviced properties to be released to beneficiaries to build their own houses as opposed to receiving the low-cost housing approach (eThekweni Municipality, 2019).

The eThekweni Municipality has been instrumental in addressing the housing challenges faced by the city. The city has completed in-situ informal settlements upgrades, Greenfield developments, hostel redevelopments, and affordable housing initiatives in transit corridors

within the city. One such example of in-situ informal settlement is Cato Crest. In 2000, the Cato Manor Development Association (CMDA) launched a housing project for 1500 households that had settled informally in Cato Crest on council land (eThekweni Municipality, 2019). The project was halted by social unrest in the area and the CMDA was disbanded in 2003 and all of its projects were handed over to the Municipality of eThekweni (eThekweni Municipality, 2019). The project was revitalized in 2006 however more informal settlements had been established for more than 3500 families. The project site could only accommodate 1500 sites thus relocations were made for the other families (eThekweni Municipality, 2019). Currently, more than 850 houses have been constructed in this extremely well-located area and nearby land for the expansion of the housing project has been identified by the city (eThekweni Municipality, 2019).



Image 18: Before and after, respectively of Cato Crest In-situ informal settlement upgrade

Source: Kathandra, 2018

In conclusion, the eThekweni Metropolitan Municipality has made great strides in implementing principles of the New Urban Agenda and Sustainable Development Goals to achieve sustainable urban areas within the city. The colonial and apartheid spatial planning legacies have entrenched deep spatial injustices and the eThekweni Municipality has implemented various successful strategies, programmes, and projects to inverse these injustices in the short time of democratic South Africa. The city however still has a long way to travel to reach the mandate of the Habitat III New Urban Agenda and SDGs to create a resilient and sustainable urban area in its form and function.

3.5 LIMITATIONS OF ACHIEVING SUSTAINABLE URBAN DEVELOPMENT IN SOUTH AFRICA

In 2015, the Paris climate agreement on cities at COP211 emphasised that, unlike cities in the developed world, African cities, as key drivers of growth, will not have the luxury of polluting now and implement sustainability practices later (Paris Climate Agreement, 2011). Cities will need to have low-emissions growth and development trajectories that work smartly within an increasingly resource-constrained world. Yet, despite a relatively high level of expressed

political commitment, South African cities are not transitioning to sustainability quickly enough (South Africa Cities Network Sustainability Report, 2018:15).

South African cities have in place planning tools, such as integrated development plans (IDPs), spatial development frameworks (SDFs), and service delivery and budget implementation plans (SDBIPs) as mentioned in the introduction (Potgieter, 2016). They have developed and improved service delivery in key sectors: energy, waste management, water and sanitation, human settlements, and public transport, and have begun tackling climate change, food security, and disaster and risk reduction (South Africa Cities Network Sustainability Report, 2018:36). However, the apartheid spatial planning legacy coupled with rapid urbanisation means that cities in South Africa are continuously playing catch-up, as access to infrastructure and services falls behind population growth. This pressure feeds urban sprawl, which, in turn, encourages car use, exacerbates social segregation, increases greenhouse gas (GHG) emissions, and leads to the loss of natural resources (Westin and Rennkamp, 2013).

As a result, the typical South African city is “*resource-intensive and suffers from inefficiencies across sectors such as energy, food, water, waste and transport*” (Westin and Rennkamp, 2013). Some decoupling has been observed in the energy sector as evident in eThekweni and the City of Cape Town, but generally, the development trajectory is unsustainable (South Africa Cities Network Sustainability Report, 2018:). Volumes of waste are disposed of annually at landfill sites, which are fast running out of airspace; freshwater reserves are constrained, and GHGs and other air pollutants continue to be emitted from electricity generation and vehicles that run on fossil fuel. Cities continue to depend on food that is produced elsewhere, making them vulnerable to shocks in the food value chain (South Africa Cities Network Sustainability Report, 2018:36).

Income and wealth inequalities in South Africa aggravate the situation. Equitable access to services and infrastructure eludes many communities within the cities. Although middle- and high-income households are investing in rainwater storage, renewable energy, solar water heating, and greywater systems across the country, the majority of the population remains in poorly connected settlements, with poor access to public transport and is subject to increasing water, electricity and transport costs, which stretch household budgets even further (Vanajakshi et al., 2010:50). The consequence is deepening energy poverty that is perpetuated through generations. Cities need to appreciate that environmental sustainability is the foundation for the economic and social well-being of their citizenry, as underscored by the cross-subsidisation that happens between the different levels of households (Vanajakshi et al., 2010:50). They have powers, planning tools, and instruments that can be used to ensure

the efficient management and consumption of resources. Where their mandate and ability are constrained by national legislative ambiguity, cities can use existing intergovernmental cooperation platforms to negotiate such ambiguities (South Africa Cities Network Sustainability Report, 2018).

3.6 CONCLUSION

The New Urban Agenda is a policy that represents a global compact for advancing the Sustainable Development Goals. The habitat agenda also focuses on altering the narrative of urbanisation in that, urbanisation can be valuable if it is well planned for and well organised. Moreover, the agenda indicates that good urbanization does not happen by chance, but rather by design. Thus, it requires supportive rules and regulations, sound planning and design, and a viable financial plan. As whenever and wherever cities manage all three, they function as transformational drivers of sustainable development. Through the precedent studies analysed in this chapter, it is evident that cities have made significant progress towards sustainability, which has been analysed through transportation, housing, urban design, energy, waste, and water. This is specifically more relevant in cities from developed countries. Cities in developed countries analysed in this dissertation all had an underlying theme of 1) a holistic, robust, and integrated strategic vision or development plan based on sustainable development principles that have been followed through and implemented over many decades as a fundamental in achieving sustainable cities. These strategic plans coupled with efficient and effective public transit systems, sources of renewable energy, and smart technology and design solutions to water, air quality, climate change, food security, affordable housing, a vibrant economy, and urban design rooted in integration, inclusivity and pedestrian-oriented environments have equally emerged in each of the cities analysed.

Good governance, political stability, and financial mechanisms are equally important aspects in implementing proposed strategies, programmes, and projects within cities that feed to the mandate of sustainability. 2) The analysed cities have also depicted an underlying theme of continuous monitoring and measuring of progress in transition phases with baselines studies and big data monitoring tools to ensure evidence-based planning. 3) The third underlying theme was that of pursuing a compact polycentric approach to spatial planning and transformation and transit-orientated development to increase economies of scale of infrastructure investments and to take advantage of the variety of mixed uses within proximity.

Another observation in the analysis between cities in developed and developing countries as opposed to cities in developing countries is the cost of housing near well-located areas and job centers. Cities in developed countries analysed in this are facing challenges of gentrification and citizens not being able to afford housing in the cities, whereas cities in South

Africa have been at the forefront of ensuring affordable and inclusive housing access and opportunities for all. Beijing and Hong Kong demonstrated four main aspects which enabled sustainable urban development. These included 1) a strong public transport movement system that is integrated with the pedestrian environment and key economic nodes. 2) The use of smart building infrastructure and green technology to reduce the ecological footprint of a city. 3) Ensuring inclusive housing strategies to benefit all residents of the city and increase their quality of life and the inclusion of green spaces and 4) effective waste management to enable a city where people can enjoy, live, and work in. These characteristics are similar to that of cities in developed countries. These cities have achieved the highlighted sustainable development characteristics in just over two decades, amongst myriad of challenges facing their country. This demonstrates that South African cities have an opportunity to achieve sustainable urban development, should the country focus its efforts on this goal.

CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY OF THE STUDY

4.1 INTRODUCTION

All research studies require a sound research design and methodology approach to effectively reach the objective of the research paper. William (2006:1) describes the research design and methodology as “the overall strategy that you choose to integrate the different components of the study coherently and logically, thereby, ensuring you will effectively address the research problem” (William, 2006:1). Remenyi (1996:22) describes this as a trip of discovery. The primacy of this discovery is to investigate in what ways the Habitat Agenda Policy particularly the Habitat III New Urban Agenda together with the Sustainable Development Goals can assist in addressing urban planning challenges faced by South African urban spaces. This research will use a case study of the City of Johannesburg as the main methodological approach on which knowledge is based and evaluated.

Taking this into consideration, the focus of this chapter is to provide a clear and detailed framework on what research methodology and philosophies will be used to determine how the habitat agenda policy can assist in achieving sustainable urban development in the City of Johannesburg, how data will be collected, sampled, and analysed as well as outlining the ethical consideration for the study.

4.2 RESEARCH DESIGN AND METHODOLOGY

4.2.1 THE USE OF A CASE STUDY IN RESEARCH DESIGN

Yin (1997:23) defines the case study research method as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, when boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are discussed” (Yin, 1997). The case study approach was thus selected as it is effective in conveying complex issues. Furthermore, it can extend experience or add strength to what is already known through previous research. Case studies emphasise detailed analysis of a limited number of events or conditions and their relationships.

4.2.2 ADVANTAGES AND DISADVANTAGES OF CASE STUDIES

There are both advantages and disadvantages to using the case study approach. The first disadvantage noted was that case studies are often accused of lack of rigour. Yin (1984:21) notes that “too many times, the case study investigator has been sloppy, and has allowed equivocal evidence or biased views to influence the direction of the findings and conclusions”. The second relates to case studies providing very little basis for scientific generalisation since they use a small number of subjects, some conducted with only one subject. The question

commonly raised is “How can you generalise from a single case?” (Tellis, 1984). The third stated disadvantage is that case studies are often labeled as being too long, difficult to conduct, and producing a massive amount of documentation (Yin, 1984). Case studies of ethnographic or longitudinal nature can elicit a great deal of data over some time. The danger comes when the data is not managed and organised systematically. However, for the purposes of this research study, the case study method promises to yield valuable results.

The advantage of using a case study is that it often enables the researcher to observe data at a micro-level; it provides detailed and systematic ways of observing events, gathering, and analysing data, and providing informed results over a long time (Zainal 2007:3). This often provides an opportunity to explore and describe collected information in a real-life environment and helps to explain the complexities associated with the investigated real-life issues which may not be captured through experimental and/or survey research (Zainal 2007:3).

4.2.3 CITY OF JOHANNESBURG AS A CASE STUDY

In terms of this paper, the research is based on a case study of the City of Johannesburg which is within the Gauteng province in South Africa. The City of Johannesburg was selected as the case study for in-depth analysis since it has attempted to implement many strategies to enable sustainable urban development. These include the development of frameworks, plans, and policies that were aimed at providing equitable strategies to achieve sustainable integrated development within the city.

The City of Johannesburg has equally faced a myriad of challenges in redressing the legacies of Colonialism and Apartheid. These challenges include rapid urbanisation, urban sprawl, and sprawling townships, fragmented urban development and spatial inequality remain a defining characteristic of the settlement pattern within the City of Johannesburg. The location and concentration of jobs do not match that of where people live. The job-housing mismatch significantly contributes to inequality in the city as for many residents- access to economic opportunities is stifled by costly and distant commuting and housing provision for the increasing number of people remains a prominent challenge. These challenges are not unique to the City of Johannesburg, thus other South African cities and urban areas will be able to draw instructive insights from this study.

4.2.4 RESEARCH PHILOSOPHIES

Denzin and Lincoln (2000:10) state that, the qualitative approach to research focuses on how social experiences are created whereas, the quantitative approach emphasizes the measurement and analysis of causal relationships between variables and not processes (Denzin and Lincoln, 2000:10). Creswell (2009:15) however, portrays qualitative studies as “typical small-scale pieces of research that are intensive in nature variables and yield

categorical or non-numeric responses and data generated from these variables” (Creswell, 2009) and quantitative research as a method that measures numerical values in research.

Integrating qualitative and quantitative methods in research processes has become one of the favoured means of intensifying the validity and reliability of data (World Bank, 2000). Furthermore, there is a growing acknowledgment of the use of these two methods concurrently and supplementary (Ibid). Subsequently, this research takes on both qualitative and quantitative approaches as it has many dimensions and layers which are portrayed in its multifaceted form as suggested by Leedy and Ormrod (2014:141). The qualitative method will contribute to explaining and presenting non-measurable information such as personal opinions and the success rate of the Habitat Agenda policy. The quantitative method will assist in presenting measurable information such as indicators for urban development. The research study is an exploratory and descriptive type of research whereby it seeks to answer the “what” and “how” question and the reasoning strategy used was the inductive approach.

4.2.5 DATA COLLECTION METHODS AND TOOLS

To achieve the overall objective and the associated sub-objectives using the case study of the City of Johannesburg, this dissertation will use primary and secondary data.

As a starting point, secondary data was used to comprehend the primary overarching issues associated with the habitat agenda policy and the challenges experienced within the City of Johannesburg as separate entities. The secondary data emanated from the literature review which highlighted the theory and concepts of the habitat agenda policy and urban planning challenges as separate entities. It further synthesised the theories and concepts to find trends within the two variables. Various journals, articles, and books on the theories of sustainability, growth poles, urbanisation, and urban transformation were consulted to reach this synthesis.

The literature review further highlighted the influence the habitat agenda policy had on planning within different regions and countries of the world. This information was sourced from the United Nations monitoring and evaluation unit, websites, and government plans. Moreover, this research requires policy analysis from the City of Johannesburg, and policy analysis requires that policy documents and legislation be an integral part of data collection. Thus, secondary data from government policy documents, legislation, government sources such as department websites, and published government reports were utilised and will be further utilised.

Demographic and economic patterns and trends of the City of Johannesburg were based on 1996, 2001 and 2011 censuses and the Community Survey of 2016 which was conducted by Statistics South Africa. The main primary data for the research will be obtained by conducting semi-structured interviews which will include a combination of open-ended and closed-ended

questions. This is to allow for an open conversational discussion of broader issues. Many of the questions will be open-ended and the purpose of this is to allow free-flowing conversation on policy, urban, and implementation matters that could have not otherwise been stimulated through closed questions and structured interviews.

4.2.6 SAMPLING

A purposive sampling method was used to identify the stakeholders to be interviewed. Galloway (1997:52) defines purposive sampling as one which is selected by the researcher subjectively, the researcher attempts to obtain the sample that appears to be representative of the population and will usually try to ensure that a range from one extreme to the other is included (Galloway, 1997). The interview questions were designed to answer the research question and they considered the broader research objectives (please see appendix A).

The interviews were conducted with various stakeholders from the Metropolitan City, civil society organisations responsible for urban issues, the research community, the United Nations as well as a small group of experts in specialised areas. The findings from the literature review highlighted that the Habitat Agenda Policy is multifaceted, in that it encompasses a broad spectrum of sectors that should work together to address urban planning issues faced by cities. As such, to ensure that the study provides holistic and reliable data the following stakeholders from the City of Johannesburg will be interviewed:

- 1) the Head of Department from Development Planning Services,
- 2) Manager of town planning from spatial planning and land use,
- 3) Municipal official responsible for coordinating and developing the Integrated Development Plan, Spatial Development Framework, and the city's growth and development strategy; and
- 5) Other relevant officials from sister departments of development planning such as environmental planning, City Power, Johannesburg Development Agency, to name a few.

The semi-structured interviews also included interviews with key policy professionals, United Nations Habitat Agenda representatives, highly qualified experts, and officials in specialized areas (Housing, environment, governance, and infrastructure), and a representative from the research community. The interview process and interview questions yielded primarily qualitative data.

4.2.7 DATA ANALYSIS

The objective of data analysis is to look at and summarize data with the intent of extracting useful information and develop conclusions. For this study, the data was analysed using a combination of qualitative and quantitative methods. The quantitative method was used for the numerical variables and qualitative for descriptive responses since the interviews

comprised of both open and closed-ended questions. The data was also analysed in a thematic format using a matrix system of the City of Johannesburg's planning instruments (IDP, SDF, 2040 GDS) with the habitat agenda aims and commitments. The purpose of analysing data this way is to ensure that each research objective is met. The data collected is attached as an appendix to avoid clutter and to make the data analysis process relatively simple.

Data is presented using tables, matrix, cross-tabulation, and figures. This research study will also use triangulation and coding as methods of analysing data. Triangulation is a method used in qualitative research that involves cross-checking multiple data sources and collection procedures to evaluate the extent to which all evidence converges. Qualitative analysis of the text is often supplemented with other sources of information to satisfy the principle of triangulation and increase trust in the validity of the study's conclusions. For this study, transcribed interviews along with observational field notes and documents authored by the respondents themselves will be used to ensure triangulation takes place.

The purpose of multiple sources of data is to provide credible and valid data. The research used coding as a method of analysis. The study used the open codes method which is created by the first pass through the data that focuses on identifying, labeling, and classifying, which may be combined into one overarching concept (Dakwill, 1987).

4.2.8 ETHICAL CONSIDERATIONS

This research study adhered to and took note of the Durban University of Technology's Research and Ethics guidelines. The dissertation considered all ethical issues pertaining to human research, which include emotional safety, confidentiality, and informed consent. The proposal was submitted to the University's Faculty of Built Environment and Ethics Committee for ethical clearance. The researcher ensured that verbal and written consent was obtained before commencement of interviews and the interviewees were informed that participation is voluntary; thus, they could withdraw from the interview if they no longer wished to participate. Permission to conduct interviews was requested from identified stakeholders and no interviews were conducted with vulnerable individuals within the age group of 0 to 17 years thus interviews were conducted with individuals 18 years or older. No forms of payment or incentives were promised for interviews to commence, and confidentiality was ensured by granting anonymity to participants if they request it.

4.1.9 CONCLUSION

This chapter provides a clear and detailed framework on what research methodology and philosophies will be used to determine how the habitat agenda policy can assist in achieving

sustainable urban development in the City of Johannesburg, how data will be collected, sampled, and analysed as well as outlining the ethical consideration for the study.

CHAPTER FIVE: CONTEXTUALISING THE IMPLEMENTATION OF THE HABITAT III: NEW URBAN AGENDA IN THE CITY OF JOHANNESBURG

5.1 INTRODUCTION

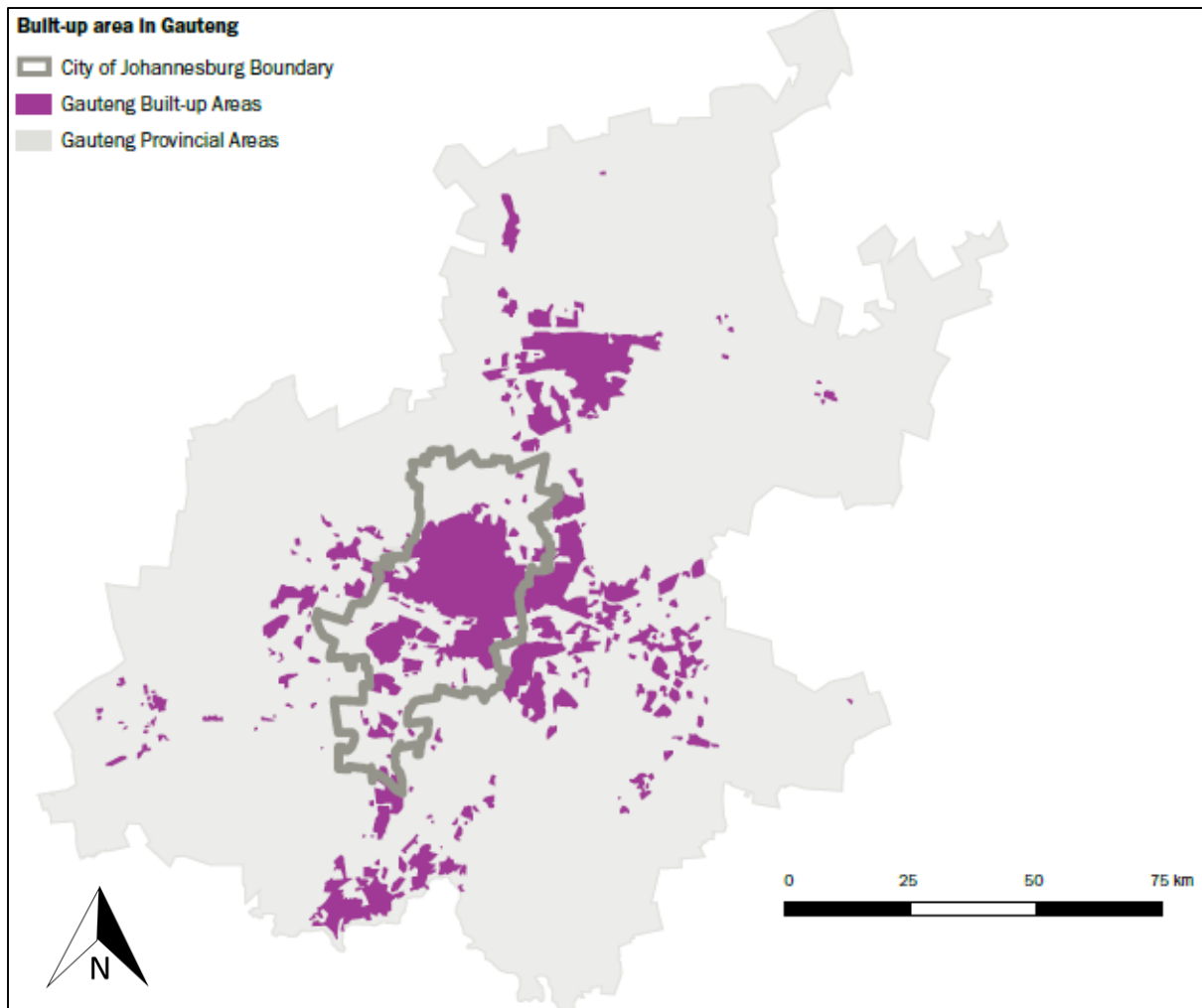
The purpose of this section is to provide context to the City of Johannesburg as the identified case study. The section will briefly outline the spatial planning challenges of Johannesburg and detail how the city is addressing the challenges faced. Additionally, the section will provide a detailed outline of the Habitat III: New Urban Agenda and its proposed guidelines for driving good urbanisation and enabling sustainable development in cities. In the following chapter, these variables will be analysed against each other, using a thematic approach, to determine how the Habitat Agenda can assist in addressing the spatial planning challenges of the City of Johannesburg.

5.2 CASE STUDY OF THE CITY OF JOHANNESBURG

The City of Johannesburg is located in the Gauteng province and is South Africa's largest city. It is measured at 1644km² with approximately 4.4 million people with an urban population of 99.8% (SACN State of Cities Report, 2016:39).

Johannesburg was initially conjured of small farmlands that had acquired permits to mine gold. In 1886 the area was formally established by the Boer government following the discovery of more gold along the Witwatersrand Reef (Crankshaw and Parnell, 2002: 15). Upon this discovery, many people around South Africa and the world flocked to Johannesburg to seek fortunes or offer their labour (Crankshaw and Parnell, 2002: 15).

When Johannesburg was officially established in 1886 the size of the area was approximately 2km² (Pieterse and Owens, 2012:5), by the end of the year the population had increased to 3000 people. Ten years later the population had further increased to 102 000 people, rendering Johannesburg the biggest settlement and arguably town in South Africa and Southern Africa (Pieterse and Owens, 2012:5). However, despite the exhibited growth and development, Johannesburg was considered by its early rulers, President Paul Kruger of the Zuid-Afrikaansche Republic, to be a settlement that would dismantle (City of Joburg Integrated Development Plan: 2020:9). He attributed this rationale to that, the gold would run out, and



Map 9: Location of Johannesburg in context of the Gauteng Province

Source: Based on authors' analysis using data from the City of Johannesburg, 2016



Image 19: First diggings of Gold in 1886 at one of the farmlands (Ferreirasdorp) in Johannesburg

Source: Business Technology, 2016

the fortune-seekers would return home. As such, when open diggings were broadcasted in 1886, Johannesburg was designed as a temporary gold surge town (City of Joburg Integrated Development Plan: 2020:9). The rationale of a temporary gold surge informed the original design of the town, with small narrow streets and small city blocks, which came from the

conviction of the early town planners that like other gold surges, this one would long be over (City of Joburg Integrated Development Plan: 2020:10).

Despite the convictions of the early rulers and planners, the gold lasted, and new flocks of fortune seekers and labourers migrated to Johannesburg (Pieterse and Owens, 2012:5). By the time some gold mines began to close down in the 1930s, Johannesburg's economy had moved firmly into secondary manufacturing, and by the 1960s it had become a center for international finance (City of Joburg Integrated Development Plan: 2020:10).

Johannesburg is also a city built on a history of racial segregation. Early in the twentieth century, the British colonial government began forcibly relocating black people from the central city to areas on its outskirts, introducing the principle of racial segregation through the Group Act of 1950, which became entrenched in the administration of the city and eventually led to the system known as apartheid (City of Joburg Spatial Development Plan: 2016:10).

Spatial segregation kept people of different races apart, this deep-rooted inequality in the economic, social, and environmental aspects between black and white people. The introduction of the Group Areas Act of 1950 birthed a type of spatial planning that was exclusive, unsustainable, and segregated in nature. The design of towns marginalised townships and homelands of black people and located them at the margins of designated "white city areas" (City of Joburg Spatial Development Plan: 2016). Consequently, by the 1940s and '50s, Johannesburg had spawned Soweto, deemed by the apartheid government to be a temporary "black spot" in a white region, and refused any form of land tenure, civic status, and democratic rights (Clark and Worger, 2013). No provisions were made for the creation of commercial infrastructure, business districts, or for the establishment of industrial and manufacturing areas (Clark and Worger, 2013). This has contributed to the challenge of minimal land-use diversity and mono-functional nodes and areas within the City of Johannesburg.

The Group Areas Act was repealed in 1991 however, the component elements of apartheid spatial planning remain etched into the urban fabric of South Africa's cities. Accordingly, this legacy has birthed major urban spatial challenges for the City of Johannesburg. Moving beyond these entrenched spatial divisions and inequalities of Johannesburg's past entails building democratic values and forging new developmental paths which will create a sustainable, inclusive, and efficient city.

5.3 CONTEXTUALISING URBAN CHALLENGES IN THE CITY OF JOHANNESBURG

This section will briefly outline the spatial planning challenges faced by Johannesburg and the strategies employed by the City to address these issues. The urban challenges are grouped under specific themes and strategic thrusts applicable to the research question and objectives

of the research report. The themes include land use planning, environment, economics, housing, and transport which are underlined by the state of municipal finance, infrastructure, and governance in the city.

Table 1: Summary of CoJ Challenges in Thematic Categories

Theme 1: Land Use Planning	Theme 2: Environment	Theme 3: Housing	Theme 4: Transport
Urban Challenge(s): 1) Population Growth and Urbanisation 2) Urban sprawl and fragmentation 3) Inefficient residential densities and land use diversity 4) Spatial inequalities and the job-housing mismatch	Urban Challenge(s): 1) Increasing pressure on the natural environment and green infrastructure	Urban Challenge(s): 1) Informal housing and affordability of housing in well located areas	Urban Challenge(s): 1) Development and implementation of Integrated Public Transport Network (IPTN)

Source: Own Source, 2020

5.3.1. THEME 1: LAND USE PLANNING

5.3.1.1 Population Growth and Urbanisation

The end of the apartheid era contributed to increased urbanisation in many South African cities. In the case of Johannesburg, the city grew from 910 500 people in 1950 to 5 782 747 people in 2020, at an annual average growth rate of 3.1%.

According to Statistics South Africa, census data from 1996, 2001, and 2011 indicates that Johannesburg is continuing to grow, although at a decelerating rate. From 1996 to 2001 its population grew at an average of 4.1% per annum while from 2001 to 2011 it grew on average at 3.2% per annum (Statistics South Africa, 2020). The United Nations predicts a further deceleration of growth, to 2% for the period 2015 to 2020, 1.3% for 2020 to 2025, and 1% for 2025 to 2030 (United Nations: 2018). As indicated below, however, this is one of the low-range estimates for Johannesburg's growth and is used to illustrate the trend of slowing population growth. There are various population projections by several institutions for the city however, the United Nations projects that domestic and international immigration will account for 25% of growth within the City of Johannesburg with natural and future growth accounting for 75% (United Nations, 2018). Rendering the City to be the most populous city by 2040 in South

Africa with approximately 7 million people with increased population densities from 3156.7 (current) to 3881.6 people per square kilometre by 2040 and increased households from 1 853 369 (current) to approximately 2 978 253 by 2040.

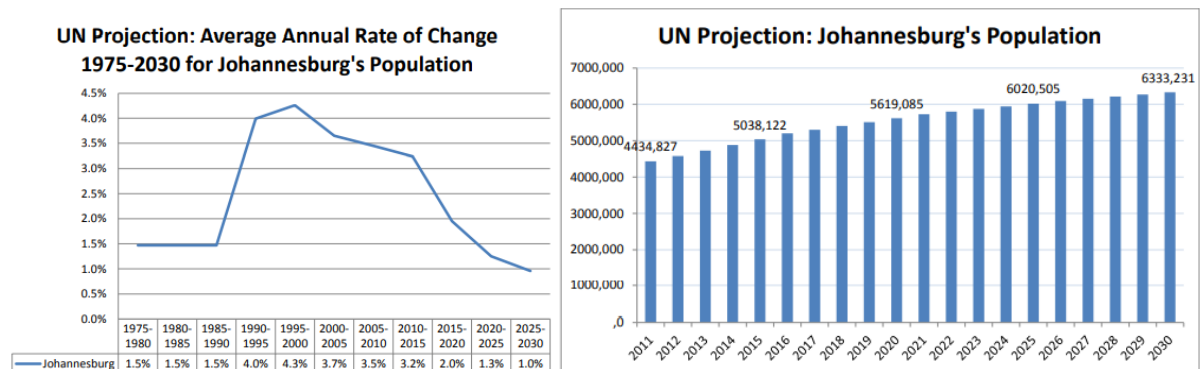


Figure 10: UN Projected Population Growth for Johannesburg using census 2011

Source: CoJ Spatial Development Framework, 2016

The growth rates and population projections of the City of Johannesburg indicate that the city will be required to plan and budget for more efficient and sustainable water, sanitation and services infrastructure, affordable housing, efficient public transport, and accessible social and recreational amenities to accommodate the projected number of people and households that are existing and will be coming into the city in the future.

The City's Spatial Development Framework acknowledges the effects of urbanisation within the city and proposes a compact polycentric model of development to combat urbanisation and other spatial challenges experienced by the City. This model of development entails creating a compact, inclusive, connected resilient and generative city. Whereby the development of well-located, affordable mixed residential developments is actively enforced by policy and proposed developments rights within the city.

Additionally, the City of Johannesburg SDF, 2040, provides the following proposals to address and manage urbanisation within the city:

- Inclusionary housing policy proposes that all developments with 20 dwelling units or more on-site should apportion at least 30% of the development to people who could previously not live there. This encourages inclusive housing in well-located areas.
- Nodal Review Policy, which proposes densification and intensification of uses within the city. This directly encourages the development of more residential, social, and economic uses at an affordable rate in an attempt to accommodate the growing number of people within the city; and
- Road, water, electricity, and stormwater infrastructures upgrades

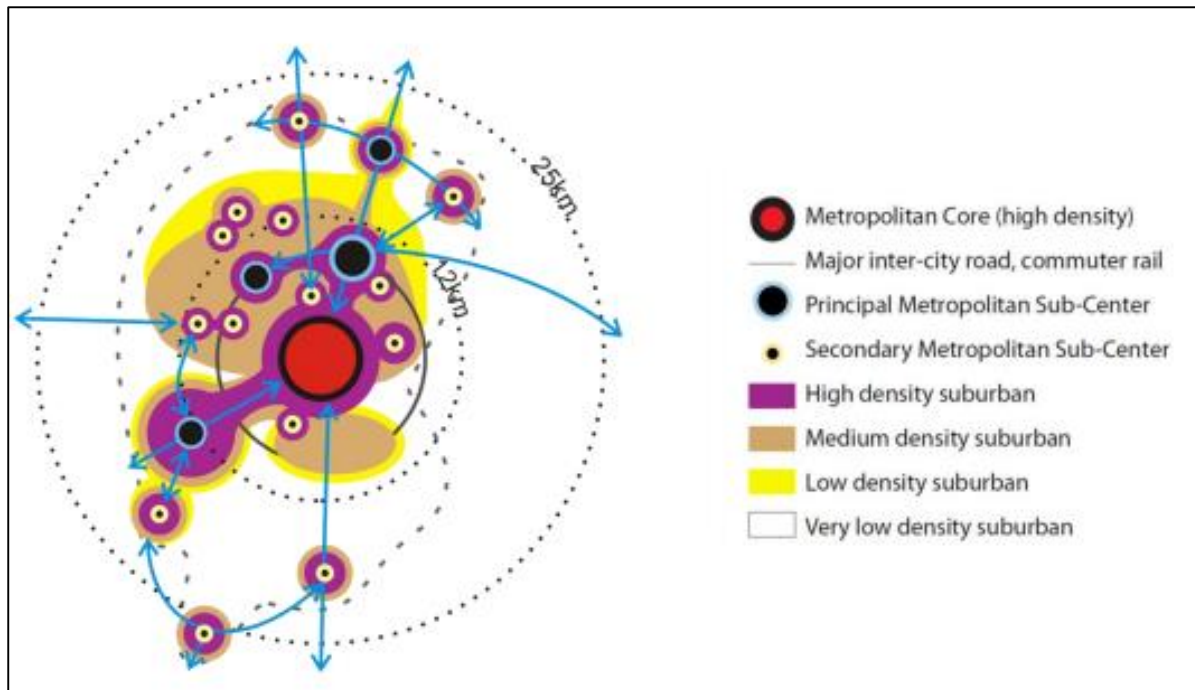
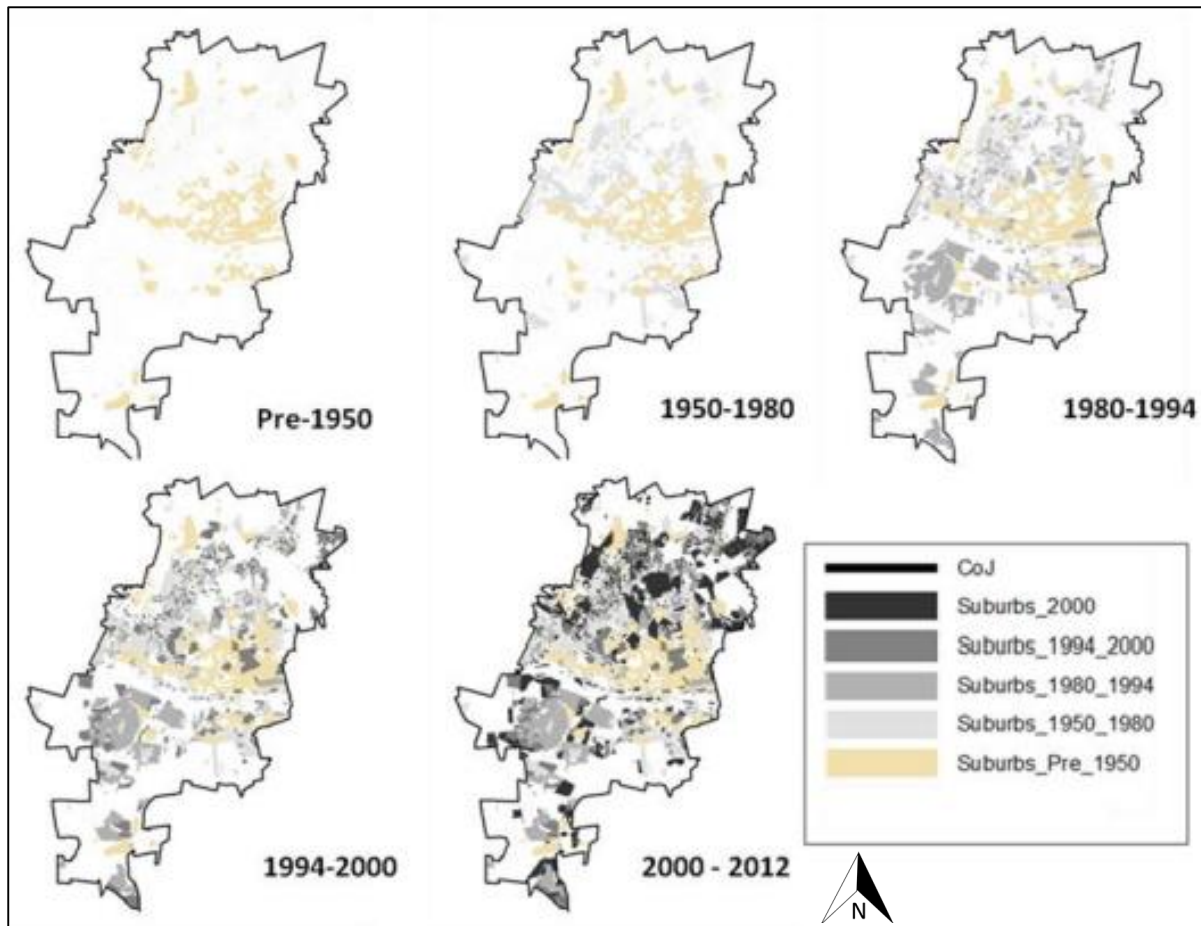


Figure 11: Johannesburg Future City Model: Compact Polycentric Urban Form

Source: CoJ Spatial Development Framework, 2016

5.3.1.2 Urban Sprawl and Fragmentation

The City of Johannesburg has largely experienced urban growth that has been dispersed and not compact. This is mainly attributed to the legacy of apartheid spatial planning, which by design perpetuated a sprawled city by placing large populations on the outskirts of the city. This design was further exacerbated post-1994 by bad designs which saw *“dispersed and piecemeal growth in the city, including gated and car-oriented developments and public housing developments on the outskirts of the city”* (City of Joburg Spatial Development Framework: 2016:56). Consequently, in the past twenty years, the city has become denser *“with the population having grown at a faster rate than the built-up area footprint”* (City of Joburg Spatial Development Framework: 2016:56). However, the growth has largely been unsustainable as densities and concentrations of jobs and people have not adequately developed to support a sustainable city.



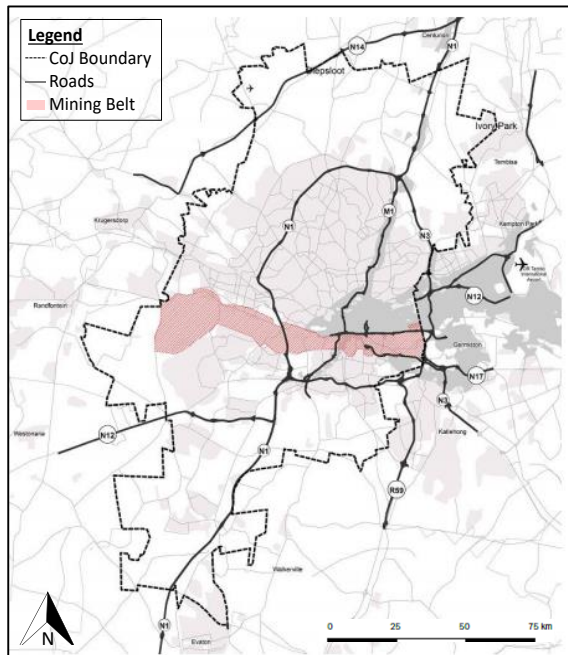
Map 10: Spatial pattern of growth of Johannesburg 1950 to 2012

Source: City of Johannesburg Corporate Geo-Informatics

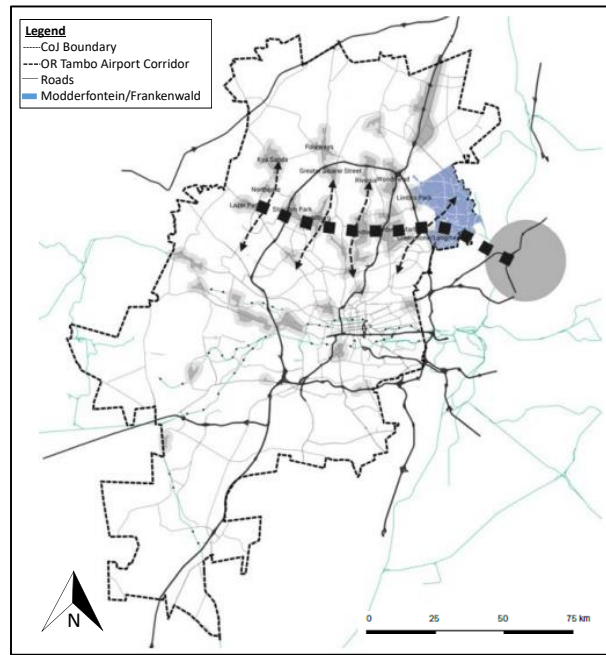
Map 11

The City of Johannesburg spatially indicates high levels of fragmentation. This is evident in the broad divide between northern and southern development areas within the city. Two main features evidently contribute to fragmentation in Johannesburg. The first is the mining belt. The entire mining belt represents urban fragmentation in the city by dividing it north/south, as depicted by . The effects in the western parts of the belt are most prominent. In particular, it separates Soweto from economic centers along the western corridor from Krugersdorp through Roodepoort, towards the Inner City. Albeit, while the mining belt historically represents fragmentation it also holds great potential for development towards the integration and transformation of Johannesburg (City of Johannesburg Spatial Development Framework, 2016:58). The second feature of discontinuity lies in the northeast of the city around the areas of Modderfontein, Frankenwald, and Linbro Park, as depicted by map 12. For various reasons, these areas have remained undeveloped as the city has grown around them, notably along the corridor between Johannesburg and Pretoria. Many developers are drawing development energy and investment now, however. At more localised levels, the issues of fragmentation and spatial disconnection are evident, very often as a result of patterns

of urban development. Additionally, the trend in the northern parts of the city towards 'security estates' has major implications in this regard, effectively sterilising large parts of the urban system and creating significant buffers to sustainable and inclusive urban form.



Map 11: Mining Belt Location in Johannesburg



Map 12: Modderfontein, Linbro Park and Frankenwald

Source: CoJ Spatial Development Framework, 2016

In analysing the connectivity of the street networks in the City of Johannesburg, a mapping exercise was undertaken to show intersections per km². The analysis highlighted most of the metropolitan area (93%) falls below 100 intersections per km², an internationally recognised connectivity benchmark to support walkability. The high level of spatial inequality in the city is reflected in the urban spatial form and in high levels of securitisation with the proliferation of strip malls and gated office parks and townhouse developments. These are characterised by controlled street patterns that have moved from the historically open grid to the clustered cul-de-sac, loop, and 'lollipop' configuration contributing to fragmentation and low levels of walkability. As such, the city of Joburg SDF states that *"high levels of sprawl in Johannesburg increase costs of services and of goods such as food. Ultimately, these culminate in higher costs to households and businesses. Compact, mixed-use medium to high-density settlements is more sustainable in the use of resources as well as waste and emission profiles"* (City of Johannesburg Spatial Development Framework, 2016:59).

The City of Johannesburg has employed various programmes and projects to curb urban sprawl and fragmentation within the city. Some of these projects/programmes include- 1) The Corridors of Freedom. The concept of development corridors connecting strategic nodes through an affordable and accessible mass public transport system is an integral component

of the component within Johannesburg. This concept envisaged development corridors with mixed land-use types dominated by high-density accommodation options supported by economic, social, and recreational facilities. The city has identified Turrfontein, Louis Botha, Empire Perth, and Soweto as the development corridors “Corridors of Freedom” within the city. The development corridors were introduced as the first step in the strategy of physical connectivity at a city scale to mobilise the dynamic energy of the city and connect important strategic nodes such as Soweto, the Inner City, Alexandra, and Sandton to each other. These corridors, intended to incorporate economic, social, and infrastructure priorities and were seen as a means to achieve compactness and competitiveness through an affordable and accessible mass public transit system that includes both bus and passenger rail, and that provides mixed-income housing, schools, economic, social and recreational facilities.

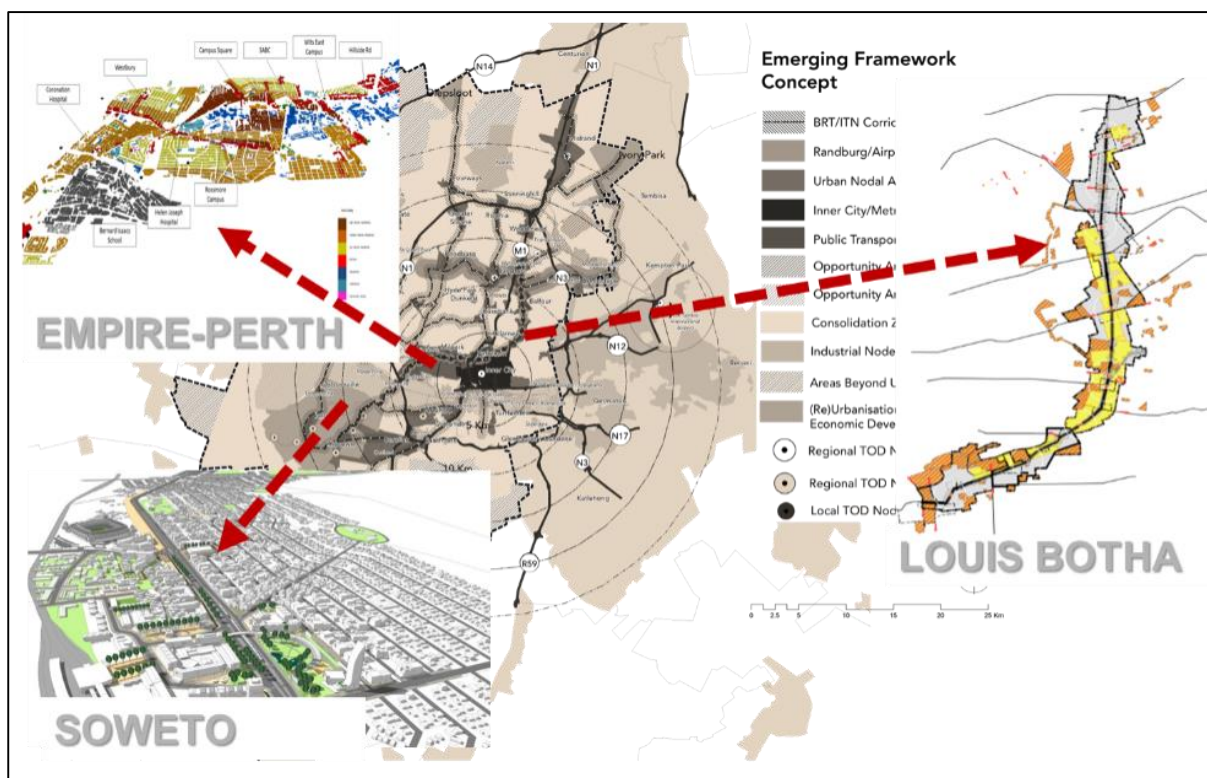


Figure 12: Development Corridors in Johannesburg

Source: CoJ Spatial Development Framework, 2016

A key finding from the CoF programme is a recognition that the leverage that the city government has over the regional economy is weak. The economic performance of corridors may evolve, but due to incremental residential intensification rather than the direct inducement of commercial property developers.²) Encouraging higher residential densities and a diverse mix of land uses and opportunities for a broader mix of people of various incomes and social groups in strategic nodes and transformation zones; 3) Improvement of public transport and connecting marginalised areas to the city centre through the Empire Perth, Louis Botha and

Soweto line Bus Rapid Transport System (BRT); 4) Making the city more inclusive, resilient and sustainable through the implementation of the inclusionary housing policy, the green buildings policy, the nodal review and other economic transformation policies; 5) Directing public investment to strategic nodes and deprived areas within the city, together with incentives and a supportive regulatory framework that encourages development through private sector investment; and 6) Directing public investment and spending towards strategic nodes and deprived areas within the city in support of private investment, by providing social facilities and supporting services.

5.3.2.3 Inefficient residential/population densities and land-use diversity

Efficient densities and land-use diversity are critical factors in achieving the proposed compact polycentric development and creating a sustainable and liveable Johannesburg. Johannesburg is characterized by relatively average residential densities and various land use activities across the city. Albeit the land use activity is largely mono-functional and segregated in several strategic nodes and transformation areas within the city. The City of Joburg SDF states that *“the separation of land uses contributes to increasing average distances traveled. Hence, separation of land uses and zoning impact (1) climate and energy intensity, by increasing energy needs for transportation, (2) social inclusion, by making jobs and social infrastructure-less accessible to low-income households, and (3) economic productivity, by separating economic activities from labour and limiting agglomeration economies in Johannesburg”* (City of Joburg Spatial Development Framework: 2016:56). These outputs of inefficient densities and land-use diversity affect the potential for the city to grow in an efficient, resilient, and environmentally conscious manner.

International and best practices of density analysis indicate that a sustainable and compact city should demonstrate a third of the population to be concentrated in five percent of the urban area with a population density of 16 000 people per km² (Weakley, 2016:17). A benchmark of this practice is found in Paris and New York City, which have a dense urban core and a population density of approximately 21 200 and 27 000 people per km², respectively (World Bank, 2015). In comparison to these cities, Johannesburg has an average population density of only 2965 people per km². This is considered to be low to achieve a compact, efficient and sustainable city (Gauteng City-Region Observatory, 2018). The highest population densities in the city are recorded in the CBD and the Alexandra Township with 74 564 and 52 900 people per km², respectively (Gauteng City-Region Organisation, 2018).

Table 2 below shows a comparison of population densities across various areas in the city. What can be deduced from this snapshot is that there is relatively more population density in areas near economic opportunities. Paradoxically, some of the highest residential densities in

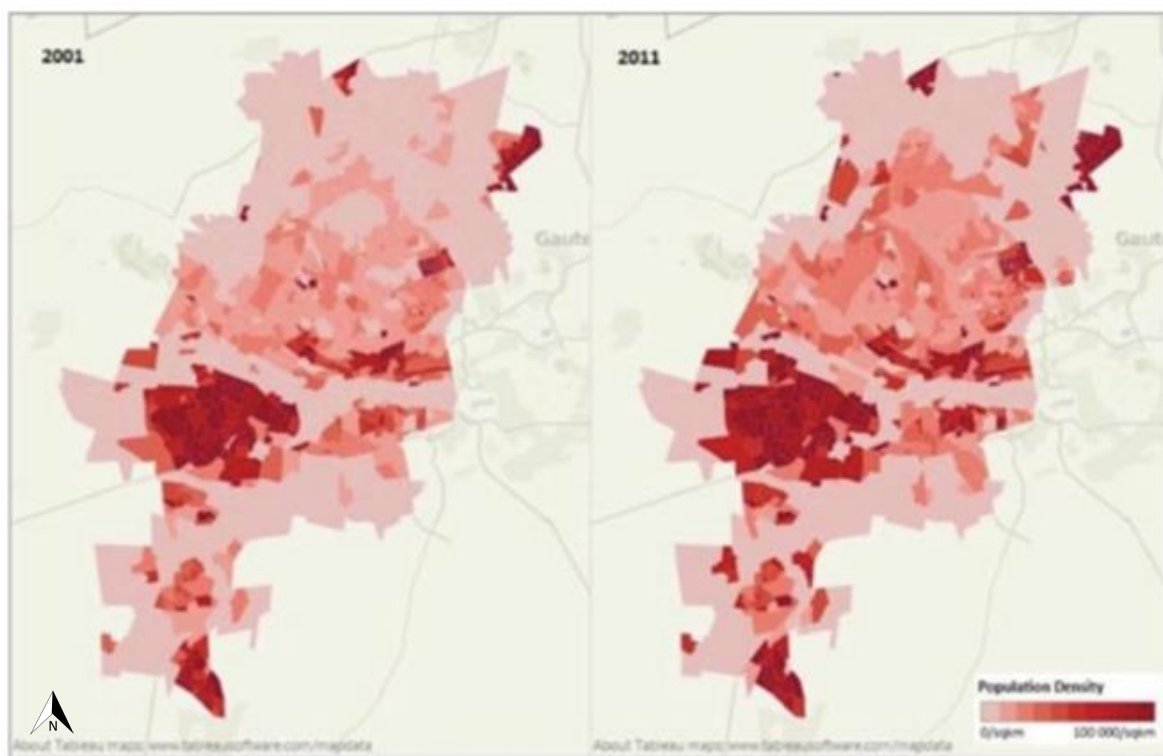
the city are also located far from the urban core and economic opportunities. This is evident in areas such as Soweto, Ivory Park, Diepsloot, and Orange Farm which show fairly high residential densities but are all limited in their land-use diversity. This can largely be attributed to the apartheid spatial planning system and outskirt dormitory development of townships as labour camps.

Table 2: Population Density per Area in the City of Johannesburg

Area	Population Density (People/ Km ²)
Inner City (CBD)	98 200
Hillbrow	68 400
Alexandra Ext. 47	52 900
Yeoville	19 400
Soweto	15 206
Killarney	12 300
Cosmo City	4 500
Radiokop Ext. 10	3 200
Houghton Estate	1 100
Blue Hills Agricultural Holdings	350

Source: CoJ Spatial Development Framework, 2016

The figure below indicates the rate of population densification that has occurred in Johannesburg in a period of ten years, from 2001 to 2011. There has been extensive population densification in the city during this period. The majority of the densification has occurred in the northern parts of the city and increased in Soweto, Orange Farm, and Lenasia in the southern parts of the city. Additionally, compared to older suburbs of the city, newer residential developments have a relatively higher average residential density. While this is good, these new residential developments are more focused on private car use and are frequently located in single-use clusters, with limited access to public transit infrastructure. As such, they generally do not foster walkable neighbourhoods and often have not been met with the requisite public infrastructure such as clinics, parks, and public schools. This perpetuates urban sprawl and fragmentation in the city and contributes to an inversed spatial structure.



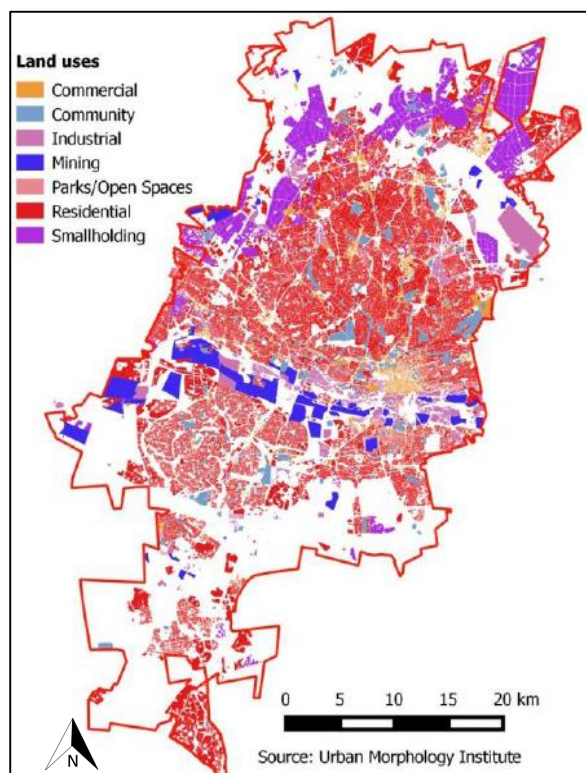
Map 13: Population Density per sub area in Johannesburg 2001 and 2011

Source: Quantec Data, 2016

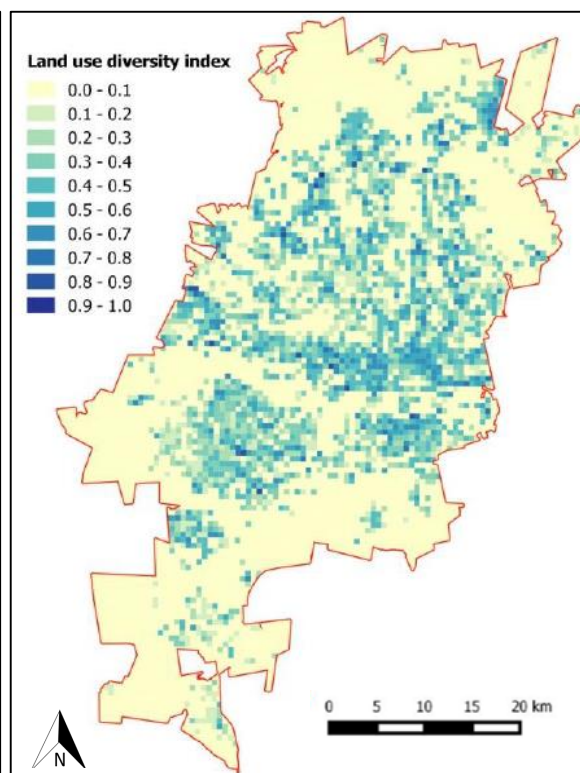
Maps 14 and 15 indicate the spatial form of land uses within the city of Johannesburg. Map 14 shows that the predominant land uses in the city are residential development followed by economic activities which include industrial, commercial, and mining land uses. Map 15 displays the diversity of land uses in the city using an index method of analysis which divides the city into 500 by 500 grids. The higher the land use index number the more diversity of land uses within an area. As such, Johannesburg predominantly demonstrates a land-use diversity index that is below 0.8. This is not ideal, as international best practices state that land-use diversity should be 0.8 and above for the city to function optimally. High levels of land use diversity are paramount, especially around transit stations. To reap the full benefits of public transit investment, the target for land use diversity indexes within 1km catchment areas should be set within the 0.80 - 0.90 range, which will ensure high levels of mixed-use in close proximity to transit infrastructures.

The key findings from the analysis are that the city has experienced significant densification since the dawn of democracy and continues to densify. The challenges that are emerging are that the densification is not occurring at the rate it should be in well-located areas that have been identified by the SDF to achieve the compact polycentric vision for the city. Moreover, nodes and strategic areas of the city have limited land-use diversity. Thus, a mix of uses and

intensification needs to be encouraged to achieve a sustainable and efficient city that utilizes public transit and infrastructure investments to their optimal capacities.



Map 14: Land uses in the City of Johannesburg



Map 15: Land use diversity index in the City of Johannesburg

Source: CoJ Spatial Development Framework, 2016

The SDF makes provisions for increased densities in well-located parts of the city. It also notes that there is an increasing phenomenon where other regional and more localised spatial plans that are older than the SDF are enabling the approval of higher densities on the outskirts yet prevented in some well-located parts of the city. This is contrary to the outcomes sought in the SDF. Moreover, nodes in the city are generally surrounded by low-intensity development areas, which are supported by some existing policies. This is often the case that well-located residential areas (surrounding nodes) are not the subject of intensification. This results in maintaining the status quo, rather than following the transformative agenda of the SDF.

Some of the other practical interventions employed by the city to curb this challenge include, *inter alia*, land packaging and inclusive developments and the Inner-City Rejuvenation Programme. In 2014 the City of Johannesburg, through the Planning Department and Joburg Property Company (JPC), acquired properties along with the Louis Botha and Turffontein Corridors. The Planning Department identified and negotiated the acquisition of ninety-nine properties. A Mayoral approval was obtained to proceed with the acquisition of these properties. The main intention of acquiring these properties is to increase urban densities in well-located areas and ensuring the development of quality mixed-income housing, with a

specific focus on affordable housing for City of Johannesburg citizens, that is well-located, close to public transport networks, and easily accessible to job opportunities, with a range of mixed-use developments and social facilities to create well balanced diverse communities.

To ensure the development intention is achieved, the Department of Development Planning conducted an exercise of undertaking the town planning process in-house. Once the development rights had been granted, the properties were released on tender for developers to construct from a precinct perspective to achieve a cohesive urban design and architectural character as depicted by image 20 below.



Image 20: Design Change Example

Source: Own source 2020

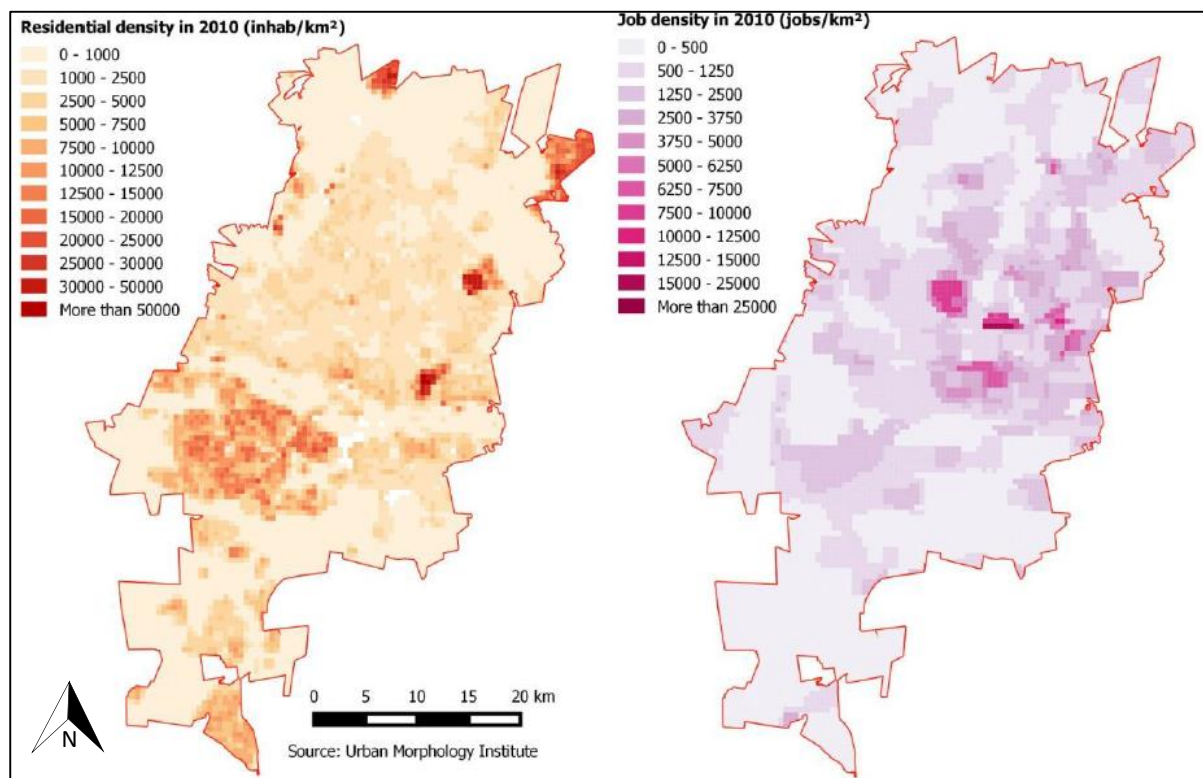
The city's regeneration programme was a flagship project for former Mayor Herman Mashaba. The programme is aimed at strategically working with the private sector to revitalise the abandoned and degraded buildings in Johannesburg's CBD. This is done by providing incentives to developers such as tax rebates, reduced parking requirements, and granting of unlimited residential densities in the properties identified by the city as part of this programme. Ultimately, the intention is to ensure that the residents of the city are located in quality and affordable housing near places of economic opportunities, public transport, social and recreational amenities. Lastly, 3) the city has also invested in capital projects aimed at diversifying land use mixes and enabling the increase in urban densities such as the development of social housing initiatives.

5.3.2.4 Spatial inequalities and the jobs-housing mismatch

Spatial inequality is one of the most prominent challenges in South Africa due to the apartheid planning legacy. In Johannesburg, this urban challenge is highlighted by the distances people have to travel to find economic opportunities, the stark variances in settlement design and urban form across the city, and the services or lack thereof in certain parts of the city which are usually located on the outskirts or in periphery areas of Johannesburg. Settlements such as Alexandra, Diepsloot, Orange Farm, Ivory Park, and parts of Soweto are still synonymous

with deprivation and poverty with aspects such as overcrowding, poor services, long distances traveled to and from work as prominent features of these areas. This is not ideal as cities, and more specifically the townships need to be spatially transformed and properly integrated into the larger urban settlement to create sustainable cities and sustainable service delivery.

In 2010 the Urban Morphology Institute created residential and job density snapshots, as indicated by map 21. From the maps, one can deduce that a positive correlation of high density of jobs with a high density of population is evident in only 0.3% of the urban areas in the City of Johannesburg. This area is located in administrative region E in the city of Johannesburg, which includes most of the opulent and economic areas such as Sandton, Bryanston, Rivonia, Melrose, Wynberg, and Kew industrial areas as well as the dense Alexandra Township, inter alia. The maps also indicate that one-third of jobs are located in 3% of the metropolitan area across 56km² while 5% of the metropolitan area accommodates one-third of the population (City of Johannesburg Spatial Development Framework, 2016:57). Jobs are predominately located in regions E and F (Inner City/CBD) whereas the one-third of the population is predominately located in Soweto. This demonstrates a job housing mismatch in the spatial form of the city.



Map 16: Residential and Job density in Johannesburg

Source: Urban Morphology Institute, 2010

Other factors that have exacerbated spatial inequality and socioeconomic disparities in the city have been the development of social and low-cost housing in locations that are far away from economic opportunities. The post-apartheid government in the early nineties began to develop social and low-cost housing where land was available and affordable. This was done in an attempt to provide housing to previously disadvantaged people. However, the effects of developing at undesirable and not optimal locations exacerbated spatial inequality within the city of Johannesburg. The increase in the cost of living, economic disparities, and gentrification in well-located areas of the city have also contributed to spatial inequality. Many poor and middle-class residents are forced to live in the urban periphery which is cheaper in rent, as the inner city and well-located areas that are close to economic opportunities are unaffordable and expensive to live in. This contributes to more time and money being spent on traveling long distances to work (Jenks and Bugess, 2004:59).

In 2018 the Gauteng City-Region Observatory (GCRO) conducted a quality-of-life survey which, amongst other things, measured travel times to destination after leaving home in the city of Johannesburg. Figure 13 below indicates that the majority of the population in the city takes between 16 and 30 minutes to reach their destinations, followed by 31 to 45 minutes. This can be further reduced through a compact urban area with an efficient and affordable public transport network.

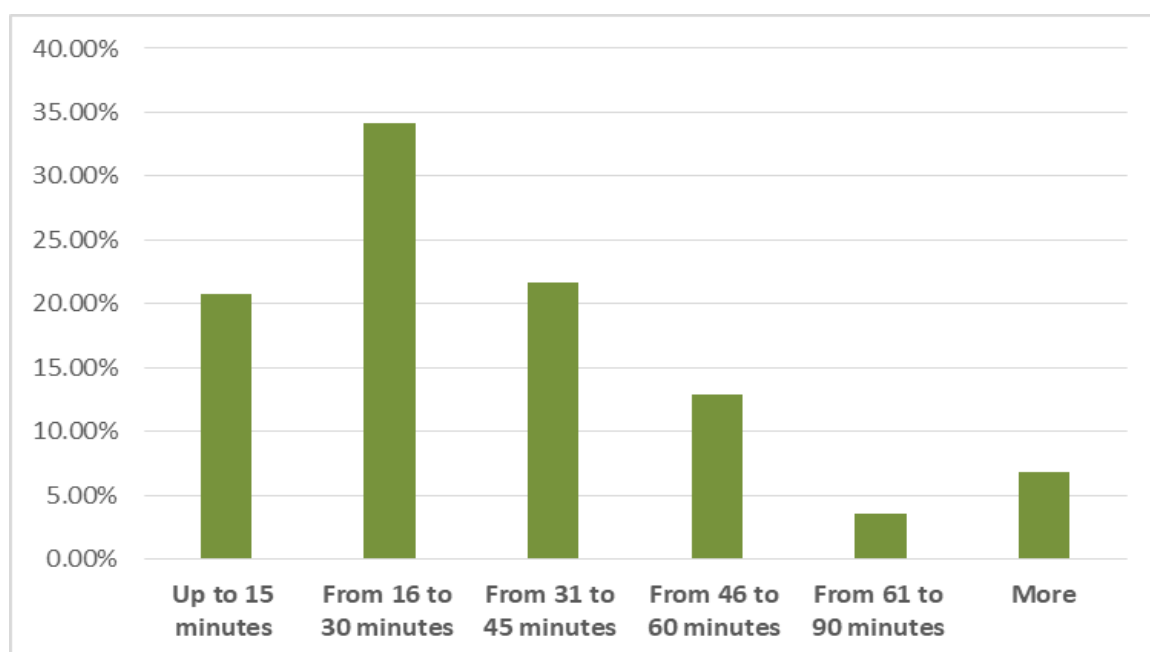


Figure 13: Time taken to a destination from home

Source: GCRO Quality of Life Survey, 2018

The practical interventions employed by the city to curb this include, *inter alia*;- 1) Increasing housing stock, speeding up the delivery of title deeds to state-subsidised housing, updating housing policies, and finding solutions to incorporate problem buildings (and their residents) into the housing plan of the City; 2) Improving access to affordable and mixed housing to reduce social inequalities; 3) Improving social integration, and strengthen the drive towards sustainable urbanisation in the City, and 4) Approving policies which allow for increased residential densities and intensification of uses in and around areas of economic opportunities within the city.

5.3.2 THEME 2: ENVIRONMENT

5.3.2.1 Increasing pressure on the natural environment and infrastructure

The natural environment provides many social and financial benefits to the city. Additionally, the natural environment is a core component in ensuring a liveable and sustainable Johannesburg. Consequently, the city has noted the increasing pressure on its natural environment and green infrastructure as a fundamental challenge. South Africa has rigorous and comprehensive environmental legislation aimed at preventing the degradation of the environment. It also places a “duty of care and remediation of environmental damage on every person who causes, has caused, or may cause, significant environmental degradation or change” (National Environment Management Act, 1998). This is a far-reaching obligation and, accordingly, parties responsible for the degradation or change of the environment have a legal duty to avoid, minimise or mitigate such impacts. Although the urban challenge applies at a national scale, it is particularly relevant to Johannesburg because of the increasing urbanisation that puts pressure on the natural environment.

The Gauteng Department of Agriculture and Rural Development (GDARD) has undertaken systematic analyses of the threat status of ecological systems across the entire province, over several years. The outcome of this is a range of systematic identification of areas known as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), as depicted by Map 18. A CBA is defined as an “*area that must be maintained in a good ecological condition (natural or near-natural state) to meet biodiversity targets*” (GDARD, 2016). CBAs collectively meet biodiversity targets for all ecosystem types, species and ecological processes that depend on natural or near-natural habitat, that have not already been met in the protected area network. Their desired state is natural or near natural. An ESA is defined as an “*area that must be maintained in at least fair ecological condition (semi-natural/moderately modified state) to support the ecological functioning of a CBA or protected area, or to generate or deliver ecosystem services, or to meet remaining*

biodiversity targets for ecosystem” types or species when it is not possible or not necessary to (GDARD, 2016). The protection of CBAs and ESAs is important as the loss of the natural environment is detrimental to the city and usually costs a lot of money to replace, repair, and restore what has been originally there. As such, cities need to be cognisant of the sentiments that the natural environment is a nice to have element, as it provides many social benefits to the mere existence of humanity.

Map 18 below indicates that most CBAs are located in the southern and northern parts of the city. The spatial development framework states that only 32%, 54 01 hectares of land remain in a natural state (South African National Biodiversity Institute, 2014) with a total of 10 reserves that cover only 0.6%, 993.7 hectares of the land in the city. These percentages represent an inadequate level of protection for the city’s ecosystem (City of Johannesburg Spatial Development Framework, 2016).

Albeit the increasing pressure on the natural environment, Johannesburg has a vast urban forest with various wetlands within the city. The city conducted an environmental audit which revealed that there are approximately 6 million trees in Johannesburg (City of Johannesburg Spatial Development Framework, 2016). In 2013 the GCRO published a report which calculated the value of ecosystem services provided by open spaces and natural assets in Johannesburg which placed the value between R 38.6 million and R 77 million per annum. The report also gave a current value of these natural assets which was between R966 million and R 1.9 billion (City of Johannesburg Spatial Development Framework, 2016). These natural assets provide valuable ecosystem services, including air quality and stormwater regulation, and should be protected.

Urban flooding is considered one of the most profound risks to the challenge of increasing pressures on the natural environment and one of the greatest climate change risks in the City of Johannesburg. This is largely attributed to changes in the climate and the effects this phenomenon has had on African cities. The most recent climate change projections for the City of Johannesburg show significant increases in temperature and the number of hot days, as well as increasing intensity of precipitation which contributes to urban flooding. With old and failing infrastructure capacities and increased densities, urban floods affect the most vulnerable communities and settlements in the city, as depicted in image 21 below.



Image 21: Informal dwellings affected by flooding

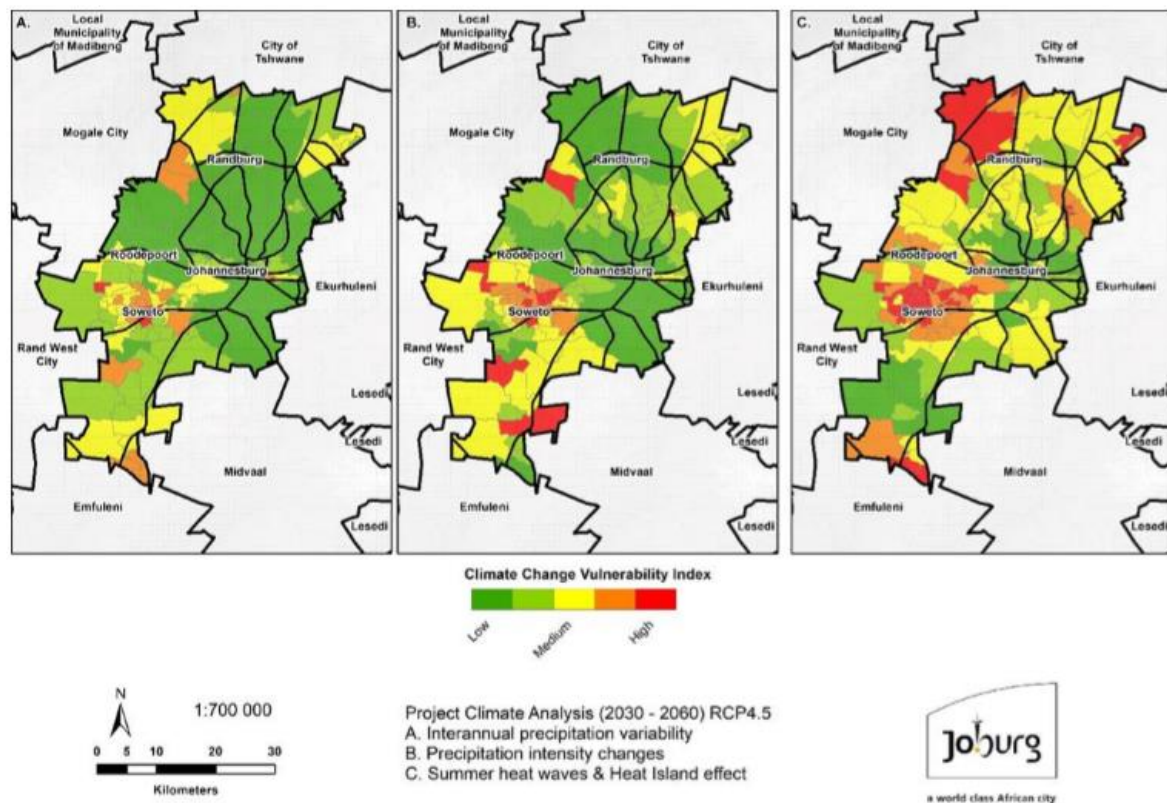
Source: Sapa, 2014

Considering that urban flooding is already a concern for the city, especially in informal areas which are more susceptible to risks, precipitation intensity changes are considered to be one of the greatest climate change risks. Increasing temperatures is also a major concern that could not only contribute to direct human health risk but also increase the need for additional cooling which will increase energy demands within the city.

Map 17 below, indicates the climate change vulnerability index. This index measures cumulative climate change vulnerability across the city in terms of heat islands, precipitation, and flooding risks as well as general climate hazards. The index is analysed over three scenarios which include A) International precipitation vulnerability, B) Precipitation intensity changes, and C) Summer heat waves and heat island effect in Johannesburg. The study reveals that the southern areas of Johannesburg are more vulnerable than the north historically and currently. It also shows that areas such as Soweto, Orange Farm, Diepsloot, and Kya Sands, which are largely deprivation areas, are placed in the high vulnerability category for climate hazards. These areas are the most vulnerable in the city and should be prioritised in terms of specific adaptation actions, particularly ones that contribute to reducing the sensitivity and building adaptive capacity, as these are the key drivers of vulnerability.

The City has developed various policies and plans to reduce the increasing pressure on the natural environment. These include the Johannesburg Metropolitan Open Space System (JMOSS) 2004. JMOSS is a policy that directly responded to issues such as “the rapid loss and fragmentation of open space resources, the loss of protective vegetation cover, the associated loss of ecosystem goods and services, and the need to respond appropriately to development pressures within the City in a sustainable way” (Johannesburg Metropolitan Open Space System, 2004). The policy comprised of an audit of open spaces and classified these in terms of their primary (Ecological) or secondary (Recreational/parks) value and

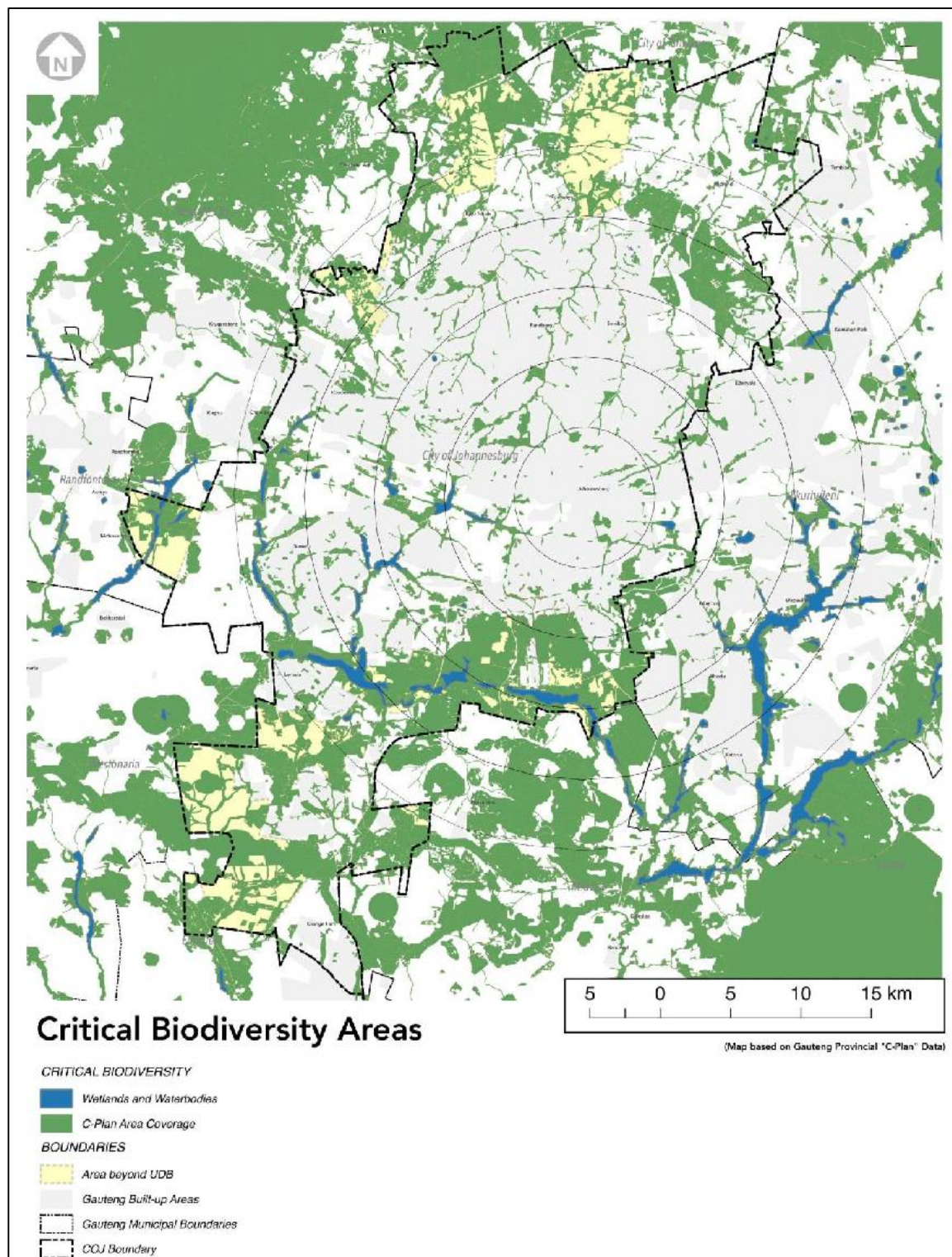
contained policies for open space provisioning and recommendations for all forms of urban greening.



Map 17: Climate Change Vulnerability Index

Source: City of Johannesburg 2020

The Net Zero Green Buildings Policy 2020, this policy is geared towards moving the city to net-zero carbon emissions through existing and future developments that will be required to meet the standards of sustainable and renewable energy to obtain permits and building approvals. This policy is a much-needed shift towards ensuring the city protects its natural environment and moves into green energy and practices that contribute to a sustainable Johannesburg. The City of Joburg Biodiversity Strategy and Action Plan, a tool by which the City, its departments, municipal-owned entities, partners, and the local community, can work together to deliver continued action for biodiversity stewardship. Other practical interventions include ensuring that all stakeholders and role-players practice their “duty of care” and remediation of environmental damage; Development of Climate Change Action Plan and Environment Sustainability Strategy; Planting of trees and removal of alien species within the city; Maintaining of natural resources and open space systems; and introducing Sustainable Urban Drainage System SuDs to combat urban flooding.



Map 18: Critical Biodiversity Areas in CoJ

Source: City of Johannesburg, 2016

5.3.3 THEME 3: HOUSING

This urban challenge focuses on housing informality, which includes informal settlements and informal backyard dwellings, and issues of homelessness and landlessness in Johannesburg. There are many informal settlements and informal backyard dwellings in Johannesburg, and these have been identified as a challenge within City's housing sector. The focus of this urban challenge is thus to understand the dynamics that exist within the city and put emphasis on the fast-tracking of housing delivery, across various typologies, providing security of tenure and improving on institutional mechanisms. This will in turn improve housing delivery and address a wide variety of land and housing market issues in the City.

As previously stated, the City of Johannesburg is faced with vast informal settlements and housing challenges. In 2018, the national housing needs register detailed that approximately 457 000 people required housing in Johannesburg (Department of Human Settlements, 2018). This number is not static, it continues to expand daily and excludes the number of people residing in informal settlements. The 2019/20 IDP states that the city is experiencing a housing backlog that is estimated at 18.5% which equates to approximately 457 200 units (City of Joburg Integrated Development Framework, 2019). Furthermore, the city has an average delivery of only 3 500 housing units per year (City of Joburg Integrated Development Framework, 2019). As such, the rate of housing delivery and shortage has in part led to the development of over 411 informal settlements across the city, with most located in Ivory Park.

The current SDF states that 17.4% of the City's households reside in informal settlements or informal backyard dwellings (City of Joburg Spatial Development Framework, 2016). With approximately 125 800 households living in informal settlements, and 124 000 households living in informal backyard homes (City of Joburg Spatial Development Framework, 2016). The history of Backyard housing in Johannesburg originated during the height of Apartheid to accommodate migrant labour, with an emphasis on rental housing. The size of the main formal dwelling varied from 40 to 44 square meters (Beall, Crankshaw, and Parnell 2003) the overall plot would range upward of 100m², providing sufficient space for a brick garage to be converted to a dwelling, or for one to two-room structure to be built in the backyard.

Backyard subletting was and still is a safety valve to absorb the pressure of popular demand to access urban livelihoods. Although strictly illegal, it was generally overlooked by officials and the phenomenon grew rapidly during the 1970s and 1980s. From the late 1980s, as Apartheid state controls declined, the number of backyard dwellings multiplied. By 1987,

40% of formal houses in Johannesburg's townships had at least one backyard shack and 23% had formally built "garage" inhabited by sub-tenants. By 1990, nearly 60% of Gauteng's township properties hosted backyard dwellings. In Soweto, backyard rooms almost exceeded the number of formal houses by 1997 (Beall, Crankshaw, and Parnell 2003). As such, backyard housing has been entrenched in the city's spatial and functional form for economic and social aspects. The concept of backyard housing in itself is not considered to be detrimental to development and liveability, however, there are various qualities of the structures, as depicted in the images below. Low quality and informal backyard housing has been rampant in the city and is considered not ideal for residents and the desired built form of the city. Whereas high-quality backyard housing is considered to be acceptable within the parameters of municipal mechanisms and regulations and can contribute to a sustainable increase in densification and extra income for landowners in the township economy.

It is evident that informal and housing challenges in the city are deeply rooted and are a manifestation of the economic state of the country and consequently the city. The city's IDP states that *"the inner city is collapsing under the weight of overcrowding. Struggling to absorb poor migrants seeking economic opportunities. It has become a war zone with slumlords muscling their way into buildings, hijacking them, and exploiting the hapless urban poor who have no choice but to endure unsafe living conditions and insecure tenure. Buildings have become invaded; former landlords have abandoned their buildings, have become absentee landlords and absconded from their responsibilities"* (City of Joburg Integrated Development Framework, 2019)

This status quo is not ideal and if Johannesburg is to become an inclusionary city, it needs to make space for the urban poor majority through planning initiatives such as densification, diversification, integration, and developing affordable housing that is well located and accessible at more effective turnaround times with innovative housing solution and not business as usual as the city has been doing.



Image 22: High-Quality Backyard Unit in Soweto



Image 23: Low-Quality Backyard Unit in Soweto

Source: Google Earth Street view, 2017

The City's IDP 2019/2020, under the priority of "ensuring pro-poor development that addresses inequality and poverty and provides meaningful redress", specifically addresses homelessness and landlessness as a programme. The City of Johannesburg SDF 2040 takes guidance from the key spatial principles of the National Development Plan 2030, outlined in Chapter 8 - Sustainable Human Settlements. The city aims to upgrade all well-located informal settlements, through in situ upgrading as the first option, for intervention. An ongoing City programme also exists that involves backyards, namely the Informal Backyard Enablement Programme. Additionally, the City of Johannesburg has identified several key programmes to address informal housing and other housing issues in the city, these include, *inter alia*;- The accelerated release of land and formalising of informal settlements; the development and maintenance of hostels and flats; managing displaced communities and homelessness; the constructing of mixed-income housing opportunities; the construction of social housing and rental accommodation within the inner city and urban core; and the construction of housing opportunities along the transport corridors.

5.3.4 THEME 4: TRANSPORT

5.3.4.1 Development and implementation of Integrated Public Transport Network (IPTN)

An IPTN is the integration of the different public transport services (minibus taxis, conventional bus, BRT, and rail), as well as the inclusion of NMT (walking and cycling). The concept is principally the management of the supply and demand of public transport. Services provided should meet the demand and be serviced by the correct mode of transport. It should also be scalable to accommodate future growth. There is a strong emphasis on industry transformation whereby the entire public transport industry is more formal and regulated. The primary goals of an IPTN are to improving the mobility of the public; improving the quality of public transport services (safety, reliability, and accessibility); and ensuring the public transport industry is financially and fiscally sustainable (industry transformation and job sustainability).

The inverse and spatially fragmented nature of Johannesburg calls for the development and implementation of affordable and integrated public transport to accommodate the middle to low-income community that relies on public transport to navigate the city. A household travel survey conducted by the city in 2013 revealed that the majority of residents rely on public transport as a primary mode of travel. Thus, improved transport services will reduce travel costs increased mobility, and unlock greater access to economic opportunities outside.

Consequential development along public transport routes will unlock economic opportunities within the city.

Transportation is one of the key structuring elements in shaping an accessible, integrated, and sustainable urban environment. The City of Johannesburg has the mandate to provide access to affordable, safe, and reliable public transport within its jurisdiction, in partnership with the other spheres of government. As such, the city directly runs and manages two public transport systems namely the Rea Vaya BRT and the Metro Bus system. However, other public transport systems that operate within the city include- PRASA Metro passenger and freight railway system; the minibus taxi system; the bus system; Gautrain; and Non-motorised transport. Various other private transport systems operate within the city which includes, private vehicles, e-hailing services, metered taxis, and tuk-tuks.

In November 2006 the City approved and initiated the Bus Rapid Transit (BRT) system in Joburg namely the “Rea-Vaya”. The key outcome of the BRT is to provide a high-quality, high-frequency sustainable bus system that links the key residential and business areas within Johannesburg. Currently, the system operates (3) three trunk routes, (6) six complementary routes and (12) twelve feeder routes, which connect the CBD to Soweto, parts of Randburg, parts of East Rand, and Alexandra. There are plans underway to extend the network to Sandton.



Image 24: Rea-Vaya BRT Station and Buses

Source: City of Joburg, 2017

The major challenge experienced with the BRT in Joburg is the high cost of operations. The high direct costs of operating buses are due to the disjuncture spatial form of the city. This creates a transport demand that is difficult and expensive to supply, through a formal scheduled public transport system. This is a challenge that applies to all South African cities.

Thus, compared to global standards, local operational characteristics are outliers. This means that fare recovery ratios are 49% to direct cost, and 29% of total costs for Rea Vaya are much lower when compared to Latin American cities such as Pereira (87%), Lima (118%), and Bogota (117%) as a percentage of total costs. Since Johannesburg has as much as ten times lower urban densities, it has up to 2.5 times longer trip lengths and a demand peak to base ratio up to three times more, when compared to Latin American cities, as depicted in figure 14 and 17 below (Scorcio and Raskin, 2018).

The PRASA metro rail is a commuter rail that connects Soweto, Randfontein, and Vereeniging with the city center, and the Johannesburg city center with Ekurhuleni (Springs and Daveyton), Tembisa and Leralla, and Tshwane via Kempton Park, including the Pretoria CBD (PRASA, 2017). The Metro rail is largely characterised by aging infrastructure, overcrowding, unreliable, and generally unsafe poor-quality service. This mode of transport is largely utilised by the urban poor population as it is more affordable fares, compared to other modes of transit in the city. The unfavorable conditions of the Metro rail are not ideal, however, there have been plans to upgrade the infrastructure and railway buses and to implement more efficient operating systems. These plans have not been implemented as yet.

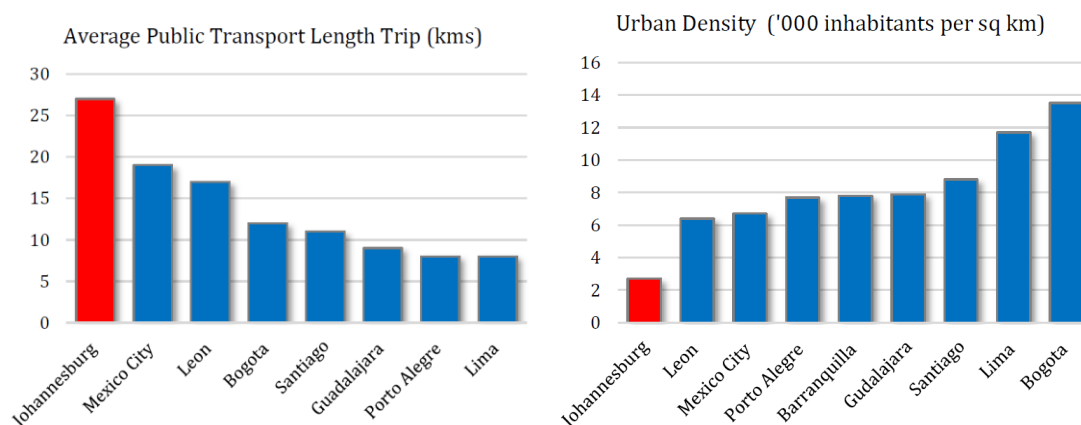


Figure 14: Comparison of Average Public Transport Lengths & Urban Densities to Joburg

Source: Own Source, 2020

The mini-bus taxi system is the largest commuter distributor in the city. The system is made up of over 32 taxi associations that operate in over 1000 routes across the city, with a radial focused around the Inner City. The city has a vast network of bus services. This includes the Metro Bus, regular commuter buses subsidised by the Metro bus company which include Putco, Eldorado Park, and the Southwestern busses, long-distance comfort buses, and private hire buses. Cumulatively, these services are run by over 1200 buses with an average route length of 27.2km. There are various modes of transport used in the city. The characteristics and behavior of these uses are sourced from the National Household Travel Survey of 2013. Table 5 indicates the transport modes used by workers and includes both

public and private transport, including walking. The findings reveal that private vehicles are the most commonly used mode in Johannesburg. Importantly, they are also the fastest-growing mode at the expense of public transport and trains specifically, which presents a direct challenge to the City's declared goal of shifting transport modes to greater public transport use.



Image 25: PRASA Metro Rail

Source: Sarhen, 2018

Table 6: Modes of travel trips (as a %)

Indicator	Public Transport			Private Transport		Walk all the way	Other	Total
	Train	Bus	Taxi	Car/truck company car driver	Car/truck passenger			
Sedibeng	3,0	6,0	27,7	35,1	8,2	16,3	3,7	100%
West Rand	1,6	3,2	27,9	33,6	6,9	26,0	0,8	100%
Ekurhuleni	10,0	1,6	34,1	36,1	5,0	12,3	0,9	100%
City of Johannesburg	7,0	5,8	31,6	38,0	6,0	11,0	0,6	100%
City of Tshwane	8,1	8,0	25,9	42,4	5,8	8,8	1,0	100%
Gauteng	7,4	5,1	30,4	38,1	5,8	12,2	1,0	100%

Source: National Household Survey, 2013

Taxis are the second most commonly used mode of transport, with walking third. As a proportion of use within public transport itself, taxis constitute over 70% of trips in Johannesburg. The main advantage of minibus taxis is the flexibility and availability they present, with the most favourable response on taxi use being the short distance from homes

and work to get to them and the good travel times. However, Johannesburg respondents were dissatisfied with taxis concerning the behaviour of the drivers, roadworthiness, and safety.

Rates of walking, which is the second highest, is often not prioritised but is vital given they cater to the large urban poor population. In the City, walking is largely used for local access to amenities food shops, medical services, and ATMs. As well they are an important last mile mode for access to taxis, Gautrain, BRT, *inter alia*. Given the health, environmental, and urban space benefits of walking, issues of safety, infrastructure, and links to public transport routes must be prioritised for this mode. Both the City's surveys and the national travel survey do not disaggregate specific data on cycling and classify it under "other".

Rail underperforms in terms of modal use, constituting only 7 percent of trips. This usage is falling driven by significant dissatisfaction caused by crowding (83%), punctuality (68%), and off-peak frequency (62%) of respondents. The decline of rail signifies a major challenge to transport affordability, being the cheapest mode, and congestion, with users who can afford it, increasingly shifting to car usage. Rail must form the backbone of not only the public transport system but also the freight system. Alas, it is worryingly decreasing in share as a mode. This will affect the poor as it is by far the cheapest option, and often covers greater distances at this reasonable cost. The publicised challenges of the metropolitan rail service provider, PRASA, are affecting the most vulnerable.

The main practical interventions employed by the city to address the challenges of transportation in Johannesburg include- 1) the development of the Integrated Transport Network Plan (ITN) which focuses on integrating public transport infrastructure to support inter-modal use/ transfers, and to reinforce service cohesion, green innovative transport, and smart transportation in the city. 2) The Implementation of the Intermodal transport hub on Bree Street in the Inner City, which will integrate local and regional transport, which includes long-distance and cross-border taxis plying between Johannesburg and several Southern African countries. Additionally, the Rea-Vaya will extend through this facility to provide new trunks routes to various parts of the city, to further provide access and mobility across the city. 3) Piloting of hybrid "greener" Rea-Vaya buses, to contribute to reduced carbon emissions in the city



Image 26: Joburg Intermodal Facility

Source: BizCommunity, 2016

5.4 THE HABITAT III: NEW URBAN AGENDA

The Habitat III: New Urban Agenda or simply referred to as the New Urban Agenda (NUA), as stated in the previous chapters of the report, is an internationally agreed urban policy. The NUA encourages utilising the phenomenon of urbanisation as a positive means to drive sustainable urban development within cities across the world. The policy calls on all sectors responsible for development such as all spheres of government, private sector, international donors of development, academia, and the knowledge sector as well as civil society to collectively work together to alter how cities are constructed, managed, and operated. To shift city development to more sustainable, inclusive, safe, well-financed, and efficiently operating cities. The NUA, like many other international agreements and shifts in urban paradigm thinking, identifies the local government as the key delivery agent of change within cities.

The NUA is guided by three core principles, namely: - 1) The city belongs to all, thus do not leave anyone behind, ensure equity to all and reduce poverty, 2) Ensure no one is economically excluded while ensuring inclusive prosperity and opportunity for all urban dwellers and 3) Protect and conserve ecological assets of the city and foster resilient human settlements. Tables 7 and 8 below summarises the content and detail required for each key principle and the key elements and areas of intervention proposed by the NUA.

Table 3: Three guiding principles of the New Urban Agenda

Leave no one behind, ensure urban equity and eradicate poverty	Achieve sustainable and inclusive urban prosperity and opportunities for all	Foster ecological and resilient cities and human settlements
<ul style="list-style-type: none"> a. Providing equitable access – for all to physical and social infrastructure <ul style="list-style-type: none"> i. Adequate housing and shelter at the centre of the agenda ii. Public spaces as an enabler of the city's socio-economic function b. Recognizing and leveraging culture, diversity and safety in cities c. Strengthening participation and enhancing liveability and quality of life 	<ul style="list-style-type: none"> a. Enhancing agglomeration benefits of urbanization and avoiding land speculation b. Fair and equitable employment creation, productivity, competitiveness, diversification c. Innovation through a sustainable economic development 	<ul style="list-style-type: none"> a. Driving sustainable patterns of consumption and production b. Protecting and valuing ecosystems and biodiversity c. Adapting to and mitigating the impact of climate change while increasing urban systems' resilience to physical, economic and social shocks and stresses

Source: Azimizam Rashid, 2018

Table 4: Key Elements and Areas of Intervention of the NUA

Key Elements	Key Areas of Intervention
Social Cohesion & Equity	<ul style="list-style-type: none"> 1. Inclusive cities 2. Migration and refugees in urban areas 3. Safer Cities 4. Urban Culture & Heritage
Urban Frameworks	<ul style="list-style-type: none"> 5. Urban Rules and Legislation 6. Urban Governance 7. Municipal Finance
Spatial Development	<ul style="list-style-type: none"> 8. Urban and Spatial Planning and Design 9. Urban Land 10. Urban-rural linkages 11. Public Space
Urban Economy	<ul style="list-style-type: none"> 12. Local Economic Development 13. Jobs and Livelihoods 14. Informal Sector
Urban Ecology & Environment	<ul style="list-style-type: none"> 15. Urban Resilience 16. Urban Ecosystems and Resource 17. Cities and Climate Change 18. Disaster Risk Management
Urban Housing and Basic Services	<ul style="list-style-type: none"> 19. Urban Infrastructure and Basic Services, including energy 20. Transport and Mobility 21. Housing 22. Smart Cities 23. Informal Settlements

Source: Azimizam Rashid, 2018

The NUA is grounded on the vision of restoring human dignity in all urban dwellers and ensuring human rights are maintained and upheld. Consequently, the agenda is largely aligned to the Sustainable Development Goals (SDGs), more specifically goal 11 which entails “*making cities inclusive, safe, resilient*” (UN Habitat, 2016). The agenda, however, also aligns to other goals such as 1, 2, 5, 8, 13, and 14 which speak to improving access to health services, protecting the environment, and reducing inequality, *inter alia*.

The NUA states that the effects of good urbanisation will not occur over a short period thus cities need to engage in the effort of creating sustainable cities actively and consistently. Furthermore, the NUA provides a vision, spatial framework, and a roadmap of implementation that demonstrates that urbanisation can be a tool that is utilised to create resilient, well-managed, and inclusive prosperity for cities which contributes to the reduction of the effects of climate change. The UN-Habitat, as custodians of ensuring the implementation of the NUA, have also developed a document termed *Action Framework for Implementing the New Urban Agenda (AFINUA) together with the City Prosperity Initiative (CPI)*. The AFINUA framework sets out 35 key actions items or ingredients for member states to implement the agenda. This coupled with the SDGs and CPI indicators are utilised to assist member states in implementing the agenda as well as monitoring and evaluating the implementation to measure the success of cities in achieving the SDGs and implementing some key principles of the NUA. The figure below provides a summary of the five (5) pillars to implement the NUA. Figure 18 and Table 9 (*please see annexure 2*) also provide a summary of the implementation framework of the agenda focusing on five key pillars and implementation guidelines.

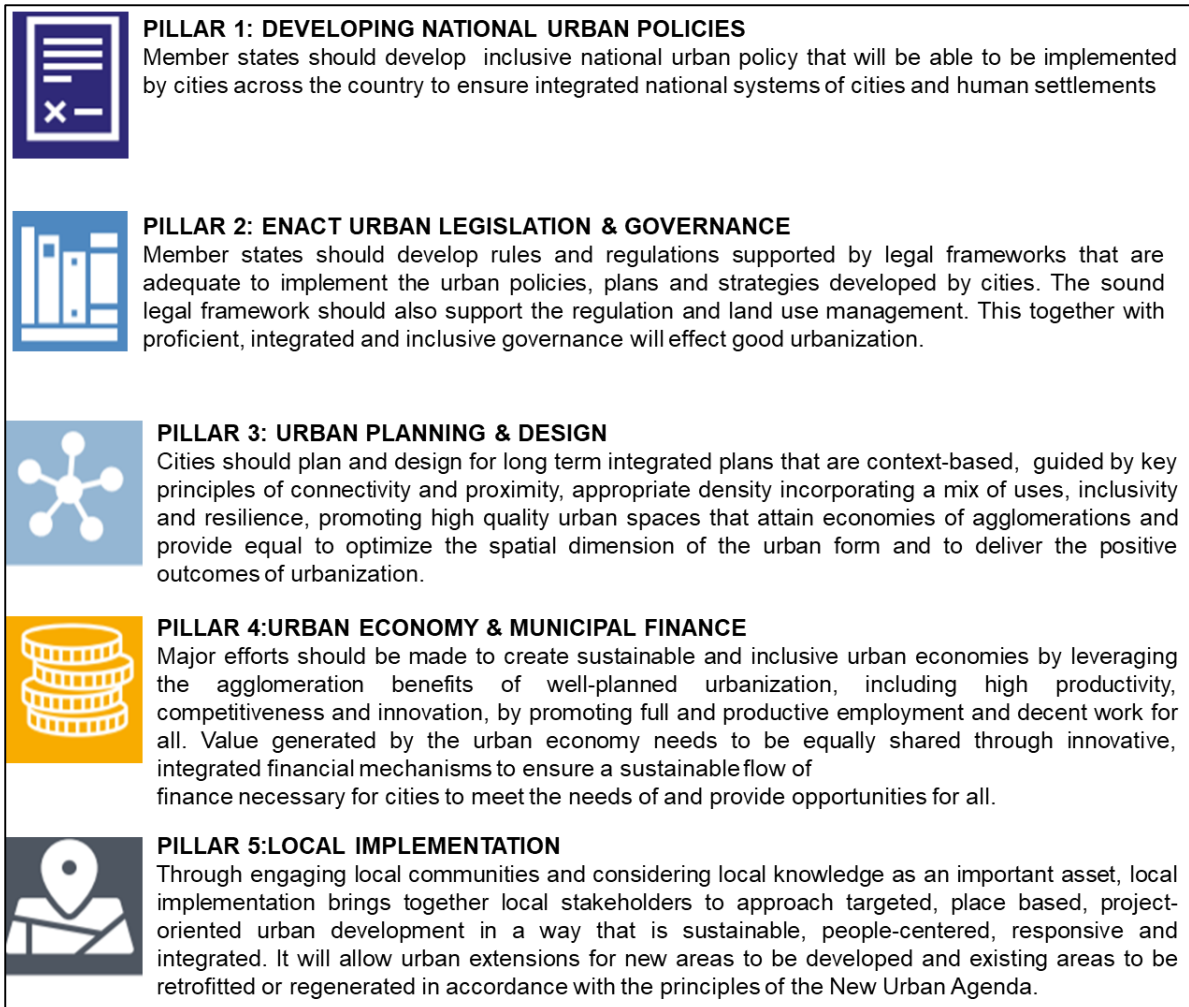


Figure 18: Five pillars of the NUA

Source: Own Source, 2018

5.5 CONCLUSION

The context provided in this chapter revealed that Johannesburg, like many cities around the world, is a living organism that is constantly adapting and changing to suit the needs and conditions of the urban environment in which it exists. The variance between the establishment purpose and the current function of Johannesburg is a testament to this evolution.

The chapter highlighted that the initial spatial design of the city was rooted and influenced by the notion of Johannesburg being a temporary town before the discovery of natural resources within the city. The chapter also highlighted that the design of Johannesburg was further altered by colonial and apartheid spatial planning which, coupled with the effects of industrialisation and urbanisation, exacerbated the urban planning challenges experienced by the City of Johannesburg.

The chapter provided an overview of the urban planning challenges experienced in Johannesburg, across the themes of land use planning, environment, economy, and transport.

What was evident from the overview is that all the challenges across the afro-mentioned themes are a direct and indirect result of colonial and apartheid planning. This inherited spatial legacy coupled with urbanisation, a dawdling developing economy, mismanagement of finance, and governance has made it difficult for the City of Johannesburg to effectively respond and address the various urban effects, to a level where sustainable urban development is achieved in the city. Albeit the overview also revealed that the City of Johannesburg has made significant efforts to address and curb the said challenges. The city has been specifically successful in developing policy and planning frameworks to effect transformation in Johannesburg. Various programmes and projects have also been implemented to respond to urban challenges. This includes projects such as road, water, electricity, and stormwater infrastructures upgrades, the development of a bus rapid transit system, environmentally friendly energy conversation sites, and the development of mixed-use social housing, *inter alia*. In conclusion, an overall observation of the strategies employed by the city to address urban planning challenges is that there is a negative correlation between the planning and policy formulation, and the implementation of the developed policies.

CHAPTER SIX: ANALYSIS AND DISCUSSIONS OF FINDINGS

6.1 INTRODUCTION

The purpose of this chapter is to present the analysis of empirical data and discuss the findings. The chapter will also provide discussions on the secondary data obtained through conducting investigations on the urban challenges of Johannesburg and how the city has attempted to address the challenges thus far. Secondary data was also utilised to analyse the Habitat III New Urban Agenda through an analysis of the tools and mechanisms the agenda proposes to achieve sustainable urban development in cities.

A matrix tool comparing the two variables is developed to determine the extent the city has applied the principles and guidelines of the NUA through the AFINUA, and what the city can further apply from the AFINUA guidelines to achieve a sustainable urban environment. The report also analyses primary data obtained, from semi-structured interviews, to investigate the feasibility of implementing the New Urban Agenda as a policy tool that will assist in addressing urban challenges faced by the city. Findings on secondary and primary data are further discussed through cross-referencing the literature review and precedent studies undertaken in previous chapters of the research study.

The study initially had a sample size of ten participants however, due to snowballing techniques through the course of the interview process, fourteen (14) participants were interviewed. Due to the Covid-19 pandemic, the interviews were conducted virtually through various online meeting platforms. This did not alter or provide discourse to the outputs of the interview questions. The data collected from the interviews was transcribed and analysed through a thematic matrix tool. The matrix tool grouped common themes and responses to determine the collective view of the participants, as indicated in table 6 below. The participants that were interviewed are listed below: -

Table 5: List of Participants

Participant	Field of Expertise	Date
Participant 1	Urban Planner	31 August 2020
Participant 2	Urban Designer & Architect	3 September 2020
Participant 3	Urban Planner	7 September 2020
Participant 4	Urban Planner	9 September 2020
Participant 5	Environmentalist	11 September 2020
Participant 6	Lecturer (Academia)	15 September 2020
Participant 7	Development Co-ordinator	16 September 2020
Participant 8	Land Use Planner	18 September 2020
Participant 9	Urban Planner	28 September 2020

Participant 10	UN Habitat Representative	30 September 2020
Participant 11	UN Habitat Representative	2 October 2020
Participant 12	NGO (Urban Planning)	6 October 2020
Participant 13	Lecturer (Academia)	9 October 2020
Participant 14	NGO (development Planning)	15 October 2020

As previously stated, the interviews were conducted virtually. Participants were sent a brief background of the research and its objectives, together with a list of questions so that they could familiarise themselves with the topic. The challenges experienced in collecting the data included technical and technological issues. Several participants were not familiar with and or trained in operating online meeting platforms. This caused the need to postpone meetings and or work through several other platforms to ensure the meeting occurred. This caused a delay in the data collection period. The challenges experienced with collecting secondary data mainly included the lack of readily available information on the internet and due to social distancing requirements, officials and other relevant stakeholders were not always in their offices or accessible. This also caused a delay in collating required information

6.2 ANALYSIS AND KEY FINDINGS OF EMPIRICAL DATA

This section of the dissertation presents and discusses the key findings from the interviews that were conducted with participants from the City of Johannesburg, the academic community, UN-Habitat, and the civil society. All four sectors of participants were asked questions specific to their relevant field and influence into the Habitat III: New Urban Agenda. As mentioned in previous sections, a thematic analysis tool will be used to provide discussions on the common themes and ideas that emerged from the respondents. It should also be noted that the interview questions were specifically constructed to assist in responding to the research question and sub-questions of the report. Consequently, below are the discussion of findings that emanated from the semi-structured interview questions. Table 18 provides a snapshot of the discussions.

1. Urban planning (strategic and spatial planning) challenges experienced by the municipality

All the participants indicated that the city is faced with some form of strategic and spatial urban challenges. This is believed to be accurate as the literature review revealed that most spatial and strategic urban challenges in South Africa stem from the unjust apartheid spatial planning system.

The nature of urban challenges that emanated from the majority of the participants included:

- spatial inequality, urban sprawl, limited densities for effective densification to take place, environmental and climate change concerns, the job housing mismatch, housing, and its unaffordability, infrastructure capacities, rapid urbanisation, informality, funding, and resources. The majority of the challenges raised by participants are also covered in the City's Spatial Development Framework, as being the core urban challenges, the city is grappling with.

What is interesting to note in the themes of challenges that came across is that transport and mobility were raised as a major urban challenge by only 2 participants, which translates to 14% of the respondents. This is concerning as the literature review revealed, in precedent studies of countries that are ahead in sustainable urban development, that an efficient transport and mobility system is one of the core elements required for a city to perform sustainably. The SDF, however, does include transport and mobility as a structuring element to develop a compact polycentric city.

It was also observed that most of the participants from the City of Johannesburg cite strategic urban challenges and the operational functioning of the city as key urban planning issues as opposed to spatial challenges. The participants all mentioned infrastructure, whether it was aging infrastructure or the lack of bulk infrastructure capacity, as one of the key planning issues affecting the ability to develop the city into a truly sustainable urban city. It is disquieting that the city is faced with major infrastructure challenges, as the City of Johannesburg is one of the few municipalities in South Africa, which requires developers to pay bulk engineering service contribution fees. The engineering services include electricity, road, water, sanitation, stormwater, and transport. This means that developers are partially responsible for the provision of internal and external engineering services. The development contributions are calculated according to site size, proposed land uses, proposed density, and proposed FAR of each development. Developers will usually budget 10% to 20% of their entire development costs to bulk contributions, which translates to substantial amounts of money directed to the City for the provision of infrastructure. This begs the question, is the city fiscally responsible? And should the City be experiencing major issues with infrastructure if developers are paying to ensure that infrastructure is available for development? The city scored relatively poorly on the urban economy and municipal finance matrix of the Habitat Agenda's five pillars to achieving sustainable urban areas in section 6.2. Perhaps the City may use the Habitat Agenda guidelines and indicators as well as applying the concept of ring-fencing bulk contributions to improve on municipal finances and address these infrastructure challenges.

Most of the City of Joburg participants also cited general public resistance and the nimbyism phenomenon as one of the key planning issues in the city. The participants indicate that there is immense resident and general public resistance to transformative policies that are developed by the City. An example of the recent Nodal Review policy was cited by one of the participants. This policy advocates for intensification, land use diversity, and densification in most parts of the City to accommodate the people and socio-economic aspects that urbanisation is bringing to the City. This policy was met with immense resistance from residents, especially from more affluent communities, as this would affect the urban fabric of their communities. Another participant stated that the general public is comfortable with the status quo and any proposed changes that advocate for how sustainable urban cities are developing around the world, are met with resistance, and most often the City is required to exercise its legislative authority and public good clauses to approve transformative policies. The resistance is a major concern for economic and social development as residents can delay the approval of applications by submitting objections and delaying the development process by months to years, which impacts the rate of efficiency and effectiveness the City can approve applications and facilitate development, in comparison to other cities in the world. It is also evident that the general public is not well educated on the positive impacts of developing a sustainable city and it may be useful for the City to invest in educating its residents on the benefits and expenses of retaining the status quo on both the residents and government using the guidelines prescribed in the five pillars of the Habitat Agenda Policy in section 6.2.

The third theme that was identified as a key challenge by most officials from the city, was poor city governance and lack of resources to implement projects and programmes to transform the city into a truly sustainable city. A participant stated that the governance structure or model of the local governance in South Africa delays the process of implementing plans in that, political parties have a period of five years in office and when another political party takes over, sometimes in less than the traditional five years, the said party may and often derails projects and programmes instituted by the previous party. To accelerate and introduce their legacy projects that are aligned to the said party's interest and political agenda, which are not always aligned to the transformative and sustainability agenda of the City. An example of this can be found in the "Corridors of Freedom" programme.

In 2014 former Mayor, Parks Tau initiated and launched the "Corridors of Freedom" programme as a direct strategy to address spatial inequality and the jobs-housing mismatch in the city. In 2017, the mayor that preceded him, Herman Mashaba, redirected the allocated capital budget and resources to another initiative of rebuilding the Inner City. In 2019, the current mayor Geoff Makhubo committed to an initiative to ensure safe public spaces in the

city. This is a good example of city leadership with various initiatives that seek to address prominent urban challenges of the city, however, are not continuous and do not ensure project continuation. This results in projects and solutions to the planning issues being in a perpetual state of becoming and projects taking more years than necessary to implement, complete, and making an impact in real-time within urban spaces. The dissertation appreciates the difficulty in altering local governance structuring as this is a national function however, it may be useful for the City to develop legislation that addresses this issue.

The themes of urban planning challenges that were identified by participants from academia include both strategic and spatial planning challenges. Furthermore, it was interesting to note that these participants expanded on the scope and cited socio-economic challenges that affect the sustainability of the city. These challenges include inequality, lack of affordable housing in well-located areas of the city which leads to the marginalisation of the urban poor, vast informality, and general urban poverty. The literature review and precedent studies revealed that many cities that are advanced in achieving sustainable urban development have the issue of expensive housing, particularly in well-located areas that are close to economic opportunities, social and recreational areas. Albeit the City is not advanced in achieving sustainable development, it is evident that the city is experiencing this affordability challenge due to the rates of unemployment in the country and lack of effectiveness in addressing the unjust spatial structure of the city.

In analysing the responses from all the participants, it was interesting to observe that none of the participants cited crime and urban safety as key urban planning challenges that affect the city in achieving sustainable urban development. Urban safety is recognised globally as an essential ingredient of urban development (SA cities network, 2020). According to UN-Habitat, 60% of all urban residents in developing countries have been victims of crime at least once over the past five years and 70% of these residents live in Latin America and Africa (SA cities network, 2020). The city has a crime index of 80.65 and a safety index of 19.35 which indicates a high crime and low safety city (Statistics South Africa, 2021). The worst crime reported in Johannesburg is corruption followed by robberies (Statistics South Africa, 2021). These statistics are concerning to the socio-economic development and sustainability of Johannesburg.

Addressing the social, economic, spatial, and political drivers of safety and crime requires integrated approaches that go beyond conventional security and policing. Resource allocation is essential to the success of such approaches, and so a greater focus is needed on how the fiscal setup can and should enable safety. Targeted interventions should be supported by consistent, long-term urban safety policies that are comprehensive, cross-sectoral and set out

the competencies, responsibilities, and accountability of local governments, as well as other spheres of government and other role-players such as civil society which is prescribed in the Habitat Agenda Action Implementation Framework as well as in the SDG indicators.

2. Municipal understanding of the Habitat Agenda Policy and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread

Most of the participants, 83% indicated that the municipality understands the Habitat III: New Urban Agenda Policy and its role in addressing urban planning challenges. The majority of the participants indicated they also believe the city has been using the NUA principles and commitments. They reached this conclusion by noting the principles adopted in recent post-2016 urban frameworks and policies of the City. The principles include densification, inclusive housing, mixed-use developments, compact development using transit-oriented development and public transport, environmental sensitivity, and conversation as well as pedestrianisation. Data analysis in the previous chapters revealed that all these principles are entrenched in the New Urban Agenda.

Most participants from the City of Joburg indicated that the Habitat III: New Urban Agenda (NUA) is being implemented through the Integrated Urban Development Framework (IUDF) in South African cities. The IUDF is an urban policy initiative that was initiated by the national government and is being driven by COGTA. The policy has nine (9) policy levers that seek to birth the narrative of inclusive, efficient, and sustainable urban development for all residents of municipalities in South Africa. The participants state that the IUDF translates the principles stipulated in the NUA into localised context-driven pillars and principles, which have been incorporated in most post-2016 urban development policies and strategies developed by the City. The responses from these participants are indeed correct, the IUDF is a tool to localise the Habitat III Agenda policy in South Africa. However, the IUDF has to be used in conjunction with the global policy, as the NUA covers a wider spectrum of urban issues and principles that are not covered by the IUDF such as, the energy crisis, environmental conservation, and protection as well as developing a green economy. The NUA also provides detailed guidelines and an action implementation framework with indicators that can be localised which may assist municipalities and the City in knowing how to address or improve on urban issues in a clear and directed manner. This is something that is not currently provided by the IUDF at this point. Perhaps the national government needs to expand the scope of the IUDF to include the aspects and gaps identified and develop an implementation framework similar to the NUA on a localised level. However, in the interim, the city has the agency to utilise the IUDF in conjunction with the NUA in an attempt to achieve sustainable development in Johannesburg.

It is positive to note that majority of the participants who were interviewed from the city are aware of the NUA and IUDF. This aspect is good as most of the officials which are aware of the policy are from the department which develops spatial planning policies. Therefore, the evident exposure and education to this global urban agenda is positive in the journey of developing a sustainable urban city.

The participants from the academia sector responded positively to the implementation of the habitat agenda principles by the city. This aligns to the above responses from the city officials and validates the efforts and commitments of the city in developing a sustainable urban Johannesburg.

A few participants from the City indicated that they were not aware of the habitat agenda policy, thus not able to comment on the question. It is observed that these participants are not directly responsible for spatial planning but, are rather situated in departments that are responsible for implementing the spatial policies of the City. In observing this pattern, a pertinent inquiry the city should address is that, should officials from other departments be aware of this global agenda or the instruments developed by the national government to implement the global agenda? Are there any negative implications and impact on the ground if officials from other departments which are responsible for implementing city policies are not aware of the policy?

3. Implementation of the aims and commitments of the Habitat III: New Urban Agenda by the municipality

This question was posed to participants to get an understanding of whether the City of Joburg has gone to any extent of implementing the principles and guidelines stipulated in the NUA. This could be in terms of policies and plans developed, capital projects and programmes implemented fiscal management of the city, or any other strategies that have been implemented to achieve sustainable urban development as per guidelines of the global urban policy and consequently the city's policies.

This question was posed to the City of Joburg officials and representatives from the academia sector only. An overall assessment of the responses from the city officials indicates that the city has, to some extent, implemented the aims and commitments of the NUA, through the implementation of the SDF and other spatial policies developed post-2016 which have been aligned to the NUA. A few officials stated that they were not aware of the rate of implementation however, this was attributed to the fact that they were not aware of the NUA policy, as discussed in question two above.

The majority of the city officials cite the development of the Nodal Review and the Inclusionary Housing policies as an indicator for ongoing implementation of the NUA and developing an

inclusive, integrated, and spatially just Johannesburg. These two policies were developed as a result of a recommendation in the SDF to establish more updated analysis and strategies for existing and emerging nodes in the city as well as to establish an inclusive housing model. The Nodal Review proposes densification and intensification of uses within the city. This directly encourages the development of more residential, social, and economic uses at an affordable rate in an attempt to accommodate the growing number of people within the city. The Nodal Review policy also includes development guideline tables that guide the desired urban form and typologies for each node and development zones in the city. The guidelines also inform development applications submitted to the city and council officials may only deviate from the guidelines provided SPLUMA regulations have been adhered to. The Inclusionary housing policy proposes to address spatial inequality and enable affordable mixed-income housing in strategic locations of the city. The policy is a tool that focuses on the provision of affordable, low-cost, and social housing and provides mechanisms and regulations through the mandatory requirement for private residential development to dedicate 30% of their housing developments for affordable housing or provide 20%-50% of the residential floor area of affordable housing, to all residential development that has 20 dwelling units or more on-site.

Furthermore, the participants indicate that the SDF places great importance on conserving and protecting the ecological and natural resources of the city from a policy point of view. This is done by establishing an urban development boundary where development outside the boundary is strictly prohibited to curb urban sprawl and focus the city investments in priority transformation areas that have been identified by the SDF. Any development that is proposed outside of the development boundary is required to go through council approval where extensive motivation is required, and the decision is taken at a council sitting.

Lastly, various city officials cited the following capital projects and programmes as integral components that have been implemented as per the SDF and NUA principles and guidelines.

- 1) The improvement of public transport and connecting marginalised areas to the city center through affordable and accessible mass public transport systems such as the Empire Perth, Louis Botha, and Soweto BRT.
- 2) Directing public investment to strategic nodes and deprived areas within the city, together with incentives and a supportive regulatory framework that encourages development through private sector investment.
- 3) Directing public investment and spending towards strategic nodes and deprived areas within the city in support of private investment, by providing social facilities and supporting services.
- 4) Increasing housing stock, speeding up the delivery of title deeds to state-subsidised housing, updating housing policies, and finding solutions to incorporate problem buildings (and their residents) into the housing

plan of the City; and 5) Ensuring that all stakeholders and role-players practice their "duty of care" and remediation of environmental damage.

The majority of the city officials interviewed stated that implementation of the NUA through the SDF is an ongoing process that is slowed down by the lengthy legislative development processes of the city. What is interesting to note from the responses of the city officials is that -it appears the city has made significant progress in implementing transformative spatial planning policies and plans. However, the implementation of these plans is not occurring at an effective rate to realise positive impacts and real large-scale transformation on the ground. Albeit this may be justified by the reality that the NUA and the city policies are fairly recent policies. Therefore, providing a fair assessment on the efforts of implementation by the city requires a degree of consideration, specifically with the COVID-19 pandemic which has redirected funds and resources to assist in managing the impact of the pandemic on the residents of the city.

The overall response from the participants of the academic community echoes the views of the city official participants -that the city has to some extent- implemented the principles of the Habitat Agenda. Though it is too early to measure the extent of implementation and impact of these principles in real terms. Albeit the academic community highlighted that the city has not placed enough emphasis on translating and including some of the aims and commitments of the Habitat Agenda policy which are pertinent to sustainable urban growth in Johannesburg. These include urban safety, crime, and food security. The spatial development framework, as a key tool in implementing the principles of the habitat agenda, is silent on these issues.

The participants from the academic community noted an important gap in translating the aims and commitments of the habitat agenda policy. The city has prioritised the tangible aspects of creating a sustainable urban environment and placed less emphasis on the intangible aspects. The city needs to translate some of the intangible aims and principles outlined in the habitat agenda into its development strategies and implementation frameworks. Particularly as urban safety and crime are real hindrances to the development in Johannesburg and food security is a threat with the increasing population rate of the city.

It is important to note that the successful implementation of the habitat agenda will also be dependent on the flexibility of its policy proposals to fit in varying contexts.

4. The main obstacle in translating the habitat agenda policy at the local level

The Habitat Agenda recognises cities and local governments as the main entities to implement the global urban policy and shift the discourse of urbanisation. Thus, to get an in-depth understanding of the obstacles that delay and or hinder implementation, question four was

only posed to the City of Joburg officials and the academic community participants. The overall responses from these participants indicated that there are various challenges experienced by the City in translating the global policy. Below are a few identified common themes to obstacles encountered by the city.

The first theme which was identified from the responses of the City of Joburg participants was inadequate knowledge of the habitat III agenda and a lack of understanding as to how best the agenda can be applied in the local context. This is generally the case with global policies, too often they are based on broad outcomes of development, neglecting various socio-economic contexts of countries and their abilities and or capacity and resources to translate the broad outcomes practically in the local context. The responses from the academic community echo the sentiments of the city officials. The participants stated that the national government, as a sphere that signed the declaration and committed to the implementation of the global policy on behalf of the cities in South Africa, has not sufficiently prioritised the awareness of the policy to local implementers. Additionally, the participants cite a lack of institutionalisation of the global policy from the national government as a major obstacle that hinders translating the habitat agenda.

Albeit the literature review highlighted that the United Nations has developed the City Prosperity Index (CPI) as an implementation and monitoring tool which accompanies the habitat agenda and should assist national and local governments to manage the implementation of various aspects of urban development. The index is comprised of 72 indicators that measure various aspects of city government and are designed to assist policymakers to formulate effective policies and implement long-term plans. As such, the researcher recommends that national government, through the assistance of the UN, delineate a relevant body or institution to capacitate local stakeholders on the tools and mechanisms that have been developed to assist local government in translating the broad aims and commitments of the habitat III agenda and increase awareness of the agenda.

The second theme which was cited by the City of Joburg participants as an obstacle in translating the global policy was - disintegrated silo planning of projects and programmes between the three spheres of government. Urban planning and economic development are considered functions of the local government in South Africa. Albeit, some aspects of these functions are also carried out by the provincial and national government, such as the provision of housing. A participant stated that many a time, national and provincial departments will plan and implement housing or mega projects which exacerbate urban sprawl and land inefficiency within Joburg. The recently announced "Lanseria smart city project" by the president of the country was cited as an example of this silo planning. The Lanseria smart city project proposes

the development of the first post-apartheid city that will house over five hundred thousand people and will be mixed land use and diverse precinct in land uses, economic activities, and housing typologies.

While the intentions of the project advance the compact polycentric development vision of the city and the aims of the Habitat Agenda in its principles, the location of the project is not desirable as it is outside the urban development boundary. The participant stated that the national government did not consult the City in the planning of this project, nor did it consult the SDF to locate the project in the transformation areas identified by the city policy. These scenarios delay the development of a sustainable Joburg. It is thus recommended that project planning and implementation by the national, provincial, and local government be carried out in a coordinated approach and development occurs in areas where the SDF encourages development to occur. Furthermore, to reinforce integrated planning, as legislated by the intergovernmental relations act of 2005, the city should develop more stringent conditions and reproachable strategies to oppose development that is counter-productive to the development of the spatial developed framework, as provisions have been catered for in the SPLUMA Act.

Taking the above into consideration, participants also cited political influence as another obstacle to translating the Habitat Agenda in the City. As previously stated in the paper, politics play an integral role in the functioning of cities and municipalities across the country. Participants state that politicians and various political agendas often triumph the development trajectory of projects or plans if they have sufficient powers to influence decisions. This frustrates the function of planning and implementing long-term plans in the city. Accordingly, the dissertation suggests that the city moves beyond planning for technical solutions but incorporates political realities in their strategies which will create robust plans and strategies.

Another critical discussion that emerged from the response of city official participants was that of limited funding and resources to implement capital projects and programmes required to effect real urban sustainability, and the declining socio-economic growth in South Africa. The issue of limited funding and resources is not unique to the City of Joburg. The declining or stagnant socio-economic growth in South Africa also exacerbates this issue. What was interesting to note from the interviews with city participants is that officials appreciate the context of their financial realities and go to the extent of sourcing funding from external donors. However, issues of lengthy complex supply chain processes, mismanagement of funds, and corruption undermine the efforts of the officials. It is a common occurrence that funds are required to be sent back to donors or discontinued due to various reasons such as supply chain issues or unexplained missing funds. The analysis of municipal finance in the City of Joburg in chapter 5 concurs with the statements of the participants in managing funds.

Consequently, it is suggested that the city reflects on the municipal finance operations as it is evident this is a gap and a considerable obstacle in effecting spatial and socio-economic justice in Johannesburg. Furthermore, the Habitat Agenda and the CPI implementation and monitoring tool, outlined in chapter 5, provide guidance and indicators to addresses municipal finance challenges which can be utilised by the city as a starting point.

5. What the role of higher levels of government be in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation

The objective of this question is to explore the various discussions and recommendations made by city officials and academic community participants on the role the UN and national government should play in assisting cities and municipalities to implement the global policy. The majority of the participants responded with similar themes which included 1) that the role of the national government should be based on leading the development trajectory of all cities and municipalities in the country. In that national government should provide broad frameworks, instruments, and tools to guide harmonious spatial and socio-economic development in the country with local governments localising these tools into the varying contexts they exist in. Participants stated that the national government is currently being reactive to the implementation of the habitat agenda in South Africa. Municipalities that have resources and capacity can implement the global policy's principles on their own accord. However, this is a counter-productive strategy as it leaves those without capacity and resources behind. The sustainability of Johannesburg, to an extent, depends on the success of other municipalities. If they fail to succeed in their respective regions the city will perpetually be strained. The city officials further stated that a tool such as the Inclusionary Housing Policy should have been developed by the national government and mandated all municipalities across the country to localise and implement the tool, in an aim to bridge inequality in housing developments. This is one of many examples of how the national government with the assistance of the UN should be leading the implementation of the Habitat Agenda.

The second 2) critical theme raised by participants is that of national government employing effective and practical monitoring and evaluation tools, and resources to ensure that municipalities are on the right track with implementing the global policy. This will assist in ensuring that municipalities are aligned to one development vision which is not altered or diversified when there is a change in political leadership or change in human resources that are responsible for implementing the policies and frameworks. This recommendation is particularly important as there is an identified gap with regards to effective monitoring and evaluation of the implementation of the Habitat Agenda by the national and provincial governments. Participants from the city state that, since the development of the policy in 2016, there has been little to no efforts employed by the custodians of the global policy to ensure

that the City of Joburg is sufficiently aligned to the policy or if the City is experiencing any challenges in translating the global policy. The agency has entirely been on the municipality to ensure it upholds the aims and principles of the Habitat Agenda. This evident gap requires urgent attention from the UN and higher levels of government. Consequently, the dissertation suggests the establishment of a unit to monitor and evaluate the implementation of the Habitat Agenda across municipalities in South Africa as a method to address this gap.

The third and last 3) theme that emerged from the responses of the participants is that of the national and provincial government to build stronger awareness on the Habitat Agenda and provide support where cities are lacking or under capacitated on the global policy and how it should be applied in varying local contexts. As well as providing access to funding and resources to implement projects and programmes which enable sustainable urban development across municipalities. These recommendations were also highlighted in question four above.

While national and provincial governments ought to capacitate local government on the global policy, it should be noted that efforts have been made to assist in the financing of capital projects and programmes to develop cities and municipalities into sustainable and innovative urban and rural environments. The national government through the National Treasury Department has implemented initiatives such as the National Development Partnership Grant (NDPG), the Neighbourhood Development Partnership Programme (NDPP), and the New Growth Path (NGP), *inter alia*, to aid cities and municipalities in providing capital and or technical resources to implement strategic projects which can lead to sustained improvement in the investment desirability of the urban, rural and township areas within South Africa.

The synopsis of the responses from the participants indicates that national and provincial spheres of government should be providing strategic direction and assisting financially for the implementation of projects and programmes that will affect good urbanisation. This narrative is understood to be accurate, as revealed in the literature review, that countries that have been successful in developing sustainable urban areas have been led by a strong national strategic vision that the cities translate to local frameworks and stick to. Additionally, national government ought to provide instruments and tools that enable the process of development to be simple and continue to finance projects and programmes that respond to the national vision.

6. The most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies

Developing a clear set of indicators to measure and assess the success or failure of projects and plans is considered good practice. This indicates progress and illustrates gaps that need

to be addressed to improve a project and or plan. Consequently, this question was posed to the majority of the participants to get an understanding of how relevant stakeholders responsible for the development of urban spaces measure the success of policies and projects and what indicators would be most suitable to measure and assess the success of the Habitat Agenda in the City of Johannesburg.

The consensus from the responses of the participants indicated that developing indicators together with a plan is encouraged as it makes the process of monitoring and evaluation easier against what was initially planned. Opposed to ad-hoc and unguided monitoring and evaluation against no clear plan of what was intended in the development of policies and projects.

What was interesting to note from the responses is that participants cited indicators that were specific to their job function and work of scope. This translated to a varied list of indicators, which is good, as it suggests that all facets of development and urban sustainability would be adequately considered in proposed indicators for the city.

The main themes which emerged from the majority of the participants included indicators which detail: -1) improved urban form that has a mix of land uses, access to public transport, close to social and recreational amenities, and places of economic activity. These indicators were vastly cited by the city officials and indicate the conceptual approach identified by the CoJ SDF 2040, in creating a compact polycentric city through various development strategies such as transit-orientated development. For instance, city officials stated that a radius of 400m -600m distance to a public transport station or stop would be deemed as sufficient access to public transport for residents in the city. 2) Increases in town planning and building plan applications submitted to the city, which indicate that the private sector and developers are responding to the strategic direction developed by the city. 3) Alignment of proposed projects and initiatives with the capital budget of the city. The city officials cited this as a critical indicator as often plans and frameworks will be developed with a list of projects in the implementation framework however, the proposed projects don't always get a budget for implementation. Thus, if proposed projects are considered in the capital and operation budget of the city, it is a good indication of the priority of the plan and or framework. 4) Ease of policy implementation and enforcement, and 5) Conservation and protection of ecological assets of the city in precincts/developments that house critical biodiversity areas.

The UN-Habitat representative stated that the Habitat Agenda has also developed its own set of indicators which include the City Prosperity Index (CPI), Action Framework for Implementing the New Urban Agenda (AFINUA), and the Sustainable Development Goals Indicators (SDGs). These indicators have been covered sufficiently in chapter 5.

The indicators stated by the participants are of a similar school of thought with the indicators developed by the institution and the habitat agenda. This is good as it indicates that stakeholders responsible for sustainable urban development in the city are on the right path. What was evident, through the discussions with City of Joburg officials, is that there is a gap in terms of tools that exist to assess the work that municipalities do. A participant suggested that more assessment tools are needed to be developed to assess the well-being of children, as one of the most vulnerable groups in society they are most prone to reflect any meaningful change. Well-being is a critical aspect as it is wholly encompassed, but it is not understood or unpacked enough. Any policy or development project typically comes down to creating meaningful well-being for the city, businesses, and people therefore more effort is required to find ways of assessing it in contrast to the efforts made by policy and projects. This may be a good platform for cities to utilise the CPI indicators and monitoring tools of the agenda as they account for the aforementioned gap.

7. What determines the 'readiness' of a city or town to successfully adopt the agenda

Question seven and eight were only posed to the UN-Habitat representatives. The objective of this question was to get an understanding from the custodians of the Habitat Agenda- at a global scale- on what they deem are critical elements a city or urban space needs to establish to be able to successfully adopt and apply the global policy.

Two participants were interviewed and the responses from the participants indicated that there are no real 'readiness' criteria for cities to implement the NUA. The participants cited that the global policy is not exclusive. It is not designed to enable sustainable urban development for select cities which can meet certain elements or criteria. The only parameter which exists is if nations signed as member states and committed to implementing the Habitat III Agenda. Even in those parameters, the participants cite that there is nothing hindering cities that are not member states to implement the principles of the Habitat Agenda.

Furthermore, the participants stated that the NUA is premised on the notion that cities can shift the negative perception and effects of urbanisation, to good urbanisation and use the agenda as a tool to shift negative development course to sustainable urban development. The above is concurrent with the findings of the literature review, as the review indicates that the NUA is not a legally binding policy to the member states that signed the agreement. Consequently, this eliminates the need for cities to fit into a particular criterion to be able to implement the principles and commitments of the agenda. It is, however, understood that some cities are more "ready" than others to effectively and efficiently implement the NUA, which will see results at a faster rate than other cities across the world. This includes cities

that are in developed countries, cities that already have a clear national urban development plan and vision, cities with access to funding and resources and not only reliant on donor funding, *inter alia*, as evident in the precedent studies of cities which have achieved some level of sustainable urban development.

8. What can be done to make the Habitat Agenda more country or locally specific and relevant?

As mentioned in question seven above, this question was also only directed to the UN-Habitat representatives. The objective of this question was to get an understanding from the custodians of the Habitat III Agenda on the measures which have been placed to ensure that cities are equipped and adequately guided to implement the principles, aims, and commitments of the global policy. This was posed specifically to compare with the responses from the city officials responsible for implementing the global policy, to get an indication of whether there is any correlation between the efforts of UN-Habitat and the experience of the local stakeholders.

The participants indicated that an action implementation framework was adopted following the drafting of the NUA. This action implementation framework details five pillars that encompass the NUA. One of the pillars is the development of an inclusive national urban policy that will be implemented by cities across the country to ensure integrated national systems of cities and human settlements. As such, this national urban policy should be utilised to translate the Habitat Agenda principles and commitments to be locally specific and relevant to the context of the country. As mentioned in the sections above, the IUDF is said to be South Africa's national urban policy. The discussion that emerges and possibly could be explored further in a separate report is that, does the IUDF align to the principles and commitments of the NUA, and are municipalities following the strategic vision set out in the IUDF?

It was also observed that the responses of the UN-Habitat representatives, relating to this question, were very limited. The technique of probing was also utilised by the researcher during the interviews; however, very little information was divulged regarding localisation efforts. One can thus assume that there is a positive correlation between the responses of the city officials in question five above and that of the UN-Habitat representatives.

Albeit it was noted that there is an evident gap in the participants interviewed. Representatives from the national and or provincial governments, specifically from the IUDF section should have been interviewed, to get a better understanding of the efforts implemented to localise the global policy.

9. How the Habitat III: New Urban Agenda can inform local participatory urban governance and development to promote effective urban planning measures?

This question was posed to representatives from civil society and the UN-Habitat. Four participants were interviewed and one participant from the civil society was not aware of the global policy thus the analysis is based on three responses. The objective of the question was to get an understanding of how local stakeholders and or residents of the city in their various roles of development can partake in implementing the global policy and enable sustainable urban development in the city.

The participants from UN-Habitat stated that the Habitat III: New Urban Agenda, unlike the previous urban agendas, is premised on cities and all relevant local stakeholders which inform city development taking the lead in creating urban centers which respond and services the needs of the people and functioning most sustainably. The participants further cited that the AFINUA has a pillar dedicated to how local communities and stakeholders can best be integrated into city planning and how they can assist in implementing the global agenda, which is detailed in chapter five. Albeit the participants stated that cities and municipalities also have By-laws and regulations which govern community engagement and the parameters of stakeholder involvement, which should be adhered to.

The civil society participant echoed the sentiments of the UN-Habitat representatives as they cited that the agenda encourages co-creation, co-collaboration, and co-design of all urban frameworks and urban projects to be developed by local municipalities. The participant further stated that community participation should be the core of urban development to ensure the plans reflect and respond to the realities of those living in the spaces. It was further elaborated that this suggestion is not something new and although the municipality does carry out community engagement. However, it is often to meet and satisfy regulatory requirements which are counter-productive to the narrative of co-creation and co-collaboration. The participant suggested that the City of Joburg could effectively involve the community through mock-up demonstrations, or activations of what is proposed in the plans and frameworks. Especially since most of the time, the community does not understand what the elaborate plans and policies mean in real terms, thus are not able to actively engage in participation. Alternatively, the city could invest in ensuring translation and applicability of the plans and frameworks are friendly to the end-user so that the community and private sector can better assist the city in investing and developing in the correct spaces, as suggested by the development frameworks.

The civil society participant provided an example that in Kliptown Soweto, the residents have found themselves in the position of socio-economic exclusion in their area, due to the lack of sufficient community engagement and ensuring that local stakeholders understand the approved development framework. In 2008 the CoJ developed the urban development

framework. In 2012, the City implemented capital projects that celebrate the heritage of Kliptown whilst ignoring the dire living conditions and lack of housing and service delivery that surround these projects. The heritage presented by the government at this site excludes large portions of Kliptown's heritage which are locally important. Therefore, the decision was largely taken by the City of Johannesburg in what was to be remembered and retained. Subsequently, locals in the community cannot afford to utilize the majority of the recreational and social facilities in the precinct, which exacerbates exclusion. This is contrary to the concept of a community where the people are expected to contribute to the overall development of the area

What is interesting to note in the statements highlighted by the participants is the evident pattern of misconstrued and or a lack of translation of policies and plans. In the questions above the responses indicated that the custodians of the Habitat III: New Urban Agenda are not actively assisting in the translation of the global policy to the local creators and implementers of policy within the City of Johannesburg, and there has also been a gap identified by civil society participant on the lack of translation and participation of local plans and frameworks. This suggests a perpetual cycle of misconstrued plans and policies which may affect the urban space and how it functions or delay the sustainability of the urban center. This evident gap needs to be urgently evaluated by all three tiers of government.

10. The specific roles of civil society, non-government organisations, and the private sector in the effective implementation of the New Urban Agenda to address the challenges faced by urban dwellers

This question was only posed to the civil society representatives. The objective of the question was to get an understanding of what roles the private sector and civil society should be playing in Johannesburg to curb the negative effects of urbanisation in the city.

The participants stated that the role of civil society in the implementation of the NUA is threefold, 1) to bring to light the concerns and issues of urban dwellers to government, 2) to hold the responsible stakeholders accountable to what has been collectively agreed upon, and 3) to be the watchdogs and innovators of solutions facing their urban areas. The participants also stated that sustainable urban development can not only be brought by local government alone but as watchdogs and innovators civil society have a vital role to play in the development scene.

This is believed to be true as civil society represents a wide constituency in the urban development realm. Thus, the discussion that emerges is that how can the City of Johannesburg utilise the tools and mechanisms developed by the Habitat Agenda through the AFINUA to enable the civil society to play an effective and active role in urban development and to what extent can the representatives influence the urban development? Additionally, the

City should utilise the AFINUA to evaluate whether the private sector and civil society involvement process are sufficient and if it would be beneficial to incorporate the recommendations to achieve sustainable urban development.

Table 6: Snapshot of Semi-Structured Interview Responses

QUESTIONS	PARTICIPANTS RESPONSIBLE FOR URBAN DEVELOPMENT PLANNING IN THE CITY OF JOBURG								
	City of Joburg Officials			Academia			Civil Society & UN Habitat		
	Yes	No	Comments	Yes	No	Comments	Yes	No	Comments
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	100%	0%	All the participants responded yes to the existence of urban planning challenges. Most of the participants stated similar urban planning challenges and there were no outliers in terms of absence of the urbanisation and its challenges in the city. This means that there is a need for an intervention of which the New Urban Agenda can assist.	100%	0%	All the participants responded yes to the existence of urban planning challenges.	100%	0%	All the civil society participants who were asked this question responded yes, to the existence of urban planning challenges in the city. .
Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state	75%	25%	The study revealed that only 75% of the participants from the City of Joburg where familiar and understood the Habitat III: New Urban Agenda. Of this 75% some indicated that they were familiar with the Integrated Urban Development Framework, and not the Habitat Agenda Policy.	100%	0%	All the participants were aware and familiar with the Habitat III: New Urban Agenda Policy.	75%	25%	Only 75% of the participants from the civil society and UN Habitat were familiar and understood the Habitat III: New Urban Agenda.

Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?	63%	27%	Majority of the participants stated that the municipality has implemented the commitments and principles of the NUA. The variance in responses was captured in the extent of implementation by the municipality. The 27% reflected as no, stems from the participants who were not aware of the habitat agenda policy.	100%	0%	All the participants stated that the municipality has implemented the commitments and principles of the Habitat Policy. The variance in the extent of implementation was similar.	N/A	N/A	N/A
What has been the main obstacle to translating the habitat agenda policy at the local level?	N/A	N/A	The main themes that emanated from the participants regarding the obstacles mainly included the following: 1. Difficulty in translating the broad commitments and principles into tangible outcomes. 2. Lack of awareness of the Habitat Agenda 3. Lack of alignment with other spheres of government. 4. Lack of relevant localisation of internationally agreed policies funding and resources; and 6. A deteriorating economy	N/A	N/A	The main themes that emanated from the participants regarding the obstacles mainly included the following: - 1 lack of awareness and prioritisation of the agreement from national government; and 2. The lack of institutionalisation of the agenda from the national and legal framework	N/A	N/A	N/A

In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?	N/A	N/A	<p>The prominent themes that emerged from participants responses included the following: -</p> <ul style="list-style-type: none"> - Higher levels of government should develop instruments to enable a conducive environment for development. - Create awareness and capacitate implementers of internally agreed policies. - Provide guidance, monitor, and evaluate overall strategic direction in the country; and - Provide funding and resources to implement projects; and provide coordination between lower levels of government 	N/A	N/A	<p>The main theme that emerged from participants is that of</p> <ul style="list-style-type: none"> - developing national urban policies that provide guidance to the urban development discourse in the country 	N/A	N/A	<p>This question applied to the UN Habitat representatives and the main theme that emerged was that of national government creating a conducive environment for sustainable urban development to take place. Which should be done through sound policy and legal framework, leveraging support to local municipalities in terms of capacity building and resources</p>
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies?	N/A	N/A	<p>Participants responded with various indicators to measure the effectiveness of urban framework and policies. However, the indicators that were common in the response included: -</p>	N/A	N/A	<p>Participants provided responses of institutions that have developed indicators as good examples of monitoring the effectiveness of policies as well as implementation of</p>	N/A	N/A	<p>Participants provided responses of institutions that have developed indicators as good examples of monitoring the effectiveness of policies as well as implementation of</p>

			-Increase in submitted town planning and building applications -Implementation of Capex Projects - Improvement in urban and built form of the city			capital projects and developer and private sector buy in.			capital projects and developer, private sector buy in and a thriving urban economy that factors in the informal sector.
What determines the 'readiness' of a city or town to successfully adopt the agenda?									The prominent response to this question was that there are no "readiness" criteria any country/city that is part of the member state or not can implement the principles of the NUA.
What can be done to make the Habitat Agenda more country or locally specific and relevant?									Responses included implementation of a national urban framework that will provide strategic guidance to urban development in a specific country.
How can the internationally agreed agenda commitments inform local, participatory urban governance and development to promote effective urban planning measures?									The participants stated that the NUA stipulates that in depth community engagement should be at the core of developing frameworks. With co-creation, co-design as important aspects in sustainable urban development.
In your opinion, what are the specific roles of civil society, Non-Government									The participants stated that the role is not counter-productive to

Organisation, and the private sector in the effective implementation of the New Urban Agenda to address the challenges faced by urban dwellers?									the global narrative of inclusive and ensuring expectation of their constitutes are upheld, represented and ultimately the needs responded to.
How can the Habitat Agenda be used to add pressure 'from below' by civil society for progressive policies and legislation in the area of urban governance and urban transformation?									Responses from participants included civil society having a mandate and responsibility to hold government accountable for inaction or deviation from what has been collectively agreed upon.

6.3 DISCUSSIONS OF FINDINGS

This section of the dissertation provides a summary of discussions on the urban planning challenges that were outlined in chapter five by this dissertation and compares the guidelines outlined in the *Action Framework for Implementing the New Urban Agenda* against what the City of Johannesburg has employed and developed to address the urban planning challenges experienced by the city.

Theme 1: Land Use Planning

The urban planning challenges experienced under this theme include 1) population growth and urbanisation, 2) urban sprawl and fragmentation, 3) inefficient residential densities and land-use diversity, as well as 4,) spatial inequalities and jobs-housing mismatch. What is evident from the analysis is that all the land use planning challenges experienced by Johannesburg today, are a direct result of colonial and apartheid planning. This is echoed by the literature review as it revealed that colonial planning lacked a long-term vision for Johannesburg and only developed areas that were beneficial to the economic and financial needs of the colonising party of that time. The literature review also revealed that the nature of apartheid planning was that of segregation, exclusion, and sprawl. The analysis of these challenges also revealed that the post-apartheid government exacerbated some of these urban challenges through the development of housing in the outskirts of the city, lack of co-ordination from the three spheres of government which results in silo planning and misaligned efforts that don't address the problems of the city.

The analysis also revealed that there are various strategies and policy frameworks that have been developed by the City of Joburg to address the urban planning challenges. The key policies responding to the land use planning challenges include the Spatial Development Framework 2040, the Integrated Transport Plan 2013, the Nodal Review 2020, Inclusionary housing Policy 2020, and the Corridors of Freedom Strategic Area Frameworks. These policies apply the principles of developing a compact, dense, mixed-use urban environment using efficient public transport and transit-oriented development to create affordable mixed-income housing that is close to well-located areas of the city. It is understood that the City of Joburg is developing policies that are aligned to sustainable urban development as seen in other cities such as Tokyo, Beijing, and London from the precedent studies. The key gaps and barriers noted in the analysis of the land use challenges include the slow pace of structural transformation opposed to rapid urbanisation and population growth experienced by the city, the governance structure and political systems of South Africa, aging infrastructure and service delivery backlogs, a disintegrated and uncoordinated public transport systems, and the continued development of housing in the periphery of the city. One can therefore conclude that the City of Joburg needs to stick to the plan(s) and policies they have developed and for

all other spheres of government and any other developer or donor to follow the plans that have been developed by the city. Structural transformation and good urbanisation cannot happen overnight, however through the consistent implementation of one plan and one vision. The literature review revealed that cities that are performing well in achieving sustainable urban development had developed long-term national and local visions and have been implementing those plans for over fifty years, regardless of different political representatives that have come and gone over the years.

Theme 2: Environment

The urban planning challenge analysed under this theme was the increasing pressure on the natural environment and green infrastructure. The rise in urbanisation and population growth has had dire effects on the natural environment in Johannesburg. The analysis revealed that natural land accounts for only 32% of the land within the city. This together with depleting critical biodiversity areas renders an inadequate level of protection for the city's ecosystem. This coupled with inefficient infrastructure capacity, has resulted in the city experiencing dire urban flooding, heatwaves, and increasing intensity of precipitation which all negatively affect many informal settlements within the city. It is understood from the literature review that environmental protection and conservation are at the core of achieving a sustainable urban environment. The precedent studies revealed that cities are moving towards more innovative, environmentally sensitive, and green infrastructure. A shift towards environmental sensitivity and green developments has introduced a thriving green urban economy in cities such as Japan, Hong Kong, and Beijing.

Albeit, the City of Johannesburg has employed various strategies and programmes to address the degradation challenge. This includes the development of the green buildings policy, Johannesburg Metropolitan Open Space System (JMOSS) 2004, Air Quality Management Plan 2017, Wetlands Management Zones 2016, and the Biodiversity Strategy and Action Plan. The city has also implemented projects that have rendered Johannesburg a vast urban forest with 6 million trees and conversion of waste to energy using five landfill sites to produce methane and generate electricity. The key barriers that hinder greater results in protecting the environment and reducing the carbon footprint in the city include a lack of environmental enforcement by relevant authorities; illegal land development and land invasions that undermine and ignore environmental authorisation protocol; and poor development of City by-laws and guidelines pertaining to green infrastructure development, upgrades, and developments.

It is understood that protecting and conserving the ecological assets in the city is paramount to sustainable urban development. It is also understood that the city is shifting towards being

green innovative development and environmentally conscious and sensitive. Moreover, the city has developed many robust policies and strategies to reduce the pressure on the natural environment. The onus is largely now placed on the implementation and enforcement of the approved provisions and regulations. This is an aspect that is proving to be lacking and may have detrimental effects on the environment in the future.

Theme 3: Housing

The urban planning challenge that was analysed under this theme includes informal housing and housing issues. Informal housing, lack of access to affordable housing to the well-located areas, and general displacement of residents have been issues cities across South Africa have been struggling with. The analysis revealed that the city has over 500 000 people who need housing. The average delivery rate of housing in the city is not fast enough to cater to this backlog. This has resulted in the mushrooming of over 400 informal settlements across the city. Furthermore, people have resorted to building backyard housing. Informal backyard housing has advantages and disadvantages. It can exacerbate the informality and undesirable design of areas and be hazardous to people living in unaudited and approved structures. If done right, it can contribute as an income source to landlords and assist in the housing backlog issues. This status quo is not ideal and if Johannesburg is to become an inclusionary city, it needs to create space and viable options for the urban poor majority through planning initiatives.

The city has deployed strategies that include densification, diversification, integration, and developing affordable housing that is well located and accessible. However, what is evident is that this is not happening at the rate and frequency it needs to be. This is largely attributed to housing being a largely provincial function thus the city has little jurisdiction over the rate and allocation strategy. Factors such as political influence, supply constraints, lack of tools to assist back yarding and its contribution to built form, complicates housing process and programmes in the city.

The literature review indicated that cities across the world are struggling to grapple with housing the vast urban poor. Comparatively, the City of Joburg has been instrumental in the development of the inclusionary housing policy, which is a step towards accommodating the people of the City. It is understood that this policy framework has no monitoring tool to assess whether developers are abiding by the policy as suggested by council. This is a gap the City needs to address otherwise; the policy might only be good on paper and not in reality. Additionally, a gap that is also required to be addressed by the city, is that of jurisdiction and roles and responsibilities of housing between provincial and local government.

Theme 4: Transport

The urban planning challenge that was analysed under this theme includes the development and implementation of the Integrated Public Transport Network. The precedent study in the literature review indicates that an efficient and effective public transport system is critical in developing a sustainable and conducive urban area. The precedent studies also indicated a shift towards green transport which reduces the carbon footprint of cities and contributes to more revenue and cost-benefit for municipalities as green energy saves costs in the long term.

Comparatively, South Africa has not fared well in the development of safe, reliable, affordable, and efficient public transport. The city has implemented various public transport initiatives such as the BRT, bus system, PRASA train network, and part subsidisation of the Gautrain. Quality of life survey was done by the GCRO indicated that the public is not satisfied with public transport in the city, as it is either not reliable, unsafe, inefficient, or unaffordable. Consequently, a big gap exists in terms of the efficiency of public transport in the city. Another critical gap in the City's transport plans is the prioritisation of pedestrians and non-motorized transport infrastructure.

Albeit the city has implemented strategies and projects that address the transport challenges such as the development of the Integrated Transport Network Plan (ITNP), implementation of the intermodal transport hub, piloting of hybrid greener BRT buses, and the implementation of cycle lanes in some parts of the city. It is understood that the key barriers to unlocking an integrated public transit system in Johannesburg include:- the lack of authority over some public transport systems within the city which results in long bureaucratic processes and engagement needed before other spheres of government agree to the implementation or upgrading of transport infrastructure/policy/programme under their jurisdiction; the legacy of apartheid planning and marginalisation of some communities has resulted in public transport networks that were planned and operated in isolation and which are now poorly integrated; law enforcement, many illegal service providers hinder the integration of the public transit system; and insufficient infrastructure to support cycling and walking in the city; and the perception of the public that public transport is either unsafe, unreliable, expensive, or inaccessible, thus if commuters have an option, they rather utilise private vehicles.

Municipal Governance and Finance

An underlying challenge that has been noted in the analysis of the themes is that of municipal governance and municipal finance. All government levels involved in planning and development issues should be aligned. This has a major impact on the budgeting and financing processes within the municipality, eventually impacting directly on development on the ground. Infrastructure development that forms the "backbone" of all development is

therefore highly dependent on financial resources from various levels of government. The city should therefore ensure proper alignment with the different government levels in their integrated development planning and with all associated projects. This also allows for prioritisation and even distribution of investment across the municipality. Infrastructure development is a municipal function and should not be addressed as a 'separate function' but should rather be integrated into the Municipality's IDP process, as well as the municipal monitoring and performance management systems. The financial management and planning systems of the City should incorporate Municipal Infrastructure Grants (MIG) budgeting and financial reporting. This will ensure a holistic approach to the MIG programme. Additionally, the requirement for a capital budget for infrastructure investment far outstrips the available capital budget. This situation stifles growth, and the potential of no financial return for the City once the infrastructure has been implemented.

Habitat III: New Urban Agenda in relation to the Urban Planning Challenges

The analysis indicates that overall, the spatial urban frameworks, strategies, policies, and projects/programmes of the City of Johannesburg promote and to varying extents, apply and implement the three principles of the Habitat III: New Urban Agenda which are 1) the city belongs to all, thus do not leave anyone behind, ensure equity to all and reduce poverty, 2) ensure no one is economically excluded while ensuring inclusive prosperity and opportunity for all urban dwellers and 3) protect and conserve ecological assets of the city and foster resilient human settlements.

To provide a clear picture of the extent to which the city has applied the principles of the NUA, the report outlined the five pillars of the NUA and utilised a matrix tool to compare and analyse the guidelines in the AFINUA against the strategies and projects employed by the city. Below is a translation of the performance criteria and allocated scoring using a colour index, as detailed in **Table 8 below**:

Table 7: Colour Index Indicating Performance Criteria of Joburg

Red	The City of Joburg has not fulfilled any guidelines within the description of stipulated sub-themes.
Yellow	The City of Joburg has fulfilled some , but not all guidelines within the description of stipulated sub-themes
Green	The City of Joburg has fulfilled most of the guidelines within the description of stipulated sub-themes.

The analysis from the Nation Urban Policies pillar indicated that South Africa has developed a national urban policy referred to at the Integrated Urban Development Framework. The

IUDF is strongly aligned to four out of six sub-themes of the national urban policy pillar. This indicates an alignment percentage of 67% which fares well in the scheme of good urban development. The sub-themes which are lagging with regards to alignment of the IUDF include the formulation of medium- and long-term demographic projections with geographic disaggregation and structuring basic classification of land governments and local authorities. Furthermore, the IUDF does allocate a designated pillar to environmental protection and conservation of the country's ecological assets. This suggests that the national urban policy does not consider environmental protection to be an important component of sustainable urban development. As such, the national government should address the gaps as identified by the NUA.

The second pillar in the action implementation plan of the NUA, urban legislation rules and regulations, mostly relates to the function of local municipalities. The analysis revealed that the City of Joburg is strongly aligned to four out of eight sub-themes of urban legislation and regulations which translates to an alignment percentage of 50%. This indicates that the City needs to invest more resources in developing urban rules and regulations which support the development of a sustainable urban environment. The sub-themes that the City needs to focus on include: - 1) strengthening the capacity and ensure appropriate fiscal, political, and administrative decentralization based on the principle of subsidiarity, this was also highlighted as a gap in the analysis in chapter five, 2) developing equitable legal instruments to capture and share increased land and property value, which is paramount to the development of a real inclusive urban economy and social environment, 3) establishing impact assessment, monitoring, inspection, correction and enforcement tools which critically lacking in the City of Joburg, and 4) enact effective law for the definition, acquisition, and protection of public space. Overall, the gaps that exist in this pillar indicate that the City might be developing good urban policies and strategies, but they are not developing, enacting, and implementing strong rules and regulations that will assist in the implementation of the policies. Consequently, the city should look to the NUA in addressing these gaps.

The third pillar of the action implementation framework is urban planning and design. The city's key spatial plans and policies that are directly responsible for addressing the urban challenges facing the city, are all strongly aligned and fulfill the guidelines of all sub-themes under this pillar. This translates to a 100% alignment percentage which indicates that the policies developed by the city advocate and promote inclusive sustainable urban development. The City has developed a plethora of good urban policies, the focus should now shift toward implementation, enacting, correcting, and monitoring the proposals stipulated in the policies. The literature review revealed that cities that have been successful

in creating inclusive sustainable urban areas have stuck to the implementation of one plan. Johannesburg learns from such cities in the ongoing implementation of its plans.

The fourth and fifth pillar of the action implementation framework of the NUA is the urban economy and municipal finance and local implementation, respectively. The city fulfills one out of five sub-themes for the urban economy and municipal finance and two out of five for local implementation, which translates to a 20% and 40% alignment percentage for the two pillars respectively. This percentage alignment echoes the findings stated in previous sections, that the underlying challenges of most urban planning issues within the city, is a lack of good governance, strong economy, and municipal finance systems as well as lack of implementation of proposed projects and programmes. The NUA does not commit to providing financial resources to member states to assist in local implementation and municipal finance. However, the systems and guidelines it provides in the sub-themes of these two pillars can assist the municipality in creating strong and resilient municipal finance systems and implementation of projects which would boost the ease of doing business in the city and consequently result in increased investor confidence and a stronger urban economy.

6.4 CONCLUSION

In conclusion, the policies, strategies, projects, and programmes developed by Johannesburg to address the urban planning challenges experienced by the city, are overall well aligned to the principles of the New Urban Agenda. What is not translated well is the detail stipulated in the sub-themes of the five pillars, which exposes a gap within the city urban legislation, urban economy, and municipal finance as well as local implementation. Regrettably, more than good urban planning design is required to achieve sustainable urban development. Thus, the City of Johannesburg should look at addressing the gaps identified by the NUA implementation framework to respond to the urban planning challenges and achieve sustainable urban development.

Table 8: Habitat III: New Urban Agenda in relation to Urban Planning Challenges experienced by Col

NATIONAL URBAN POLICIES	URBAN LEGISLATION RULES AND REGULATIONS	URBAN PLANNING AND DESIGN	URBAN ECONOMY MUNICIPAL FINANCE	LOCAL IMPLEMENTATION
1.1 Formulate medium- and long-term demographic projections, with geographic Disaggregation	2.1 Define urban land vis-à-vis non- urban land, rights, and responsibilities inherent to urban land	3.1 Set up a planning and design process that is evidence based, integrated and participatory.	4.1 Establish principles for enhancing the role of local government in fostering inclusive, equitable and sustainable urban development and strengthen local leadership capacity for inclusive municipal finance	5.1 Planned city extensions at appropriate scale
CITY OF JOBURG PERFORMANCE CRITERIA				
The development of a national urban policy is a higher government function. As such, COGTA has developed the IUDF as the national urban policy. A brief snapshot of demographic and socio-economic profiles is prescribed in the document, however long-term demographic projections with geographic disaggregation are not prescribed.	The SDF and Nodal Review provides differentiation between inner city core, general urban zone, and sub-urban zone, which fits the requirement above.	All spatial plans of the undergo extensive community and stakeholder engagements as legislated y SPLUMA Act and Development Planning spatial plans formulation guidelines. Furthermore, the urban frameworks generally Promote collaboration across jurisdictions and actors and set out clear lines of collaboration with other relevant stakeholder to ensure implementation of design frameworks.	The city has developed a register for all erven within the municipality, has a property tax base, tables, and publishes city expenditure and local infrastructure and transfers. The city has local revenue generation mechanisms and has access to receive credit. Thus, the city fulfils the description of this guidelines as stipulated in table 9 section 4.1	The spatial and urban frameworks of the city make provision for future growth and fulfil the description of this guidelines as stipulated in table 9 section 5.1

1.2 Structure basic classification of land governments and local authorities	2.2 Establish a legal basis for the urban plan and distinguish public space from buildable urban land	3.2 Plan and define the urban area as well as agricultural and natural protection areas.	4.2 local authorities to design and implement a more inclusive, sustainable, equitable local financial and economic framework to operationalize municipal finance principles	5.2 Urban infills and retrofitting to counter segregation and dereliction
CITY OF JOBURG PERFORMANCE CRITERIA				
	The City adopts all urban frameworks, and precinct plan through council processes, which makes the plans legal documents as per SPLUMA regulations.	The spatial urban frameworks and plans of the city that have been developed post 2016 fulfil the description of this guidelines as stipulated in table 9 section 3.3	The city has not yet developed an economic framework which fulfils the guidelines as stipulated in table 9 section 4.2	Urban infills have been done by the city, however most of the infill has not occurred in desirable locations as stipulated by the guidelines and description in table 9 5.2
1.3 Define the roles and jurisdictional responsibilities of subnational	2.3 Strengthening the capacity and ensure appropriate fiscal, political and administrative decentralization based on the principle of Subsidiarity	3.3 Define connectivity and the quantity and quality of urban space including the structuring layout of streets, blocks, and plots.	4.3 Inclusive Local Economic Development	5.3 Instruments for capturing public benefit of public investment
CITY OF JOBURG PERFORMANCE CRITERIA				

Roles and responsibilities of all spheres of government are prescribed in the implementation plan	The City's fiscal, political, and administrative processes are decentralised; however, they are not functioning optimally.	The spatial urban frameworks and plans of the city that have been developed post 2016 fulfil the description of this guidelines as stipulated in table 9 section 3.3	The city has not yet developed an economic framework which fulfils the guidelines as stipulated in table 9 section 4.2	The city has not yet developed an economic framework which fulfils the guidelines as stipulated in table 9 section 5.3
1.4 Integrate national development plans with urban plans (e.g., energy, water, transportation and other infrastructural corridors)	2.4 Develop equitable legal instruments to capture and share increased land and property value	3.4 Promote sustainable density and mixed use to attain the economies of agglomeration.	4.4 local authorities design and implement systems that ensure social, economic, and safe physical access to quality basic services by all, and local economic development platforms that support community led initiatives in service delivery.	5.4 Support to community- led groups
CITY OF JOBURG PERFORMANCE CRITERIA				
The IUDF prescribes alignment with other sectoral plans, barring the exclusion of environment in the policy lever	Not yet developed by the city	The spatial urban frameworks and plans of the city that have been developed post 2016 fulfil the description of this guidelines as stipulated in table 9 section 3.4	The city has developed systems to some extent, but not as extensive as prescribed by the description in table 9 section 4.4	Th city does interact and extensively engage community led groups in development and implementation of projects.
1.5 Adopt a framework to reduce urban and territorial disparities within and among lagging regions	2.5 Establish national minimum standards for universal access to basic services reflecting the right to an adequate livelihood and above and beyond these minimum standards allowing for subnational variation according to need and situation	3.5 Make effective use of urban design to provide liveable spaces, walkability, and a sense of place.	4.5 local authorities understand and adapt their respective economic development policies, mechanisms and financing models to help promote access to a wide range of affordable housing options including rental and cooperative and forms of	5.5 Provide integrated, efficient and equitable urban service frameworks, particularly in unplanned, built urban areas

			tenure as well as incremental building and upgrading	
CITY OF JOBURG PERFORMANCE CRITERIA				
The IUDF prescribes strategies to meet this requirement in the document and implementation plan	Although the Agenda states this a function of national government, the city, through the nodal review, has developed urban and built form codes for all its settlements	The spatial plans of the city fulfil the description of this guidelines as stipulated in table 9 section 3.5	The city has some of the systems. However, not as extensive as prescribed by the description in table 9 section 4.5	The city fulfils the description of this guidelines as stipulated in table 9 section 4.5. However, the rate of implementation and roll out is often slow and highly politized which slows the rate of delivery.
1.6 Promote jurisdictional coordination and coherence	2.6 Establish impact assessment, monitoring, inspection, correction, and enforcement tools	3.6 Protect and preserve natural resources and cultural heritage.		
CITY OF JOBURG PERFORMANCE CRITERIA				
The IUDF makes provision and encourages horizontal coordination of policies and plans across jurisdictions for the efficient, equitable and affordable delivery of basic services and infrastructure, according to an agreed set of standards	The city has not established concrete clear impact assessment, monitoring and correction enforcement tools for the SDF, Nodal Review, and Inclusionary Housing Policy, which are some of the main urban planning frameworks proposed to address the urban challenges of the city.	The spatial urban frameworks and plans of the city that have been developed post 2016 promote the protection and preservation of natural and cultural heritage. However, enforcement and on the ground realities, don't always adhere to stipulated policy proposals.		
	2.7- Recognize and regulate urban development, i.e. buildability rights	3.7 Promote housing as an integrating element of urban planning.		

CITY OF JOBURG PERFORMANCE CRITERIA				
	The city does recognise and regulate urban development through the SDF and Land Use Scheme to fairly balance burdens and benefits for residents.	The spatial plans of the city fulfil the description of this guidelines as stipulated in table 9 section 3.7		
	2.8 Enact effective law for the definition, acquisition, and protection of public space	3.8 Promote adequate amounts of urban space for a variety of economic activities.		
CITY OF JOBURG PERFORMANCE CRITERIA				
	The city has not enacted an effective law as prescribed by this guideline and stipulated in the description of table 9 section 2.8	The spatial plans of the city fulfil the description of this guidelines as stipulated in table 9 section 3.8		

CHAPTER SEVEN: FINAL CONCLUSION AND RECOMMENDATIONS

7.1 INTRODUCTION

This dissertation aimed to establish whether there are any feasible strategies and policy guidelines the Habitat III New Urban Agenda can provide to reduce the urbanisation crisis and promote sustainable urban development in the City of Johannesburg. Upon this key aim, the study posed a research question that sought to examine in what ways and to what extent the Habitat Policy Agenda could assist in addressing the urban planning challenges experienced in the City of Johannesburg.

7.2 SUMMARY OF STUDY

To unravel this aim, the research study began by defining the problem statement which, highlighted the disjuncture between the stark spatial disparities in Johannesburg and the ability of the metropolitan municipality to effectively and efficiently respond to these disparities sustainably. The problem statement also highlighted the viable concept vision developed by Johannesburg to enable a compact polycentric city that is underpinned by both international and national urban policy guidelines. This alignment points to urbanisation as a global phenomenon, and the robust intentions by the city to reduce the impacts of rapid urbanisation in Johannesburg. Against this backdrop, the research study outlined the research question and objectives which informed the formulation of chapter two, the conceptual and theoretical framework, and other chapters which follow in the dissertation.

The conceptual and theoretical framework identified various concepts and theories which placed the key variables of the study within a predefined framework of processes and practices. The chapter also provided a review of existing literature on the theories that emerged from the concepts and their approaches. The conceptual framework examined and profiled concepts including urbanisation, sustainable urban development, urban function, urban transformation, and the evolution of international urban policy. Wherein the chapter explored the definition of these concepts, where they originated from, the juxtaposed opinions of other scholars and researchers, and how these concepts manifest themselves in today's urban context. The theoretical framework took on a similar approach, profiling concepts that include cities as growth centers, the growth pole theory, compact polycentric theory, and the theory of planning.

The third chapter of the dissertation focused on the precedent studies wherein the chapter examined and evaluated various strategies and approaches implemented by cities in developed and developing countries to achieve sustainable urban development. These cities include Tokyo, New York, London, and Beijing, *inter alia*. The cities profiled in this chapter had

attained satisfactory sustainability given the urbanisation rate and urban planning challenges they have experienced. Consequently, the chapter provided a practical framework of how other cities around the world have achieved sustainable urban development, which will inform the recommendations in this chapter. The chapter also examined the strategies and approaches implemented by the city of eThekweni and Cape Town to respond to urbanisation challenges in these urban environments. This provides references and comparisons to international and localised approaches, which will inform the recommendations most applicable for the City of Johannesburg.

Chapter four outlined the design and methodology of the dissertation which proposed the case study as a research method and primarily the qualitative approach as the research philosophy. These approaches were effective as they enabled the study to conduct an in-depth and intimate analysis of the city. As evident in chapter five with the contextualisation of the city and the urban planning challenges experienced in Johannesburg. The dissertation used purposive sampling and snowballing techniques to identify the participants interviewed for empirical data collection. This provided grave insight and perspective to how municipal officials, non-governmental organisations, and civil society view the implementation of a global policy in addressing urban challenges affecting the city. Chapter six captured these sentiments extensively as probing was utilised beyond the structured interview questions. Chapter six also provided discussions on the secondary data obtained through conducting investigations on the urban challenges of Johannesburg and how the city has attempted to address the challenges thus far and a matrix tool was developed to determine the extent the City of Johannesburg has applied the principles and guidelines of the habitat agenda policy to determine what the City can further apply from the AFINUA guidelines to achieve a sustainable urban environment.

Consequently, the purpose of this chapter is to provide recommendations based on the research aims and objectives as well as the research question that was posed. These recommendations will be based on the literature review, the precedent studies, and the findings from the data analysed in the chapters preceding this one.

7.3 RECOMMENDATIONS

The analysis and findings chapters above have indicated that the City of Joburg is facing several urban planning challenges. The summary of findings and comparative analysis with the Habitat III: New Urban Agenda also indicated that various underlying issues hinder the City in successfully addressing these urban challenges and moving towards a sustainable urban environment that responds to the needs of the residents of Johannesburg. Consequently, the following recommendations are proposed to assist the City of

Johannesburg in successfully addressing its urban challenges using the New Urban Agenda Policy, *in no order of importance*: -

1. **Prioritise the four pillars of sustainability.** The literature review and precedent studies indicated that sustainable urban development can only be achieved if all four pillars of sustainability are prioritised and interlinked in the city's strategies. As such, Joburg needs to look at incorporating institutional and environmental pillars more strongly, as the plans predominately focus on the economic and social pillars.
2. **Stick to the plan.** The literature review and precedent studies analysed indicated that developed countries that were analysed by the study all had an underlying theme of a holistic, robust, and integrated strategic vision or development plan based on sustainable development principles that have been followed through and implemented over many decades as a fundamental in achieving sustainable cities. The analysis of strategies developed by the city against the AIFNUA also indicated that the city has developed a plethora of good urban policies that meet the requirements of sustainability. One can therefore recommend that the City of Joburg sticks to the plan(s) and policies they have developed and for all other spheres of government and any other developer or donor to follow the plans that have been developed by the city. As structural transformation and good urbanisation cannot happen overnight, however through the consistent implementation of one plan and one vision.
3. **Focus on strengthening municipal finance.** The analysis of strategies developed by the city against the AIFNUA indicated that the key underlying challenge to the urban planning issues of the city is an inefficient and not strong municipal finance system. It is therefore recommended that the city looks to developed instruments as prescribed by the descriptions in the sub-themes of the action implementation framework.
4. **A shift from policy development to local implementation.** It is understood that the city has developed various policies to address urban planning challenges. The report identifies a gap in the plethora of policies developed and the implementation of the said policies. It is therefore recommended that the city utilises the guidelines in the sub-theme of local implementation of the NUA to assist in directing resources from planning to implementation, to see the effects of the policies on the ground.
5. **Develop impact assessment, monitoring, inspection, correction, and enforcement tools.** The analysis of strategies developed by the city against the AIFNUA revealed that the city lacks in law enforcement of its urban rules and

regulations, and it doesn't develop inspection, monitoring, and correcting tools for the policies it develops. This is evident with the recently approved Inclusionary housing and Nodal Review policies, which are good urban policies, however, there is no enforcement tool designed to ensure developers are applying the regulations as mandated and if the policies are working as they should be. The precedent study also depicted an underlying theme of continuous monitoring and measuring of progress in transition phases with baselines studies and big data monitoring tools to ensure evidence-based planning in developed and developing cities which are performing well in terms of sustainable urban development. The report, therefore, recommends that the City develops monitoring, correction, and enforcement tools or utilises the indicators already developed as part of the NUA namely City Prosperity Indicators and SDG Indicators, should the City not have the capacity or resources to develop its own.

6. **Development of an urban ministry or altering roles and responsibilities of spheres of government concerning urban issues.** One of the major underlying challenges to addressing urban issues within the City of Joburg, is that of institutional roles and responsibilities. The City of Joburg, as a local government sphere, has no jurisdictional control over some urban issues, as they fall within the role of other spheres of government such as housing, transport, economic affairs, and the environment. This makes it difficult for the city to be proactive in responding to challenges as it needs to consult various spheres of government which is often a bureaucratic and time-consuming exercise. The New Urban Agenda advocates for local government to be the change and implementers of urban issues. Thus, the City could use this principle to advocate for an integrated urban ministry to consider urban development holistically which will be more effective to make rapid progress or for the city to have complete agency over urban issues affecting its jurisdiction.
7. **Develop local government law/regulations against the shift in the implementation of key urban policies due to political influence.** The analysis of the urban challenges indicated a major political influence challenge in addressing the urban planning issues of the City. The report, therefore, recommends local government with the assistance from the national government to pass a law that prohibits a shift of resources in implementing an urban policy that went through extensive community and stakeholder engagement process and ultimately approved as council policy, simply because a new political party took office. Should the said political party feel strongly about diverting resources to the implementation of the said urban policy, the onus is

on them to prove beyond reasonable doubt the need for reallocation of resources. This will assist the local government to be able to realise the vision of a sustainable integrated urban Johannesburg without major interference from major political influence.

- 8. A shift towards eco-centered development.** The literature review and precedent studies indicated that cities across the world are realising the importance and cost-saving benefits of environmentally sensitive development. The case for environmental sustainability is no longer a social benefit but growing to be largely an economic benefit. Consequently, cities have developed what is termed as a green economy from transforming economic sectors like tourism, transport, buildings, and development to eco-tourism, eco-friendly transport, eco-friendly energy, and smart building that use innovative technology to operate efficiently. It is therefore recommended that a world-class city such as Johannesburg should be moving toward inclusive eco-centered development and activating its green economy which may be beneficial to the large urban poor of the city and increase employment rates of the city.
- 9. Engaging all relevant stakeholders of the community innovatively to find solutions for urban planning challenges.** The NUA promotes participatory planning that engages and leaves no one affected in the city, specifically the vulnerable and underrepresented groups. The analysis chapter revealed that the City is obligated by the SPLUMA Act to conduct participatory planning, therefore this principle is fulfilled in the creation of policy documents. The report, however, recommends that the city goes a step further and conducts purposeful engagements where they (as part of project and intervention identification stages) the city releases an open call for residents to submit their solutions for the urban planning challenge being addressed. This is beneficial as the community will feel they have a right to the city and consequently take pride and upkeep infrastructure that is developed, instead of vandalising the white elephants developed by the city with no proper consultation with the people
- 10. Ring-fence development contributions to address bulk infrastructure.** The analysis of the urban challenges and the responses from the interviews conducted reveal that the city is faced with major infrastructure challenges. The report recommends that municipal capital funding should be directed towards underdeveloped areas and monies paid by developers for bulk contributions be directed to areas where the demand for infrastructure is evident, which can be seen through areas receiving the highest town planning and building plan applications. This

ring-fencing technique will ensure infrastructure efficiency in areas where developers are flocking to re-develop and will also increase the revenue base for the city which can be directed to under-developed and deprivation areas within the city.

11. Strengthen the IUDF pillars to include eco-friendly and environmental concerns as key pillars which South African cities need to focus on to achieve sustainable urban development. The responses from the interviews conducted revealed that the IUDF, as the national policy aimed at localising the New Urban Agenda, does not include a pillar that focuses on environmental issues. This is concerning as municipalities across the country are faced with challenges of environmental degradation and the effects of climate change. The analyses in chapter five also indicated that the Habitat Agenda places focus on ensuring environmental conservation and protection of municipal natural resources as a cornerstone of achieving sustainable urban development. As such, the IUDF ought to be revised to include this pillar.

12. Establishment of a Habitat III: New Urban Agenda Unit in South Africa. The responses from the interviews conducted revealed that there is a gap in translating the aims and objectives of the habitat global policy to implementers at the local level of government. Consequently, the dissertation suggests the establishment of a unit to monitor and evaluate the implementation of the Habitat Agenda across municipalities in South Africa as a method to address this gap. Alternatively, the UN-Habitat and the responsible agency of ensuring the global policy is applied in South Africa, should strengthen awareness and capacity to relevant implementers in local government.

7.4 LIMITATION OF THE STUDY

No study is completely flawless or inclusive of all possible aspects. As such, the limitation of this dissertation includes, inter alia, a limitation in the sample size. The study could have been enriched by having a wider sample size, specifically relating to representation from UN-Habitat, and civil society to better understand the efforts of these two organisations in localising the New Urban Agenda in South Africa. Additionally, in formulating the literature review, the New Urban Agenda's scientific literature was initially sparse, as it was only adopted in October 2016. However, as its scope and number of UN-published articles grew, the list of publications increased. As such, the dissertation heavily relied on publications of the UN-Habitat to understand the New Urban Agenda Policy, this created a bias as there is little peer reviewed papers to compare the contents and merits of the global urban policy. The New

Urban Agenda was adopted in October 2016, this means that the policy has been in effect for six years. Considering Covid-19, approximately two of the six years have been lost due to the pandemic and its effects in the functioning of many organisations. This reduces the ability to assess the impact of the global policy in relation to localising it to South Africa and its cities.

7.5 SUGGESTIONS FOR FURTHER RESEARCH

The scope of this dissertation focused on how the Habitat III: New Urban Agenda can assist in achieving sustainable urban development in Johannesburg. Consequently, chapters two to five have indicated that there is no simple solution or strategy to achieving sustainable urban development in cities, albeit the dissertation spared on certain aspects which should be considered for further research. Below are some suggestions scholars should note for further research.

The Habitat III New Urban Agenda policy places local authority at the forefront of urban development. However, the analysis in chapter six revealed that local authorities are not adequately capacitated to carry out this mandate. This dissertation highlighted some of the challenges and opportunities faced by local authorities in participating in Global Governance. However, there are two critical aspects that need to be considered for further research. Firstly, further research ought to be conducted on the necessary tool required for local authorities to make informed decisions while dealing with a world order based on more and less centralized states. Additionally, further research should be conducted on the increasing importance of coalitions in local government and how these groups should be able to represent the interests of the city.

Scholars should critically assess the implementation of the New Urban Agenda and its implications for the future of UN Habitat and explore the direction of shift in weights in the New Urban Agenda as it is implemented. Finally, scholars should probe into whether the New Urban Agenda will eventually give cities more influence.

7.6 FINAL CONCLUSION

As previously mentioned in the introduction, the main purpose and research question of this study was to determine *what ways and to what extent can the Habitat III: New Urban Agenda Policy address the urban challenges in the city of Johannesburg*. In answering this question, the study 1) Unpacked conceptual and theoretical themes that would make it easier to understand the two variables of the research study, 2) the study evaluated the success rate of previous Habitat Urban Agenda policies on achieving sustainable urban development

internationally to determine the precedents and what cities across the world developed to achieve sustainable urban development, 3) the study collected and analysed data relating to the NUA 21st century urbanism vision in the South African and City of Johannesburg context; and 4) explore strategies and methodologies which would ensure successful implementation of the Habitat Urban Agenda in the context of the City of Johannesburg.

The findings from undertaking the steps as outlined above revealed that in the last forty years, issues and policy directions related to housing and urban development have evolved significantly. Rapid urbanization, socio-economic stability, and more recently climate change effects, have been instrumental in shaping UN-Habitat conferences and outcomes. Global frameworks for sustainable development have also gained traction since the 1990s, following the establishment of the Brundtland Report. Arguably, UN-Habitat's aim since then has also been to promote not only environmental but socio-economic sustainability.

The evolution of policy frameworks has been evident in the conceptual and theoretical approaches over the last four decades. The Habitat III urban agenda is now more comprehensive and inclusive and is no longer just about housing policy and human settlements, but about the multitude of strategies that must come together to ensure global environmental sustainability. As I have outlined throughout this paper, policy frameworks have been substantially reworked with these aims in mind. Furthermore, given the partial implementation of past Habitat Agendas, there is now a notable recognition that the New Urban Agenda needs to move beyond technical and technocratic recommendations and acknowledge the importance of political considerations for the successful implementation of Habitat goals.

In this regard, public participation, collaboration, and co-creation are crucial to ensure institutional accountability and, in turn, greater equality and access. As such, the analysis of urban challenges of the city concerning the proposed commitments of the Habitat Agenda revealed that the urban planning challenges of the City of Joburg are deeply entrenched in colonial and apartheid spatial planning. The effects of planning systems that existed centuries ago are still deeply rooted in the structure and urban form of South African cities. This together with rapid urbanisation that has plagued African cities, causes immense pressure on local governments to shift the narrative of urbanisation to effectively utilising the good it comes with to create sustainable urban areas.

Albeit the city has employed various strategies and policies to move forward from an unjust exclusive spatial planning system to a more integrated, inclusive, and sustainable planning system. The study revealed that some key hindrances are prohibiting the city from successfully

achieving this vision, these include political influence and interference, disintegrated institutional framework both internal and with the other three spheres of government, development of a plethora of policies with no implementation of plans, an inefficient and poorly performing urban economy and municipal finance systems as well as a lack of enforcement/enactment of urban rules and regulations.

The matrix thematic analysis of the urban planning challenges against the proposed guidelines and pillars of the Action Implementation Framework for the New Urban Agenda highlighted the key gaps, the City of Johannesburg, should focus on to move towards creating sustainable urban development. Consequently, to answer the research question the AIFNUA matrix tool findings provide guidance and direction in terms of how the NUA can assist the City of Johannesburg in addressing its urban planning challenges.

The City of Joburg has a richly diverse population asset with brilliant skills and expertise greater than other cities in the country. Additionally, the city has young people as the major population group. As such, the city should also look to its constituents, community member, NGOs, and all other relevant stakeholders to seek solutions from the people that live in the City of Johannesburg. The NUA advocates for the involvement of the community, private sector, and civil society in developing and implementing plans. The city can go one step further and intentionally seek urban planning solutions from its residents as they experience the day-to-day effects of bad urbanisation. In conclusion, the study has provided tangible evidence, through various datasets, that the Habitat III Policy Agenda has a significant role in addressing the urban planning challenges faced by the City of Johannesburg.

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ANNEXURE 1: SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participants 1

Place of Interview: Microsoft Teams

Date of Interview: 31 August 2020

Duration of the Interview: 30 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Officer

Role: Strategic Urban Planner

Department: Development Planning

Directorate: City Transformation and Spatial Planning

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the	x		Urban Sprawl, Aging Infrastructure, Resistance to modern standard of living by some communities which results in the perpetuation of low densities, lack of funding to

municipality? If yes, please state			implement projects which perpetuates spatial inequality in the city.
<p>South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF)</p> <p>Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state</p>			<p>The city understands the New Urban Agenda as being implemented through the Integrated Urban Development Framework (IUDF) in South Africa. The IUDF has nine (9) policy levers that all seek to birth the narrative of inclusive, efficient, and sustainable urban development for all residents of a particular municipality.</p> <p>The IUDF has tools and indicators that are required to be implemented in the local level to bring about spatial change. These tools are long term but the City of Joburg has already implemented some of them on a policy development level through the City's Spatial Development Framework spatial concept, the Nodal review, draft green buildings policy and Inclusionary housing policy. Which all aim to inverse the inefficient spatial structure of the city, promote inclusivity of all social classes and income groups and increase effective densification in the city. All to develop a sustainable Johannesburg.</p>
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?	X		<p>As mentioned above the city has implemented the Habitat Agenda Policy through the IUDF produced by COGTA as an implementation tool to the NUA. As such the City the city has made strides in developing policies that are inclusive, participated, and seek to inverse the spatial injustices of the past using compact polycentric models of development to create liveable and sufficient habitats in the City.</p> <p>This has been done through the policy instruments mentioned above as well as other on the ground projects such as the BRT, housing models, installing of infrastructure, and improving non-motorised transport infrastructure throughout parts of the City.</p>
What has been the main obstacle to translating the			The lack of alignment with other spheres of government. Whereby the

habitat agenda policy at the local level?			three spheres are operating in silos which result in no actual projects being implemented. Secondly, national, and provincial government do not stick to the integrated plans of the local municipality when they bring development, specifically housing development. This in turn exacerbates sprawl and location of people in areas that are not well located and or serviced.
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			National and provincial government should be developing instruments to enable a conducive environment for development in a compact and sustainable manner. They should provide municipalities with frameworks that encourage local government to shift its development course. For instance, I believe the Inclusionary housing policy developed by the city, should have come from National government and municipalities adopt it in context with their environment. Instruments such as these should be developed by national and provincial, amongst other things.
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies?			Increase in town planning and building applications by developers and private sector in response to the adopted/developed policy.

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participants 2

Place of Interview: Microsoft Teams

Date of Interview: 3 September 2020

Duration of the Interview: 15 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details:

Name: Lemohang Cindi

Position: Specialist

Role: Urban Designer and Architect

Department: Development Planning

Directorate: City Transformation and Spatial Planning

Would you like your identity to be anonymous? Yes or **No**

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	x		Synergising interdepartmental policies, Appropriate allocation of budgets Lack of tools to enable Understanding and Translation of policies to the public as well as civil society
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban			Not aware of the Habitat Agenda Policy.

Development Framework (IUDF) Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state			
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?			Has no prior knowledge to habitat agenda policy thus difficult to respond accurately to the implementation in the city.
What has been the main obstacle to translating the habitat agenda policy at the local level?			Has no prior knowledge to habitat agenda policy thus difficult to respond accurately to the implementation in the city
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			Has no prior knowledge to habitat agenda policy thus difficult to respond accurately to the implementation in the city
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies?			<p>There are a number of reliable indicators for evaluating if a plan or policy has been correctly applied in the ground, in relation to urban design and architecture, these include: -</p> <ol style="list-style-type: none"> 1) An increase in the urban fabric of the relevant precinct 2) Activate ground floors that contribute to urban surveillance in the precinct 3) Complete streets and precincts that function as a whole 4) Permeability and accessibility of local areas; and 5) Prioritisation of pedestrians and non-motorised transport across the city

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participants 3

Place of Interview: Microsoft Teams

Date of Interview: 7 September 2020

Duration of the Interview: 25 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details:

Name: Anonymous

Position: Officer: Strategic Urban Planner

Role: Provide spatial policy direction, policy development and amendment as well as project implementation

Department: Development Planning

Directorate: City Transformation and Spatial Planning

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	<input type="checkbox"/>		<p>The first broad challenge is imitating the effects and implications of the apartheid city form. The attempt to restitch the city to be more inclusive and a just city is challenging.</p> <p>Transformative action is always accompanied by strong opposing forces that prefer and advocate for the status quo.</p> <p>Spatial planning is also used as a political instrument and the change of</p>

			<p>administration typically affects the already existing plans and objectives.</p> <p>The City's Spatial Planning is interlinked with various other elements like international agenda, financing, political climate, urban management, and the people.</p>
<p>South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF)</p> <p>Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state</p>	□		<p>Yes, as the most urbanised metropolitan cities in SA, the City of Johannesburg understands the Habitat Agency Policy and New Urban Agenda and its importance in managing the growth, environmental concerns, and energy crisis. Cities consume the most energy and produce the most emission, thus this puts that much pressure for Johannesburg to act in a sustainable manner in guiding development and addressing socio-economic disparities.</p>
<p>Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?</p>	□		<p>Partially, indirectly. While I do not think the New Urban Agenda is a tool that is utilised to its optimal capacity at COJ. I still think the generally the strategic direction and the way in which the city promotes growth is aligned to the aims of the New Urban agenda in this way:</p> <ul style="list-style-type: none"> - Urban equity and eradicating poverty: COJ attempts to prioritises areas where the most deprived populations are centred, in terms of infrastructure. However, there is a need for more ongoing programmes need to address economic constrains - Inclusivity: the recently approved Inclusionary Housing policy represents a stab at building stronger inclusivity across the city through housing delivery. - Ecological resilience: the city has a firm position on the urban development boundary and tries to ensure that

			<p>development takes place in priority zones</p> <p>While the above points highlight areas the city focuses on, aspects like food security are still lagging.</p>
What has been the main obstacle to translating the habitat agenda policy at the local level?			<p>-political influence often gets in the way of executing plans to their full capacity</p> <p>-poor understanding as to how best it can be applied in the local context</p> <p>- generally international agendas and commitments often seen too farfetched and are not communicated adequately at a local level where all the action takes place</p>
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			<ul style="list-style-type: none"> - Building stronger awareness and workshop sessions - Tracking and regular assessors of the overall strategic direction to ensure that a similar language of understanding is consistent, particularly when there are political shifts in administration
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of particular policies?			<p>There are not enough tools to assess the work that municipalities do. More assessment tools are needed to assess the following:</p> <p>-the usefulness of infrastructure development</p> <p>-the well-being of children, as one of the most vulnerable groups in society they are most prone to reflect any meaningful change. Well-being is a critical aspect as its whole encompassed, but it is not understood or unpacked enough. Any policy or development project typically comes down to creating meaningful well-being for the city, businesses, and people therefore more effort is required to find ways of assessing it in contrast to the efforts made by policy and projects.</p>



SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 4

Place of Interview: Microsoft Teams

Date of Interview: 7 September 2020

Duration of the Interview: 25 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Zamokuhle Zwane

Position: Officer

Role: Strategic Urban Planner

Department: Development Planning

Directorate: City Transformation and Spatial Planning

Would you like your identity to be anonymous? Yes or **No**

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning challenges experienced by the municipality? If yes, please state	Yes		<ul style="list-style-type: none">• Continuous urban sprawl through new development both by provincial department, developers, and growing communities.• Aging infrastructure• Inner City Decay• Incoherent public transport system

<p>South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF)</p> <p>Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state</p>	Yes		<p>The City's spatial principles do take cognisance and address aims of the IUDF. The SDF broadly aligns with the IUDF</p>
<p>Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?</p>	Yes		<p>The city has adopted policies such as Inclusionary Housing, which forces developers to consider developing affordable units to accommodate people who otherwise wouldn't afford to live in those developments. The Nodal Review Policy was adopted in an attempt to densify the city and hopefully bring people closer to job opportunities, good infrastructure, facilities and amenities.</p>
<p>What has been the main obstacle to translating the habitat agenda policy at the local level?</p>			<ul style="list-style-type: none"> • Difficulty in translating the broad aims into tangible outcomes • Limited project funds • Lack of project implementation
<p>In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?</p>			<ul style="list-style-type: none"> • Higher levels of government should provide funding for projects aimed at implementing the agenda goals. • They should also provide assistance by providing resources and capacity that local municipalities require in order to implement projects. • They should simplify processes that hinder development.
<p>In your opinion, what are the most relevant indicators at a local level for judging the</p>			<ul style="list-style-type: none"> • Development application statistics in the study area

effectiveness of particular policies?			<ul style="list-style-type: none"> • Rate of policy translation into projects • Alignment with budget • Is the policy implementable and how easy is that? • Enforceability and applicability
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SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Place of Interview: Zoom

Duration of the Interview: 25 Minutes

Name of Interviewee: Participant 5

Date of Interview: 11 September 2020

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Senior Specialist

Role: Environmentalist

Department: Environment and Infrastructure Service Department (EISD)

Directorate: Environment and Planning

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	X		<p>There are various urban planning challenges experienced by the city. Most of them are detailed in the City's SDF and include urban sprawl, urbanisation, low densities, limited infrastructure, and inversed disjuncture spatial structure as a result of apartheid planning.</p> <p>From an environmental point of view the challenges that exist in the city include degradation of natural assets, failure to protect ecological assets of the city and placing economic development before environmental conservation, flooding as a result of infrastructure failures, air pollution, and overall climate change effects.</p>
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF)	X		<p>As a representative and official of the municipality responsible for environmental planning, I am aware of the IUDF, but not the Habitat Agenda Policy. In the IUDF there are nine policy levers that speak to the overall vision of ensuring cities grow in a manner that is inclusive, are spatially integrated, resource efficient and well governed.</p>

Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state			This is all good and well for the development agenda, but the IUDF does not make any reference to ensuring the protection and conservation of ecological assets of the environment at large as a policy lever on its own. This is to the detriment of the traditional sectors required to ensuring sustainable urban development.
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?			No prior knowledge of the Habitat Agenda, if it is implemented through the IUDF, then I would say no.
What has been the main obstacle to translating the habitat agenda policy at the local level?			No prior knowledge to Habitat Agenda Policy
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			No prior knowledge to Habitat Agenda Policy, however if the country has committed to this agenda, similar to other agreements such as Paris Agreement, Carbon reduction agreement etc, then the national government should capacitate local implementers to the content of the commitments.
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies to the outcomes of your respective field?			<ol style="list-style-type: none"> 1) Developments having zero to little environmental degradation 2) Conservation and protection of ecological asset of the city in precincts/developments that house critical biodiversity areas 3)



SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Place of Interview: Google Meetings

Duration of the Interview: 30 Minutes

Name of Interviewee: Participant 6

Date of Interview: 15 September 2020

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Lecturer

Institution: University of Pretoria

Department: Town and Regional Planning Department (EBIT)

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from the knowledge sector responsible for urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	Yes		From face value, Johannesburg has various urban challenges that are not only unique to the municipality. This includes vast informality, spatial inequality, urban poverty and rapidly increase population at a faster rate than economic and urban development.
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF) In your opinion, does the municipality understand the Habitat Agenda Policy and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state	Yes		I believe the municipality does understand the Habitat Agenda Policy and its principles. This is evident in the recent policy developments of the city and the principles of inclusivity, energy conversation, mixed use and compact nature of development encompassed in the plans and policies. These are at the core of the Habitat Agenda Policy.
Has the municipality implemented the aims and commitments of the Habitat	Yes		To an extent, the municipality has implemented the principles of the agenda, as mentioned above. The

III: New Urban Agenda? If yes, to what extent?			habitat agenda policy was adopted in 2016 and only recently refined and detailed in terms of its implementation framework in 2018. Thus, it may be too early to expect municipalities across the country to have implemented the policy to great extents.
What has been the main obstacle to translating the habitat agenda policy at the local level?			I believe the lack of awareness and prioritisation of the agreement from national government is a contributing factor. Similarly, the organisation responsible for local government, SALGA, has seemingly not been advocating and creating a sense of urgency for the implementation of the agenda's principles and aims.
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			National and provincial government should be developing national urban policies that provide guidance to the urban development discourse in the country. The two spheres of government should also be enabling funding mechanism to implement capital projects of cities and municipalities
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies to the outcomes of your respective field?			Various institutions have developed relevant indicators to measure urban development. The agenda specifically uses the indicators of the Sustainable Development Goals to assist in its monitoring and evaluation.



SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M.S Chemane

Name of Interviewee: Participant 7

Place of Interview: Microsoft Teams

Date of Interview: 16 September 2020

Duration of the Interview: 20 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Lwazi Sikiti

Position: Development Co-ordinator

Role: Development Co-ordinator

Department: Johannesburg Development Agency

Directorate: Planning and Co-ordination

Would you like your identity to be anonymous? Yes or **No**

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	Yes		There are quite a number of strategic and spatial challenges faced by the city. These include a) An influx of people that have not been planned for into the city. b) A sprawling city due to development that is not aligned to the city's strategic plans c) Lack of resources from the city d) Poor city governance which hinders development on the ground.
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF) Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If	Yes		From the perspective of a JDA representative, which is an entity of the City, I would say the City is aware and understands the Habitat Agenda Policy. This is rooted from the principles which guide newer policies such as the SDF and Nodal review which advocate for a similar urban environment as proposed by the Habitat agenda policy.

yes, please state			
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?	Yes		I believe the municipality has implemented in terms of policy, as stated above. I think it still would be too early to provide the assessment from on the ground implementation as the Habitat Agenda in itself is a new global policy and the city policies are also quite fairly new, in terms of the Nodal Review and Inclusionary housing.
What has been the main obstacle to translating the habitat agenda policy at the local level?			Not aware
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			National and Provincial government should solely be providing funding to local level of government to implement their localised plans as agreed upon through participation processes.
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies to the outcomes of your respective field?			<p>The most relevant indicators the JDA uses to assess project success include: -</p> <ul style="list-style-type: none"> No fight back from community members when breaking ground begins which indicates a successful community and stakeholder engagement process; and a) Alignment of approved plans and implemented projects; and

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M.S Chemane

Name of Interviewee: Participant 8

Place of Interview: Microsoft Teams

Date of Interview: 18 September 2020

Duration of the Interview: 20 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Senior Specialist

Role: Land Use planning

Department: Development Planning

Directorate: Land use management

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	Yes		The urban planning challenges experienced by the city include 1) a job housing mismatch, 2) spatial disconnection due to past unjust planning practises, 3) limited densities to accommodating the growing number of people moving to our city, 4) a failing economy and 5) poor governance that is derailed by various political agendas.
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the	Yes		Not aware of the New Urban Agenda Policy

Integrated Urban Development Framework (IUDF) Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state			
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?			Not aware of the New Urban Agenda Policy
What has been the main obstacle to translating the habitat agenda policy at the local level?			Not aware of the New Urban Agenda Policy
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			Not aware of the New Urban Agenda Policy. However, as a land use planner where I mostly deal with implementing policies and Acts, provincial and national government should be in a position where they provide strategic direction to issues of economic and land related disputes.
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies to the outcomes of your respective field?			Minimal objections to developments, increased town planning applications, increased building plan applications, good urban management, and accountability from community members.

Name of Interviewer: M. S Chemane

Name of Interviewee: Participants 9

Place of Interview: Microsoft Teams

Date of Interview: 28 September 2020

Duration of the Interview: 30 minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details:

Name: Dylan Weakley

Position: Senior Specialist: Strategic Urban planner

Role: Strategic Spatial Planning

Department: Development Planning

Directorate: City Transformation and Spatial Planning

Would you like your identity to be anonymous? Yes or **No**

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a City of Joburg official responsible for an aspect of urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	Yes		Here are very many challenges faced by the City in terms of planning. These include, but are not limited to: <ul style="list-style-type: none">• Limited alignment between spheres of government• Limited alignment between different departments and entities within the City• Socio-economic challenges in our society (inequality, unemployment, poverty, housing backlogs)• Spatial challenges we face (job housing mismatch, segregation from apartheid planning, uneven distribution of resources, amenities, and infrastructure)• Limited resources
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims	Yes		The new urban agenda is referenced in the Nodal Review, which (along with the SDF) emulates many of the goals of the New Urban Agenda,

<p>and commitments to achieve sustainable urban development through the Integrated Urban Development Framework (IUDF)</p> <p>Does the municipality understand the Habitat Agenda Policy or IUDF and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state</p>			<p>including compaction, mixing of land uses, densification, increasing walkability, increasing use of public transport, transit-oriented development, promotion of non-motorised transit, promoting efficient use of infrastructure, promoting equality and integration, and promoting environmental sustainability, and effective green and public open space.</p>
<p>Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?</p>	Yes		<p>This is ongoing and, as with any city development, is slow, however the city is continually implementing the SDF 2040, which is well aligned, I believe, to the new urban agenda.</p>
<p>What has been the main obstacle to translating the habitat agenda policy at the local level?</p>			<p>It is difficult to tie down a main problem, but I think that the socio-economic realities in South Africa (mentioned above) and the lack of economic growth, or growth of jobs, severely limits the ability of Johannesburg to evolve into a more liveable and equitable city.</p>
<p>In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?</p>			<p>They should provide coordination between lower levels, or spheres of government, should provide funding and enabling legislation, and should of course continue to perform their direct roles as defined in the roles and responsibilities of different spheres of government in the constitution.</p>
<p>In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of particular policies?</p>			<p>I believe that tests of change in quality of life are the most important. This is monitored in various surveys, with an example in Gauteng being the Gauteng City Region Observatory's Quality of Life Survey, which is conducted every two years.</p>

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 10

Place of Interview: Zoom Meetings

Date of Interview: 30 September 2020

Duration of the Interview: 30 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in addressing urban planning challenges experienced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Development Strategist

Institution: UN Habitat: South African Headquarters

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from the knowledge sector responsible for urban development planning.

QUESTION	COMMENTS
What determines the 'readiness' of a city or town to successfully adopt the agenda?	There is no 'readiness' criteria which is applied to local municipalities across the world. The New Urban Agenda is centred on the notion that cities can change the narrative of urbanisation and steer it to a direction that is advantageous and beneficial for its residents. This in itself translates itself to any city and country can apply the principles of the agenda to effect change in the discourse of sustainable urban development. The one merit I can think of is becoming a member state and signatory to the international agreement. Sure, there are more countries that are economically and socially better suited to implement the principles and

	see the vision through much more rapidly than other poor and poverty ridden countries.
What can be done to make the Habitat Agenda more country or locally specific and relevant?	The New Urban Agenda is premised on five key principles. One of the principles is 'National Urban Policies', under this principle member states are encouraged to develop national urban policy that is country and or locally specific to steer the direction of urban development for the local municipalities and cities. The New Urban agenda was developed similarly to other international agreements that still require localisation to respond to the challenges specific to the country.
How can the internationally agreed agenda commitments inform local, participatory urban governance and development to promote effective urban planning measures?	The agenda encourages co-creation, co-collaboration and co-design of all urban frameworks and urban projects that is to be developed by the local municipalities. It stipulates that's community participation should be at the centre and core of urban development to ensure the plans reflect and respond to the realities of those living in the spaces.
What should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?	National government should ideally be creating a conducive environment for sustainable urban development to take place. This can be done through a sound policy and legal framework, leveraging support to local municipalities in terms of capacity building and resources to enact the policy and strategically ensuring the principles of the urban policy are upheld in statutory urban frameworks of the country, as the agenda itself is not a mandatory policy.

<p>In your opinion, what mechanisms and channels, both official and un-official, are most effective in promoting and monitoring the implementation of the Habitat Agenda commitments at all levels?</p>	<p>The various indicators that have been developed to monitor the implementation such as City Prosperity Indicators (CPI), Action Framework for Implementing the New Urban Agenda (AFINUA) and the Sustainable Development Goals (SDGs).</p>
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SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 11

Place of Interview: Zoom Meetings

Date of Interview: 30 September 2020

Duration of the Interview: 30 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in addressing urban planning challenges experienced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Development Strategist

Institution: UN Habitat: South African Headquarters

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from the knowledge sector responsible for urban development planning.

QUESTION	COMMENTS
What determines the 'readiness' of a city or town to successfully adopt the agenda?	<p>There is no 'readiness' criteria which is applied to local municipalities across the world. The New Urban Agenda is centred on the notion that cities can change the narrative of urbanisation and steer it to a direction that is advantageous and beneficial for its residents. This in itself translates itself to any city and country can apply the principles of the agenda to effect change in the discourse of sustainable urban development.</p> <p>The one merit I can think of is becoming a member state and signatory to the international agreement. Sure, there are more countries that are economically and socially better suited to implement the principles and see the vision through much more rapidly than other poor and poverty ridden countries.</p>

<p>What can be done to make the Habitat Agenda more country or locally specific and relevant?</p>	<p>The New Urban Agenda is premised on five key principles. One of the principles is 'National Urban Policies', under this principle member states are encouraged to develop national urban policy that is country and or locally specific to steer the direction of urban development for the local municipalities and cities. The New Urban agenda was developed similarly to other international agreements that still require localisation to respond to the challenges specific to the country.</p>
<p>How can the internationally agreed agenda commitments inform local, participatory urban governance and development to promote effective urban planning measures?</p>	<p>The agenda encourages co-creation, co-collaboration and co-design of all urban frameworks and urban projects that is to be developed by the local municipalities. It stipulates that's community participation should be at the centre and core of urban development to ensure the plans reflect and respond to the realities of those living in the spaces.</p>
<p>What should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?</p>	<p>National government should ideally be creating a conducive environment for sustainable urban development to take place. This can be done through a sound policy and legal framework, leveraging support to local municipalities in terms of capacity building and resources to enact the policy and strategically ensuring the principles of the urban policy are upheld in statutory urban frameworks of the country, as the agenda itself is not a mandatory policy.</p>
<p>In your opinion, what mechanisms and channels, both official and un-official, are most effective in promoting and monitoring the implementation of the Habitat Agenda commitments at all levels?</p>	<p>The various indicators that have been developed to monitor the implementation such as City Prosperity Indicators (CPI), Action Framework for Implementing the New Urban Agenda (AFINUA) and the Sustainable Development Goals (SDGs).</p>

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 12

Place of Interview: Microsoft Teams

Date of Interview: 6 October 2020

Duration of the Interview: 30 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Dinilesizwe Gudlindlovu

Position: Project Development Co-ordinator

Institution: NPC (Violence Prevention through Urban Upgrading)

Would you like your identity to be anonymous? Yes or **No**

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from civil society responsible for urban development planning.

QUESTION	YES	NO	COMMENTS
<p>The municipality has recently committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development.</p> <p>Does your organisation understand the Habitat Agenda Policy and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is</p>	Yes		<p>I work for a non-profit company whose aim is to prevent the surge of violence in communities through the basic but difficult act of urban upgrading. Our methodologies of in-depth community participation, co-creation and co-design with communities is directly aligned to the principles of the Habitat III: New Urban Agenda.</p> <p>Therefore, the long and short of the response is that yes, our organisation understands the role of the urban agenda in designing sustainable urban communities.</p>

widespread? If yes, please state how			
In your opinion, what are the specific roles of civil society, Non-Government Organisation, and the private sector in the effective implementation of the New Urban Agenda to address the challenges faced by urban dwellers?			The role of civil society and private sector is really simple actually. Ours is to follow the strategic urban direction provided by local municipalities in the various urban development frameworks and not be counter-productive to the global narrative of inclusive and sustainable urban development.
How can the Habitat Agenda be used to add pressure 'from below' by civil society for progressive policies and legislation in the area of urban governance and urban transformation?	Yes		As the civil society we have a mandate and responsibility to hold government accountable for inaction or deviation from what has been collectively agreed upon. Since the habitat Agenda policy has no legal enforcement in countries, I do not think it can be of assistance in monitoring urban governance. Our role as representative various originations need to keep all parties accountable in this course of action.
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies			Capital Project implementation and optimal use/function of those projects, booming urban economy that factors in informal economy and responds to its needs, and inclusion of the most vulnerable groups in the society.

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 13

Place of Interview: Google Meetings

Date of Interview: 9 October 2020

Duration of the Interview: 25 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Lecturer

Institution: Wits University

Department: Urban Planning and Architecture

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from the knowledge sector responsible for urban development planning.

QUESTION	YES	NO	COMMENTS
Are there any urban planning (strategic and spatial planning) challenges experienced by the municipality? If yes, please state	X		Strategic and spatial planning challenges experienced by the city include a depreciating urban economy, non-alignment of capital spending by entities of the city, inequalities, and marginalisation of the urban poor, la of affordable urban housing and spatial disintegration.
South Africa has committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development through the	X		I cannot comment on the proceedings of the city with certainty; however, I believe the City is aware of the policy and its role in shifting the paradigm of good urbanisation. This is actually detailed in the Spatial Development Framework 2040 and

Integrated Urban Development Framework (IUDF) In your opinion, does the municipality understand the Habitat Agenda Policy and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state			<p>the recently approved nodal review policy. Both policies uphold the principles of densification, mixed use, inclusivity, and integration which is stipulated as core principles in the Habitat Agenda Policy.</p>
Has the municipality implemented the aims and commitments of the Habitat III: New Urban Agenda? If yes, to what extent?	Yes		<p>The city has implemented some principles of the agenda.</p>
What has been the main obstacle to translating the habitat agenda policy at the local level?			<p>Again, I cannot comment with certainty the exact hinderances, however, from an academic observation it seems the lack of institutionalisation of the agenda from the national and legal framework is hindering the full potential of implementing the agenda.</p>
In your opinion, what should be the role of higher levels of government in facilitating the localisation of the Habitat Agenda in the context of growing decentralisation?			<p>Higher spheres of government should enforce and provide strategic and spatial direction to the urban development and reinforce the importance of urban areas in an increasingly urbanising world.</p>
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies			<p>Implementation of capital projects derived from the policies, Response from private sector and developers in line with the said policy,</p>

SEMI-STRUCTURED INTERVIEW

Name of Interviewer: M. S Chemane

Name of Interviewee: Participant 14

Place of Interview: Zoom Meetings

Date of Interview: 15 October 2020

Duration of the Interview: 20 Minutes

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Purpose of Interview: The purpose of conducting this interview is to gather valid and reliable data on the ability of the Habitat III: New Urban Agenda Policy to assist in address urban planning challenges faced by the City of Johannesburg.

Interviewee Details

Name: Anonymous

Position: Urban Designer and community engagement specialist

Institution: NGO (Sonke Gender Justice)

Would you like your identity to be anonymous? **Yes** or No

The table below indicates the key themes the study is focusing on, to determine how the Habitat III: New Urban Agenda can be utilised to address urban planning challenges in the City of Joburg. Kindly detail your response as a representative from civil society responsible for urban development planning.

QUESTION	YES	NO	COMMENTS
The municipality has recently committed to translating the Habitat Agenda Policy (Habitat III: New Urban Agenda) aims and commitments to achieve sustainable urban development.		X	Not aware of the Policy

Does your organisation understand the Habitat Agenda Policy and its role in addressing urban planning challenges at a local level, where urbanisation and urban poverty is widespread? If yes, please state how			
In your opinion, what are the specific roles of civil society, Non-Government Organisation, and the private sector in the effective implementation of the New Urban Agenda to address the challenges faced by urban dwellers?			<p>Not aware of the policy, however in any urban development framework, civil society, NGOs, and the private sector have an important role to play in ensuring expectation of our constituents are upheld, represented and ultimately the needs responded to.</p> <p>Civil society and private sector can boldly be termed as watchdogs and innovators, respectively. As such, sustainable urban development can not only be brought by local government alone but as watchdogs and innovators we have a vital role to play in the development scene.</p>
How can the Habitat Agenda be used to add pressure 'from below' by civil society for progressive policies and legislation in the area of urban governance and urban transformation?			Not aware of the policy
In your opinion, what are the most relevant indicators at a local level for assessing the effectiveness of strategic and spatial policies			<p>As an urban designer, there are a plethora of indicators utilised in our field to measure good and bad urban forms. The most recent set of indicators and very effective has been the quality-of-life surveys and indicators developed by the GCRO.</p>

ANNEXURE 2: Summarised AIFNUA Implementation Guidelines

Table 9: Summarised AIFNUA implementation guidelines

NATIONAL URBAN POLICIES	URBAN LEGISLATION RULES AND REGULATIONS	URBAN PLANNING AND DESIGN	URBAN ECONOMY MUNICIPAL FINANCE	LOCAL IMPLEMENTATION
<i>1.1 Formulate medium- and long-term demographic projections, with geographic Disaggregation</i>	<i>2.1 Define urban land vis-à-vis non-urban land, rights, and responsibilities inherent to urban land</i>	<p><i>3.1 Set up a planning and design process that is evidence based, integrated and participatory.</i></p> <p>Define the scope of the plan and the process. Consider the participation of all the stakeholders, the vertical and horizontal integration across territories, systems, and sectors. Promote collaboration across jurisdictions and actors. Establish clear collaboration across disciplines (planning, finance, and legislation) to orient the process towards implementation.</p>	<p><i>4.1 Financial capacity of local governments</i></p> <p>Such a framework should consider the entire budgetary cycle including income, expenditures, current capital, capital investment plans, etc, link to the local financial management system and be anchored in local economic development potential including the role of local government to provide and distribute public goods and services and enhance local economic productivity</p>	<p><i>5.1 Planned city extensions at an appropriate scale financial capacity of local governments</i></p> <p>Preparedness to make room for growth where needed at multiple scales, including through planned city extensions, can ensure a sufficient supply of buildable plots, integration, and connection to existing urban fabric and access to jobs and services, avoiding the development of isolated 'bedroom' communities and fragmentation of the landscape, particularly in the peri-urban continuum.</p>
<i>1.2 Structure basic classification of land to enable the supply of urbanized and land must be sufficient to accommodate urban growth while protecting sensitive areas and avoiding uncontrolled sprawl. Affordable housing supply</i>	<i>2.2 Establish a legal basis for the urban plan and distinguish public space from buildable urban land</i>	<p><i>3.2 Plan and define the urban area as well as agricultural and natural protection areas.</i></p> <p>Translate locally the national urban policy(s) that may be in place. Project population needs and demographic changes, economic and job opportunities and natural constraints. Define urban land, agricultural land, and areas for natural protection, including</p>	<p><i>4.2 Revenue generation and financial management</i></p> <p>Increasing local revenue by improving the efficiency, transparency and accountability of revenue generating tools, mechanisms, and legal and regulatory frameworks. This can include innovative, endogenous financing instruments (such as congestions finance that can cross subsidize), land value</p>	<p><i>5.2 Urban infills and retrofitting to counter segregation and dereliction</i></p> <p>Retrofitting existing urban fabric, including by infilling, particularly of planned, low-density, sprawling areas with high per-capita rates of energy use and emissions, bringing into convergence, and improving the equity of rates of consumption</p>

		the green and blue systems, considering disaster risk management. Ensure green corridors and environmental protection of fragile areas, as well as adequate urban expansion areas. Define within the urban area, the areas for expansion, regulation, transformation. Link the local plan to regional and national plans. Locate key strategic functions and define large scale connectivity	sharing and borrowing and own-source revenue generation strategies from taxes and charges/fees.	across the urban spatial continuum
<i>1.3 Define the roles and jurisdictional responsibilities of subnational governments and local authorities based on the principle of subsidiarity and for public participation as applied to urban planning and management</i>	<i>2.3 Strengthening capacity and ensure appropriate fiscal, political and administrative decentralization based on the principle of Subsidiarity.</i> Supporting local governments in determining their own administrative and management structures legal and accountable basis for functional and fiscal devolution to subnational and local governments according to national policy.	<i>3.3 Define connectivity and the quantity and quality of urban space including the structuring layout of streets, blocks, and plots.</i> Reserve public space in adequate quantity and ensure equitable distribution in its layout. Design and define streets, blocks, and plots, creating blocks and plots in enough quantity and that support denser fabrics.	<i>4.3 Inclusive Local Economic Development</i> Helping local authorities design and implement programmes and tools that improve, inter alia, value chains/supply chains, and their links with physical landscape and layout, with a focus on SMEs, gender- and age sensitive employment opportunities, etc.	<i>5.3 Instruments for capturing public benefit of public investment</i> Creating and sharing urban value by establishing and using planning, legal and fiscal mechanisms that incentivize the use value of land and the extended socioeconomic and cultural function of ecosystems (e.g., capturing and sharing increased value of land resulting from public and private investment, factoring the value of ecosystem services into the municipal bottom line, etc). Concretization of the principles of circular economy, the commons, closed-loop metabolism, and urban mining
<i>1.4 Integrate national development plans with urban plans (e.g., energy, water, transportation, and other infrastructural corridors)</i>	<i>2.4 Develop equitable legal instruments to capture and share increased land and property value</i>	<i>3.4 Promote sustainable density and mixed use to attain the economies of agglomeration.</i> Encourage co-located home, work and service and multimodal transport viz. public transport integrated with walking and cycling options that lowers	<i>4.4 Proper access and affordability to basic services</i> Investments are important for municipal own source revenue. Multi- year capital planning including comprehensive infrastructure assessments can help ensure productive and efficient basic services (including ICT) and	<i>5.4 Support to community- led groups</i> Community-led groups play an indispensable role in ensuring liveable neighbourhoods by providing a vital connection between residents and the local and higher levels of

		the time cost and environmental impact of travel and promotes liveability, compactness, mobility and accessibility, social cohesion and economic productivity and can help balance public and private domains. Consider multiple uses of buildings as well as transport-oriented development.	networks and their maintenance and meet backlogs and anticipated demands. Such investments must be structured to encompass total economic value, including land value appreciation and all other economic, social, and environmental impacts and benefits.	government. Particularly in urban planning and management processes, such groups operate through both formal and informal means.
1.5 Adopt a framework to reduce urban and territorial disparities within and among lagging regions. A national urban policy brings the spatial dimension to development and contributes to the alignment and integration of national and sectoral development plans and policies at different territorial levels	2.5 Establish national standards for sustainable, universal access to basic services Housing and building codes can have fundamental impacts on street dynamics and urban equity, as well as their more traditional role in risk management. Inappropriate codes may be exclusionary, encourage informality and undermine the rule of law. Codes must balance their various impacts to the urban environment.	3.5 Make effective use of urban design to provide liveable spaces, walkability, and a sense of place. Pay attention to plot building interface and quality of public space (e.g., accessibility, safety, inclusivity and distribution). Provide good neighbourhood design to promote liveability, sense of place, safety walkability and access for all.	4.5 local authorities understand and adapt their respective economic development policies, mechanisms and financing models to help promote access to a wide range of affordable housing options including rental and cooperative and forms of tenure as well as incremental building and upgrading Using innovative means to make housing more affordable including dynamic affordability (e.g., housing as a source of rental income) and homebased Income-generating activities and reduced operating costs including energy efficiency. Housing finance options for all levels of income. Where possible, also providing sustainable finance for cross- subsidies, mortgages and financing for social and rental housing, non-collateral credit mechanisms for owner builders and credit for developers, and contractors.	

<p><i>1.6 Promote jurisdictional coordination and coherence which contributes to reduce land disparities and inequalities, promoting an inclusive and productive system of cities and human settlements and strengthening urban-rural linkages.</i></p> <p>A NUP should also ensure the equitable provision and access to infrastructure, public goods and services, national and regional economic development, resilience and environmental protection, and adequate housing</p>	<p><i>2.6 Establish impact assessment, monitoring, inspection, correction, and enforcement tools.</i></p> <p>Law must clearly support basic services policy and be regularly scrutinized. Benchmarks should be based on equitable access to water, public transport, energy, waste management, digital infrastructure, and ICT.</p>	<p><i>3.6 Protect and preserve natural resources and cultural heritage.</i></p> <p>Planning and design at all scales should protect natural resources and land features, control pollution, minimize vulnerability, prioritize the use of renewable energy resources, adopt energy and resource efficiency measures, provide adequate space for parks, wildlife habitat and biodiversity hotspots. It should also preserve cultural heritage and local identity reflected in material culture and other formal elements of the urban landscape.</p>		
	<p><i>2.7- Recognize and regulate urban development, i.e. buildability rights.</i></p> <p>The area and proportion of a plot that may be built upon and the permitted building height and floor space are fundamental to value and have a significant impact on street dynamics and service demands. These elements should be effectively regulated and actively managed to fairly balance burdens and benefits</p>	<p><i>3.7 Promote housing as an integrating element of urban planning.</i></p>		

	<p><i>2.8 Enact effective law for the definition, acquisition, and protection of public spaces.</i></p> <p>Public space, including green space, roads, streets and intersections, and other corridors, is central to liveability, in urban areas. It must be adequately provided for but not rely exclusively on expropriation for its acquisition rather also on tools such as land readjustment. Clear public space protection responsibilities must also be established.</p>	<p><i>3.8 Promote adequate amounts of urban space for a variety of economic activities.</i></p> <p>Housing at the Centre of the New Urban Agenda can help relate adequate and affordable housing strategies and interventions with diverse land/ tenure options, achieve inclusive land use that supports integrated socioeconomic groups, promote investments in infrastructure, and provide proximity and equitable access to employment, services, facilities, and transport.</p>		
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Source: UN Habitat: Action Framework for Implementing the New Urban Agenda, 2018

