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Assessing the consistency of development applications with the City of Johannesburg's Spatial Development Framework

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Assessing the Consistency of Development Applications with the City of Johannesburg's Spatial Development Framework

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A Research Report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Science in Development Planning

2020

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Johannesburg, South Africa

Declaration

I declare that this research report is my own unaided work. It is being submitted to the Master of Science in Development Planning to the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

Signed on this the 3rd Day of November Year 2020



……
Themba Masemula

Abstract

The City of Johannesburg has a fragmented urban form, one that has been shaped by apartheid spatial planning. Hence certain areas are at a disadvantage in terms of development when compared to others within the city. The City has developed a large number of spatial plans over the years that are targeted at remedying this issue. The study examines the extent to which the development trends are consistent with the Spatial Development Framework, with a focus on the city's marginalized areas - the previously disadvantaged areas within Johannesburg.

The research report looked at town planning and building plan application data over a 10 year period. And also at municipal infrastructure spend within the City. The report analysed the town planning and building plan data from the City of Johannesburg through the production of graphs and maps in relation to the spatial policy used within the City of Johannesburg. The research revealed that there is consistency between development and the spatial policy within the City of Johannesburg. The spatial policy aims to influence development and where development happens and although there are challenges especially with regards to the private sector development, the spatial policy is able to create a vision for development and influence where the City spends its infrastructure budget.

The spatial policy of the city has also been able to influence some form of development and transformation within some of the marginalized areas. This is evident within Jabulani in Soweto, which is one of the nodes selected as an area of focus by the City and has now become a part of the Transformation zone as per the Spatial Development Framework of the City.

Acknowledgements

The research report is dedicated to my son Atlehang and my immediate family that were instrumental in supporting me throughout my masters journey. Further acknowledgment goes to my colleagues at the City of Johannesburg and the City of Johannesburg's Development Planning Department who were an important part of this research report. I would also like to thank my supervisor Alison Todes for the hours of work she dedicated to assisting me with my research report. A special mention also goes to Dylan Weakley who played a huge role in the process of the creation of pivot tables, graphs and the production of the heat maps.

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Table of Abbreviations and Acronyms

Abbreviation/ Acronym	Meaning
CoJ	City Of Johannesburg
BEPP	Built Environment Performance Plan
UDB	Urban Development Boundary
MTEF	Medium Term Expenditure Framework
MTREF	Medium Term Revenue And Expenditure Framework
SDF	Spatial Development Framework
TOD	Transit Oriented Development
GDP	Gross Domestic Product
IDP	Integrated Development Plan
NDPG	Neighbourhood Development Partnership Grant
GDS	Growth Development Strategy
GMS	Growth Management Strategy
LED	Local Economic Development
CIF	Capital Investment Framework

Chapter 1: Introducing the Study

1.1 Introduction

The strategic spatial policy within the City of Johannesburg sets specific goals aimed at changing the urban landscape of the city for the better. This research explores the consistency of proposed development with the City's spatial plans. Of particular interest is the ability or possibility of spatial frameworks in Johannesburg influencing development. This is in regards to countering the effects of apartheid spatial planning and the fragmented development of the city's urban form. It is also important to note that a common criticism of planning is that there is a disconnect between plans and development decisions, and the blame is largely placed at the feet of politicians, that are pursuing their own agendas and interests.

1.2 Background

Spatial planning is a key component for socio-economic development within urban areas (Mbiwa and Annegarn, 2013). For it to be effective it needs to be efficient and strategic. The urban fabric of Johannesburg has been influenced by a number of factors and physical features that have a strong tie to historical, socio-economic and racial policies aimed at separate development (Mbiwa and Annegarn, 2013)

The City of Johannesburg (CoJ) has a vision to reshape the urban form of the city and to reverse the effects of apartheid spatial planning through their various strategic plans and frameworks. The aim is to create a compact city form that will help to address the inequalities of the past in the municipality. The Spatial Development Framework 2040 proposes that this should be done by development, spatial planning and urban design interventions that uphold the goal of creating a polycentric compact city (CoJ, 2016). The main role of the frameworks and strategic plans that are being implemented by the City of Johannesburg is to solve the above-mentioned problems at both macro and micro levels. The key to this is to have plans that share the same goal and vision, and that are interlinked and tie in to each other so that they inform their shared goal and vision (Dewar and Uytenbogaardt, 1991).

From above mentioned perspective one can say that the frameworks are functional and creating a platform to move towards attempting to remedy these problems. One needs to bear in mind though the constraints faced by spatial planning in directing growth and development including the fact that although public investment can be influenced in some way by the city's spatial frameworks, influencing and directing private development is fairly challenging since (Todes, 2012a and b).:

- The city owns limited amounts of land in strategic areas
- Private property owners have their own plans as to how they want to develop their land
- The CoJ cannot dictate to private property owners how or what to develop
- Public funds can only be spent on public land
- The vision the CoJ has may not be the vision of the private property owner and the vision may not be deemed lucrative by the private property owner.

1.3 Problem statement:

The City of Johannesburg (CoJ) has a fragmented urban form, one that has been caused largely by apartheid spatial planning. This has led the city to an uneven development trajectory in which certain

areas are at a disadvantage in terms of development when compared to others . The CoJ has produced a large number of spatial plans over the years that are targeted at attempting to remedy this issue. Overcoming the legacy of apartheid spatial planning on the CoJ's urban landscape requires consistent targeted attempts by the spatial planning policies to influence the type and location of development. This can be supported by an understanding of whether spatial patterns are starting to change and if these spatial policies are enabling that change.

1.4 Rationale:

The impact of spatial policy within the City of Johannesburg has been measured in terms of consistency of the policy and its influence in reversing the legacy of apartheid spatial planning. This measurement was done a few years back (2008 – 2011) examining the performance of the previous Spatial Development Framework (SDF) and its alignment to the Growth Management Strategy (Ahmad and Pienaar, 2014).

1.5 Aim:

The aim of the research is to assess if spatial planning policy, namely the Spatial Development Framework is achieving its vision of alleviating the legacy of apartheid spatial planning in Johannesburg. It examines town planning and building application data in the City of Johannesburg.

The report focuses on the marginalized areas. These are areas within the CoJ that are previously disadvantaged (former townships reserved for black African people) and deprived in socio-economic and infrastructural terms, which would also include areas with new government provided 'RDP' housing aimed at households earning under R3500 per month, and also informal settlements. They are areas that face the most challenges within the CoJ and are seen as priority by successive CoJ SDFs in terms of addressing socio-economic and infrastructural backlogs. In the earlier SDFs from 2000, these places were called 'marginalized areas', but in the 2016 SDF, they were named 'deprived areas', with the major former black township, Soweto, now seen as a special district. For the purposes of this study, both are included in the definition of 'marginalised areas'. The marginalised areas are not considered Transformation Zones. The only area that has been reclassified into the Transformation Zone is Soweto even though it still faces many of the challenges that the marginalised areas face. In the case of Soweto, it is no longer seen as a marginalised area but as a Transformation Zone and thus receives different treatment to other marginaliased areas

1.6 Objectives:

- Measuring the consistency of the Spatial Development Framework with proposed development within the City of Johannesburg as evidenced in planning and building application.
- Tracking the performance of the 'marginalized areas' over a particular period in terms of development applications.
- To reflect upon the findings in relation to the effectiveness of SDFs and strategic plans which are often criticised as 'toothless in the face of competing demands on land.

1.7 Research Questions:

Main Research Question:

- To what extent are the trends displayed by the development application data consistent with the aims and objectives of the Spatial Development Framework

Sub Questions:

- What are the aims and objectives of Johannesburg's Spatial Development Framework in relation to marginalized areas?
- What type of development is prevalent within Johannesburg as evidenced through development application data?
- To what extent is municipal infrastructure spend being directed towards the marginalized areas?
- To what extent is municipal infrastructure spending able to influence growth and development within the City of Johannesburg?

1.8 Expected Findings

Generally it is expected that the study will reveal that there are underlying challenges in promoting development within the marginalized areas of the City of Johannesburg. This is because historically economic development was limited within these areas and attempts to remedy this and enhance development within these areas in the post-apartheid era have proved challenging (Todes, 2012a and b; Todes, 2014).

1.9 Research Methods

The study is a quantitative study that uses and analyses existing development application data from the City of Johannesburg. The research also draws on grey literature in the form of City of Johannesburg policy documents

The study follows a descriptive research method as it looks to check for consistency between the areas where the SDF hopes to encourage development and data being interrogated (Phakiti, 2010). The process chosen for the analysis of the data can be summarised as: planning, collection, sorting, analysis and write up. The analysis of the data also includes a process of data entry into a Geographical Information System (GIS) program that enables mapping of data.

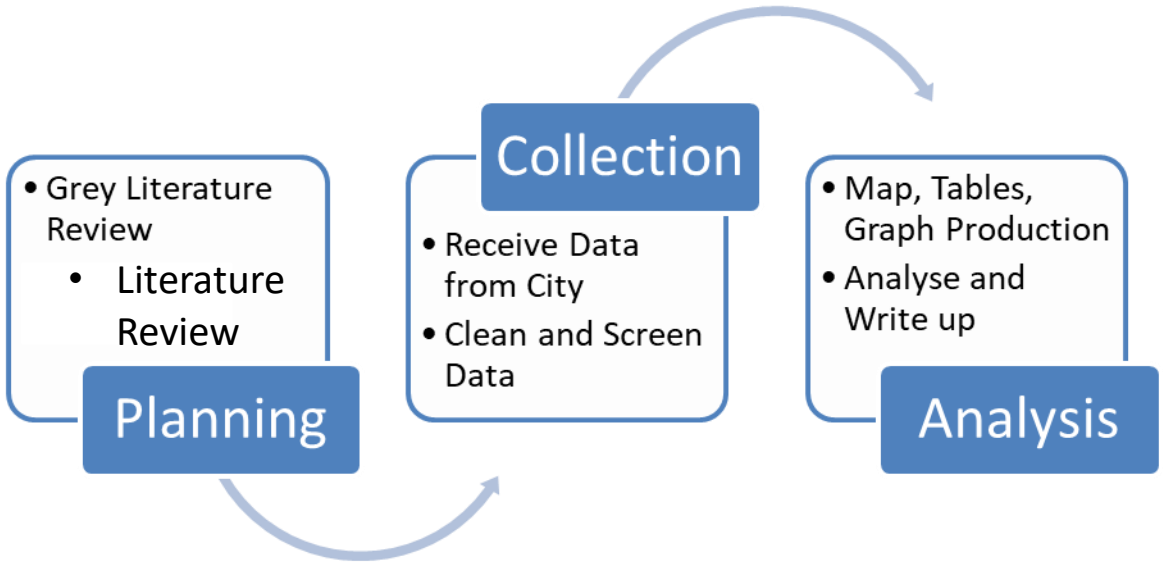


Figure 1 Research process

1.10 Data Used

The data used for the research is collected by the City of Johannesburg's Development Planning Department. The data is captured by the Registration section of Development Planning and is captured when an application for development is submitted formally to the CoJ seeking permission to construct or change land use patterns for properties within the jurisdiction of the municipality. The applications are captured on two separate systems depending on what the application is for and those systems are the Building Application System (BAS) and the Town Planning Application System (TAS). The applications are split in terms of being related strictly to building construction and renovations or town planning land use applications. The systems although separate are centralised and linked to the City's Geospatial Land Information System that tracks the city's spatial patterns over time and is able to provide maps and stand-level information regarding properties within the jurisdiction of the municipality. The data used for this research report is compiled in a spread sheet and the spread sheet is split into various columns that differentiate per application from Surveyor General Number to township name as shown below:

Column Headings for Data Used		
FID	DB2GSE_Sde	Final_In_1
PROPERTY_I	ZONE_DESC	FA_PER_ERF
TOWN_NAME_	OBJECTID	Ratio
SG_ID	Ref	Sq_m_calc
STAND_NO	Year Submitted	X
LEGAL_AREA	Date Submitted	Y

LEGAL_UNIT	Financial Year	SDF_Zone
AREA_SQMT	Region	SDF_Zn_km2
DIAGRAM_HO	Ward_no	REGION_NAM
QC_CHECK	Erf_No	Reg_km2
REGISTRATI	TOWNSHIP	Tr_Zn_km2
GLOBALID	PLAN_TYPE	app_per_km2_trans_zn
CURR_LGL_A	BUILD_CAT	Tr_Zn_name
USE_ZONE	OWNERSHIP	NODE
DENSITY_ZO	FAR_CAT	Node_km2
HEIGHT_ZON	AREA_TOT	App_per_km_node
PARKING_ZO	AREA_NEW	Applications
TPS_CODE	Area	Status
DB2GSE_ST_	APPROVED	OCC_DATE_1

Table 1 Column Headings for Data Used

The data collected consists of various types of applications under the umbrella of both building and town planning applications and they are separated as per the table below:

Application Types	
Building Applications	**Land Use Applications**
Building plan approval applications	Rezoning applications
	Building line relaxation applications
	Removal of restrictive conditions applications
	Consent use applications
	Subdivision or consolidation of land applications
	Township establishment applications

Table 2 Application Types

The applications that are recorded as part of the data relate to different functions within the development process and happen throughout the life span of a development or redevelopment. So this data looked at holistically as TAS or BAS or individually as indicators like Rezoning applications is able to indicate potential development activity for individual stands throughout the CoJ. So an agglomeration of various applications within a particular locale can reveal development activity and appetite within that locale. The different applications have various uses functions and size. They are usually used for different types of development but can also be combined if need be throughout the development process. The table below breaks down the function and scale of the various application types.

Land Use Application	**Function**	**Size**
Rezoning applications (Indicates an intention for more substantial land use change than other applications)	To change the existing zoning of a particular parcel of land to a new one to accommodate new land use activity or expanded property rights	Varies in scale depending on development and land portion size (single erf stands to multiple erven stands)
Building line relaxation applications	To reduce of remove building coverage restrictions on a parcel of land	Usually done for a single erven and associated with small scale development rights
Removal of restrictive conditions applications	To remove the development limitations placed on a parcel of land by the deed of title	Usually done for a single erven and associated with small scale development rights
Consent use applications	To allow temporary land use rights to a property without changing the zoning of the land parcel	Usually done for a single erven and associated with small scale development rights
Subdivision or consolidation of land applications	To divide a single land parcel into multiple parcels or to combine multiple parcels of land into one consolidated parcel	Varies in scale depending on development and land portion size (single erf stands to multiple erven stands)
Township establishment applications	To create a large scale development consisting of a single or multi use zonings. Can also be used to create intense mixed-use developments not accommodated within the definitions of a particular town planning scheme	Usually large scale developments that are an average of 2ha or larger. An exception can be made for smaller developments with a varied or intense land use mix not accommodated by a town planning scheme
Building Application	**Function**	**Size**
Building Plan Approval Application	To outline the structural changes of a particular building after alterations to that particular building	Usually done for a single erven, but can also be associated with large scale monotonous developments (Where the building layouts

		are similar and can be duplicated)

Table 3 Application Types break down

To further help with the analysis of the data, it is split into the different administrative regions of the City of Johannesburg. Regions are the seven decentralised administrative areas of the City. Each region has its own decentralised office that houses most of the City's duties that have been decentralised to function at a more local level like customer centres, urban management and basic service delivery. These regions are diverse and cross cut between a variety of areas, from the wealthier areas of the city right down to the marginalized and deprived areas of the city including informal settlements. Most of the regions within the city if not all of them, contain these elements of affluence and marginalised areas.

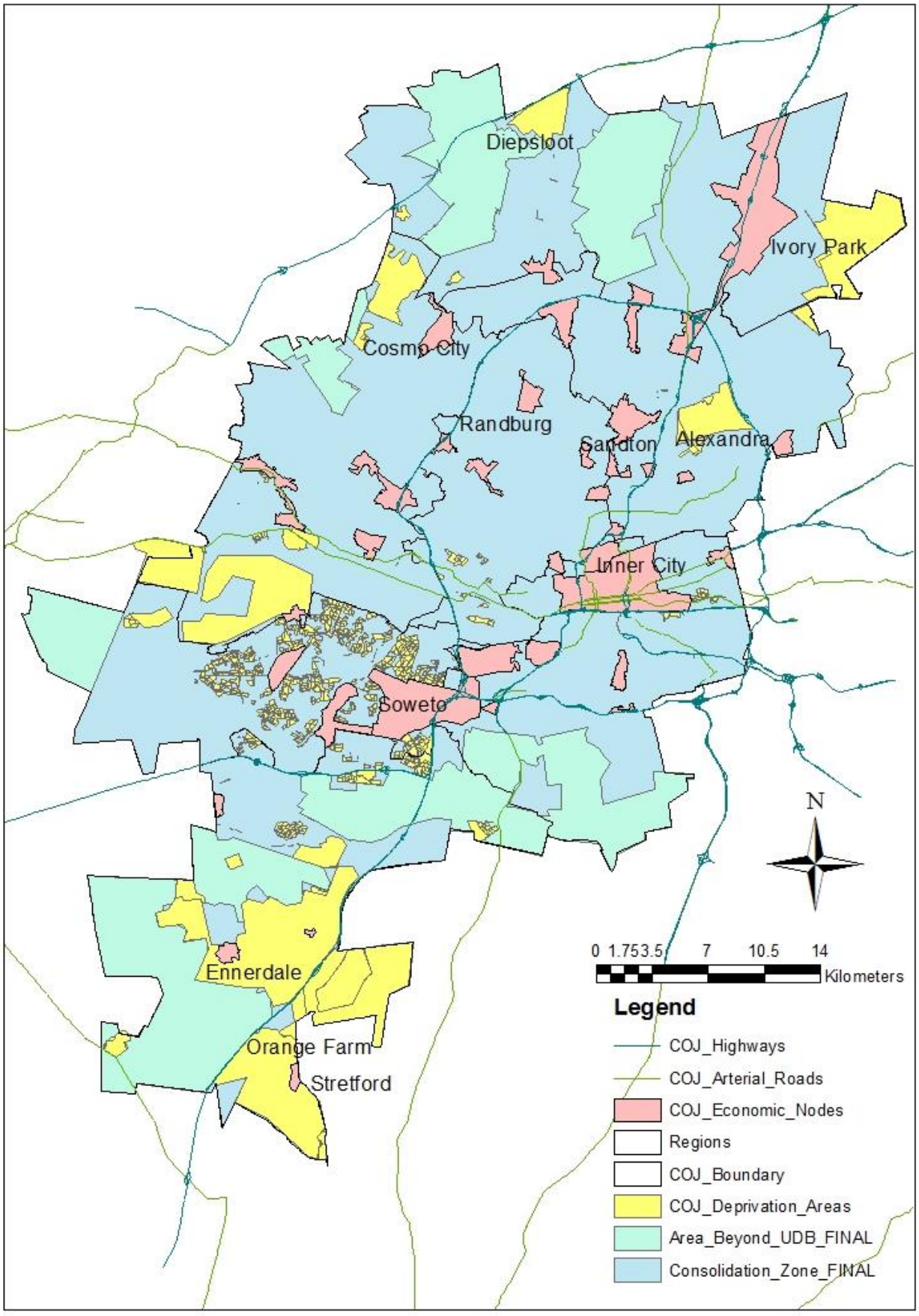


Figure 2 Regions context map

1.11 Methodological Choice

The research is conducted by analysing the graphs that have been generated for the data within the spread sheet. The data that is analysed is looked at a city-wide level. This means that the city is looked at holistically in order to get a clear picture of what is happening at a metropolitan level. The data is further broken down and is looked at in terms of the seven administrative regions of the city in order to spatially orientate the data and enable comparison between areas. The data is further broken down and analysed at a nodal level in order to localise the analysis at a spatial level to precincts. This enables the data to be looked at almost at a township level. Data is also split into the various focus areas designated by the Spatial Development Framework in order to track the number of applications that are submitted into the priority areas of the city.

The analysis only goes down to a precinct level via the nodes because the spatial policy (the Spatial Development Framework) being interrogated in this report only goes down to that level. This is done because the research looks to test the alignment of the framework with actual development within the city.

The report also looks at the capital expenditure of the City. This is done through the analysis of graphs and maps, including information from various municipal documents. This is compared and contrasted with the development application data where possible to seek out alignment between the City's capital expenditure and the development applications.

1.12 Limitations

The study is a quantitative analysis and does not explore the underlying reasons for the patterns, other than using existing literature.. Further, the development application data is only an indication of potential development in the future, which may or may not be realised. Hence it measures development appetite not actual development on the ground. Another limitation is that the study only looks at formal application data; therefore any informal development will not be captured or analysed.

Further limitations are that the data used does not specifically focus on the marginalized areas and it is difficult to draw out the marginalized areas and compare them to the current priority areas of the development framework. This means that the closest one can get to comparing marginalized areas to other areas of the city is to compare the nodes that are within or close to the marginalized areas with nodes that are within or close to economic nodes and priority transformation areas.

The study is also limited in terms of being able to differentiate between the different land use types. One cannot clearly draw out the land use type from the data used as the data set did not separate these. The data set is able to tell you the type of application captured by the system but not the land use change or development rights being applied for. Therefore it tells you that a rezoning was captured for a certain parcel of land but it does not tell you what the rezoning is for or what land use is being changed and to what it is being changed. This means that the type of development referred to is an inference from current experience as an urban planning professional within the City of Johannesburg. The data set gives very broad findings in terms of development activity within the city and does not allow for more detail on the type of land use activity. The data set does not differentiate between the sizes of the various application types and therefore a small scale development would appear similar to a larger scale development when looking at the data set. This means that the impact of the various developments cannot be drawn out and compared as they would all seem to have a similar footprint when looking at this data set.

1.13 Ethical Considerations

Ethically the study is of low risk because it is a policy and analyses existing data. This means that there were no interactions with humans. I need to note my positionality as an employee of the CoJ which made it easier to access information, resources and individuals within the Development Planning Department.

I knew that the City has a data set related to development apetite within the city as I was an employee of the City of Johannesburg at the time. This meant that I had the opportunity to enquire about the information and data set required to complete the research report and was also able to access it much easier than an individual from outside the institution. Although no actual interviews were held in relation to the study, there was a series of formal communications to the Director of the City Transformation unit within the Development Planning Department requesting that I may use the information for formal research related to the completion of my degree a Masters in Development planning through the University of the Witwatersrand Johannesburg. There was also a level of informal engagement with colleagues during this process that involved very limited risk in terms of ethical considerations.

A copy of the ethics clearance certificate can be found in Annexure A.

1.14 Chapter Outline

Chapter 2 is the literature review and looks to understand spatial planning holistically and within the context of South Africa. This chapter examines the links between spatial plans, development and infrastructure. The chapter takes an academic view of spatial frameworks, their influences on development and how they have changed over time and within the South African context. The chapter also presents the arguments around strategic spatial planning, its application, evaluation, failures and successes.

Chapter 3 contextualises spatial planning particularly with regards to Johannesburg. It examines policies within the City of Johannesburg and how they link to development that happening on the ground.

Chapter 4 is a presentation of the findings of the study and details the various maps and graphs that were generated during the study. This chapter reveals what the data is illustrates and how it relates to development patterns within the City of Johannesburg.

Chapter 5 provides an analysis of the findings of the study in relation to key arguments and expressed in both the grey and academic literature. It creates a platform to draw conclusions and recommendations.

Chapter 6 is a final synthesis of the study and conclusions are drawn from the study along with recommendations. The chapter answers the research questions and also summarises the findings of the study. The study recommends a larger focus on marginalised areas and the recording of

development applications within the marginalised areas. There is also a need for further research to inform and remedy some of the limitations of this particular study.

2. Chapter 2: Literature Review

2.1.1 Introduction

This chapter explores strategic spatial planning, examining the various theories related to it. It identifies key debates and arguments that influence the spatial dimensions of Johannesburg. The section discusses strategic spatial planning globally and in the South African context. It will further review literature on plan evaluation and implementation within strategic spatial planning. The chapter is structured into two main sections being the literature review and the conceptual framework. The literature review looks at strategic planning, strategic spatial planning and the evaluation of these strategic plans. The section also takes into account the success and failures of these plans. The literature review is a representation of the key concepts discussed in literature review and how they tie together.

2.1.2 Strategic Planning

Strategic planning is not a new concept and has evolved over time to accommodate changing environments, including changes in the nature of population, economies and policies (De Villiers, 2009). Planning has had to move away from just being a tool to guide land uses and manage land. Strategic spatial planning has been around in planning for a while and it emerged from the private sector and their methods of tackling challenges within a business environment (De Villiers, 2009). Corporations had to adapt to changing environments and growth within the business sector (De Villiers, 2009). It has always been based on thinking about the future in a creative manner, considering change and development, hence the dynamic nature of these plans (De Villiers, 2009). They are dynamic because of the need to adapt to change now as decisions shaping future development are made now (De Villiers, 2009). Therefore there was a need to plan for the unknown i.e. planning for an uncertain future.

Governments adopted a similar approach to dealing with more spatial factors; these are factors that affected people, land and the economy (De Villiers, 2009). Government had to therefore create visions of manageable and sustainable futures in the face of uncertainty.

2.1.3 Strategic Spatial Plans

A strategic spatial plan must have these key components: geographical area, a holistic view or vision and broad consideration, especially considering the impacts of and on the areas surrounding the defined area (Needham, 1998; Faludi, 2002). The plan must deal with development decisions over a defined period of time and how those decisions impact the surrounds; this is why context is an important part of any strategic spatial plan. Strategic spatial plans can be defined as frameworks that help influence decision making, the location and type of infrastructure development, and can frame development regulation (De Villiers, 2009).

Strategic plans are seen as guiding tools internationally and in the case of planning they help guide town planning in achieving a development vision and any required outcomes of that vision (Magni, 2011). Strategic planning is about making decisions based on information at hand, therefore it can assist in solving spatial challenges (Magni, 2011Healey et al, 1999). This links to the role of governments and by extension municipalities in the sense that they have to solve problems that require informed decision making based on their analysis of the contemporary situation Some definitions of strategic spatial planning leave out the component of informed decision making and the importance of outcomes in this form of planning (Magni, 2011). This is problematic because these plans are outcomes focused and therefore they need to be assessed and measured in order to understand their impact.

A key component overlooked by literature is the differentiation between the focus and definition of strategic spatial plans with regards to the developed and developing countries (Magni, 2011). The differences in focus causes differences in outcomes and perceived successes e.g. developed countries focus on investment and investment attraction whereas developing countries mostly focus on more developmental and social outcomes. Key points of agreement in literature are around the vision of these plans and their attempts to improve the livelihoods of residents in a sustainable manner e.g. sustainable human settlements (UN-Habitat, 2009). These plans are about understanding future development impacts and finding ways to limit challenges and make informed decisions that promote sustainability.

2.1.4 Strategic Plans and Evaluation

Plans guide and influence development (Berke and Godschalk, 2009). They are seen to have an impact on general livelihoods and socio-economic and infrastructure elements (Ibid.). Plans because of this are seen as being vital within the development process. Despite their perceived importance, spatial plans are still not evaluated with as much focus as they should be (Ibid.). This is problematic because the continuous and structured assessment of plans is vital in measuring of their quality and performance of plans, and in identifying their strengths and weaknesses (Ibid.). The general difficulty that exists in assessing contemporary plans makes plan quality assessment in itself more important (Ibid.). This is because it helps in gauging if plans can achieve their goals and objectives (Ibid.). This helps in the creation of a structured vision of the future despite the pending uncertainty (Ibid.).

Achieving successful planning outcomes and objectives is difficult because of the complex institutional dynamics existing within planning and the insufficient definition of what these outcomes are or are supposed to be (Wong and Watkins, 2009). Planning outcomes are important because of the role that planning plays in the concept of liveability (Wong and Watkins, 2009). But the overall definition of these outcomes is difficult because of a lack of sufficient knowledge and understanding within this area of study (Ibid.). This therefore makes it difficult to measure these outcomes at a policy level as they have no guiding definition to guide the assessor (Ibid.). This results in challenges like the inability to recognise the impact of plans on particular communities. The literature insists that because of this communication complexity or participatory processes are important in the conceptualisation, implementation and the evaluation of plans (Ibid.). This process can add valuable qualitative inputs into the plan evaluation procedure and give more robust results and understanding of the impacts of a particular plan (Wong and Watkins, 2009).

Internationally the literature regarding the impact of plans looks into property rates and the property market (Wong and Watkins, 2009). However this misses the social elements in terms of achieving public good and the positive impact on livelihoods (Wong and Watkins, 2009). The limited economic focus of plan evaluation in international literature is also regarded as a major limitation (Wong and Watkins, 2009) because it is not being done well. The literature on the economic focus of plan evaluation, as mentioned by Wong and Watkins (2009) emphasises the strong links visible between assessment of plans and intended outcomes within planning. This is because the outcomes are linked to the socio-economic impacts created by the plan (Ibid). Further to this the evaluation and assessment of plans needs to broaden out and focus not just on the outcomes but also measure plans' ability to impact decision-making (Ibid).

2.1.5 Evaluating Success in Planning

The success of strategic plans in planning is hard to ascertain because of the difficulty of measuring and defining what success in strategic planning is (Talen, 1997). That is why the body of literature stresses that there needs to be an understanding of successful strategic planning within planning and

practical ways to be able to measure it (Ibid.). This therefore means that planners must understand the how and why of success within planning (Ibid.). Much of the difficulty lies in measuring the future success of planned development. This means that by extension it also becomes difficult to measure implementation. The implementation and the success of plans are important factors in development because of the potential impacts they may have on the ground in relation to the communities that they affect (Ibid.). Some of the literature on the success of plans points to the implementation of plans or lack thereof as a failure in the planning process.

Planning success is viewed in three main ways it is judged along the lines of control in implementation, quality of the plan and the impact of the plan decision making processes (Alexander and Faludi, 1989). Alexander and Faludi (1989) see planning success as being impossible because of their support of the argument of uncertainty. They argue that controlling the future is impossible because of it being unknown, therefore they believe that success and implementation within planning are difficult to measure because one cannot predict or control the future (Alexander and Faludi, 1989). In this view planning is then seen as more of a decision-making tool within the planning process and this makes success in implementation of plans less important in terms of sticking rigidly to initial aims and objectives (Alexander and Faludi, 1989). Plans in this case are seen as an instruction which can be deviated from and therefore the success of a plan is not related to its strict implementation. A plan can be deviated from but if its overall impacts are still positive it can be regarded as being fairly successful (Alexander and Faludi, 1989). This is because Alexander and Faludi (1989) argue that the initial goals and objectives of a plan are a guiding mechanism and the success of a plan and its implementation is not dependent on sticking to them directly. Change is embraced and as long as a positive outcome is achieved overall then success is seen as being achieved (Alexander and Faludi, 1989).

Plan failure is looked at in terms of two main factors namely internal and external factors. The internal factors relate to a lack of control of the future, which is in line with Wildavsky's critique of planning (Talen, 1997). The critique is centred on uncertainty as he believed that one cannot control what is not guaranteed. Therefore a major limitation is that the uncertainty of future planning success cannot be controlled as we do not know what the future holds (Talen, 1997). The other critique that lends weight to plan failure is the social impact of plans. Plans are perceived to have failed in some sense when they have not achieved some level of social impact in a positive manner (Talen, 1997). The impacts are based on achieving social good in terms of improved liveability and enhanced livelihoods of the poor. In fact planning has generally been criticized for overlooking this to a certain extent and focussing more on the market and market forces for development (Talen, 1997). This sees planning as enriching the already rich because of the complexities of expecting socio-economic benefits to trickle down to the urban poor (Talen, 1997).

The external factors relate to elements that planners themselves are not in direct control of. These are issues like politics and society in general, an example is the lack of support for plans in terms of funding and political backing or general community buy-in (Talen, 1997). The external factors complicate the dynamics and perceptions of success of both plans and implementation (Talen, 1997). Success therefore in planning is a relatively unknown factor because of its complexities, rendering it a wide moving target (Talen, 1997). The literature points to implementation being the key to achieving and measuring the success of plans therefore making plan success less reliant on perceptions and interpretations (Talen, 1997). The implementation would in some way provide tangible proof of the impacts, successful or not, of strategic plans.

In contrast to other arguments the literature also alludes to a lack of post-completion analysis of plans and their implementation. Plans and implementation are not assessed enough post completion this

makes measuring or evaluating their success fairly difficult (Laurian, Crawford, Day, Kouwenhaven, Mason, Ericksen and Berke, 2010). By not knowing the impacts of a plan and its implementation post completion it becomes difficult to know if the initial goals and objectives can be achieved (Laurian et al, 2010). This poses a significant limitation within the planning process (Laurian et al, 2010). The rarity of assessment of the implementation of plans raises the importance of a need to track the success of plans and evaluate their impact not just at initiation, but also after the process (Laurian et al, 2010). This will give a platform to measure the impacts of a plan and implemented projects and reveal ways to fix issues if they are deemed critical (Laurian et al, 2010). This then makes the definition of plan evaluation even more important as it describes this process as the evaluation of the overall implementation and process of a plan. This means looking at a plan from its outcomes in comparison to set standards or performance indicators (Laurian et al, 2010). The post implementation stage of plans is important because it can allow one the ability to measure the impact of a particular plan, therefore evaluating the specific outputs and achievements of a plan within a particular area or region (Laurian et al, 2010).

2.1.6 Evaluating Plan Implementation

There is no method to assess implementation within planning; the focus is more on plan quality and practice (Laurian, Day, Berke, Ericksen, Backhurst, Crawford, Dixon, 2004). There is not enough emphasis on whether or not the objectives are being met (Ibid.). This raises the notion that there is a need to link plans to outcomes through structured evaluation (Ibid.).

Generally there are two main approaches to plan evaluation; namely the conformance based approach and the performance based approach (Laurian et al, 2004). The conformance based approach is outcomes focussed and is more about the plans and the actual development impact affected on the ground by those plans (Ibid.). The performance based approach is seen as more of a guide or a decision making tool and focusses more on the process than the outcomes (Ibid.). In terms of strategic planning the performance based approach is seen as more suitable in the evaluation process. This is because it has the flexibility to encompass change as the implementation process unfolds with a much bigger focus on the expected impacts post completion (Laurian et al, 2004).

The lack of plan implementation is seen as a barrier to planning success. This is generally because the implementation of plans is viewed as insufficient (Berke, Backhurst, Day, Ericksen, Laurian, Crawford and Dixon, 2006). This is in relation to keeping track of how consistent plans are with what is actually happening on the ground. This is especially if it is looked at in relation to the strict adherence to initial plan objectives and goals. Berke et al (2006) argue that if compliance to initial objectives is used to judge plan performance then this makes planners seem uninfluential within the implementation process (Berke et al, 2006). What should impact performance is the overall impact a plan has made in relation to people and the derived social benefits (Ibid.). The focus on implementation within planning lacks emphasis in terms of how and what type of impact has come from the implementation process of a particular plan (Ibid.). This raises the point of the gap that exists within planning between planning and implementation (Ibid.). This gap needs to be filled as addressing it will enable the evaluation and success of plans to be measured properly (Ibid.). This is difficult because generally plan implementation in itself is complex and poses difficult challenges (Ibid.).

Factors and causes of plan implementation or lack thereof are unknown, because of the lack of analysis and literature around this topic (Laurian, Day, Berke, Ericksen, Crawford, Dixon and Chapman' 2004). This leads to a failure in finding elements to help improve plan implementation (Laurian et al, 2004). Currently in most places success of plans is based on perception, impression and interpretation (Ibid.). There is no real sound evidence to support views generated in this way (Ibid.). This means that

planners do not know the elements that affect or impact the implementation of their plans and overall urban development within their plans (Laurian et al, 2004).

2.1.7 Plan Quality

Plan quality is an important factor of the implementation of plans (Laurian et al2004). Good policy guidance makes for the creation of good plans therefore plan quality needs to be high in order for the guidance to be effective and practical (Laurian et al, 2004). Improving the capacity of the implementing agents or the individuals carrying out the implementation also aids in the plan quality process, so too does effective participation, communication and structured partnership building with interested and affected parties and stakeholders (Laurian et al, 2004).

Certain elements of plan quality are looked at in general, but there is a lack of understanding of plan implementation after adoption and the elements that influence this (Brody, Highfeld and Thornton, 2006). This gap leads to what is described as "new plan syndrome" (Brody et al, 2006; 77). This is when plans are approved but not evaluated in order to measure their performance and success, but despite this gap in performance measuring further plans are created and adopted without understanding the success or failures of the previous plan (Brody et al, 2006). This means that their overall impact is not known and tracking impact becomes complex and moot to a certain extent.

2.2 Conceptual Framework

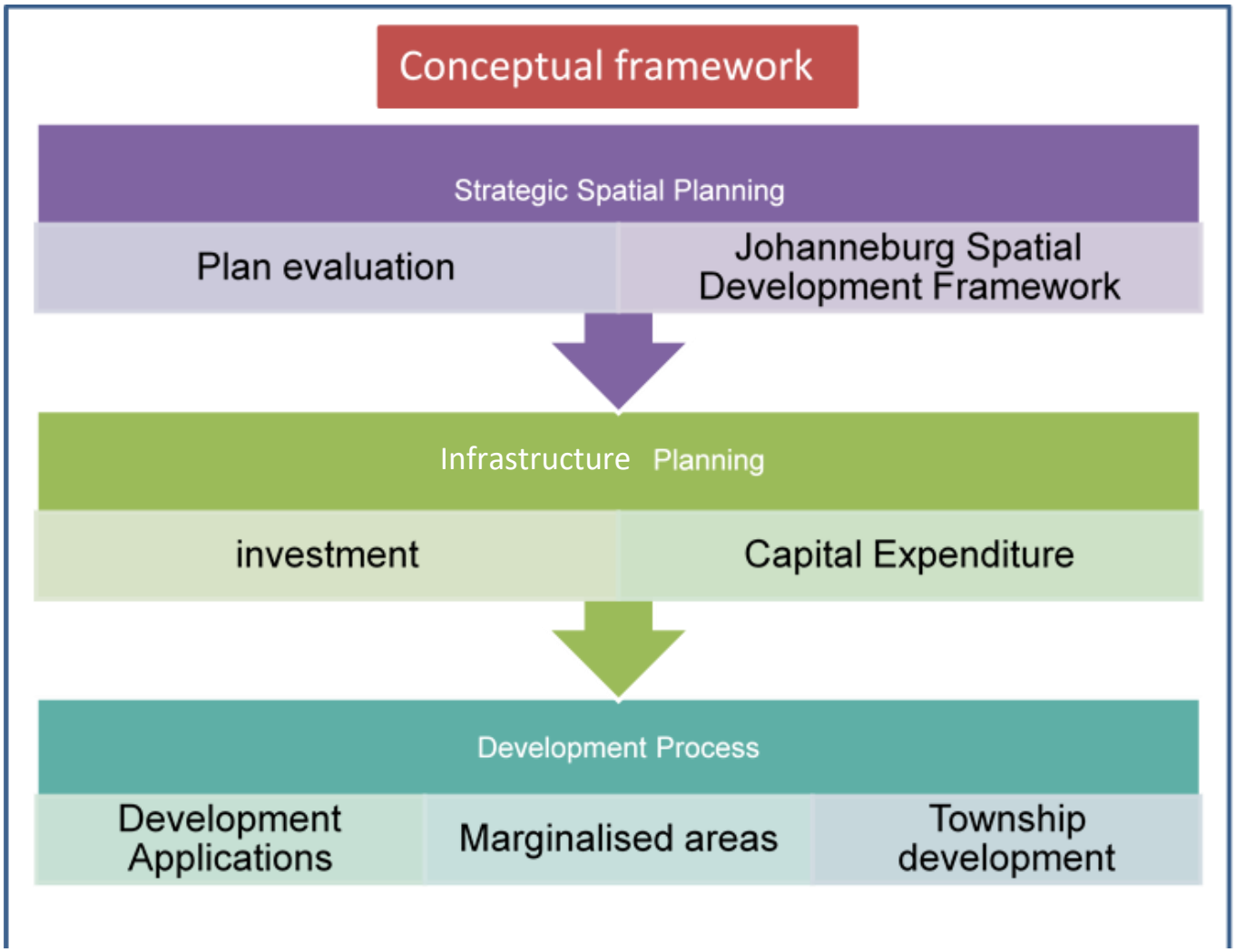


Figure 3 Conceptual Framework

This section graphically outlines the key concepts and how they link together in figure 3 above. This conceptual frameworks brings together some of the concepts that have already been discussed in order to create a link between the literature and the concepts.

2.3 Conclusion

There are many factors that have to be considered when looking at the overall impact of strategic spatial plans. What is important is the need for a structured system of assessment and implementation of these strategic plans. This is because of the need to understand how these plans are performing and if not what are the problem areas that need to be looked at and resolved, in order to ensure the success of the plan. What stands out is there needs to be more work in finding ways to assess plans especially post-implementation in order to be verify of they are working or not and if they are achieving their intended aims and objectives. What is clear is that certain aspects of plan performance are important such as the quality of plans and the capacity of the implementing agents to implement the plan successfully. It becomes difficult to expect the success of a plan if the quality and implementation leaves a lot to be desired. More work and knowledge is needed on plan evaluation and success.

It is clear that strategic spatial planning is an element that can assist with this but it has to be paired with wider concerns like economic, political and social elements. The plans may need to start finding a balance between the factors mentioned above if they are to achieve transformation and impact people's livelihoods in a positive manner. It means there needs to be equal weighting in dealing with concerns withih spatial planning and in considering the wider concerns as mentioned above that influence spatial planning. It is also clear that there needs to be supporting structures that assist the strategic plans and their implementation frameworks if they are to succeed. The support should be from government, private sector and civil society. With backing from these structures the possibilities of successful and impactful spatial plans is very possible barring any other unforeseen circumstances.

3. Chapter 3: Context

Introduction

The chapter looks at the spatial policy used within Johannesburg over time to develop a picture of the substantive content of planning in Johannesburg, especially in the context of aligning development on the ground to spatial policy at a city-wide level. The chapter is structured in a way that goes through the context of spatial planning from a national to a local municipality perspective. The chapter also discusses the spatial policy used within the City of Johannesburg and how it affects marginalized areas and townships.

3.1 Spatial Planning in South Africa

Spatial planning in SA has been looking to create balance in the fragmented urban development visible in the country, while also working towards achieving a spatiality that demonstrates equality and justice within its urban development (Oranje, 2010). The move away from traditional master planning was caused by the need for more flexibility especially in planning for the long-term growth of urban areas (Todes, 2017). This flexibility was found in strategic planning in order to remedy the perceived static nature of master planning (Todes, 2017).

In South Africa the focus of spatial planning was to further solve the issues of fragmentation and spatial disparity through 'urban restructuring' (Odendaal and McCann, 2016; 405). The need for flexibility was required in order to deal with emerging urban problems (Todes, 2017). These problems were as a result of apartheid spatial planning and to remedy this, a move away from these approaches was needed (Todes, 2017).

Although being the more flexible approach to planning, strategic planning faces a number of challenges attributed to coordination, market trends, stakeholder resistance, political interference and lack of political support and contradictory decision making (Todes, 2012).

Strategic spatial planning is a tool that can be used to encourage or deter growth in certain areas. It is a tool that looks to guide development or at least to influence where investment should be going. This is no different in South Africa as well, because it is being used to encourage development within areas that were marginalized during the apartheid regime. Oranje (2010) believes that in the South African context strategic spatial planning is being used a tool to encourage platforms of thought sharing, discussion and mind-set shifts. This is because the reality on the ground is that it is fairly difficult to control or dictate where development, especially private development, should go. Guiding development is mostly common when it comes to municipal infrastructure spending, how the municipalities can influence where to spend on capital infrastructure projects in an attempt to entice development in areas that it does not usually occur in (Todes, 2008). The reality is that there is little evidence that planning can direct private sector development through spatial policy.

Urban planning theory questions the success of strategic planning, especially in terms of it being able to direct growth. Spatial planning within the South African context has not shown evidence of its being thoroughly effective (Todes, 2008). Literature in general has critiqued spatial planning because of its perceived detachment from other systems and processes (Todes, 2008). This is in relation to the missing links, coordination and alignment to land use and infrastructure planning (Todes, 2008). Todes (2008) sees this as a result of the concepts used within spatial planning in South Africa being difficult to realise because of the complexities and detachment to the realities on the ground.

Although these weaknesses and perceived failures have been identified in terms of spatial planning, a positive note is that the broadness of these plans can also be a good element. The broadness allows for flexibility. Linking this flexibility with other tangible physical planning tools and systems (such as land use management and infrastructure planning) can create an environment where the aims and

objectives are more likely to be realised. It may also provide room to understand and engage with the economic and socio-spatial factors affect development (Todes, 2008). For planners to be able to deal with these dynamics they have to develop an understanding of various influences and actors within the development space especially socially and economically (Odendaal and McCann, 2016). This will allow them a better understanding of the processes that influence urban development.

Linking these factors and gathering a holistic understanding of how they interact and affect each other, while linking them to tangible processes like infrastructure planning will allow for spatial plans to have more impact on the ground (Todes, 2008). The impact may not only be physical but it may create a communicative platform that opens up for the discussion and dialogue about development with valuable inputs from both the private and public sectors. Coupling these communicative processes with thorough stakeholder engagement and political backing can enable an environment that directs decision making and which enables the success of these spatial plans to a certain extent. This communicative element becomes an important cog of the development process as it plays a part in the decision-making process around the positioning of investment (Berrisford, 2011).

The complexity in the aims and objectives of spatial planning means that such planning should be considered more as a tool to frame mind sets and open up collaboration and discussion platforms (Todes, 2017). This should be one of the focal points of spatial planning especially if it seeks to have a serious input into the dynamic world of development (Todes, 2017).

The ideal function of spatial planning should be seen as vision that can guide both private and public investment (Odendaal and McCann, 2016). Spatial planning to some extent has failed to influence and guide private sector investment (Odendaal and McCann, 2016). This is being attributed to the gaps that these spatial plans possess because of the differences between the said plans and the realities on the ground (Odendaal and McCann, 2016). This creates a contradiction between the aims of the plans and what is happening on the ground and thus causes the desired effects of the plans to not materialise (Odendaal and McCann, 2016). One of the biggest elements that lead to such failures is the assumption that the state has more than its share of control on urban land. This is not the case, because the state usually has less land than private developers. Therefore it becomes problematic in guiding development as it is difficult to dictate development on land that you do not possess (Odendaal and McCann, 2016). These systems are able to constrain where and what development happens but cannot necessarily force development to happen. As alluded to earlier Odendaal and McCann (2016) suggest that plans should rather be used as a tool to guide the negotiations that may influence private sector investment. Therefore a sharing of ideas outlined by the plans may be more effective in swaying the private sector.

3.1.1 Johannesburg

Johannesburg is seen as a city of contrasts and this is as a result of apartheid policy which encouraged socio-economic disparities, which were based along racial lines (Bollens, 1998). This is evident spatially within the city because of the specific influence of segregationist spatial planning policy directed towards separate development (Ibid.). The spatial legacy of apartheid can be seen through inequality in the development trajectory of different areas around the city. The lack of equality is evident in the lack of equal distribution of facilities and services; social, economic and infrastructural (Ibid.). This has a created a highly inefficient picture of development around the city and especially in the historically marginalized areas (Ibid.).

Post-apartheid spatial planning has looked to remedy this situation and move away from the deep-seated inequalities found within urban areas (Ibid.). The approach has been to repair the

fragmentation caused by apartheid spatial planning, by deliberately targeting the “discontinuities” (Bollens, 1998; 714) and “integrating” (Bollens, 1998; 741) the CoJ.

In the context of the City of Johannesburg this is being done through the vision of creating a compact city model that is polycentric in nature. This is seen as a mechanism that will encourage integration and is being driven by the spatial development framework. Further to this the integration is being fostered through densification and infill development, in order to get the previously marginalized and urban poor closer to urban centres and areas of opportunity.

Post-apartheid spatial planning policy follows a new urbanism agenda because of the focus around compaction and anti-sprawl (Harrison, 2002). Although this positive solution in the drive to manage development the realities on the ground present challenges (Ibid.). Due to the nature of the development trajectory of South Africa’s urban centres people have learned to live with and adjust to some of the complexities of peripheral development (Ibid.). People have been able to find ways to traverse and navigate the issues related to sprawl by creating systems to deal with these challenges for example using the large stands on the periphery as a space to develop rental units to generate income. The availability and cost of land on the periphery has also driven the delivery of housing and development on the outskirts of the urban areas which are contradictory to the aims of the spatial policy of the city (Ibid.). Because of the history of Johannesburg’s urban development and the contemporary situation it becomes pivotal to find workable balances between development, growth and addressing the socio-economic disparities seen within the city and its fragmented urban landscape.

In the City of Johannesburg there seems to be a constant battle between the spatial development framework’s aims of addressing apartheid disparities and encouraging development through public sector expenditure versus the market and private sector led development (Herbert and Murray, 2015). The differences can be seen in the location of the two types of investment and development. The municipal spend is directed and mostly goes towards the marginalized or previously disadvantaged areas, while private sector development leans more towards the already established urban centres and the new middle/high income developments. This has created a split dynamic in the development trajectory of Johannesburg and these complexities often perpetuate the status quo and deepen inequality and fragmentation. It should also be noted that spatial planning cannot dictate development. What can be done amongst other things is to provide guidance and support at a public sector level in terms of investment spending (Harrison and Todes, 2001). It can foster engagements with and encourage the private sector to invest in ways that support its vision and also encourage development in certain areas through incentives. At a private sector level it can be an indicative process that points to the direction of envisioned development (Harrison and Todes, 2001).

Municipalities must manage and direct change within South Africa (Ahmad and Pienaar, 2014). Shaping and managing growth and development is happening through public sector capital investment projects and for this to be more effective political support is needed to ensure sound spatial restructuring. Private sector development is resisting spatial plans whichindicate desirable development patterns and seems to find it easier to continue old trends instead of venturing into unknown areas (Todes, 2014).

A major challenge with development and post-apartheid spatial planning is the ability to transform the marginalized areas (Ahmad and Pienaar, 2014). Stimulating growth within these areas relies on transforming them from dormitory mono-use areas into more dynamic and vibrant areas that can support diverse uses (Ahmad and Pienaar, 2014). Ahmad and Pienaar (2014) believe that using public investment is a way to drive this transformation and stimulate development in these areas.

3.2 Spatial development frameworks

Spatial planning in South Africa comes in various forms but the most significant is in the form of spatial development frameworks, which are usually taken as integral components of the integrated development plan (Magni, 2011). The spatial development framework in this sense is then a spatial representation of a municipality's five year plan, which outlines the development trajectory to be followed in the short to medium term (Magni, 2011). The spatial development framework is strategic in the sense that it looks to align and link both spatial and infrastructure planning making it more efficient to accommodate and make plans for development within urban areas (Ibd.). The spatial development framework has a strong land use management component tied to it, which is aimed at fostering a structured and functional land management system that assists the implementation (Ibid.).

The spatial development framework in the South African context is now guided by the 2013 Spatial Planning and Land Use Management Act (SPLUMA) and this Act states that the spatial development framework should have and make room for an infrastructure component within its planning. SPLUMA further alludes to the spatial development framework having to plan strategically for housing densities and location for delivery, engineering infrastructure and services over the medium term, identification of areas for development and regulation, aligning various municipal policies, departments and entities and influencing or guiding the medium-term expenditure framework of a municipality.

The literature around spatial development frameworks within South Africa points to them achieving three main objectives which can be used to inform outcomes based criteria for planning success :

1. To redress the apartheid spatial form and the inequalities that resulted from it. Ideally it attempts to enable people get better livelihoods and easier access to opportunities.
2. To improve the urban form of cities, therefore making them more functional and efficient. It also looks to link densities to transportation systems and mixed use development opportunities.
3. To spatially represent priority development areas and key priority points for the Integrated Development Plan (IDP) (Magni, 2011)

The spatial development frameworks within the South African context are faced with some serious challenges and by extension municipalities have had a difficult time in addressing the issues facing South African cities and their problematic urban form (Ibid.). This means that success in attempts such as compaction, strategic densification and reducing inequalities have been rather limited (Ibid.). In certain cases such issues have been exacerbated over time. Some of the major challenges faced by the spatial development frameworks include:

- Low density sprawl
- Segregation along class and race
- Spatial planning and its relevant tools like the spatial development frameworks not having the proper support within municipalities
- Spatial planning being viewed as a subservient practice and spatial development frameworks playing second fiddle to the IDPs (Magni, 2011)

Spatial development frameworks help guide development and they provide the needed tools and concepts for urban development. They usually look to promote:

- Strategic densification
- Mixed intensity and land use development

- Growth management
- Identification of key nodes for development; e.g. economic or transport orientated nodes (Magni, 2011)

3.3 Johannesburg Context

The City of Johannesburg is similar as well, because the spatial development framework is seen as a medium term framework that spatially outlines the city's medium term plans like the Integrated Development Plan. It also looks to align with the longer term strategic development plans like the Growth and Development Strategy (GDS) (2006, 2011, and now 2016) and the Growth Management Strategy (GMS) (2008) . The City of Johannesburg has been following this form of strategic planning since the amalgamation of the transitional local councils in 2000, which created the larger metropolitan municipalities (Magni, 2011).

The spatial development framework of the City of Johannesburg is largely influenced by the GDS and the older GMS, which is a long term spatial development strategy by the CoJ that identifies key points of development within the CoJ (Magni, 2011). This strategy also identifies key priority projects for the city in the medium to long-term (Magni, 2011). The GMS plays an integral role in the development and growth management of the city and is a requirement as per the guidelines of the Municipal Systems Act (Magni, 2011).

3.4 The Johannesburg Spatial Development Framework

3.4.1 Older Spatial Policy

The older versions SDF (2006 to 2010/ 2011) are influenced by the Growth Development Strategy (GDS) of 2006. The GDS links directly to the spatial policy through its main actions although it is not a spatial strategy in essence. This is the reason why the SDF is required to realise the spatial vision of the GDS. The 2006 GDS had 6 main actions or pillars which are:

- Absorbing the poor
- Balancing and distributing growth
- Mobility away from poverty
- Restructuring the city and its settlements
- Sustainability and preserving the environment

The Growth Management Strategy (GMS) of 2008 succeeded the GDS and was aimed at dealing with the CoJs developmental challenges. Like the GDS the GMS (partly focused on containing urban growth on the periphery) supports the SDF and its vision and is in line with the six main actions of the GDS as listed above. The main outcomes of the GMS are:

- Linking planning to infrastructure and budgeting
- Linking land uses via efficient public transport
- Managing the pace of development
- Reducing demand and strain on services
- Using land to support housing linked to the SDF

The spatial frameworks of the City of Johannesburg are fairly similar and have not changed much over the years: theystill have the same overall vision, strategy and areas of focus. They tell a similar story from 2006 to 2016.. The spatial policy looks to deal with challenges and manage growth in a sustainable manner . They aim to restructure the city and improve service delivery within the city.

They look to reach an ideal urban form which is efficient and discourages urban sprawl. The objectives of the previous frameworks are as follows:

- Efficiency in movement systems
- Strong nodes
- Environmental management
- Contain urban sprawl through the use of an Urban Development Boundary (UDB) and managing growth
- Strategic densification
- Sustainable housing

The differences though lie in the focus areas and the type of urban development trajectory followed. The previous SDFs focussed on mobility, density, accessibility and nodal development, whereas the newer direction encompasses these older focus areas but adds more emphasis on corridor development and transforming certain areas of potential into new urban centres. The older spatial frameworks prioritised the marginalized areas including Soweto and planned to transform these areas and eradicate poverty within them.

The newer spatial policy of 2016 has a similar focus but takes a different turn when dealing with the marginalized areas and Soweto. Soweto is no longer regarded as a marginalized area. It is regarded as being part of the transformation zone, an area of development potential that can flourish if managed correctly. The other marginalized areas remain somewhat similar but the focus is on limiting development within these areas and providing infrastructure only to deal with service delivery backlogs. Therefore the growth of these areas is discouraged. What remains constant within the spatial policy is the Transit Orientated Development focus and the realisation that a strong transportation backbone can help ease some of the City's challenges.

3.4.2 2016 Spatial Policy (SDF 2040)

The SDF in the context of Johannesburg can be defined as a city-wide spatial planning document that sets a vision for the city's development and also identifies and aims to remedy the challenges and issues faced by the city (CoJ, 2016). It is seen as more of a dynamic long-term strategic planning tool to enhance spatial transformation instead of being a rigid master plan looking to dictate development (CoJ, 2016).

The City of Johannesburg's SDF has a strong transformation agenda entrenched within it and as a result it has four main principles that help it in achieving this transformational agenda and they are namely:

- Spatial justice
- Sustainability
- Resilience
- Efficiency (CoJ, 2016)

These principles are aimed at fighting spatial inequality and the identified job- housing mismatch that is prevalent within the City of Johannesburg. These principles consistent with the Spatial Planning and Land Use Management Act (SPLUMA), which guides how spatial policies need to be drafted and what they should contain and by extension address. The SDF looks to resolve five main issues namely:

- Environmental degradation related to development pressures
- Fragmentation and sprawl

- Inequalities and developmental mismatches
- Exclusion
- Low densities (CoJ, 2016)

The City of Johannesburg's SDF has a vision for compaction and dealing with underperforming areas with high rates of inequality (CoJ, 2016). This vision for compaction looks to relieve the pressure on the city in terms of infrastructure provision and accommodating new development (CoJ, 2016). The plan is to concentrate development in areas that already have infrastructure and in turn utilise that infrastructure more efficiently instead of extending the City's already stretched infrastructure to new areas (CoJ, 2016). The SDF looks to connect people to infrastructure and services within a sustainable manner that will allow for an efficient and equitable distribution and access to resources for all, hence the focus on service delivery in the long-term development strategies (CoJ, 2016).

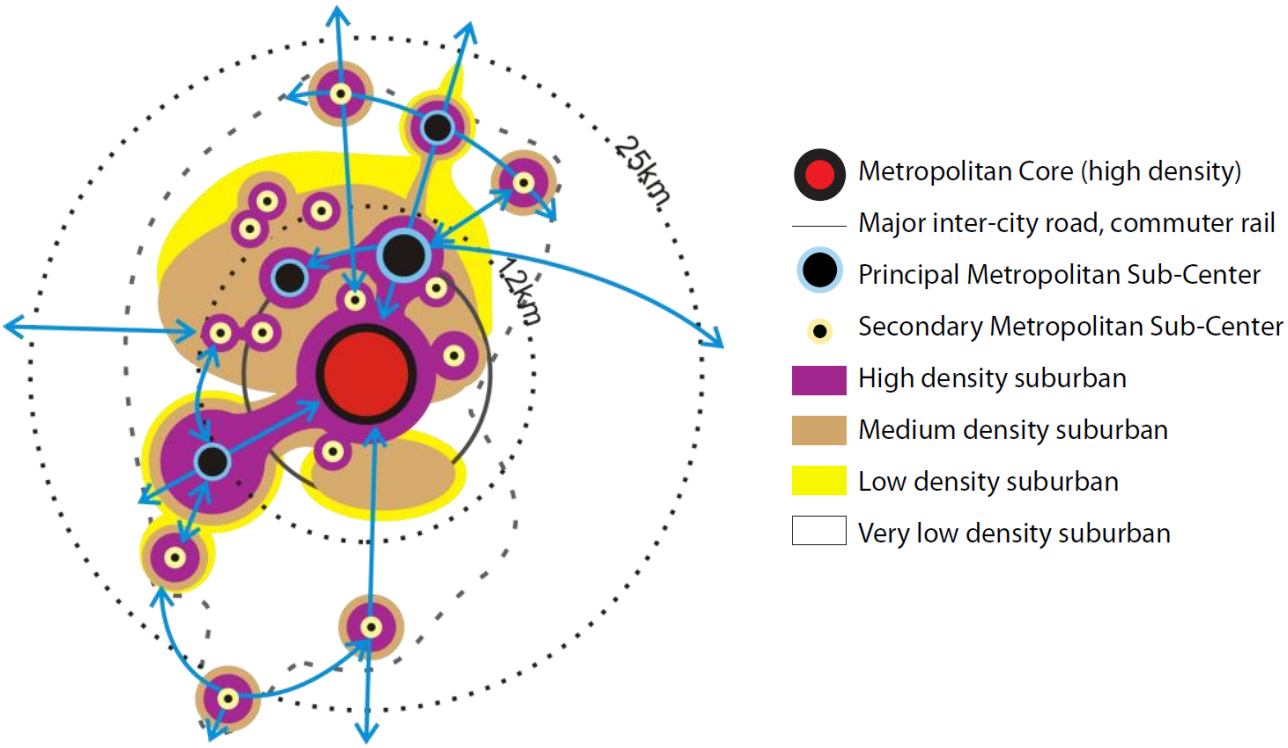


Figure 4 Johannesburg's Envisioned Polycentric City Structure as per the SDF

The general spatial vision of the City of Johannesburg is to have what they describe as a compact polycentric urban form (CoJ, 2016). This is a form that is identified as being the best suited to efficiently and sustainably manage the growth of the city and its infrastructure needs (CoJ, 2016). The model looks to connect people to opportunities and therefore assist in solving the socio-economic and infrastructural issues facing the city (CoJ, 2016). The SDF is similar to other strategic spatial plans because it too has a strong nodal and development focus (CoJ, 2016). The SDF has a strong focus on transport orientated development and strengthening existing nodes. The objective of this focus is to move people easily and quickly into areas of opportunity, therefore giving them a more equitable access to the city (CoJ, 2016). This is in order to enhance economic growth and opportunity while also creating a platform for the creation of sustainable livelihoods (CoJ, 2016). The main concepts that are echoed throughout the SDF with regards to the creation of socioeconomic areas of benefit are:

- Compaction

- Inclusivity
- Connectivity
- Resilience
- Generative (CoJ, 2016)

The SDF has specific areas of focus. But only the areas within the transformation zone are areas of priority as per the CoJ's spatial targeting and Capital Investment framework (CIF) (CoJ, 2016). These are areas where capital infrastructure investment is to be directed as a city priority (CoJ, 2016).

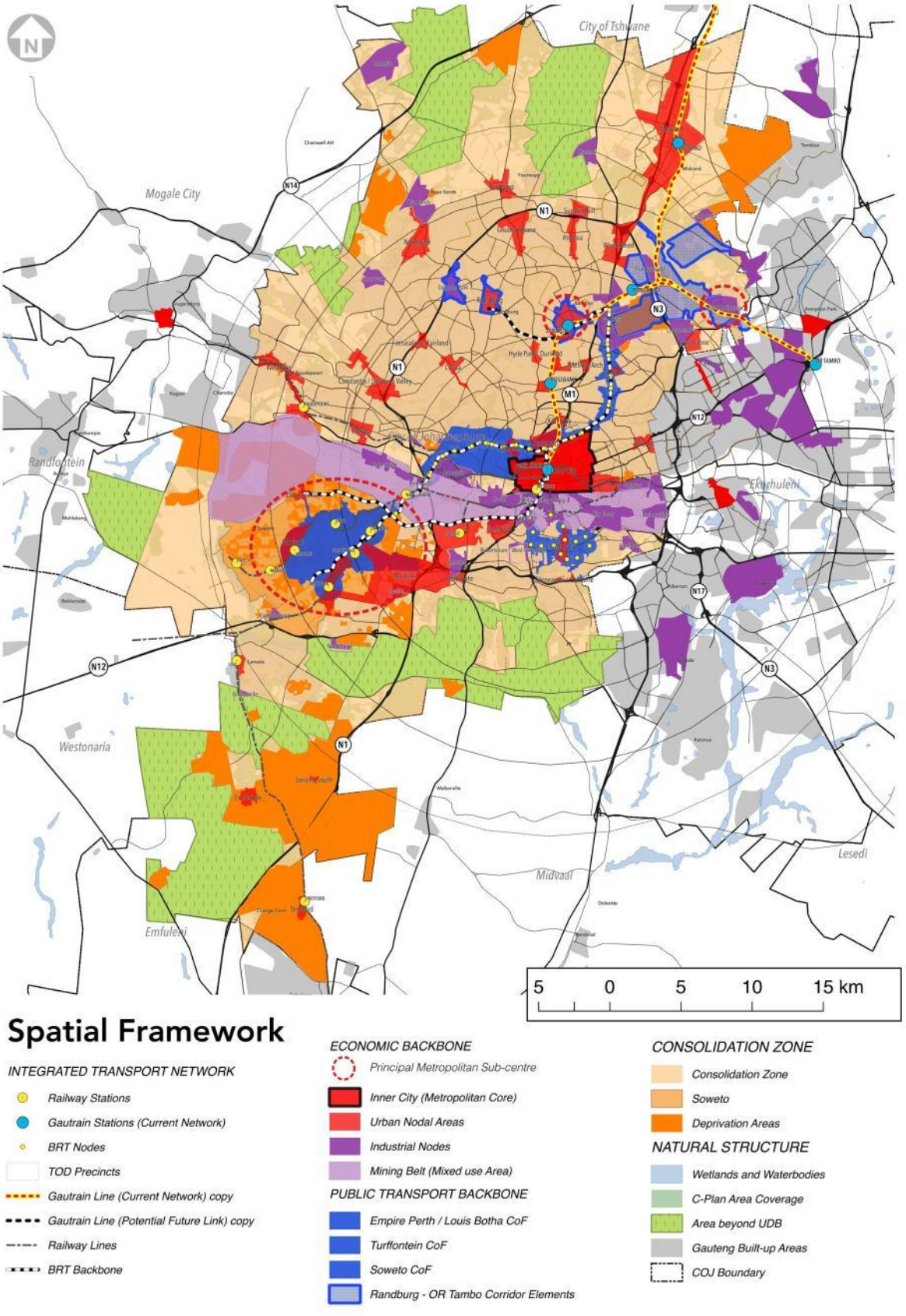


Figure 5 SDF Spatial Framework (CoJ, 2016)

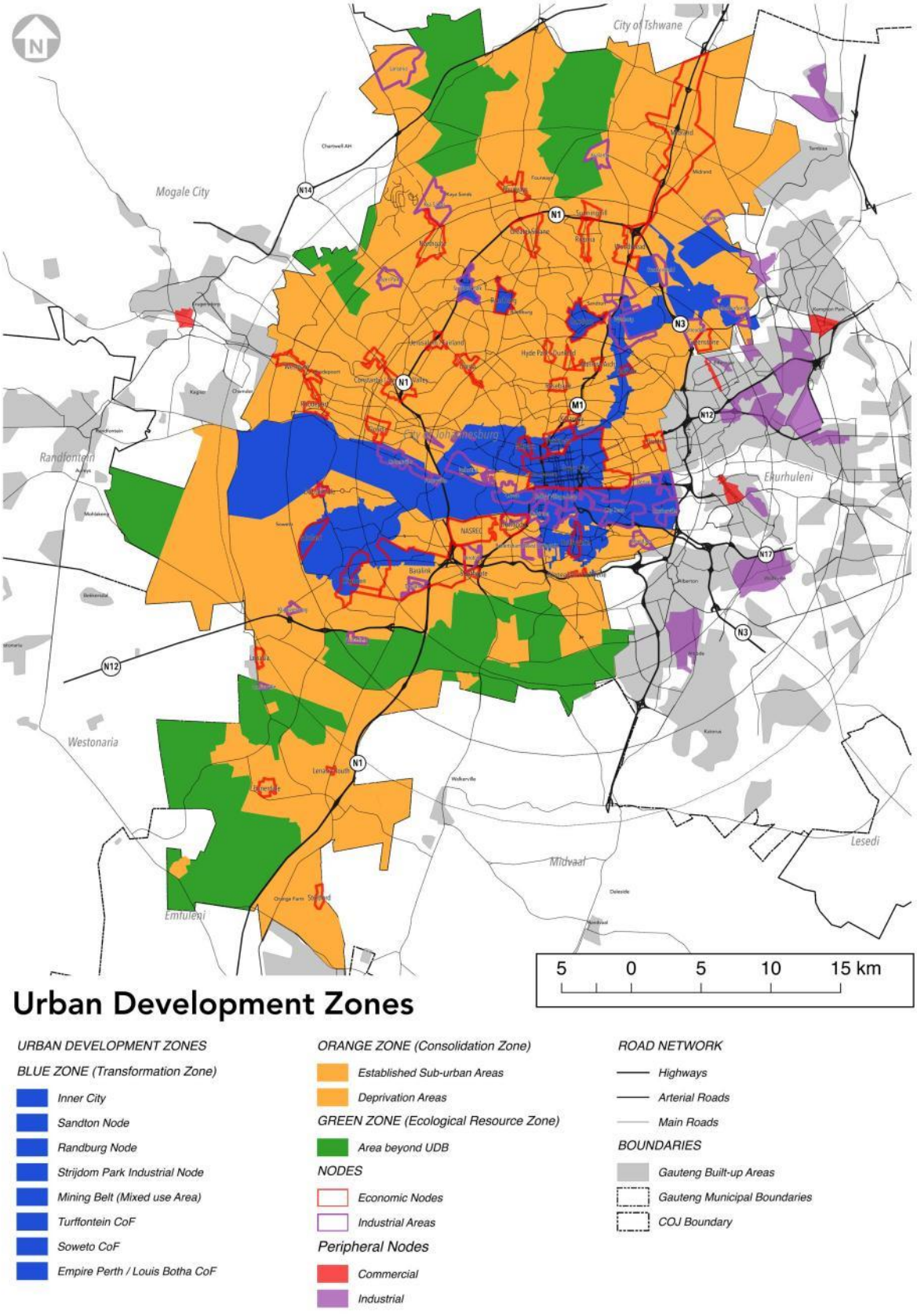


Figure 6 SDF Urban Development Zones (CoJ, 2016)

3.4.3The SDF 2040 Urban Development Zones:

3.4.3.1Transformation Zone:

The Transformation zone is a strategic area of development focus for the City. It is an area where development is promoted and the supporting infrastructure is accessible for promoting development.

Transformation Zone	Focus
Mining Belt	A historical mining area of the city previously used as a separation or buffer zone between the inner city and the townships to the south west of the city. It is now identified as an area of potential in terms of linking the city and creating economic activity
Corridors of Freedom	Development corridors based on public transport backbone and Transit Orientated Development (TOD). Looking to create compact residential development and economic activity along major movement spines across the city. Include: • Turffontein • Soweto • Louis Botha • Empire Perth
Inner city	The historical economic centre and Central Business District (CBD) of the Johannesburg area.
Economic Nodes	Centres of economic activity and intense mixed land uses within the city in a well-defined urban environment
Industrial Nodes	Centres of industrial and manufacturing activity within the city in a well-defined urban environment set aside for light to heavy industry

Table 4 SDF Transformation Zone Breakdown

3.4.3.2 The Consolidation Zone

The consolidation zone is an area of general urban activity within the urban development boundary but not within the transformation zones identified by the SDF 2040. This area includes:

- Established built up areas
- Deprivation/ marginalized areas
    - Informal Settlements

The marginalized areas are further split into 3 categories, namely:

Deprivation Category	Characteristics	
Category 1: Relatively well located in the urban context	- Good transportation - Close to centres of economic activity - Good urban connections - Central location	Alexandra, Ivory Park
Category 2: Western suburban fringe	- Fragmented structure - Variable connectivity	Diepsloot, Zandspruit

	- Far from economic centres	
Category 3: Peripheral areas	- Fragmented structure - Poor connectivity - Far from economic centres - Low functional coherence to urban centres - Low economic base	Poortjie, Orange Farm

Table 5 SDF Deprivation area category breakdown

This research report focuses on the consolidation zone especially the deprivation areas. The reason for this focus is to test whether or not the SDF is achieving its goals of making these spaces better in terms of socioeconomic development and enhanced livelihood. The deprivation areas fall outside the areas that are earmarked for direct investment by the City, which is problematic because these areas have a high level of poverty and they lack basic socio-economic and infrastructural development. The SDF identifies these areas as being problematic but has only earmarked them for service infrastructure backlogs in terms of capital investment and infrastructure expenditure (COJ, 2016, p.54). This is because the CoJ sees these areas as areas that should not be expanding because of their developmental [1]challenges. And with the peripheral location of most of these areas the CoJ does not identify them as areas of expansion in density and housing provision. This becomes problematic as it seems that these areas are growing despite this focus and the challenges they face. These areas are instead embracing informality to a certain extent in order to deal with the pressures that they face.

The City has also placed a focus of mass transit and mixed land use development in these areas in order to help combat the dormitory nature of most of these deprivation areas. But the echoing words of the SDF within these marginalized areas is that expansion should be limited and a focus placed on solving historical service delivery and infrastructure challenges. The concerns are that these areas will lag behind in terms of development. This is because the SDF is proposing solving infrastructural backlogs but leaving out investment to enhance development within these areas.

[1] The better located marginalised areas are seen as prime targets for connectivity and integration into the greater metropolitan area. Within these areas a focus is placed on strengthening the links to economic centres through connectivity and mobility and enforcing a strong public transport backbone along with addressing the infrastructure and service delivery backlogs.

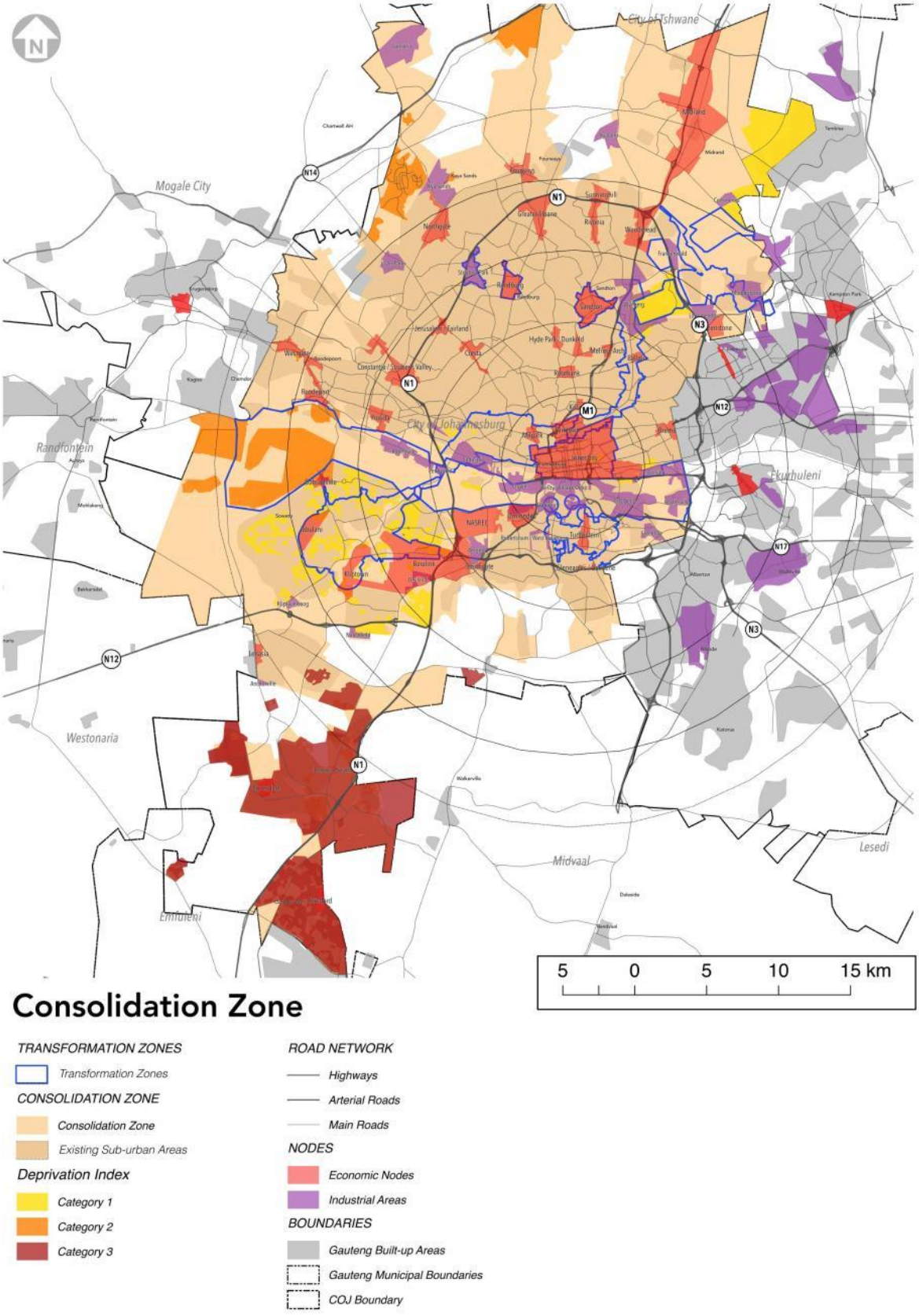


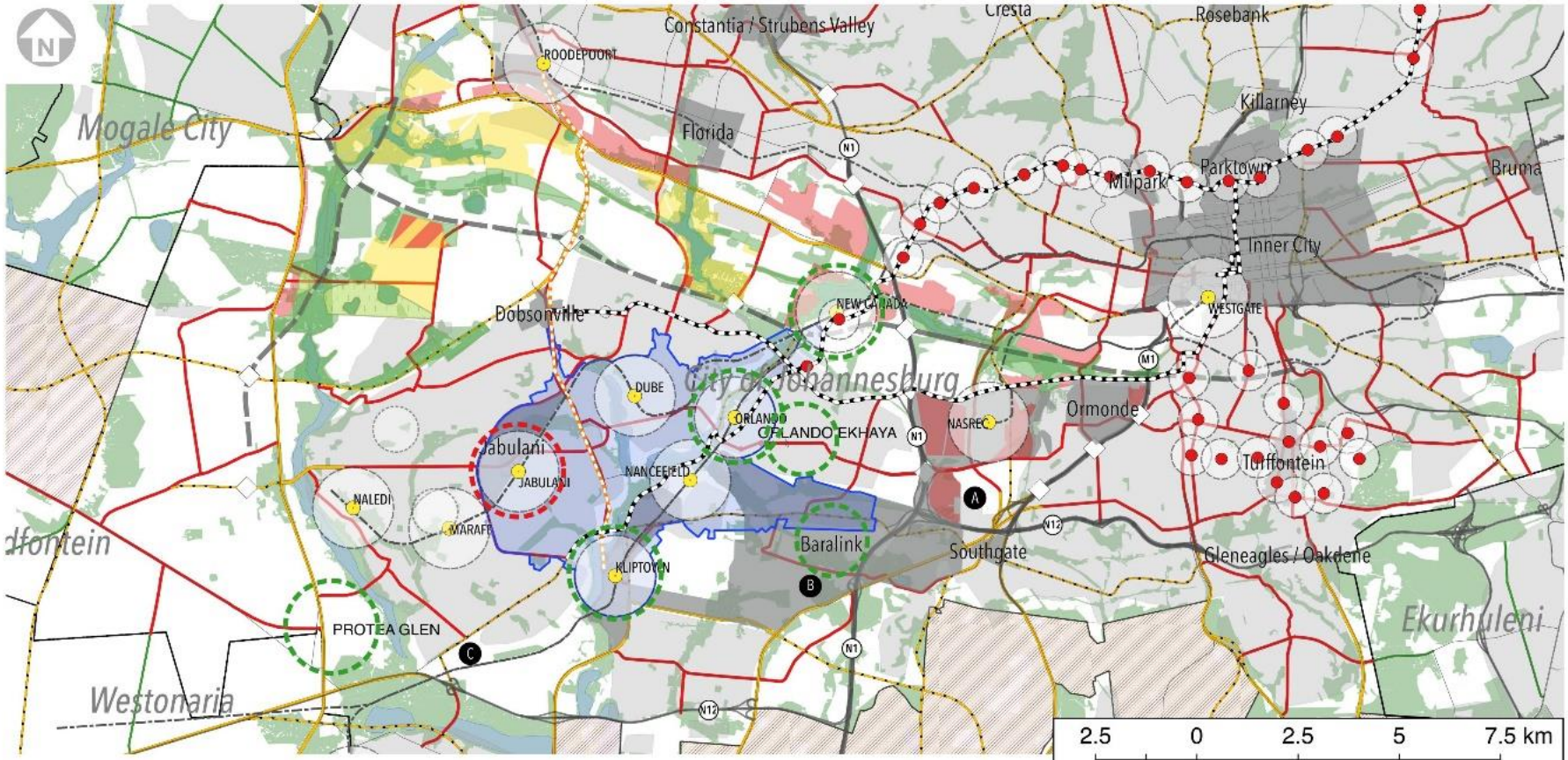
Figure 7 Consolidation Zone (CoJ, 2016)

3.4.3.3 The Differences of SDF 2040 to Preceding SDFs

The SDF 2040 has a focus on containing development within the marginalized areas and only supporting development in areas where it is feasible and supports the compact polycentric city model. It differs from the previous SDFs because it does not place as much a focus on the marginalized areas as the other pre-2016 SDFs, as is evident in the the CIF and the spatial targeting of the Built Environment Performance Plan (BEPP). The SDF 2040 looks to address infrastructure backlogs within these areas while also allowing a spatial configuration that supports local economic development. Increasing the size of these areas in terms of more housing densities is not encouraged. The marginalized areas are categorised and have a differing focus in terms of development rights within the land use scheme. The well located areas that have access to amenities may have more rights in terms of densification and potential expansion if necessary, while the more peripheral areas are being contained and the development rights are restricting growth. This is in order to uphold the integrity of the Urban Development Boundary (UDB), beyond whichdevelopment is restricted.

The SDF 2040 also attempts to transform Soweto, which is a historically marginalized area, by placing it within the transformation zone. This was done specifically to transform Soweto into a true mixed use district of the city as it houses about 40% of the City's population. Soweto is seen as an area of economic potential which has to be properly harnessed and supported for the potential to be realised. Soweto as a district within the SDF 2040 includes a strong TOD focus and a transit backbone in terms of the Soweto Corridor of freedom.

- The suggested areas of focus within Soweto are:
- Unlocking the land market
- Land readjustment and promotion of mixed land use activity
- Investigating the viability of TOD
- Local Economic Development



Soweto Emerging Structure

PUBLIC TRANSPORT NETWORK

- BRT Stations
- BRT Line
- Local TOD Nodes
- Rail Stations
- Railway Lines
- Regional TOD Nodes
- Soweto Roodepoort Link

URBAN STRUCTURE

- Commercial
- Industrial
- Mixed Use
- Open Space
- Residential
- Sub-Station
- Urban Agriculture
- Soweto CoF
- Key Urban Nodes

ROAD NETWORK

- Interchanges
- Highways (Existing)
- Highways (Proposed)
- Arterials (Existing)
- Arterials (Proposed)
- Collectors (Existing)

BOUNDARIES

- Gauteng Built-up Areas
- Gauteng Municipal Boundaries
- COJ Boundary
- Wetlands and Waterbodies
- C-Plan Area Coverage

KEY INDUSTRIAL AREAS

- A AEROTON INDUSTRIAL AREA
- B DEVLAND INDUSTRIAL AREA
- C MIDWAY INDUSTRIAL AREA

KEY URBAN HUBS

- Primary Urban Hub
- Secondary Urban Hub

Figure 8 Soweto as a "true district[2]" according to SDF vision (CoJ, 2016)

3.5 Johannesburg Spatial Policy

The growth and development strategies of Johannesburg were implemented in from 2006 and have developed in more recent times from the Growth Management Strategy (GMS) into the Growth and Development Strategy (GDS) (Jackson, 2015). The overall purpose in the implementation of these strategies particularly the GDS was to bridge the gap between infrastructure provision and development patterns within the CoJ and to link a spatial element to the overall vision (Jackson, 2015). The focus of these strategies was on the conservation and management of resources within the aim of bridging the gap between municipal development goals and private sector development (Jackson, 2015). The GDS aimed to guide development within the city and to align the growth trajectory of the city with the development vision as set out by the IDP and the Spatial Development Framework (SDF) (Jackson, 2015).

The long-term strategic plans of the City are a response to the need for a detailed long-term growth plan for the CoJ and to finding ways to accommodate growth and development within the city in a sustainable manner (Jackson, 2015). These plans primarily describe where development should happen and how it should happen (Jackson, 2015). These plans link the growth vision to infrastructure availability and provision. They look to utilise infrastructure in a sustainable manner (Jackson, 2015). Therefore these plans can be taken as primarily as growth control tools that control where development is allowed and discourage development in areas where it is not envisioned, especially those beyond the UDB, hence enablingthe City to meet its intended further development goals and vision (Jackson, 2015).

These strategies focus primarily on certain key areas like:

- Cross sectorial driven development
- Service delivery
- General growth and development
- Improving transport provision and facilities (Jackson, 2015)

The objectives of these strategies are namely:

- Area prioritization
- Directing capital investment
- Addressing infrastructure backlogs
- Promoting controlled development
- Monitoring infrastructure provision and operation (Jackson, 2015)

3.6 Townships

The township is defined as an underdeveloped area reserved for non-white urban residents during apartheid in South Africa (Pernegger and Godehart, 2007). The townships in general were and still are

[2] "**Unlocking Soweto as a True City District**
Transform Soweto into a liveable city district in its own right with access to jobs and the full array of urban amenities. Create a series of self-sufficient mixed-use nodes as growth points for jobs within the area. Develop mixed land uses (particularly economically productive ones) and social services, making use of a good street pattern and public transport."(CoJ, 2016, 103).

underprivileged and despite this they have continued to grow even after the abolition of apartheid (Pernegger and Godehart, 2007). They have developed into areas of with low levels of social and economic development and informal settlements. Townships are viewed as a challenge in general by the national government because of their serious developmental setbacks and limitations (Pernegger and Godehart, 2007). These are areas that are characterized by high poverty, unemployment and social ills (Pernegger and Godehart, 2007).

The national government along with the other two spheres have targeted townships as focus areas in terms of transformation and general regeneration (Pernegger and Godehart, 2007). This is because of the perceived latent potential for growth and development (Pernegger and Godehart, 2007). Government aims to stimulate and enhance growth within these areas, especially through capital investment and infrastructure spend (Pernegger and Godehart, 2007). This has resulted in a number of plans and policies that are targeted at remedying the vast developmental issues within the townships through the promotion of development concepts like nodes and corridors, which is a direction that is following the global trends in terms of economic revitalisation and development (Pernegger and Godehart, 2007).

Government prioritises townships and township development (Jurgens and Donaldson, 2012). Townships still exhibit the structure of apartheid policy and planning, change is happening but at a very slow pace despite efforts being directed at remedying this (Ibid). Townships in recent times, like the overall economy have been changing and are being pushed towards post-industrial economies, but they are not equipped to function in this way (Ibid). As a result there has been growth in poverty, unemployment and social issues related to movements in the economy as a whole and limits on education and skills. Generally townships are consumption spaces because of the growth of retail and hospitality sectors within these spaces despite having developmental challenges (Jurgens and Donaldson, 2012).

Much focus is being placed on townships because in general these areas require serious developmental support in order to function and move towards sustainable development goals (Pernegger and Godehart, 2007). In terms of economic development there needs to be investment attraction and business development (Ibid).

3.7 The Neighbourhood Development Partnership Grant

The Neighbourhood Development Partnership Grant (NDPG) was introduced in 2006 in order to stimulate township investment and development (Maesela, 2018). The main focus of this grant was to redress the lack of investment that is prevalent in the former apartheid townships (Ibid). This implementation was administered through a grant from the National Treasury in specific areas that are faced with socio economic and infrastructural challenges (Maesela, 2018).

The main issues targeted by the NDPG include:

- High unemployment
- Underperforming property markets
- Low income retention
- Poor and undiversified economies
- Limited private sector interest (Maesela, 2018)

The NDPG was looking to enhance township nodal development plans and municipal capacity within integrated planning (Maesela, 2018). It focused on developing capital works, social and public facilities (Ibid). These targeted areas of development were to generally assist in building private sector

investment interest within the townships or deprivation areas in the case of Johannesburg. Private sector investment was targeted to come to townships and stimulate the lagging local economies (Maesela, 2018). This was to be done while also aiming to combat public sector challenges in improving development and enhancing livelihoods (Maesela, 2018).

The grant looked to enhance these areas by creating socio-economic integration and development within them (Mseleni, 2017). It is therefore focused on enhancing the local economies and creating jobs, in order to allow these areas to be more resilient (Ibid). This followed the same notion as that taken by the Johannesburg SDF when it comes to the marginalized areas. It looked to rejuvenate these areas while also reducing the challenges and social ills within these communities so that they can attract investment or at least start to look a bit more appealing to private investment. It is also important to note that the grant has been focused on a limited set of nodes since about 2014 and within Johannesburg that focus has been Jabulani within Soweto, linking to spatial plans through the IDP and the BEPP.

The NDPG had a strong urban renewal focus and links because it identified physical infrastructure provision as the key to enhancing both social and economic opportunities (Maesela, 2018). It therefore looked to improve townships through the provision of services and in the process create job opportunities and attract further investment (Ibid).

The NDPG approach is being viewed as not entirely effective in solving the issues that are prevalent within townships, especially when it comes to combating the high rates of inequality within these communities (Ntombela, 2016). The focus that is placed on capital projects has not shown an improvement in people's livelihoods and general quality of life, especially if the planning and implementation of those capital projects has been poor from the beginning (Ntombela, 2016). The move to enhance public transportation in order to link townships to urban centres has also not shown the desired results. This is because the links that have had success are limited and the benefits are not seemingly enough to actively change the situations within these communities (Ntombela, 2016).

Other issues are related to the limited investment that is attracted to these townships is usually not retained within these townships (Ntombela, 2016). The retail developments which are largely prevalent in most townships only benefit the external businesses and have no valuable trickledown benefits for the immediate communities (Ibid). The reason behind this is seen as the absence of the fundamental elements of a functioning economy within these communities. Generally the NDPG has had limited success in enhancing townships, township renewal and township economies (Ntombela, 2016). The persistent issues and trends of poverty, unemployment, inequality, and limited private sector investment are still largely prevalent (Ntombela, 2016).

3.8 Conclusion

The chapter looked at the policy and spatial planning context of the City of Johannesburg. The chapter showed that Johannesburg is driven by a structured system of plans and policies that look to guide its development. These plans and policies look to create an environment that is sustainable and allows for improved settlements and livelihoods. The chapter has also shown that Johannesburg draws from and works with policies from other spheres of government. What is clear is that the vision for a future Johannesburg is driven through the need to overcome historical developmental challenges and look to remedy them by both promoting and controlling development and trying to align this to a greater long-term vision.

The spatial policy of the CoJ has also transformed over time with a change in focus areas and how development is supported and driven. Although the core elements of the policies remain the same,

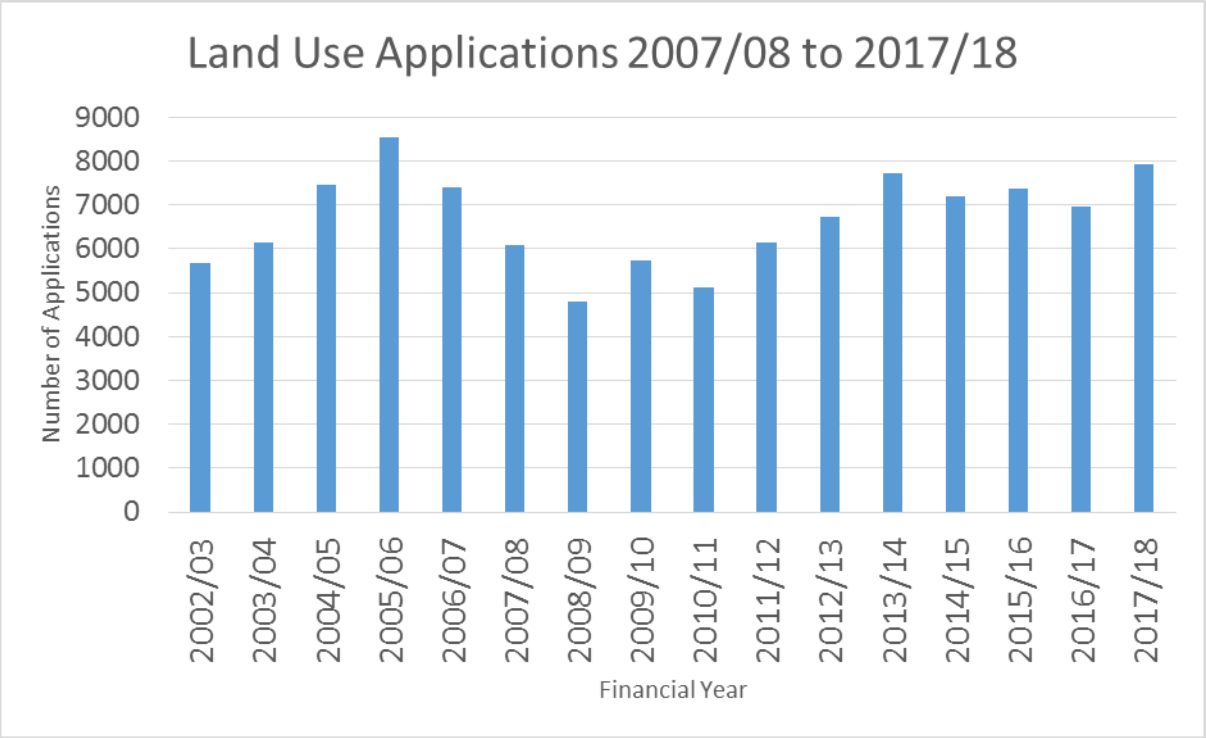
there have been changes in how development is handled and what paradigm is supported. What is evident as well is that the marginalized areas are still areas of concern and the policy aims to deal with these areas and their challenges. However a different approach is taken and some areas are being looked at in terms of latent potential and the ability to flourish instead of the challenges that are faced. This shows a renewed way of thinking regarding development in the marginalized areas and an interesting development trajectory for the newer SDF 2040. The next chapter will look at the finding of the research and work towards and analysis and initial findings for the research.

4. Chapter 4: Findings

4.1 Introduction

This chapter presents the findings based on analysis of data representing the town planning and building plan applications captured by the City of Johannesburg. The chapter identifies patterns that emerge within the data from 2007 to 2017 to see if there is any consistency with the goals of the Spatial Development Framework of the City. The chapter also looks at funding allocated specifically to the marginalized areas of the city to determine if this complements where formal development applications are going, and also its consistencies with the SDF. The chapter focuses on the more recent Medium Term Expenditure Framework of the City that is influenced by the Spatial Development Framework.

4.2 Town Planning Applications for the CoJ Overall

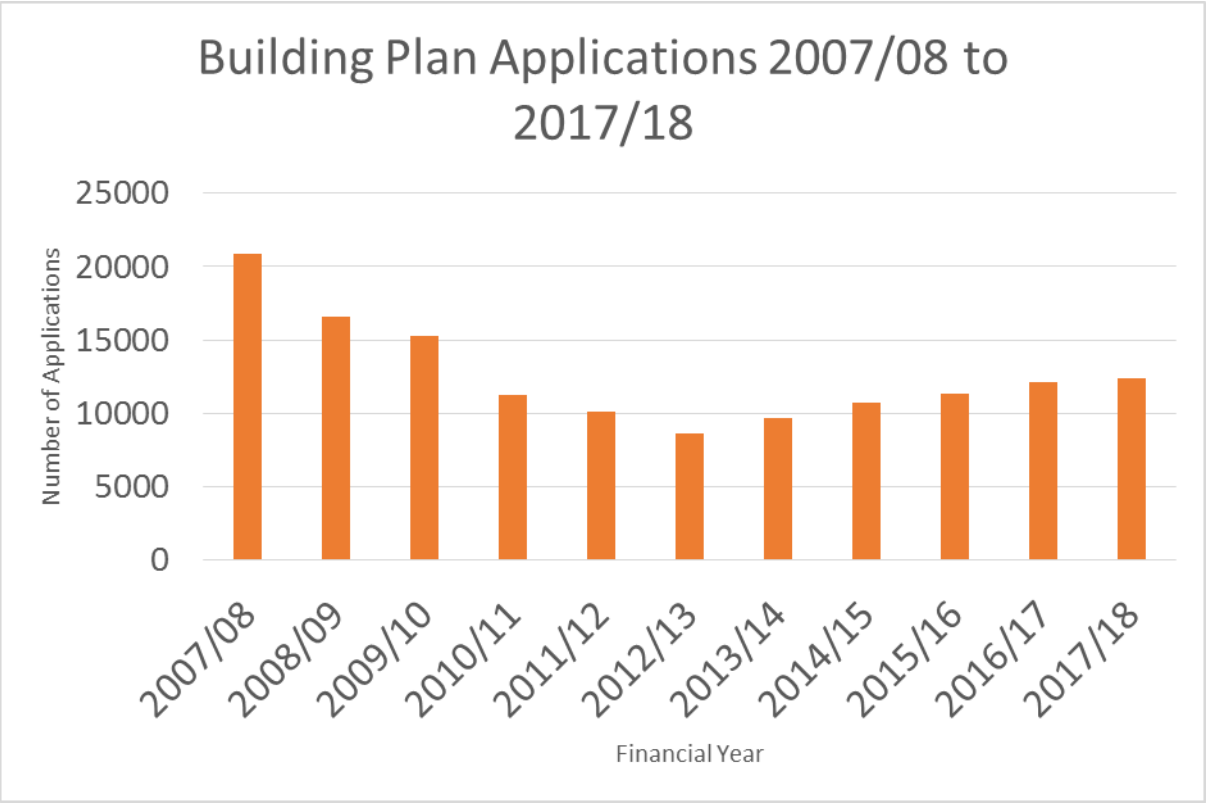


Graph 1 City wide town planning applications from 2007 to 2018

The graph above shows a fluctuation in the land use applications (town planning applications used for altering existing land uses) received by the CoJ over a 13 year period. This fluctuation is an indication that there are factors that influence the development process and it is clear that when the development appetite is high then the number of town planning applications submitted and captured by the City is also high. One can see that development is impacted on by market and financial factors, because around the time of the global recession the amount of applications also decreased, indicating a lesser appetite for development and redevelopment of land.

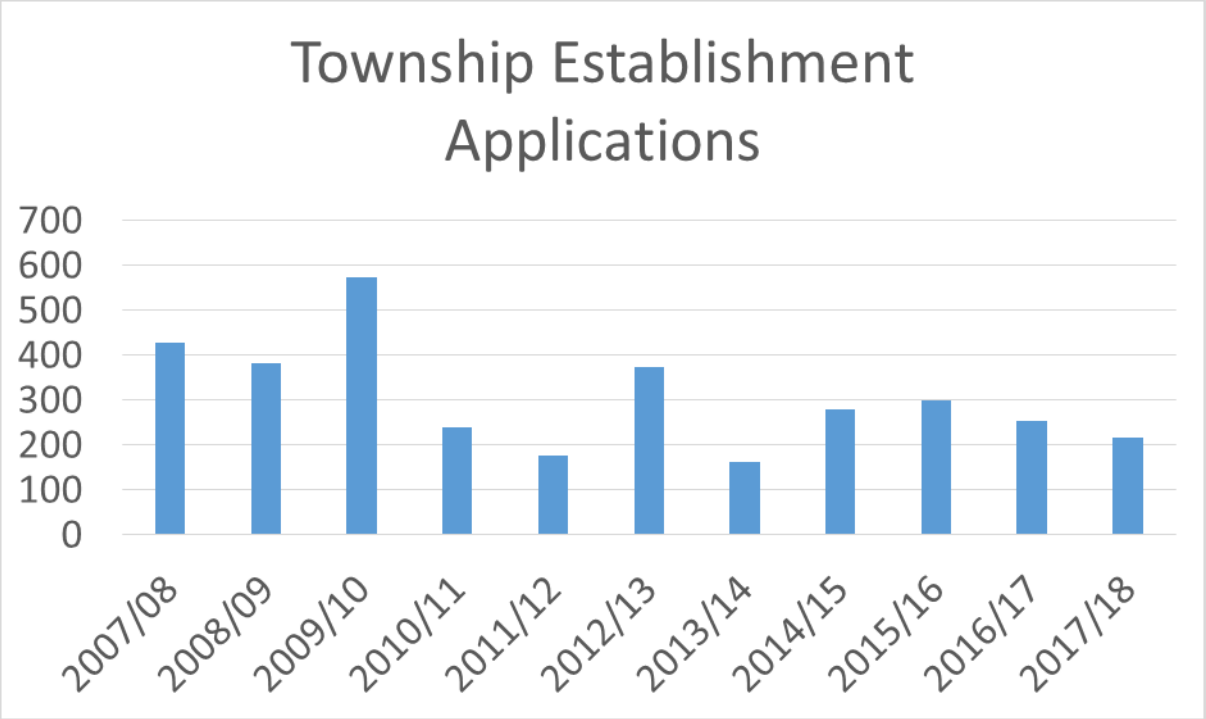
The graph seems to follow a particular cycle with similar peaks and troughs every 5 or 6 years. What is different though is the slight peak around 2010. This peak reflects the atmosphere of development potential ignited by the 2010 FIFA world cup, when Johannesburg was one of the host cities and hosted the final game. Towards the latter years there also seems to be a rise signalling stronger development appetite within the city with a strengthening support for stimulating development by the city through the 2016 Spatial Development Framework and the focus on Transit Orientated Development around the Corridors of Freedom. This rise could be attributed to the fact that the policy focus aimed at

creating a better landscape for development by setting up a system that makes it easier to develop through more efficient and fast tracked administrative and legislative systems.



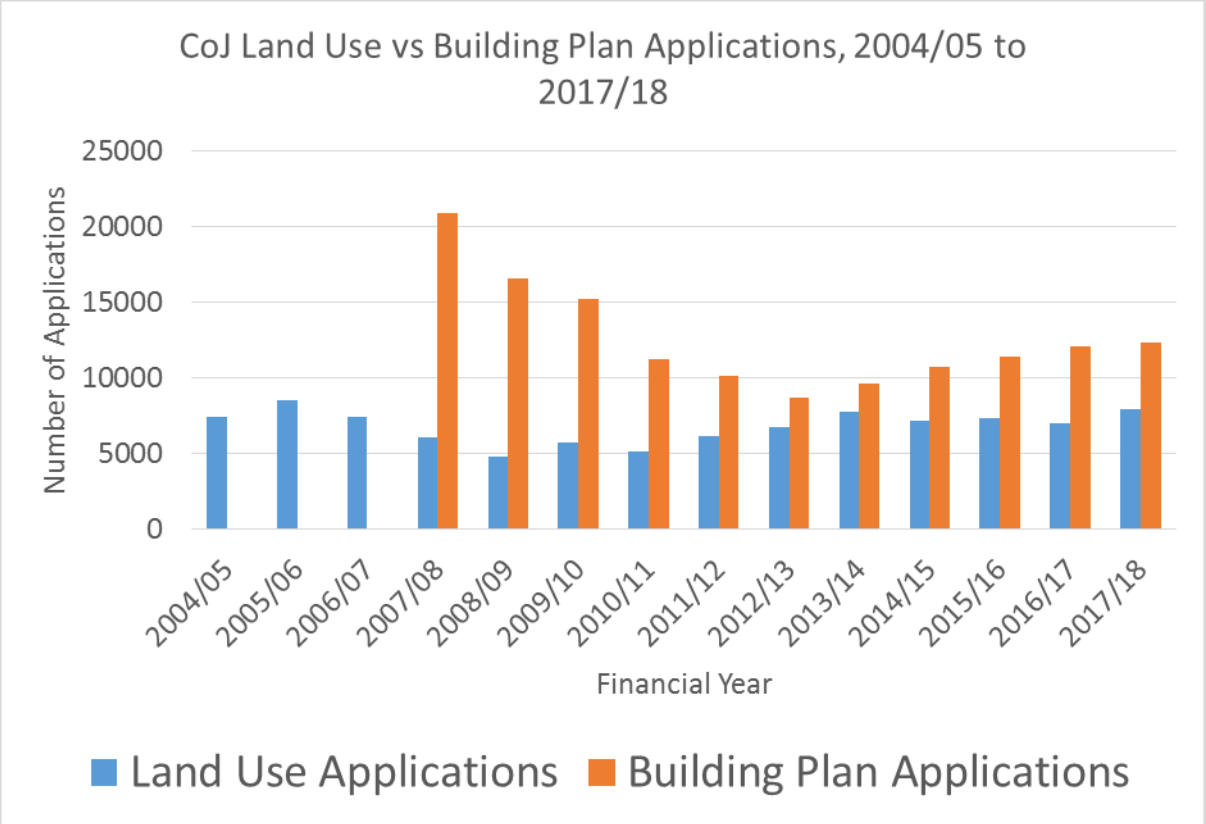
Graph 2 City wide building plan applications from 2007 to 2018

The building plan applications (development application for altering a building's layout) tell a slightly different story as they seem to have peaked at the beginning of the 10 year period from 2007/8 and have declined and now grown as compared to the land use applications. The graphs both follow a similar pattern but the building applications captured formally seem to show a positive move towards development. What is evident though is that there is a bit of growth in the latter years towards 2018 as the policy landscape of the City looks to catalyse development within the city. It seems as if developers are looking to re-use buildings for different land uses because of the changes in usage patterns in the CoJ. This is evident, for example in the redevelopment of office blocks in the inner city and nodes like Randburg into residential buildings because of the high demand for well-placed accommodation within the city.



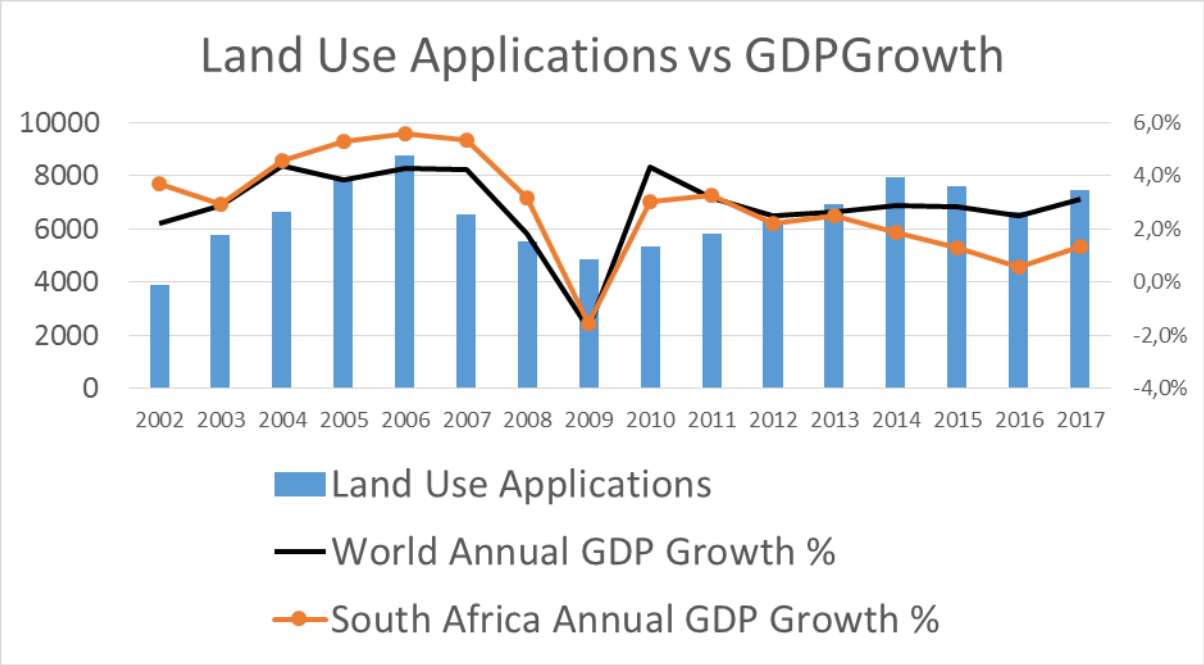
Graph 3 City wide township establishment applications from 2007 to 2018

A similar pattern can be seen with the graph above on townships applications, which largely reflects greenfields development. But what is evident is that far fewer greenfield developments are being applied for as compared to other forms of development. Therefore the development appetite is towards infill and brownfields redevelopment instead of brand new large scale developments. The graph does indicate though that there are still a few applications that are for greenfield development. These developments are the ones that are being discouraged by the Spatial Development Framework in an attempt to limit sprawl and the subsequent strain on municipal services.



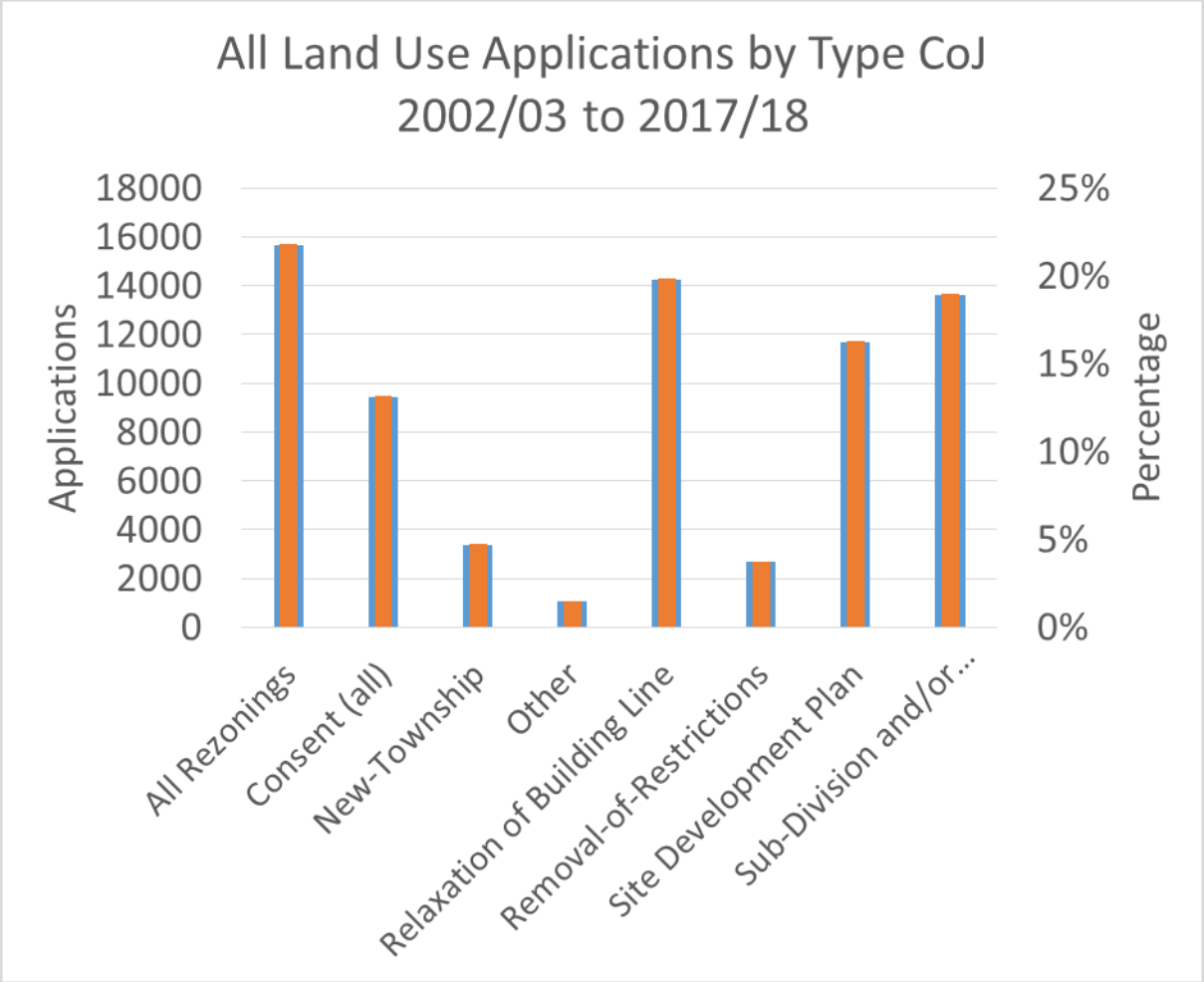
Graph 4 City wide town planning and building plan applications from 2004 to 2018

The graph above is a direct comparison between the town planning and building plan applications captured by the city. What is evident as mentioned earlier is the similarities and differences in the overall trend within the two graphs in terms of the peaks and troughs. What stands out is the higher number of building plan applications as compared to the land use applications. As mentioned earlier this suggests a trend of redevelopment of existing building and re-using them more efficiently or for more in demand uses. This also indicates people investing within their properties in terms of alterations and extensions to their properties, whether houses or buildings. Although there is higher number of building applications, it is still fairly evident that economic factors like the global recession can have a strong negative impact on development in some cases as per the town planning applications and keep investors from investing because of perceived low returns. In some cases though like in the building plan applications this is not the case and the impact was not negative and there seems to have been a lag in when these applications started falling. This is because the building plan applications seemed to have peaked at the beginning of this period.



Graph 5 City- wide town planning applications versus GDP growth from 2002 to 2018

The graph above supports the notion that market and economic forces have an impact on the development process for cities. This is because there seems to be an alignment between the development applications and the both the global and national Gross Domestic Product (GDP) numbers. The graph shows that that when global and national GDP are strong then the appetite for development is higher and when there is a dip in the GDP numbers then development follows as well. This suggests a tie between the financial markets and the perceived investment return on redevelopment. In some cases there may be differences due to the way international markets affect development trends locally. The local GDP seems to fall and the applications still seem to rise, this indicates that the markets are not fully aligned to development trends on the ground and developer interests. When market forces are strong the likelihood of greater investment returns are higher as compared to perceived lower returns when the markets are at a low. Therefore one can see why the Spatial Development Framework of the city looks to find ways to boost local and national GDP numbers because it means a better environment for investment. And with greater investment the city can start to accelerate and improve service delivery while also looking to create value from infrastructure expenditure to support development.



Graph 6 All city wide town planning application types from 2002 to 2018

The graph above shows the types of applications that have been received by the city. The graph similar to the previous graphs (graphs 1 to 5) indicates that there are more redevelopments and brownfields developments within the CoJ instead of newer greenfields developments. This is illustrated by the high number of rezoning, site development plan and subdivision applications received in comparison to new township applications. This paints a picture of a focus on infill developments and the re-use of space within the city and development that supports the Spatial Development Framework in terms of avoiding sprawl which in most cases is linked to Greenfield developments in outlying areas of the city. Although this is the narrative one can pick up, it must be kept in mind that not all the development within the city is captured and some applications are related to illegal land uses that are trying to comply with the relevant town planning scheme (retrospective applications).

The graphs as a whole tell a development picture for the city. What is missing is the element of marginalized areas. When looking at the city in its entirety one cannot isolate the individual marginalized and deprived areas. The next set of graphs will look at a regional, spatially targeted and nodal level in the attempt to try and draw out a picture of development within the marginalized areas through formal building and land use applications.

4.2.1 Mapping the Findings

The map below shows a distribution of the town planning applications within the city. The map shows that development is spread throughout the city as the applications come from almost all parts of the city. Each dot represents an erf that has received an application that has been formally captured by the CoJ

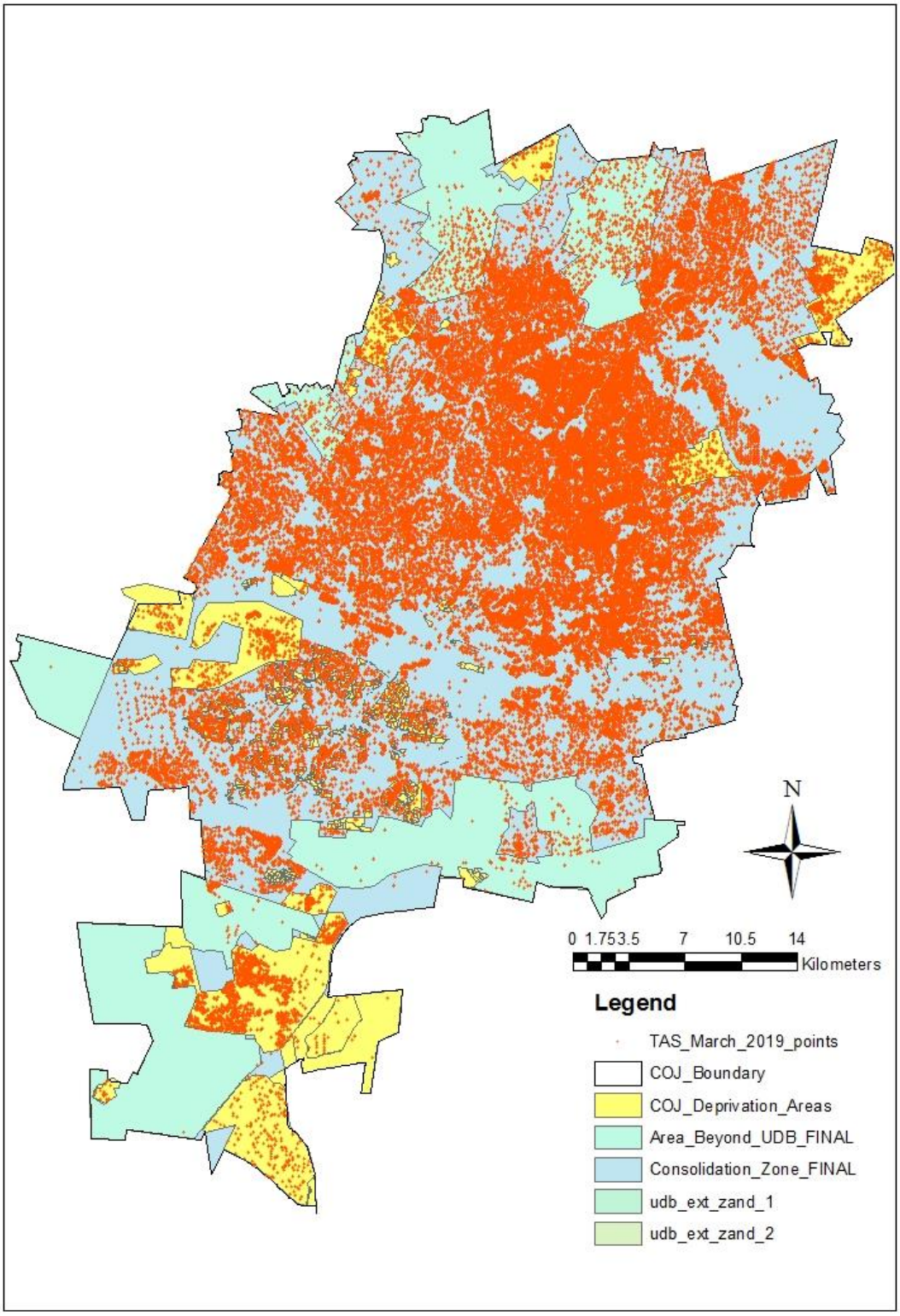


Figure 9 City wide town planning applications by ERF shape 2007/8 to 2017/18

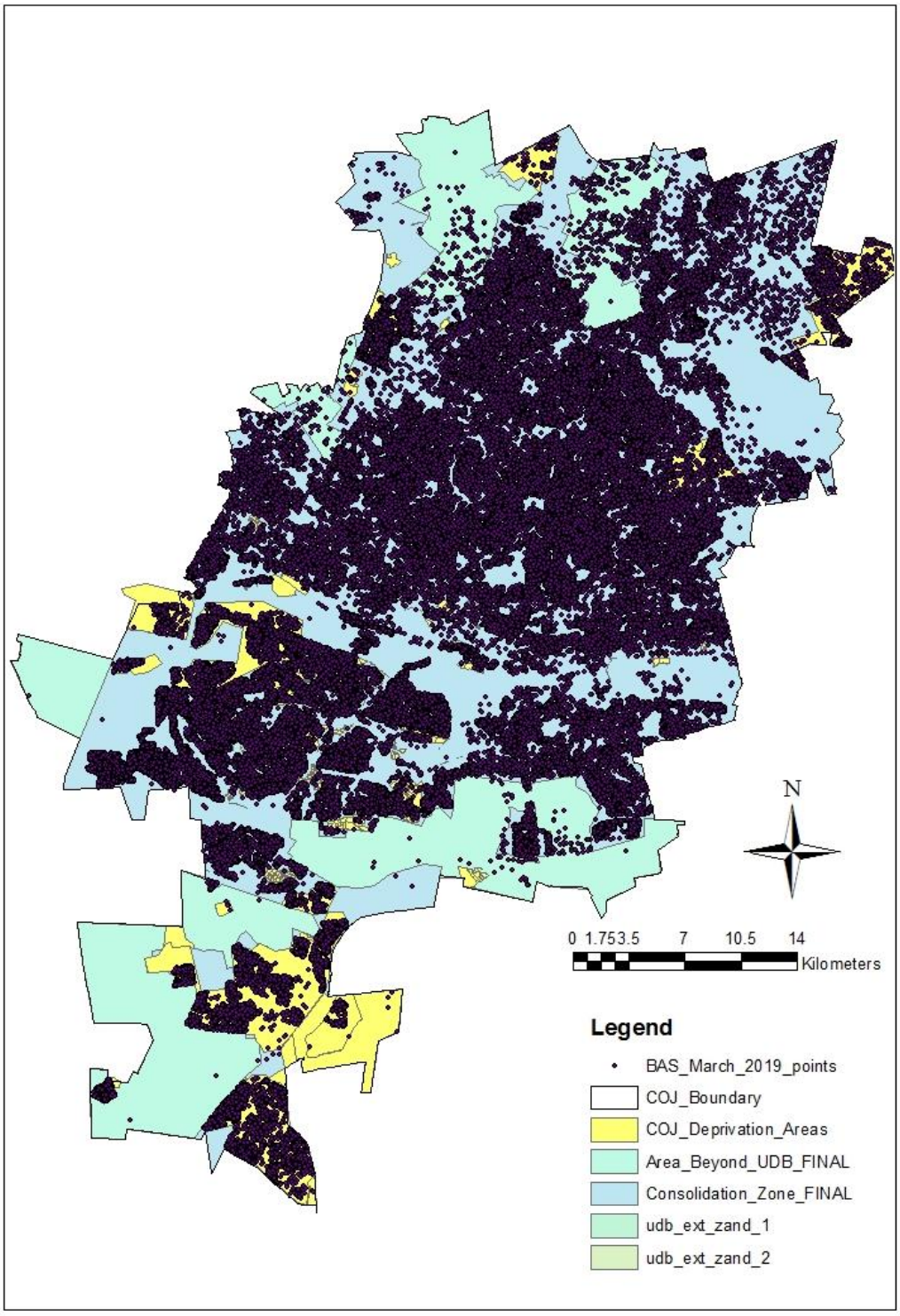


Figure 10 City wide building plan applications by ERF shape 2007/8 to 2017/18

The map above shows a distribution of the building plan applications within the city in terms of where they are happening. Similar to the town planning applications map, the distribution of the building

plan applications is fairly city wide, with more building applications being recorded in the southern parts [3]of the city as compared to the town planning applications.

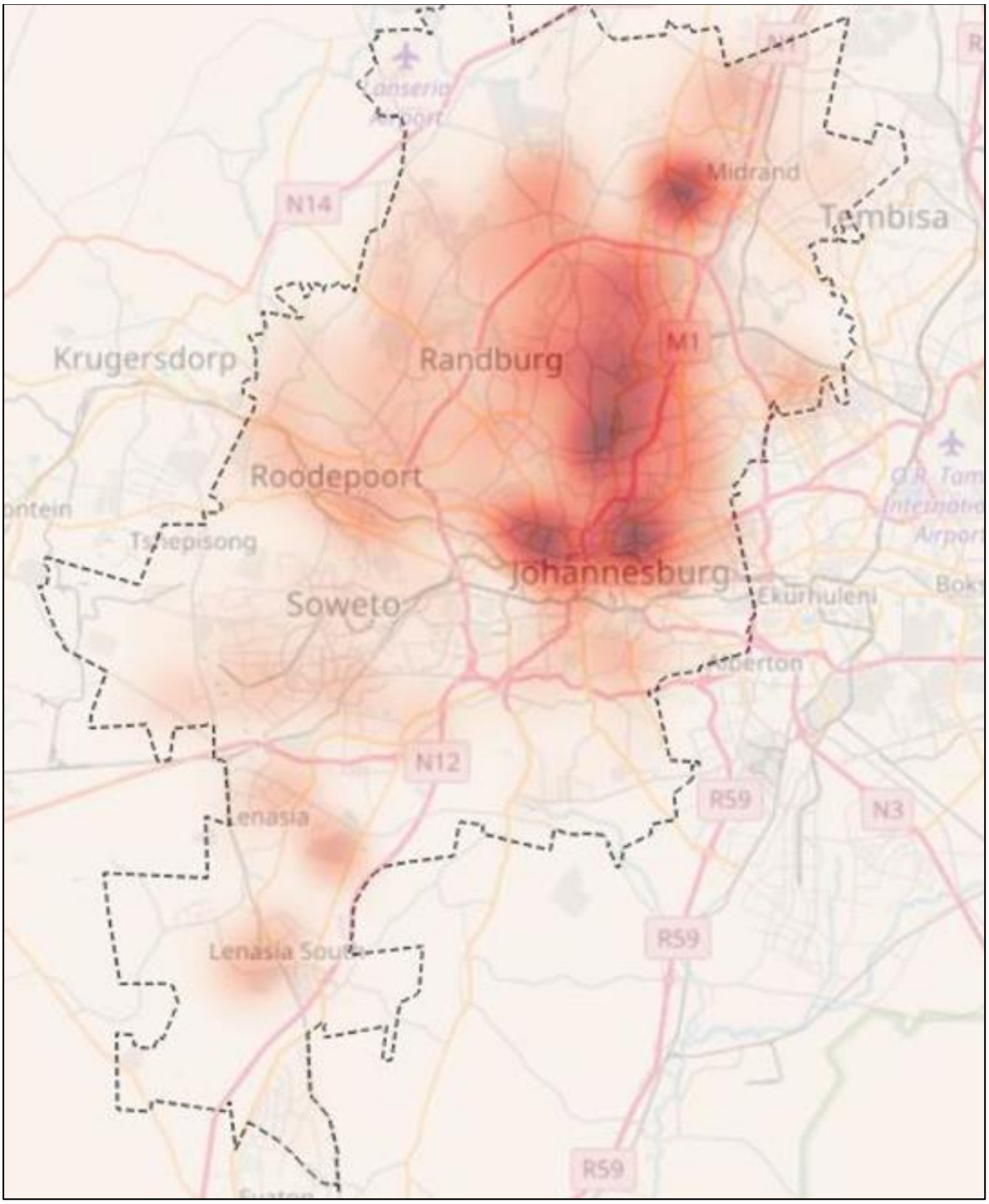


Figure 11 Heat map of city wide combined town planning and building plan applications 2007/ 8 to 2017/ 18 drawn by Weakley for City of Johannesburg

The map above represents an overall view of where the development within the city is mostly happening in terms of both the building and town planning applications between 2007 and 2018. It shows that most of the activity is happening to the north of the city and the most intense spots are

[3] Comparison between development application types per region can be seen in graph 7.

the ones around the traditional economic centres such as Randburg, Sandton and Midrand. The inner-city still has a lot of development activity despite it being in relative decline as an economic centre of the city. The south western parts of the city seem to have a lesser number of development applications as compared to the inner city and northern areas with its strong economic centres.

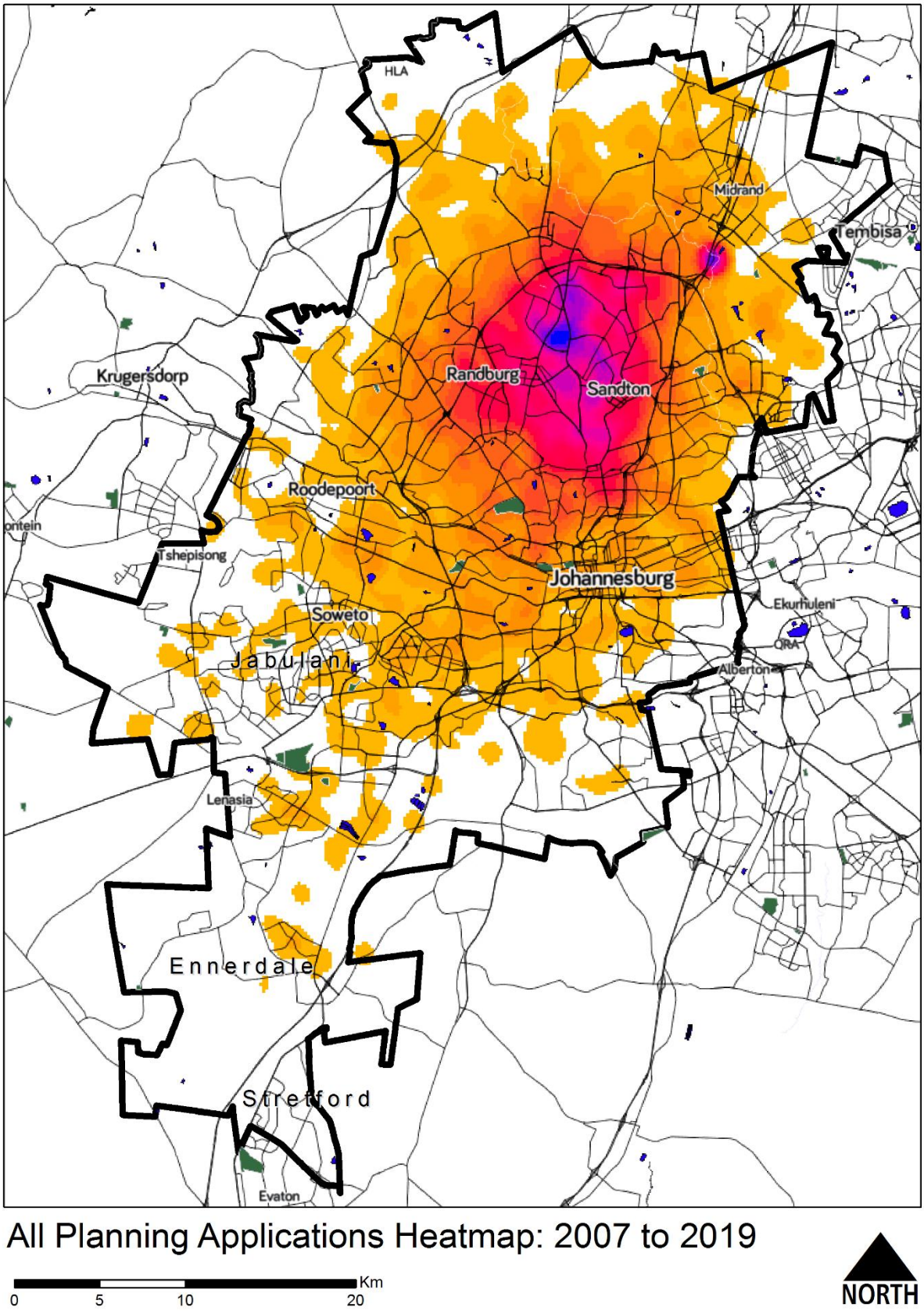


Figure 12 Heat map of city wide town planning applications by number (Map created by Weakley and Masemula, 2020)

The heat map above shows all the town planning applications recorded for the City of Johannesburg. The map indicates that the southern parts of the city lag behind in terms of rezoning applications and

that the majority of the applications are still within the traditional economic centres. This indicates that there is much less development pressure within the southern parts of the city to change land use zonings activities.

The heat map below shows all the building applications received by the City. From the building plans it is noticeable that the areas to the south and west of the city have much more recorded building applications than the town planning applications. Some of the areas of the city that are seen as peripheral have much more building applications than the recognised economic centres.

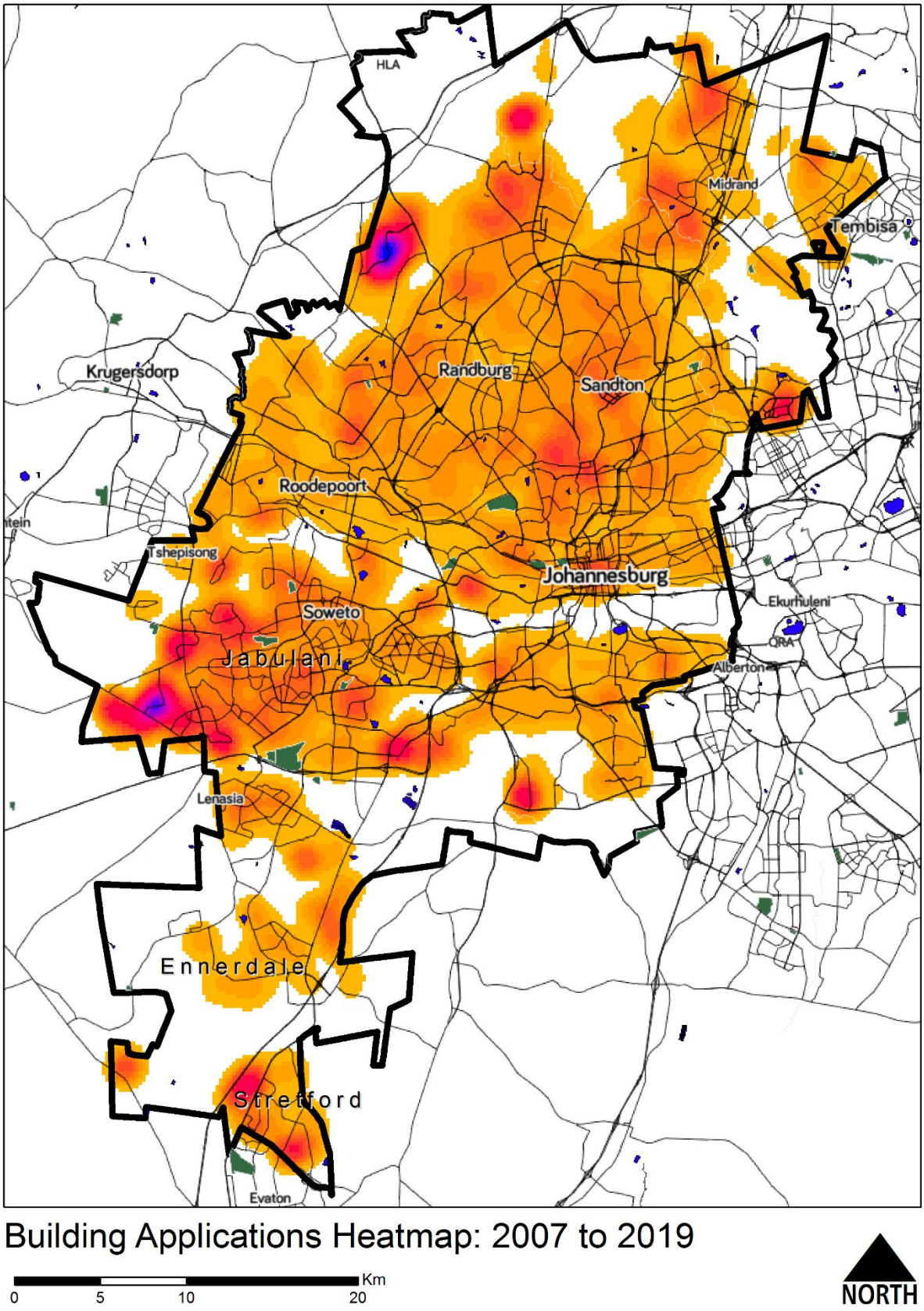


Figure 13 Heat map of City wide building plan applications by number (map created by Weakley and Masemula, 2020)

4.3 Town Planning Applications for the City by Regions

The map below shows the regions of the City of Johannesburg and how they overlap with both the Transformation Zone and the Consolidation Zone.

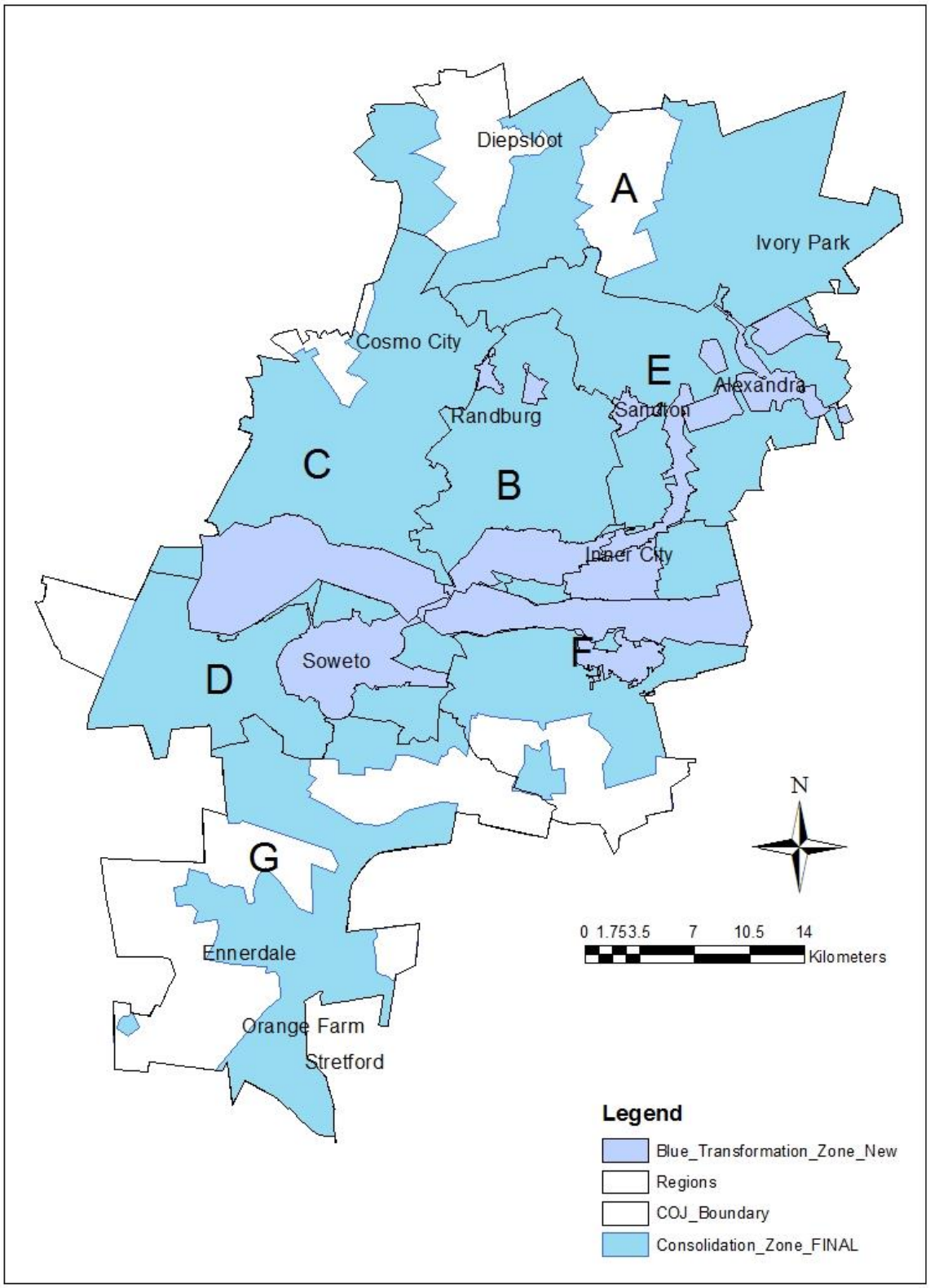
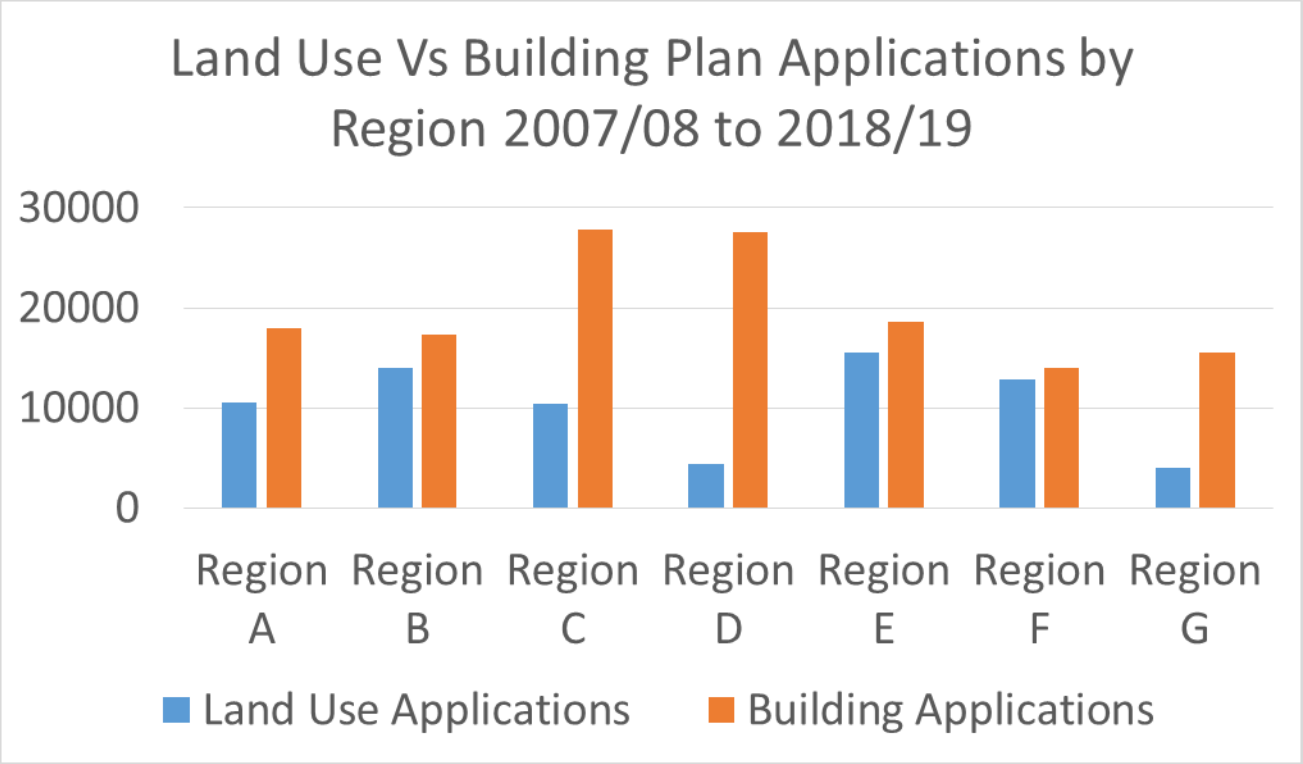


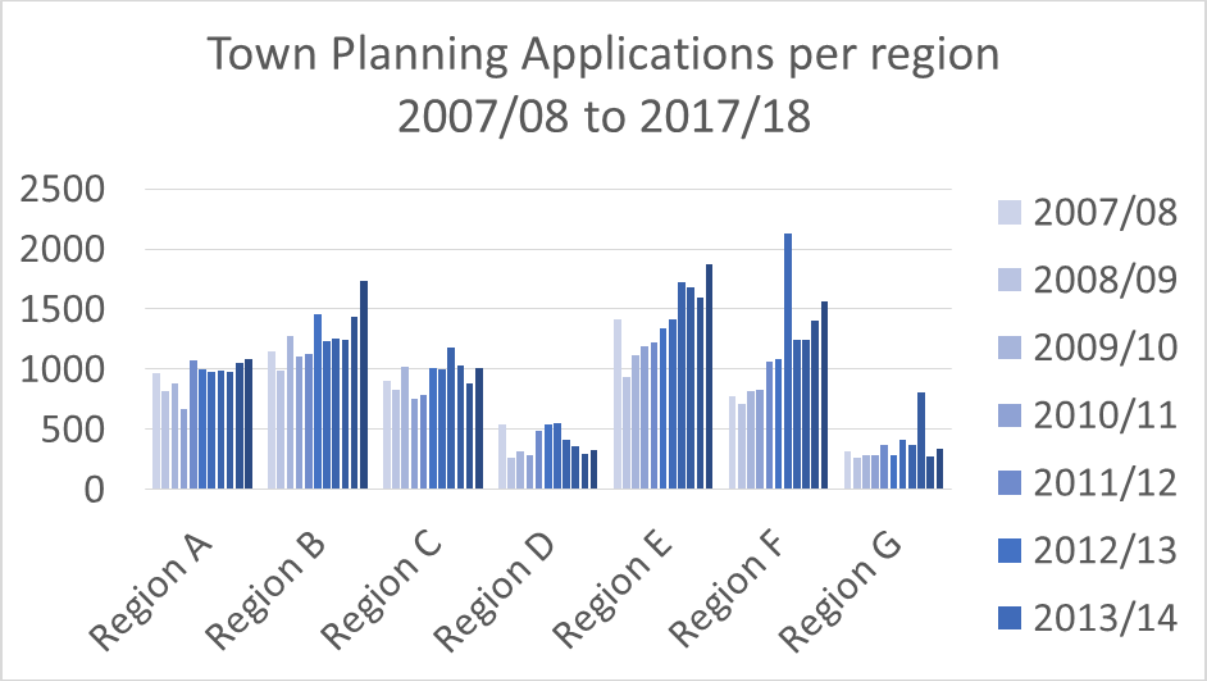
Figure 14 Context map CoJ regions and two SDF Development Zones



Graph 7 City wide town planning and building plan applications per region from 2007 to 2018

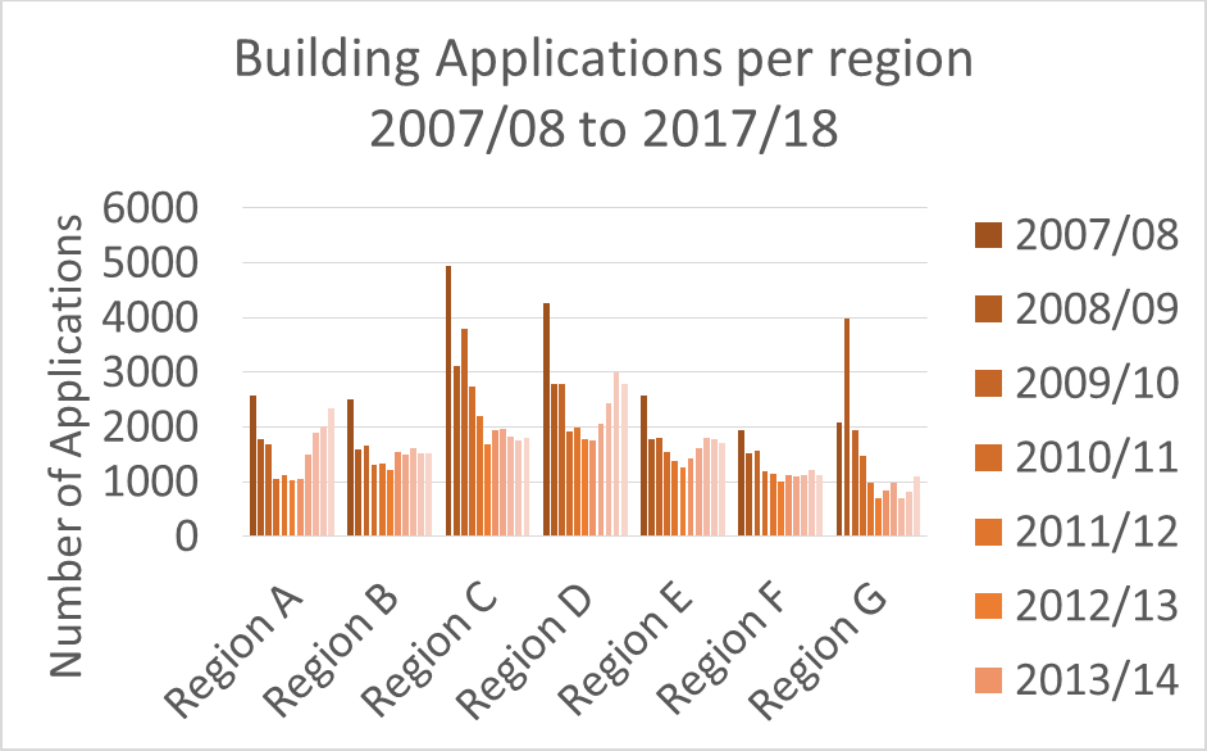
The graph above looks at the development applications as received by the City at a regional level. It looks to break the trends identified in the previous graphs down to a regional level to show where the applications are happening within the city. What is evident from the graph above is the fact that the region D and G (includes Soweto and the Southern Townships like Orange Farm and Poortjie) have the lowest land use applications, while F, E and B (Includes the Inner City, Sandton and Randburg) have the highest number of land use applications.

The building plan data though in this case is different to the land use data as it shows region D and G having similar or higher building plan applications



Graph 8 City wide town planning applications per region from 2007 to 2018

The graph[4] above shows the town planning applications per region and it still illustrates that the regions that are not the traditional economic centres Like Region D and G of the city generally have lower development applications. This is a sign of a lesser development appetite existing within these traditionally deprived regions as compared to the more established urban centres.



Graph 9 City wide building plan applications from 2007 to 2018

[4] Sudden fluctuation of applications within Region F and G needs to be explored further.

The graph above shows building applications year by year within a particular region.

4.4 Town Planning Applications as per the Targeted Development Zones

The following map shows the different development zones of the city of Johannesburg as described in the 2016 Spatial Development Framework.

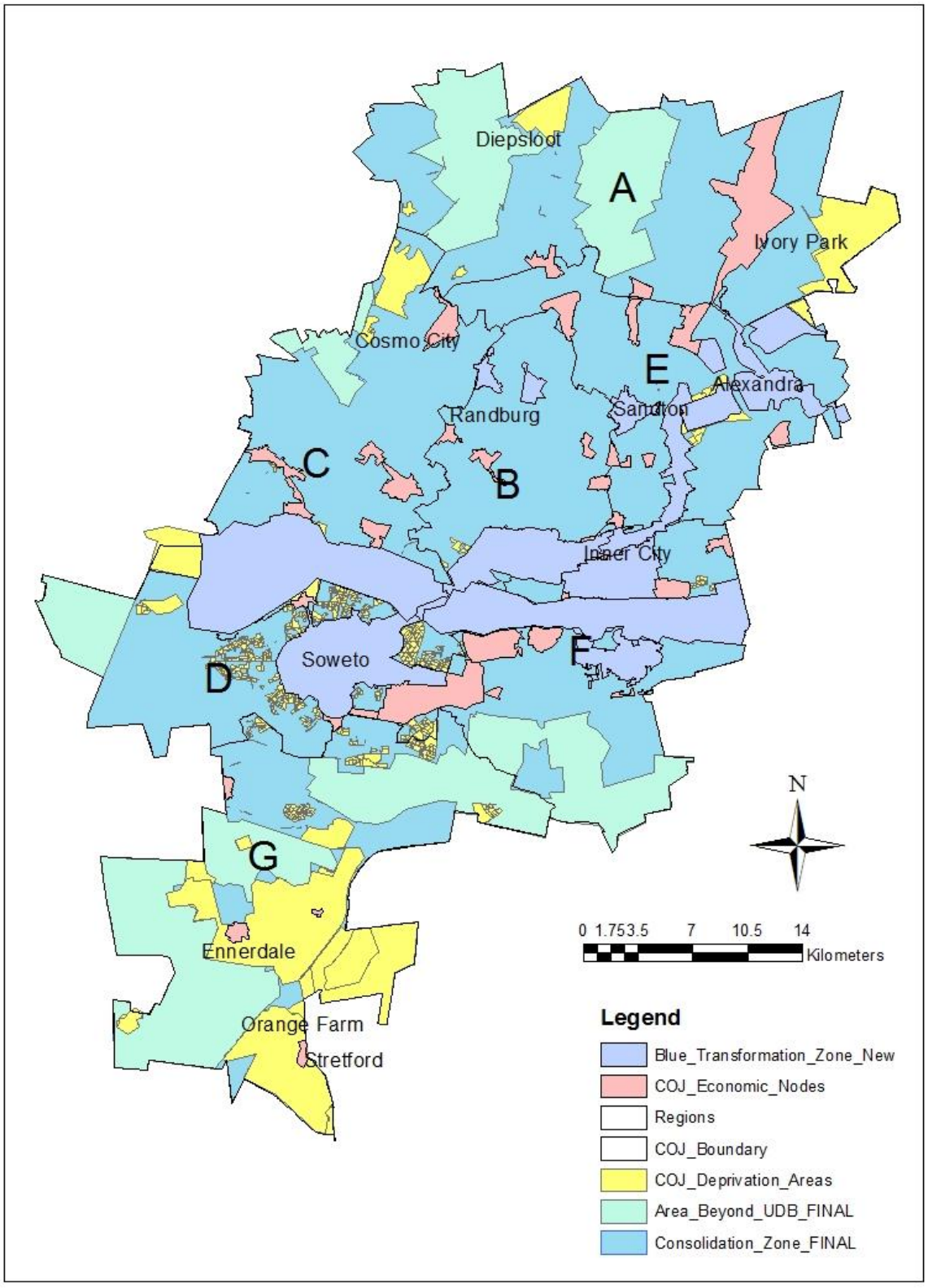
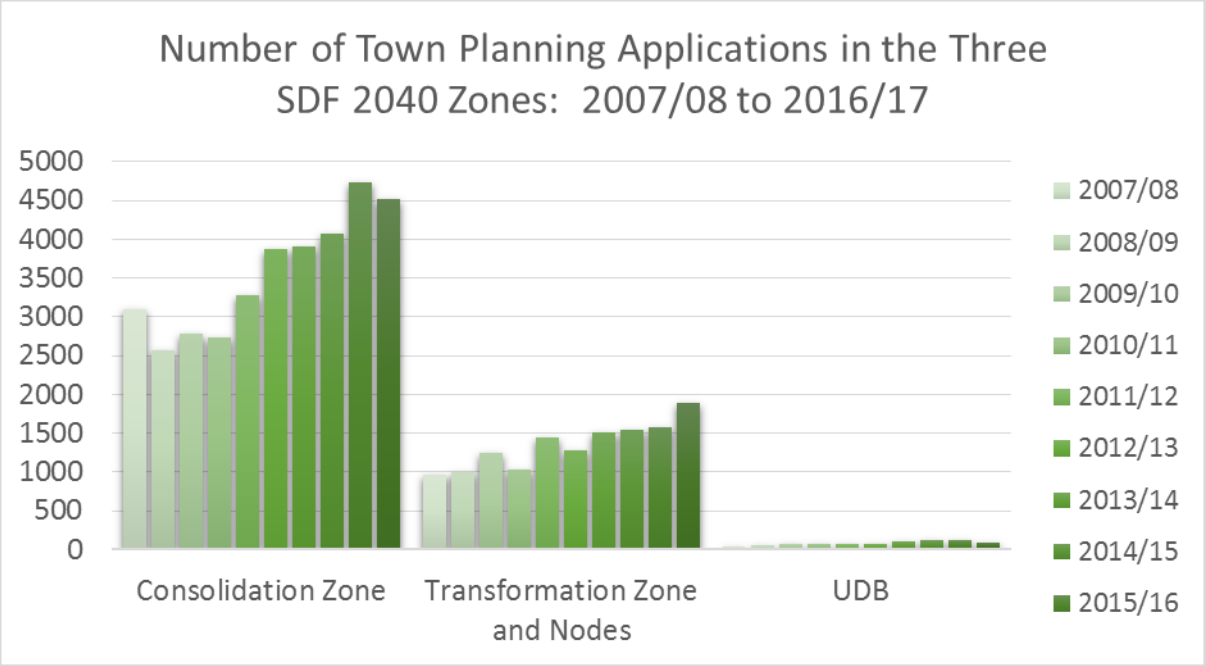


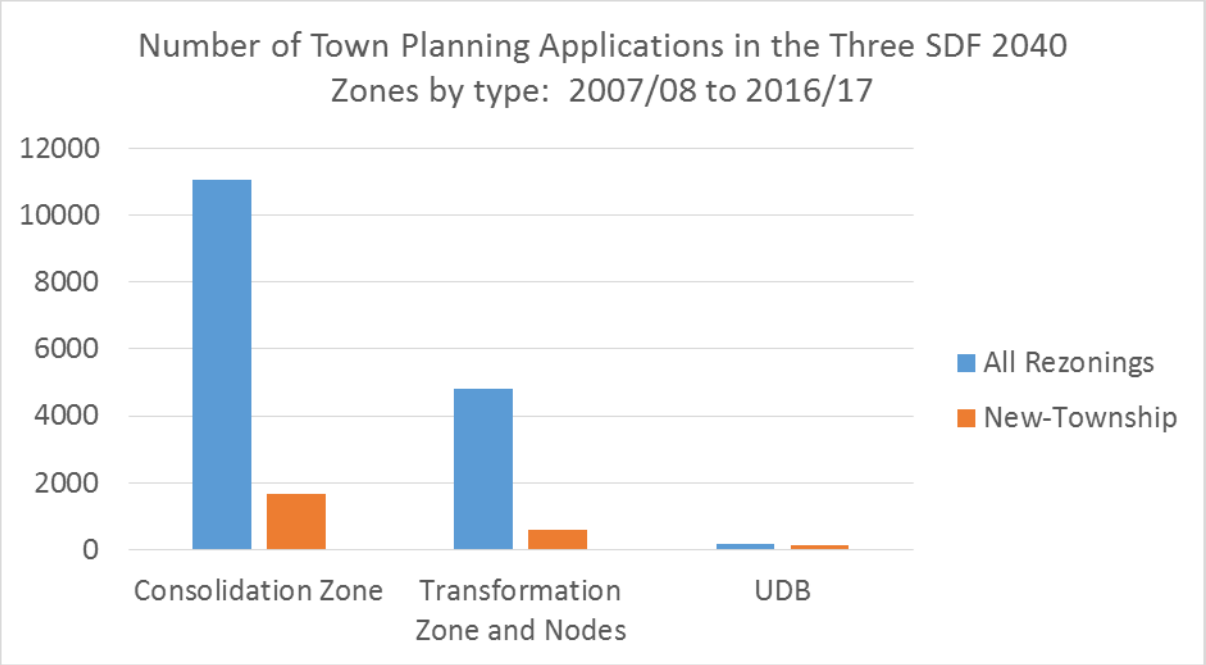
Figure 15 Context map SDF development zones and nodes

The following graphs will look specifically at the development applications that are received in the spatially targeted areas of the city. They represent what spatial policy within the city refers to as priority development zones. These are areas where most of the capital expenditure by the city regarding projects aimed at development and attracting investment is located. These areas include the Mining Belt, Corridors of Freedom, Inner city, Soweto and some key strategic nodes identified by the Spatial Development Framework.



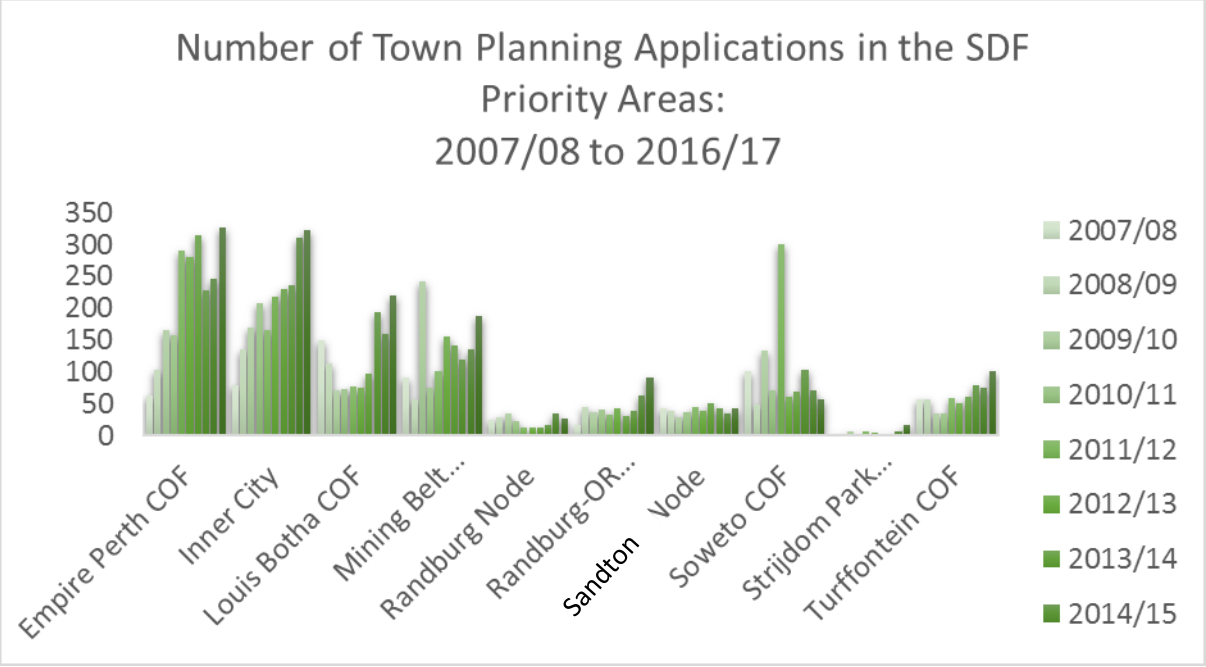
Graph 10 City wide town planning applications within SDF development zones from 2007 to 2018

The graph above shows that most proposed development activity within the city is found within the consolidation zone, which includes some of the marginalized areas. This follows what the Spatial Development Framework of the City is trying to promote in terms of focusing on infill development and preventing the expansion of peripheral marginalized areas. The City has also been able to restrict development outside the urban development boundary.



Graph 11 City wide town planning applications within SDF development zones by type from 2007 to 2018

The graph above tells a similar story to the city wide results that were looked at earlier. The graph shows that many more rezoning applications are being made as compared to township applications. And that most of the applications happen within the consolidation zone.



Graph 12 City wide town planning applications within SDF priority areas from 2007 to 2018

The graph above looks at the priority development zones of the city. The mining belt which is a transformation zone seems to be attracting some development and this is an important indicator for the city because of the importance of the mining belt area in bridging the gap between the northern and southern parts of the city.

There is a larger amount of applications within the priority zones of the city as compared to the identified nodes. The map that follows shows the Transformation Zone and Marginalized Areas along with their interaction with mass transit stations within the City.

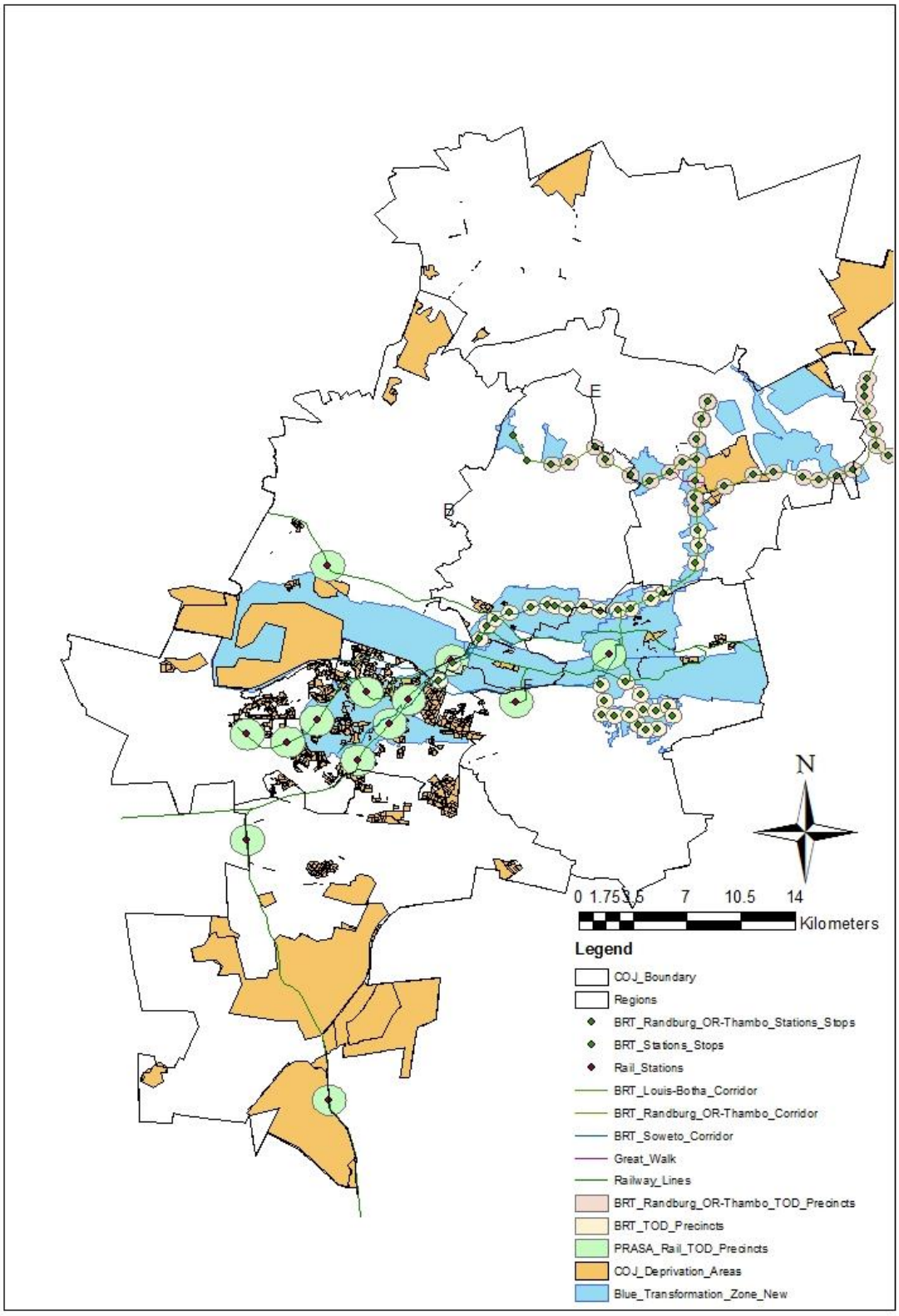


Figure 16 TOD stops in relation to deprivation areas and transformation zone

4.5 Nodal Comparison of Applications

The graphs below will attempt to show a comparison between a historically recognised economic centres of the city against a node from the historically deprived areas of the city. These graphs will help in seeing the number of development applications within differing areas of the city in order to see if development is consistent with spatial policy . The reason for this comparison is that there was no clear indication of this from the city wide application data graphs looked at earlier.

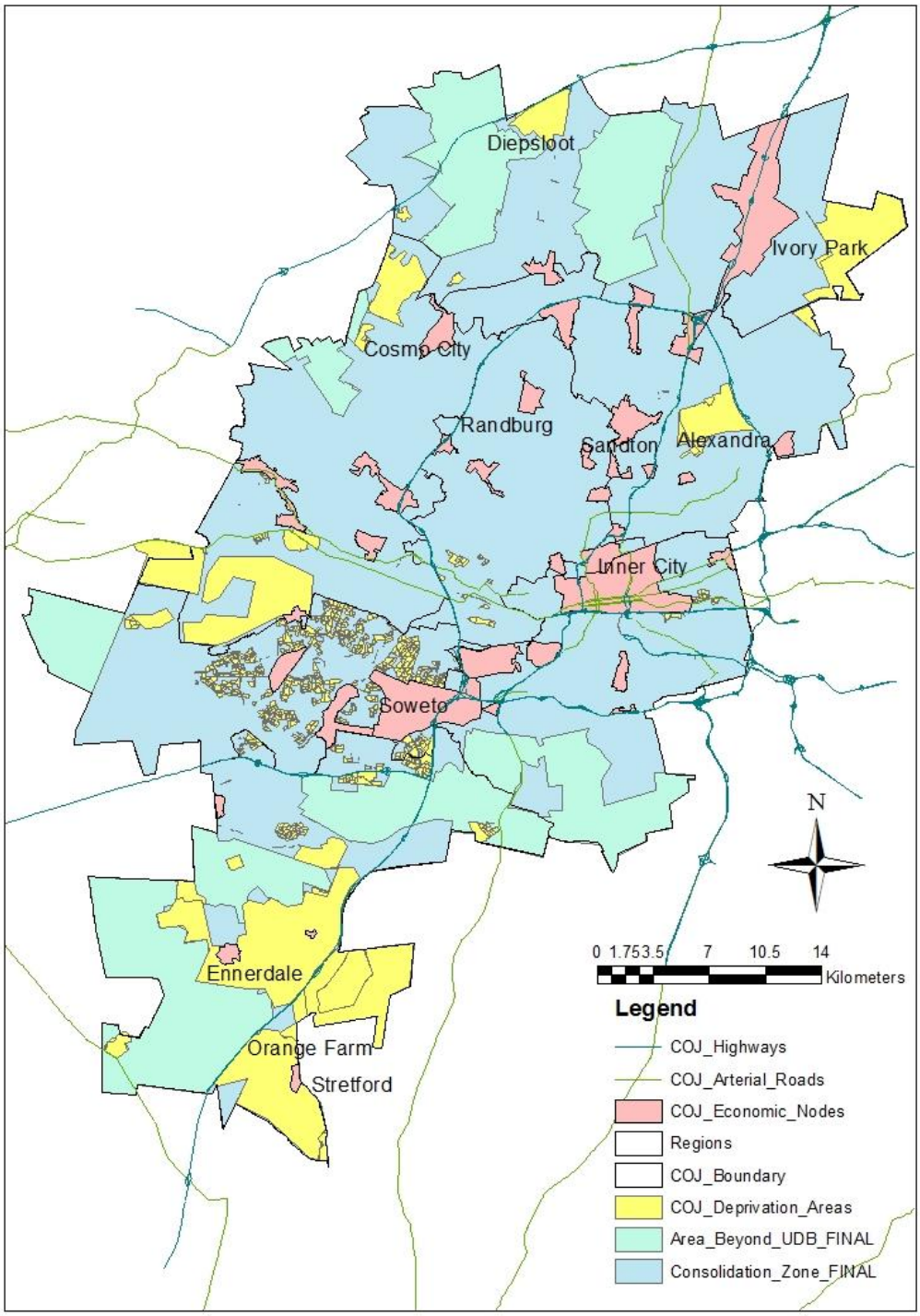
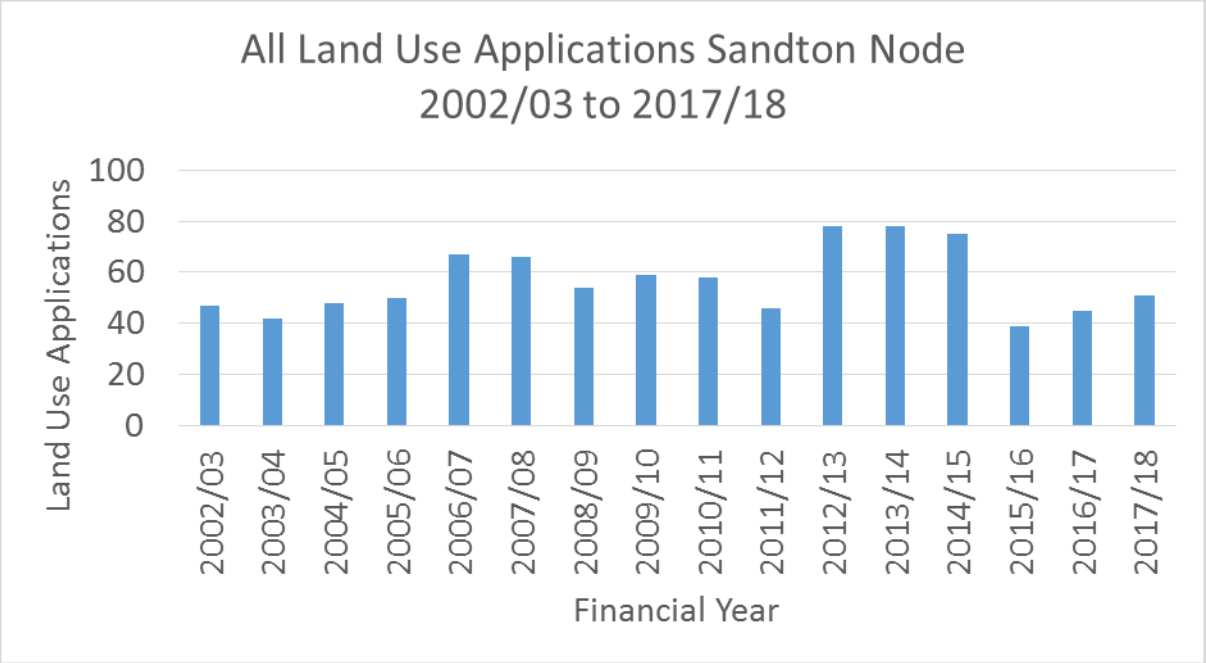


Figure 17 Context map [5]showing selected nodes in relation to CoJ boundaries, development zones and major routes

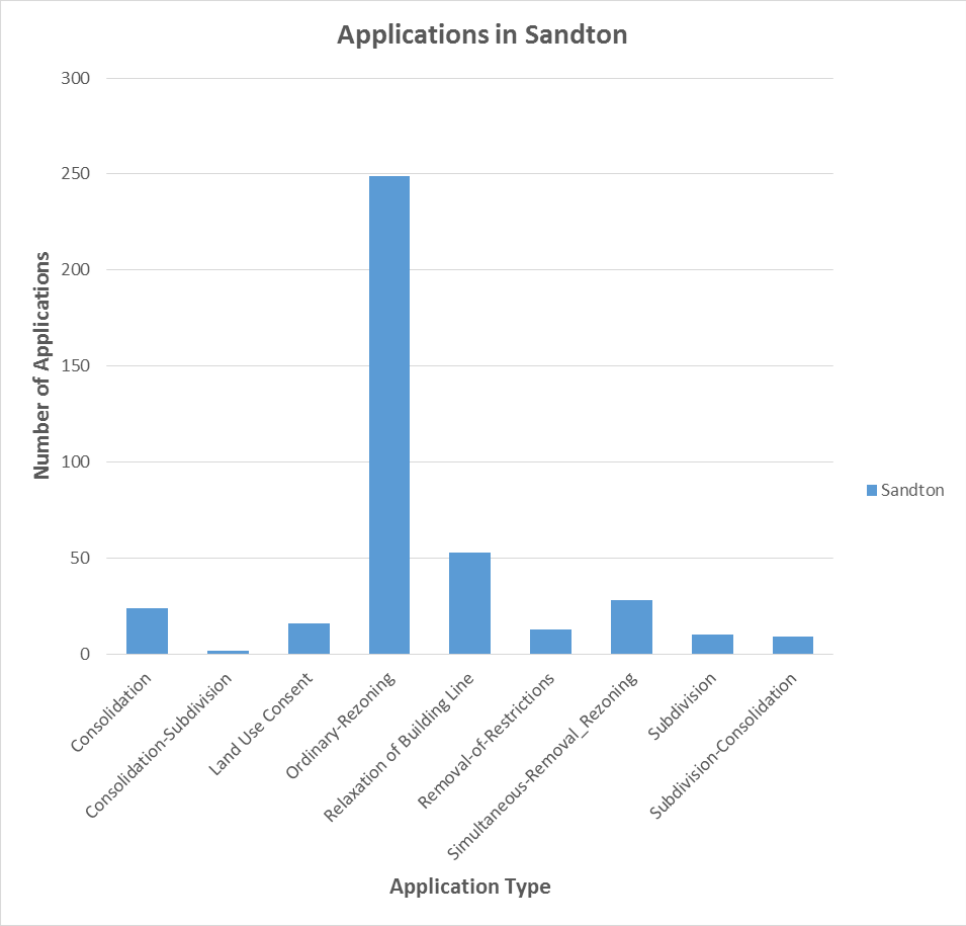
[5] Causal relationship and correlation of development applications numbers needs to be addressed in further research

4.5.1 Sandton versus Ennerdale



Graph 13 Land use (town planning) applications within the Sandton Node

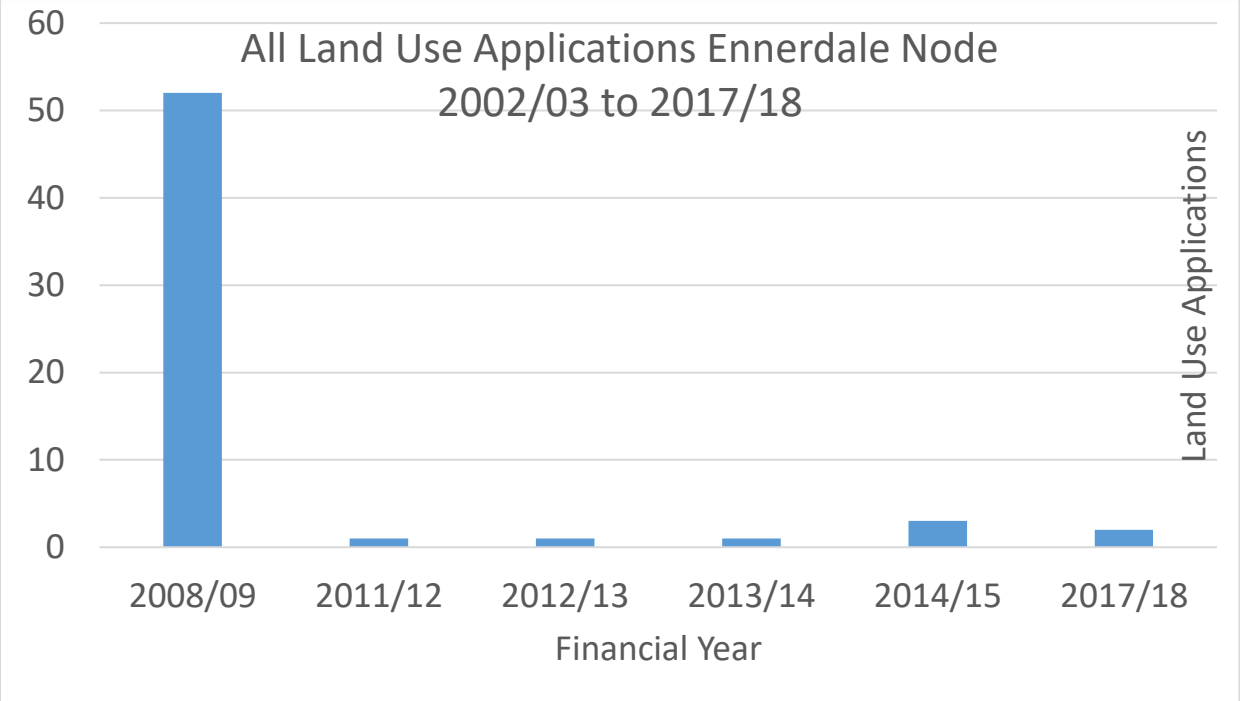
The graph above shows a similar picture to the city wide graphs looked at earlier. The peaks and troughs are similar to the city wide ones that are reminiscent of the economic factors that affect development. The numbers in the graph are not much of a shock because Sandton is a recognised economic centre and development applications would general be higher in this areas.



Graph 14 Town planning applications by type within the Sandton Node

The graph above shows a diversity in application types within Sandton and a large appetite to change land uses within the area. This shows that there are high levels of development within the area, mainly because of the number of applications received. The rezoning applications within Sandton are the highest recorded applications within this node and this indicates a changing urban area and the increased need to alter land use rights to suit the type of development appetite.

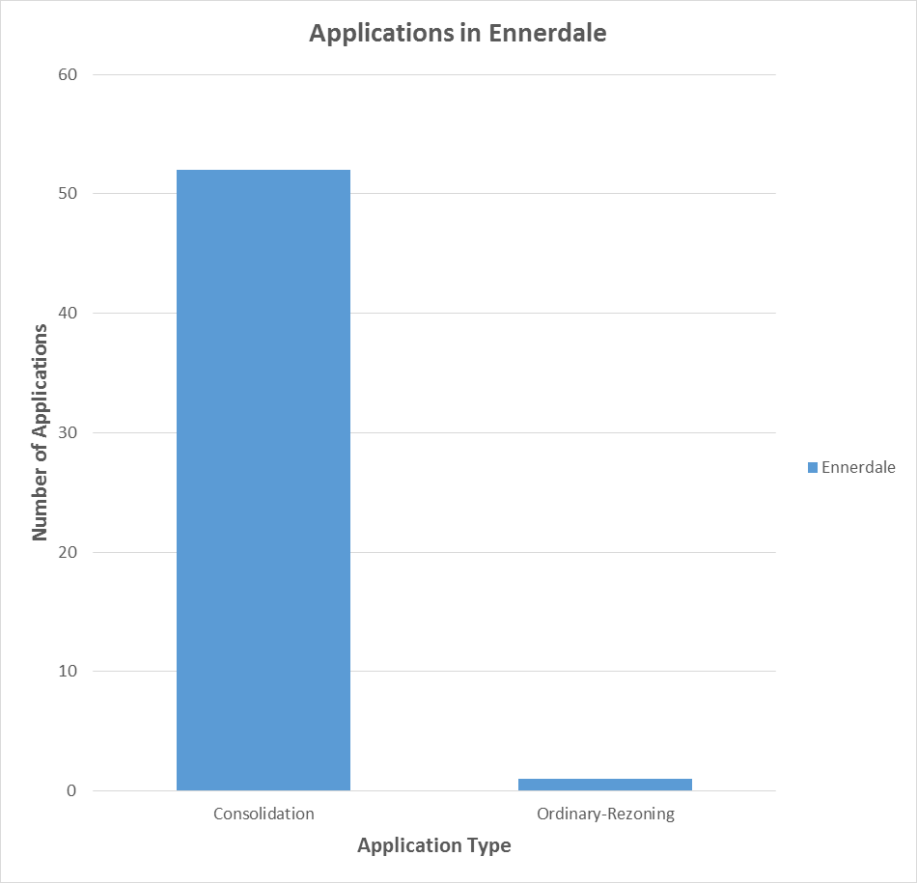
The graph below shows a different picture: application numbers are relatively low and this indicates that there is little interest in development in areas south of the city, at least in terms of formal town planning applications.



Graph 15 Town planning applications within the Ennerdale Node

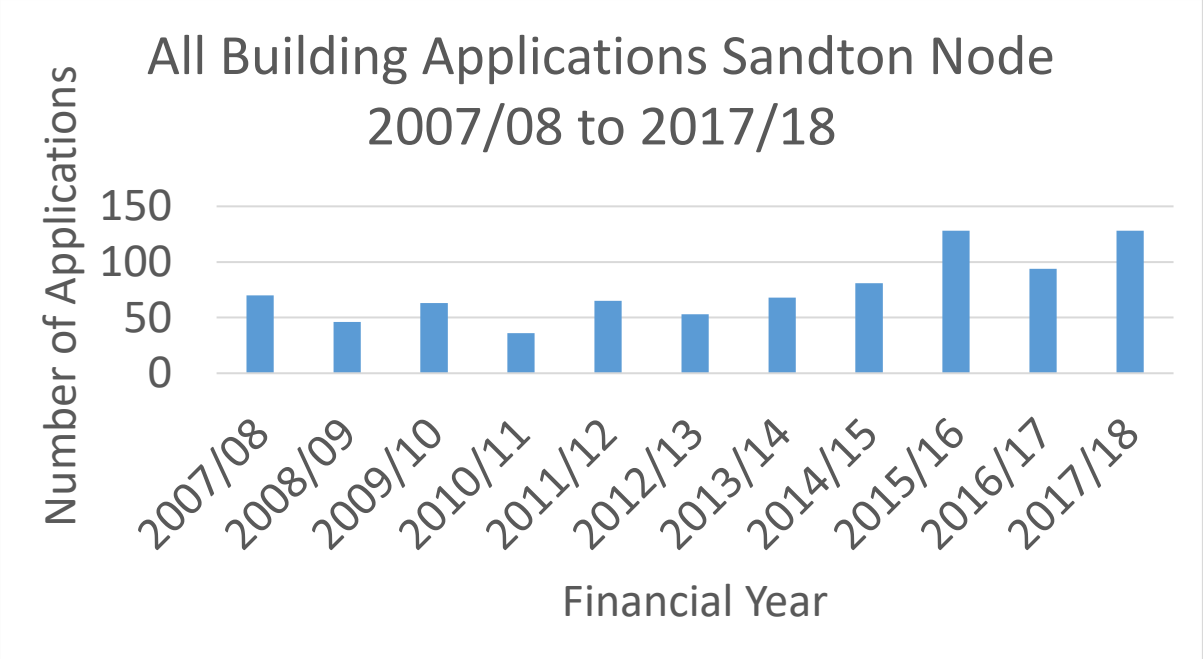
The graph below provides evidence of the types of town planning applications received within the Ennerdale node and shows that consolidation application[6]s (applications for combining two or pieces of land within a township) are most prevalent. This indicates limited development within the area as the rezoning applications are low, showing that the need to change land uses is not in demand.

[6] Consolidation applications can be submitted by housing developers and individuals, but most commonly by housing developers.



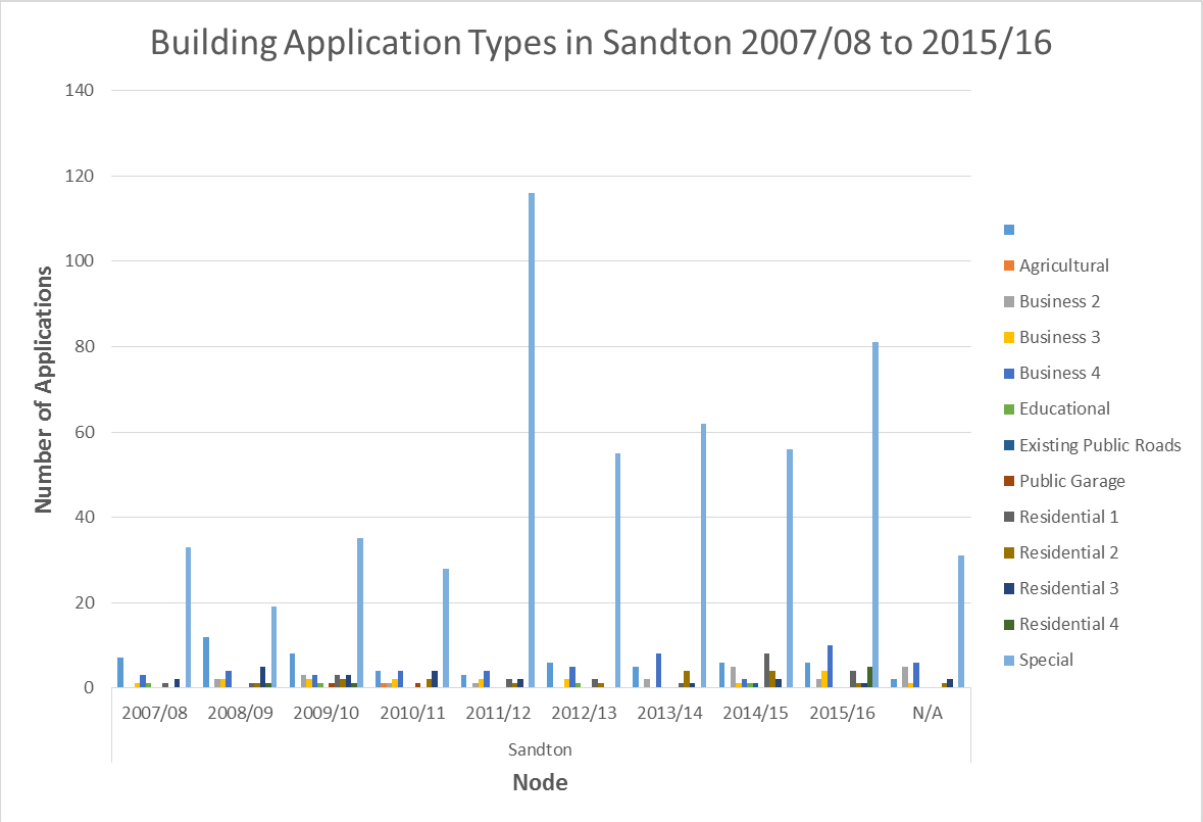
Graph 16 Town planning applications by type within the Ennerdale Node

The building application data in the graphs below show a similar picture to the graphs above and indicate that the deprived area nodes generally have less formal development than the historically recognised urban centre nodes.



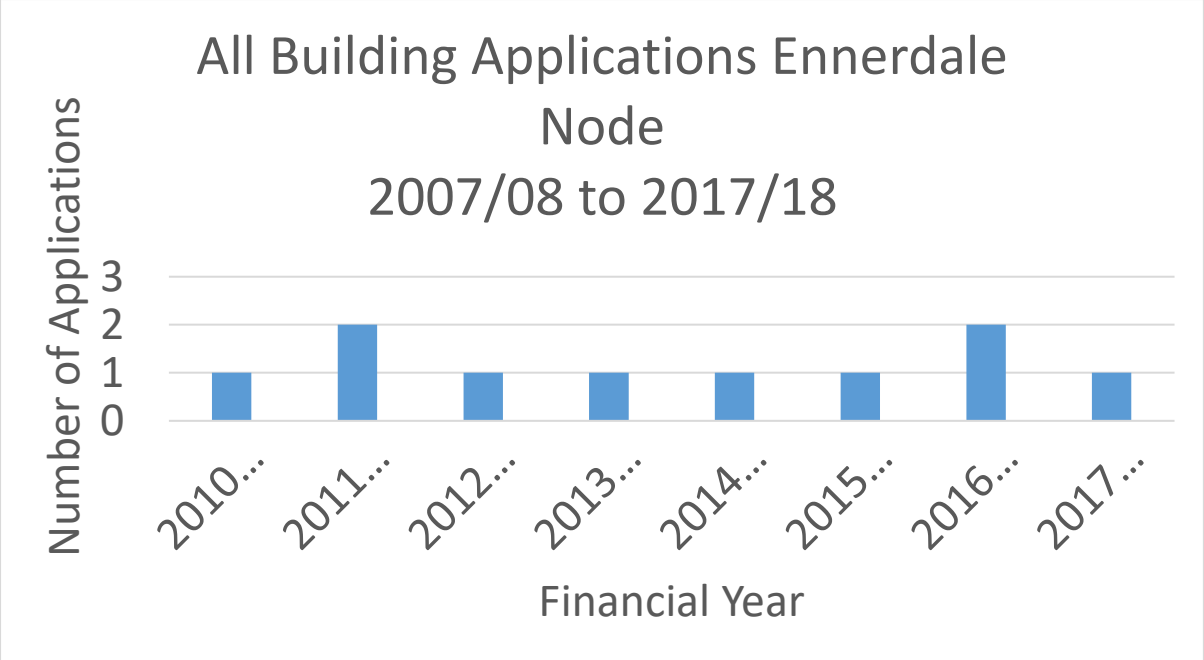
Graph 17 Building plan applications within the Sandton node from 2007 to 2018

The graph below reaffirms the development appetite within this node and shows through the building plan applications that development is widespread and fairly diverse. The special land use zoning [7]does not say much about the specific activity happening within the node but from the other land use types within these applications it is clear that there is a lot of mixed use activity within this node.



Graph 18 Building plan applications by type within the Sandton Node

[7] Special Land Use Zoning refers to a Zoning not specified within the town planning scheme and is usually a basket of rights created to suit a particular activity on a specific piece of land and only that piece of land. Usually supports mixed activities not specified within the town planning scheme and sometimes contradicting zonings.

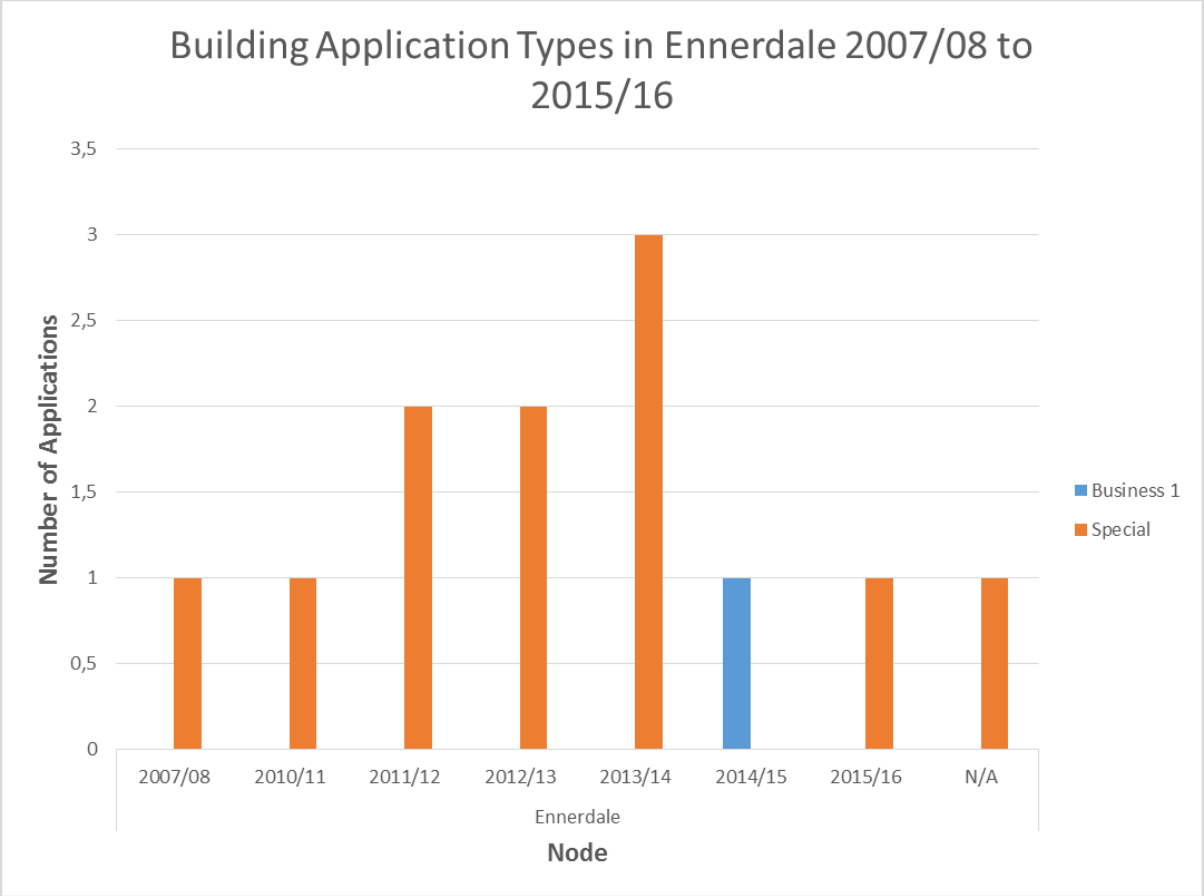


Graph 19 Building plan applications within the Ennerdale node from 2007 to 2018

The graph above shows limited building application numbers within the Ennerdale node. This aligns to the limited [8]development activity within the node and general limited activity of nodes within the marginalized areas.

The graph below shows the building plan approval application types in Ennerdale. From the graph it is evident that there is limited diversity in terms of application types within this node. The special zoning use does not reveal much about where development is heading. Although the applications have a business component it is clear that in terms of applications received the development component is very limited within this node. The applications indicate that the node is not just residential and has a mixed dynamic to it.

[8] Means the area has little to no development activity as evidenced in the low numbers of development applications received within the node. This is probably as a result of the nodes proximity to a marginalised area.



Graph 20 Building plan applications within the Ennerdale node by type from 2007 to 2018

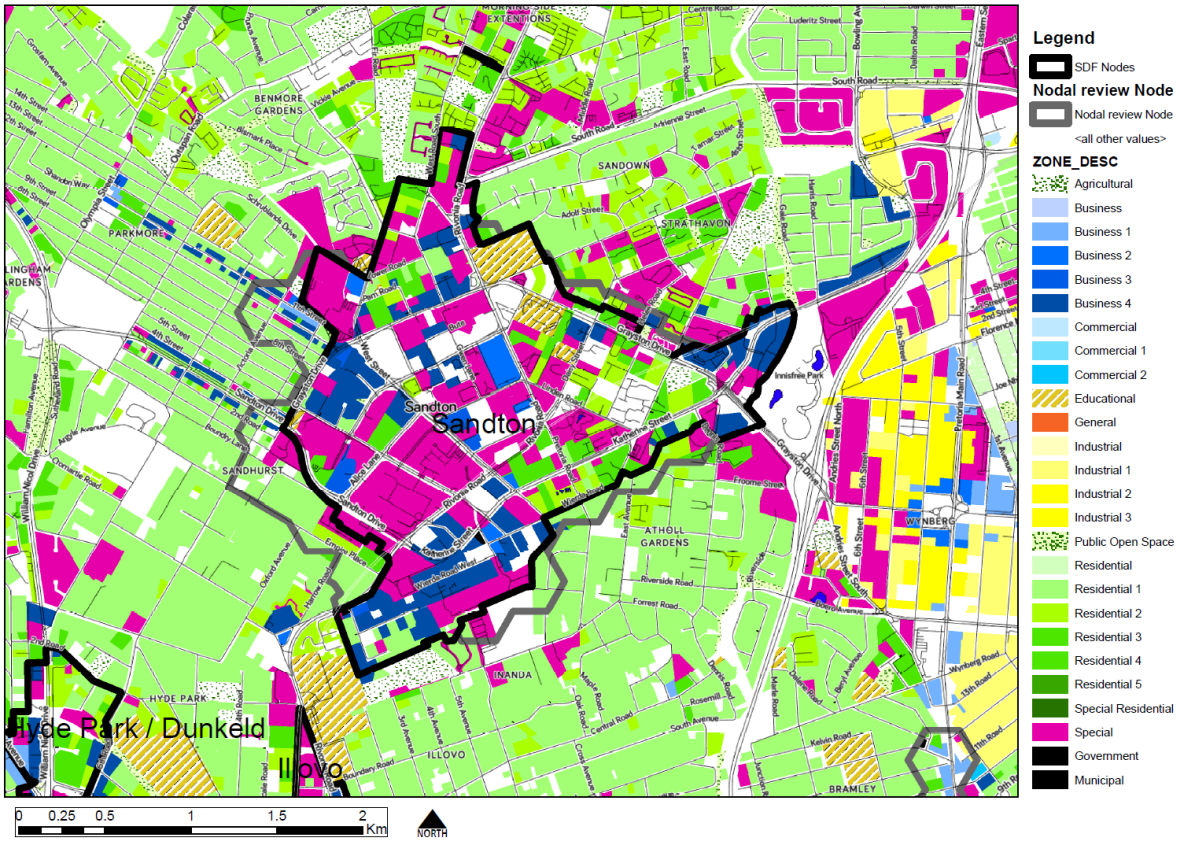


Figure 18 Sandton Node zoning map (map created by Weakley, COJ, 2019)

The map above shows the diversity of land uses in Sandton, a recognised economic centre within Johannesburg. This node shows a variety of land use activities that are not residential and indicates a node that is vibrant and that both supports and attracts business. The variety of land uses shows that there is intense activity within the node and the activities ranges from industrial in the east close to Wynberg to special, retail and commercial towards the centre and heart of the Sandton node.

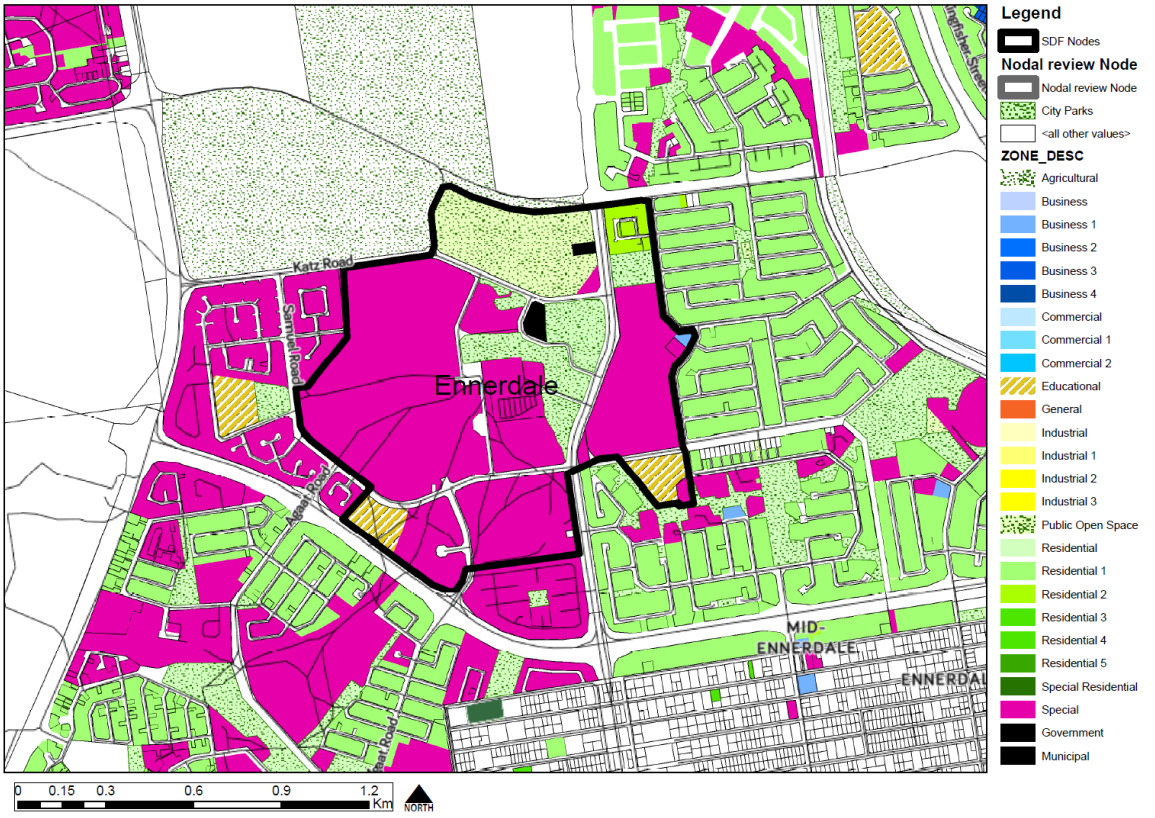


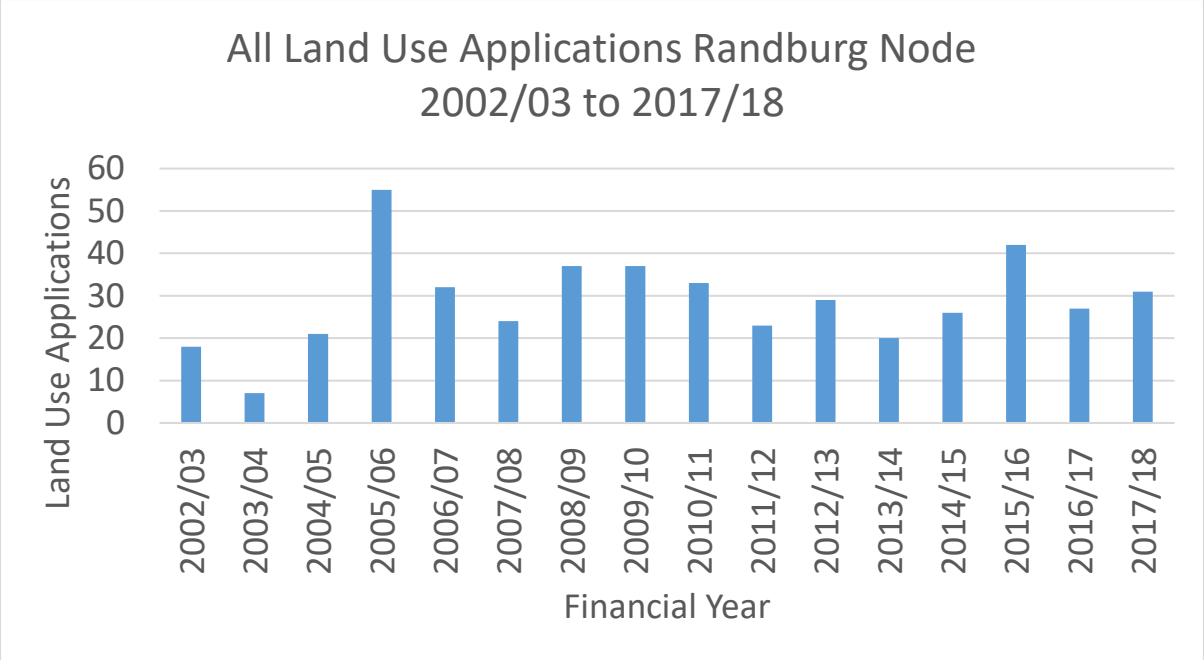
Figure 19 Ennerdale Node zoning map (map created by Weakley, 2019)

The map above shows the Ennerdale node to the south of the city and within a marginalized area the node is primarily special and residential. The special component indicates some form of economic activity within the node in terms of land uses in the space. The agglomeration of the special zoning seems to indicate business activity within this node although one can't specifically pinpoint the type of business or economic activity within the node.

4.5.2 Randburg versus Stretford

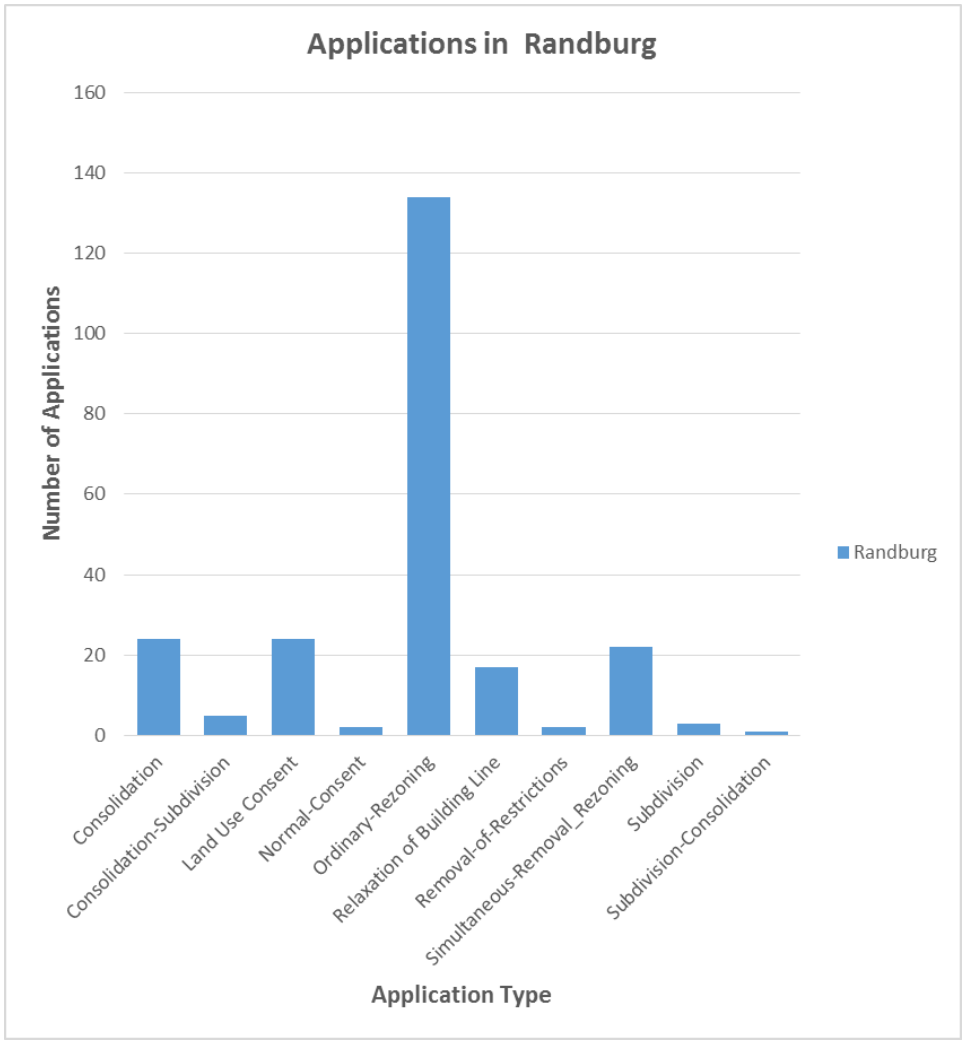
The graphs below [9]are similar to the ones above as they indicate that the areas within the northern parts of the city are still targeted for development more than the areas that are historically deprived found in the southern parts of the city mostly. This shows that although plans to improve the deprived areas have been worked on at an intergovernmental level, it is still difficult to redirect and influence development to head towards the deprived areas. Therefore a lack of consistency is evident between the spatial policy and development on the ground to a certain extent.

[9] Randburg and Stretford added to continue comparison between nodes in traditional economic centres and nodes within close proximity to marginalised areas.

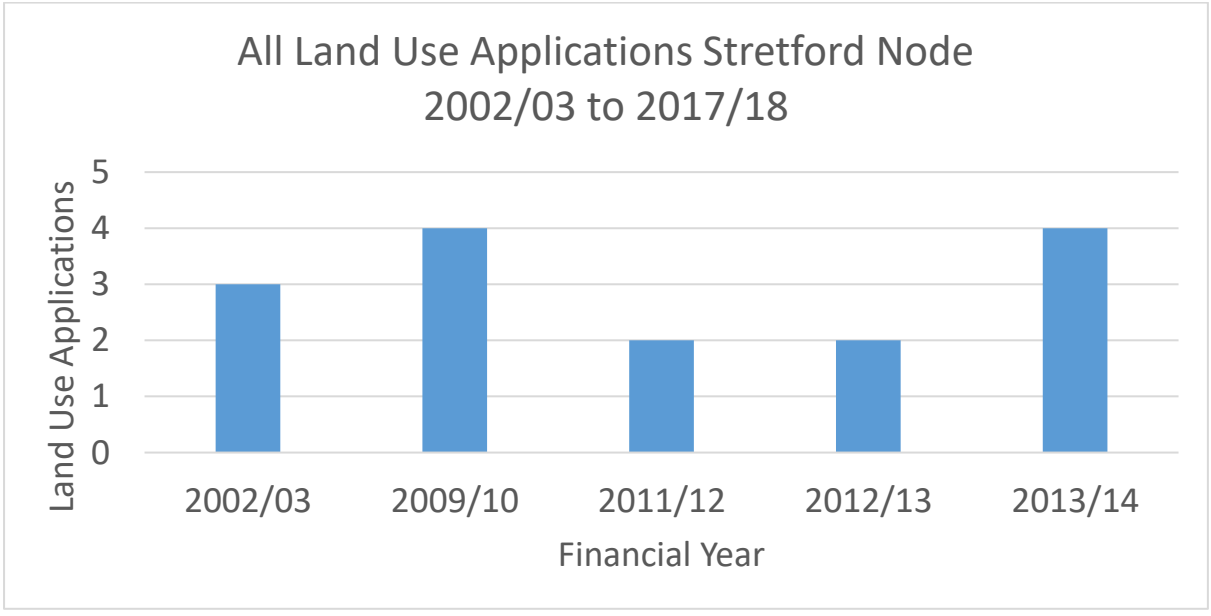


Graph 21 Land use (town planning) applications within the Randburg node from 2007 to 2018

The graph above showing Randburg paints a different picture in comparison to the Stretford node. Randburg has development and has been a historical economic centre, whereas Stretford is a node that is only receiving investment through capital expenditure by the city. This adds to the narrative that public investments aimed at increasing development and growth within historically deprived areas have found it difficult to overturn the status quo although it needs to be recognised that these shits take time.

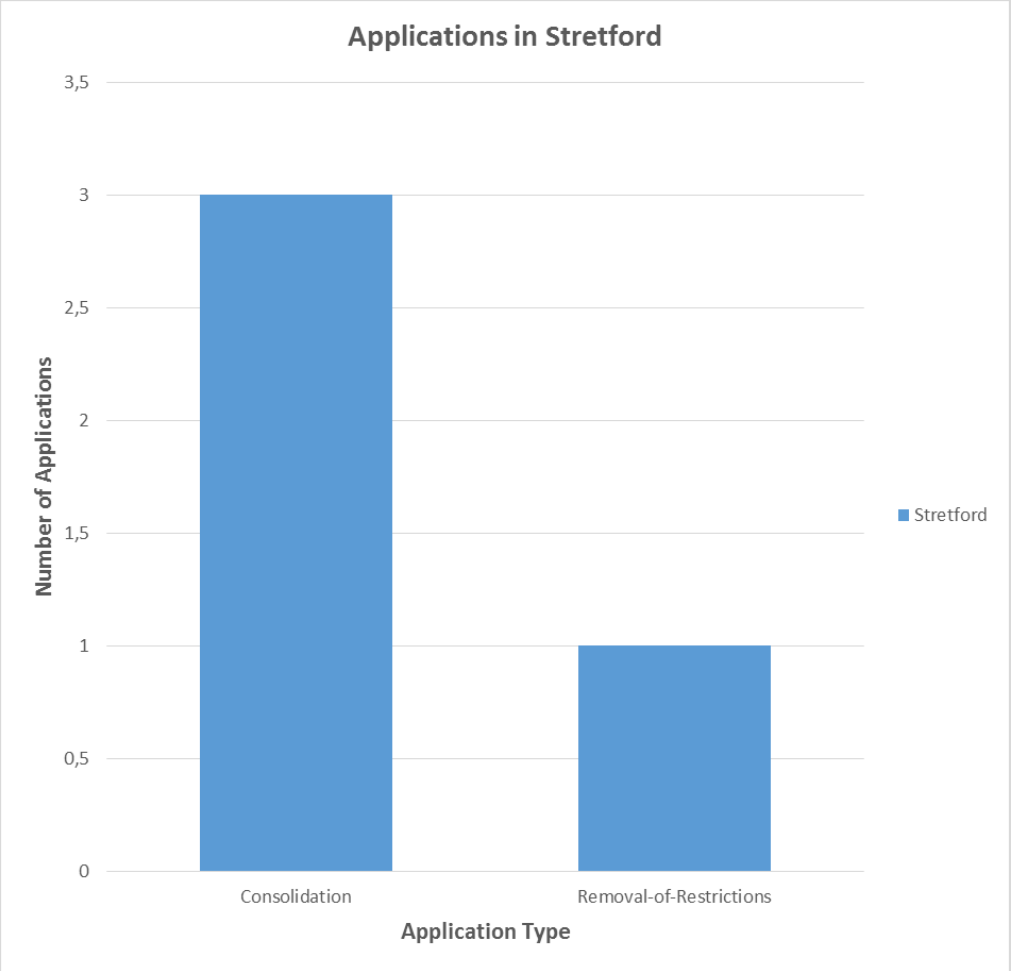


Graph 22 Land use (town planning) applications within the Randburg node by type from 2007 to 2018



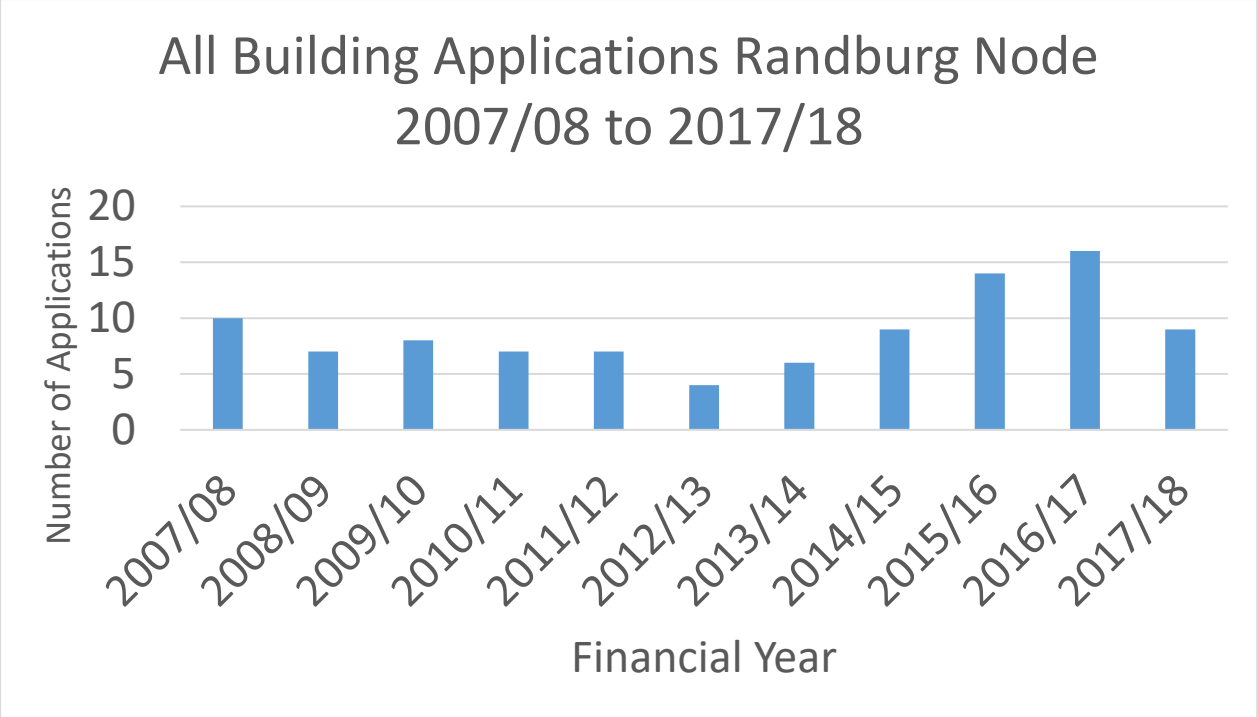
Graph 23 Land use (town planning) applications within the Stretford node from 2007 to 2018

Stretford is underperforming in terms of [10]development application numbers.



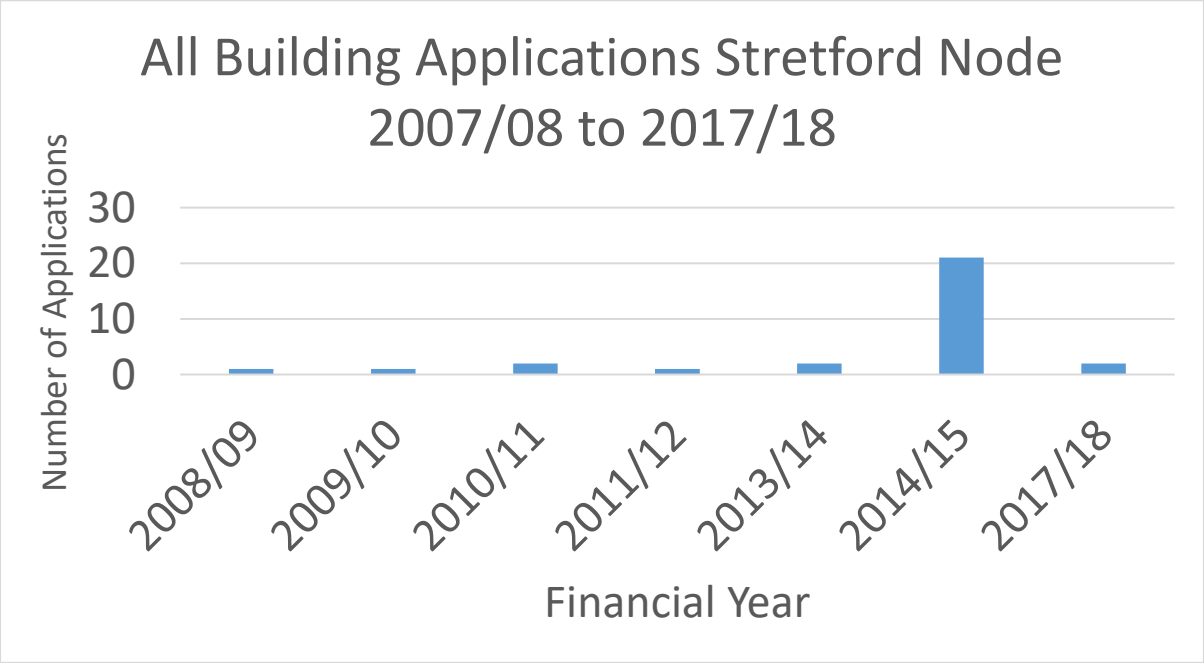
Graph 24 Land use (town planning) applications within the Stretford node by type from 2007 to 2018

[10] Development application numbers are significant as they indicate developer interest within an area. They tend to indicate if an area attracts development especially formal private sector developments. Refer to Graph 18 and figure 18 showing Sandton.

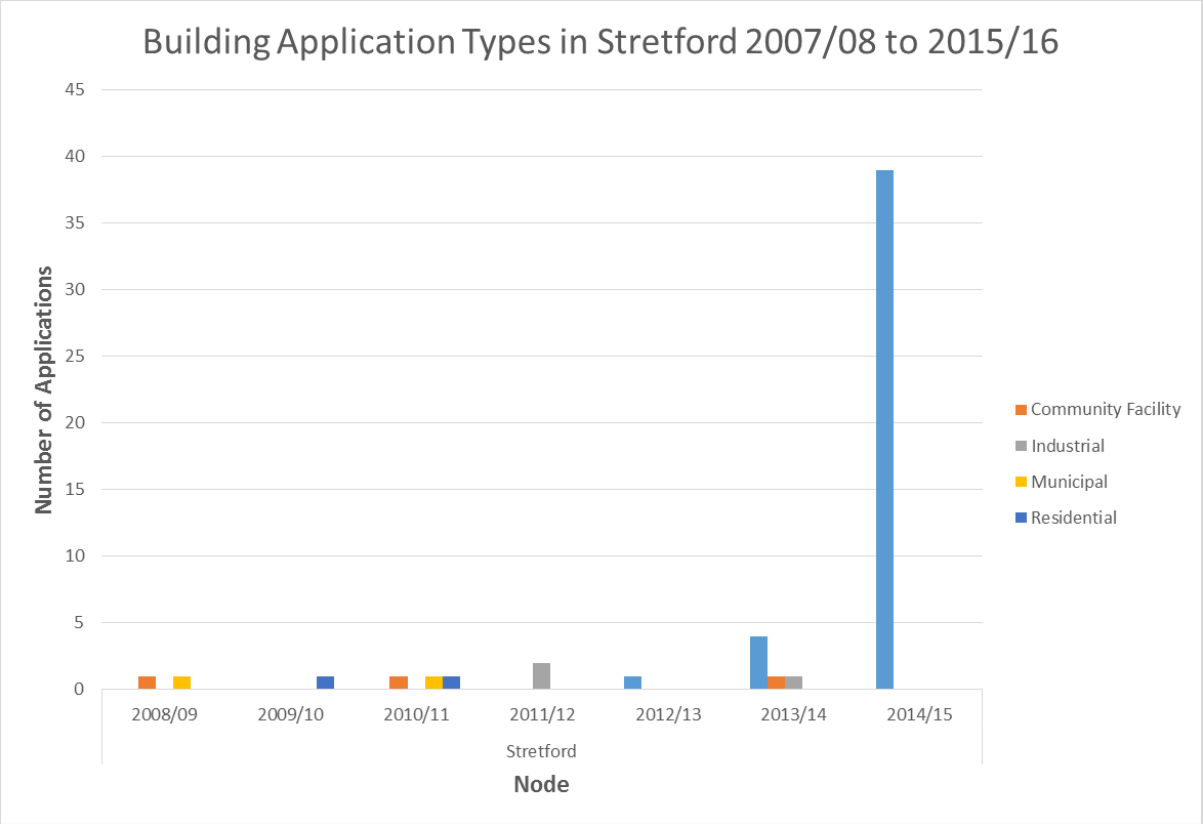


Graph 25 Building plan applications within the Randburg node from 2007 to 2018

The building plan information on the graphs above and below also tell a similar story about the stark contrasts between nodes within recognised historical economic areas and nodes within the marginalized areas. There are however instances of uncharacteristic jumps like the 2014/ 15 year for Stretford. But Randburg has more applications over the 10 year period than Stretford.



Graph 26 Building plan applications within the Stretford node from 2007 to 2018



Graph 27 Building plan applications within the Stretford node by type from 2007 to 2018

The graph above shows some variety in building application types within Stretford but the general numbers are low and shows limited or slow development within the node, except for the 2014/15 year where there was a high uptick in residential applications for building plans.

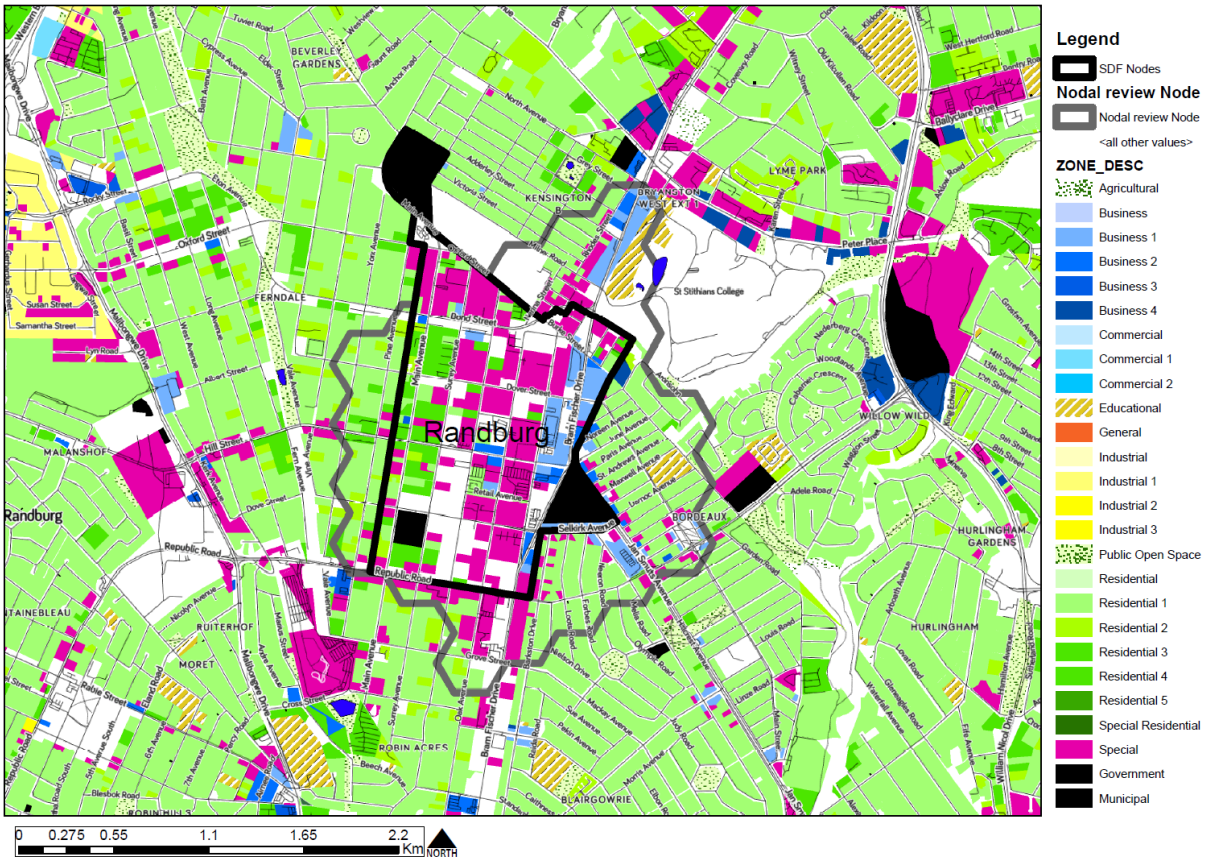


Figure 20 Randburg Node zoning map (map created by Weakley, COJ, 2019)

The map above shows the land use diversity within a recognised and traditional economic centre within the City of Johannesburg. The node shows potential to support and attract business and indicates that a lot of business variety exists within the space especially when considering the large amounts of special zonings in the area along with a long strip of business and municipal zoning. This is different from Stretford shown below.

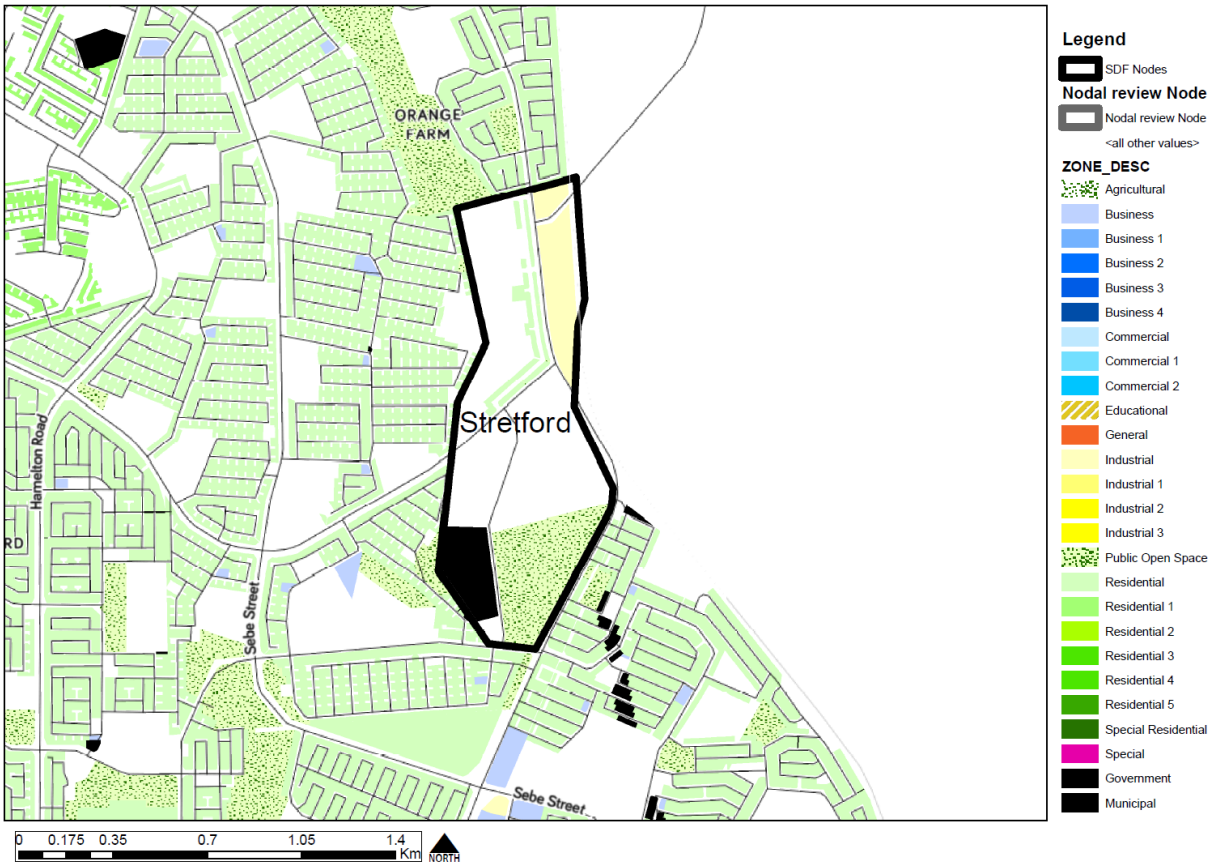


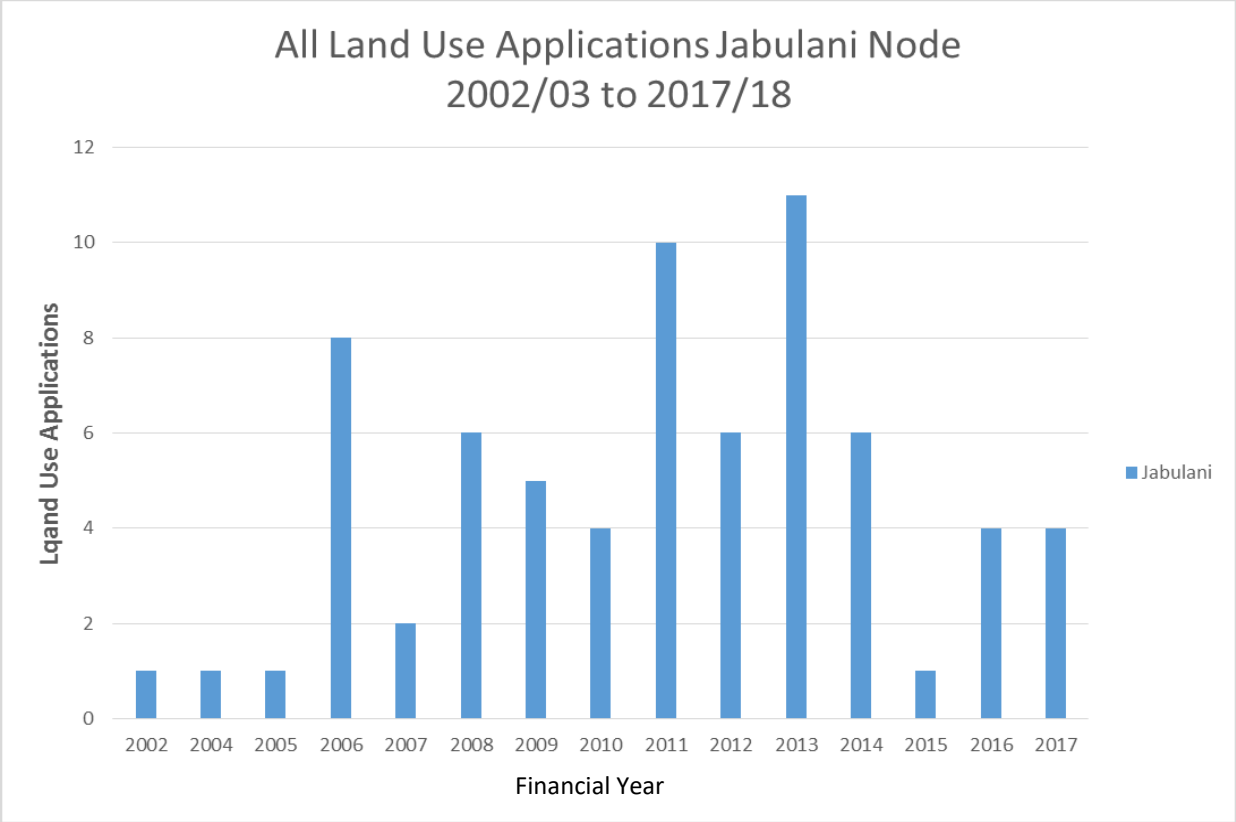
Figure 21 Stretford Node zoning map (created by Weakley, CoJ, 2019)

The map above shows that although Stretford is an identified economic node of the city, it lacks the land use diversity to attract business within the area. It is fairly dominated by residential uses besides some municipal and industrial pieces of land. Many factors attract business development and this is usually based on feasibility studies related to the type of business to be developed and the required target consumer. Diversity in land use is also a factor as the development process is reliant on the rights needed for the business to function. In areas that are predominantly residential development it is usually difficult to change the status quo and the motivation for land use change needs to be convincing and show proof of compatibility in terms of the proposed uses and the existing ones. Based on the data set and figure 20 it seems like diversity in Land use stimulates or at least add to developer uptake in certain areas.

4.5 [11]Jabulani Node

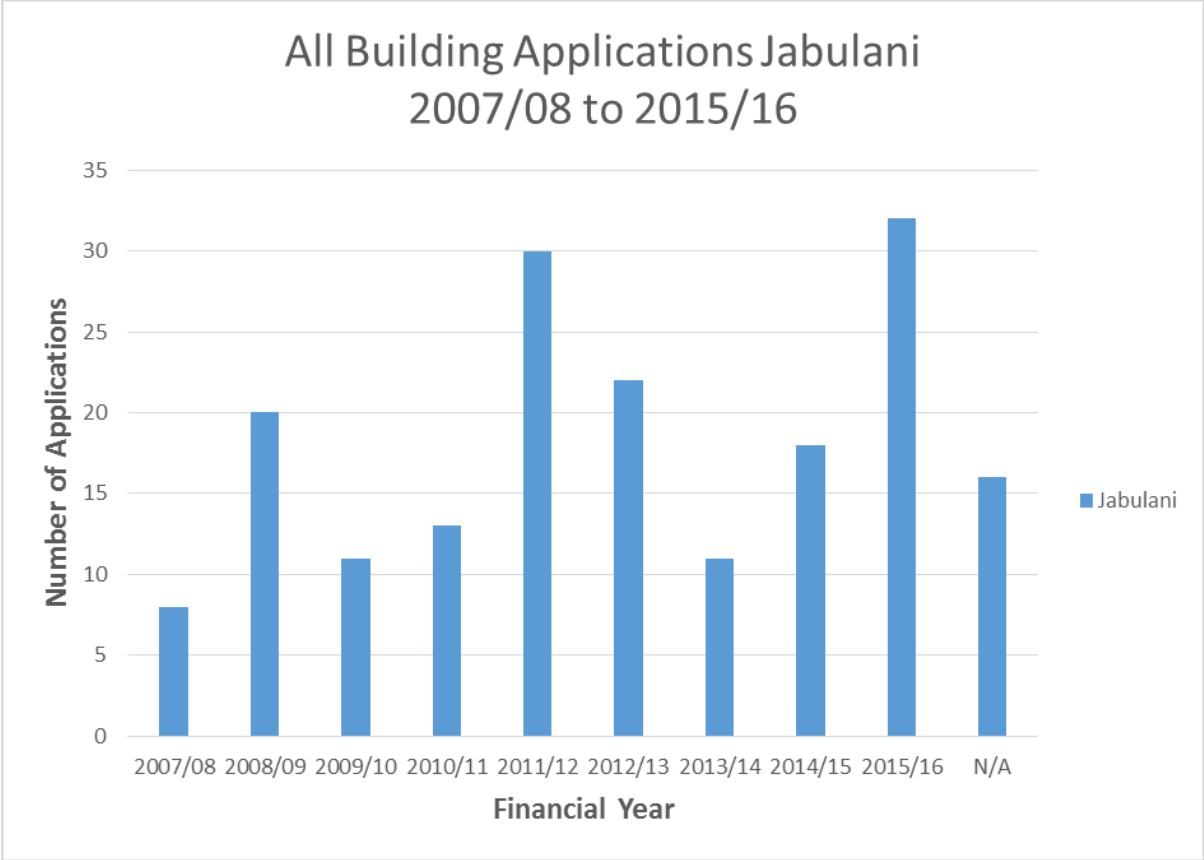
The graph below shows the activity of town planning applications within the Jabulani node in Soweto. The graph shows that there are applications for development recorded within this area, but the sum is low. The highest applications received were in 2011 and 2013 and they received 10 and 11 applications respectively within that financial year. When looked at as a node for the city it shows that the formal applications for development are not coming in frequently and this is an indicator that the development within the area is not following the vision of attracting development to the Soweto area and making it function as a district as identified in the SDF.

[11] Jabulani added because it is within the newly formed Transformation zone "Soweto" and it is also an area of focus by the CoJ because of this. It is also an area funded by the NDPG in order to stimulate development in former township areas. This makes it a good comparison to the more traditional economic centres and marginalised areas.



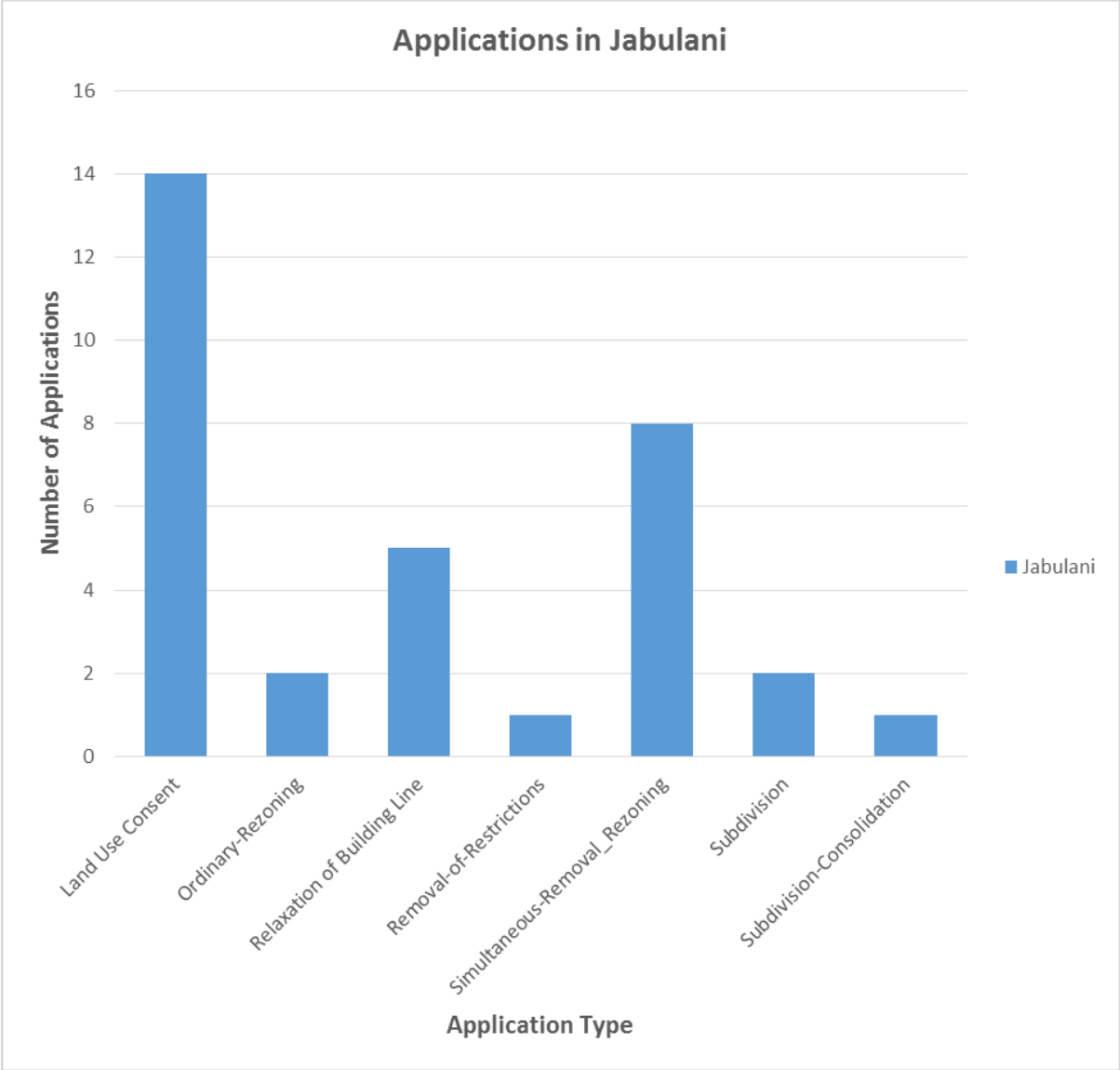
Graph 28 Land use (town planning) applications within the Jabulani node from 2007 to 2018

The graph below presents building plan applications recorded by the City within Jabulani. What is evident is that there are more building plan applications per financial year than the town planning applications. This does not indicate a land use change in terms of diversifying land uses. With the area generally being a residential area it points to household alterations and additions and small scale businesses within the home as a secondary land use at most. This can be evidenced by Graph 31 and figure 22. Although there is formal business activity within Jabulani the majority land use is still residential. The land uses trends in the mentioned graphs do not indicate a radical change in land uses.



Graph 29 Building plan applications within the Jabulani node from 2007 to 2018

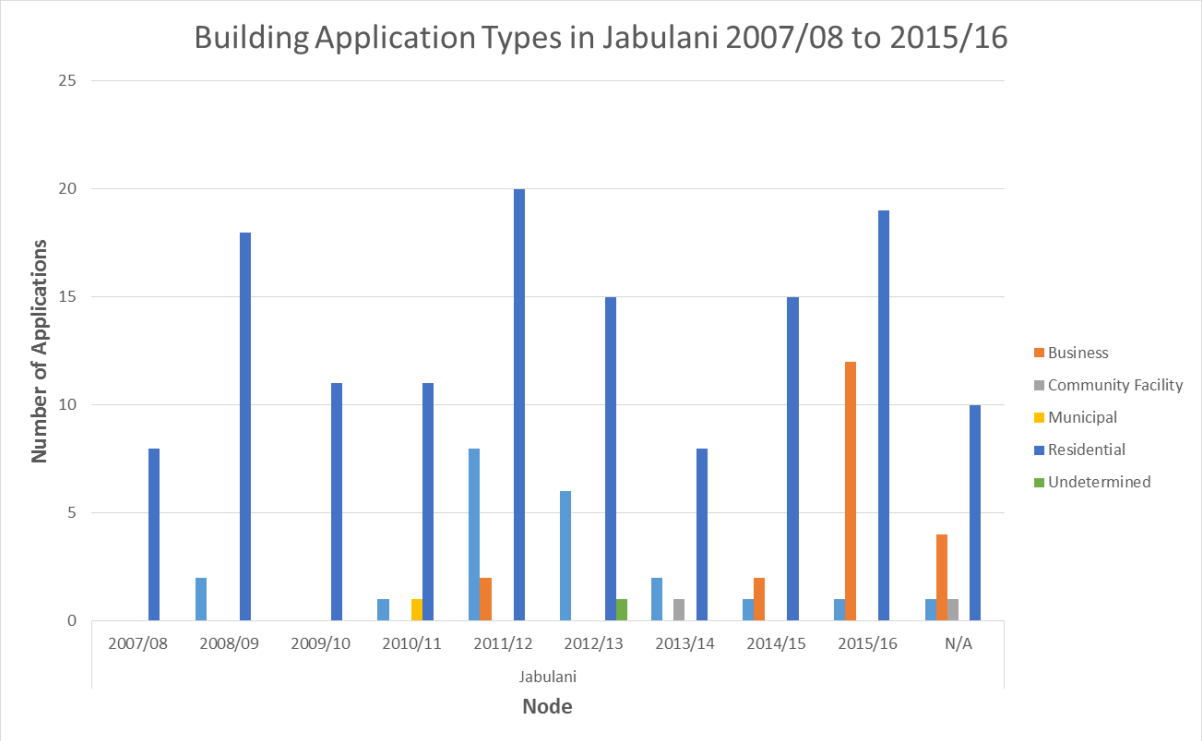
The graph below shows the types of applications received within the Jabulani node and the applications are diverse in terms of their functions. The graph indicates that there are applications that seek to change land uses and create mixed uses within the area but those applications are not frequent. The most received applications are consent use applications which point to some sort of mixed use activity happening in the area although it being scarce when looking at the formal applications received by the City. When looking at the graphs relating to Jabulani it is clear that there are development applications that are formal applications being received by the City, but not as many as the more established and traditional economic nodes of the city like Randburg and Sandton.



Graph 30 Land use (town planning) applications within the Jabulani node by type from 2007 to 2018

The graph below shows the types of application within the Jabulani node in terms of the building plan applications. The graph looks at the types of building plan applications received and what type of building they are for. From the graph you can see that most of the building applications within this node were for residential developments. This shows that not a lot of business developments were being done between 2007 and 2011. What can be seen is a bit more diversity towards 2016 with a hike in business building development applications. This shows that development within the area was happening although at a much lesser scale than the more traditional economic centres of the city. But a positive point is that development although limited was showing signs of responding to the [12]infrastructure development being driven by the SDF.

[12] This relates to projects implemented within the node like public environment and road infrastructure upgrades, upgrading municipal services like water pipes and sewage pipes and social amenities like the development of parks, sports grounds and general recreation areas. These projects are funded in part by the NDPG within this node.



Graph 31 Building plan applications within the Jabulani node by type from 2007 to 2018

The Jabulani data shows that nodes that are not within the traditional economic centres of the CoJ have difficulty in terms of development as shown in the numbers of the development application data received. Jabulani as an NDPG node (and part of Soweto, in a Transformation zone) shows a bit more improvement in comparison to Stretford and Ennerdale, but the numbers of these nodes combined will not even rival that of Sandton in terms of development applications. In the following chapter an analysis of the development data for all 5 nodes will be compared in order to draw a clearer picture of the domination of the nodes within the traditional economic centres of the city as compared to the ones close to or within the deprivation and marginalized areas.

The map below shows the dominant land uses within the Jabulani area and what can be seen is that apart from a small amount of business and municipal uses, the node is fairly residential. This speaks to the issue of mono-functional land uses in the marginalized areas and a lack of diversity in land uses to support economic development. Even in an area of strong focus by the City and other government departments the area remains dominated by residential uses, as it was primarily designed as a dormitory space.

The map corresponds with the low number of development applications found within this node in a former marginalized area.

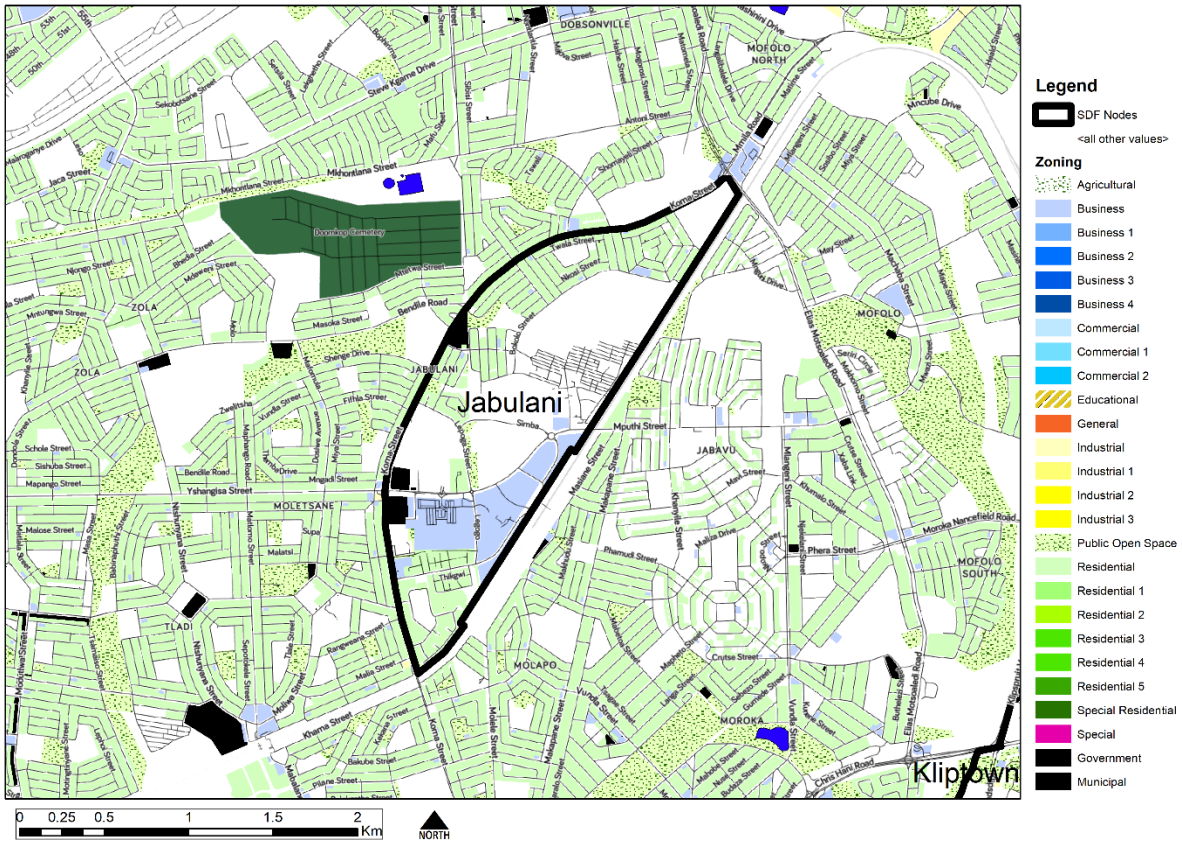
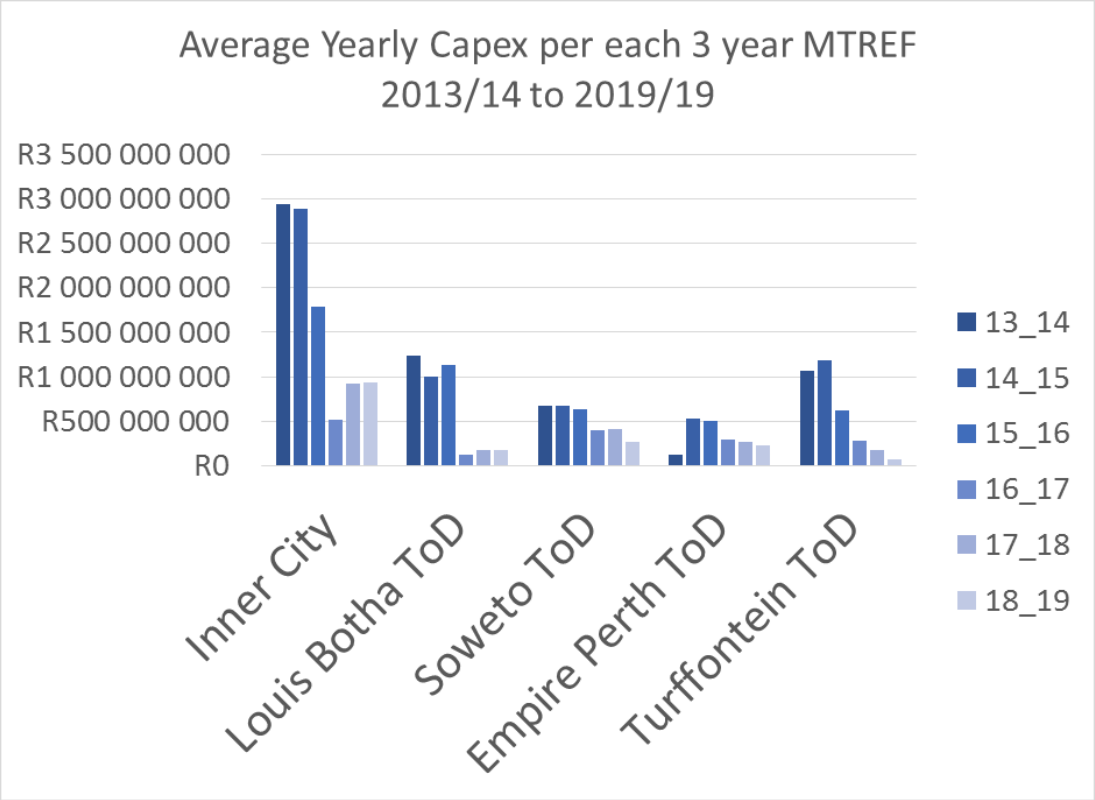


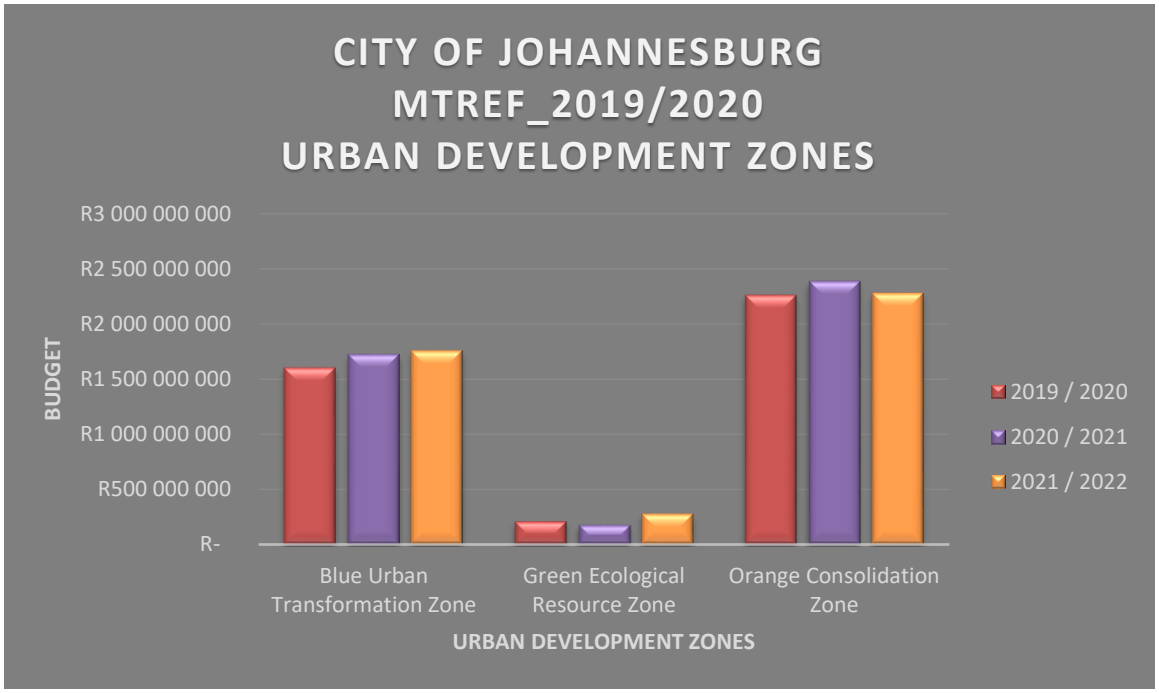
Figure 22 Jabulani Node zoning map (map created by Weakley, COJ, 2019)

4.6 City of Johannesburg's Recent Capital Expenditure Framework and the Built Environment Performance Plan



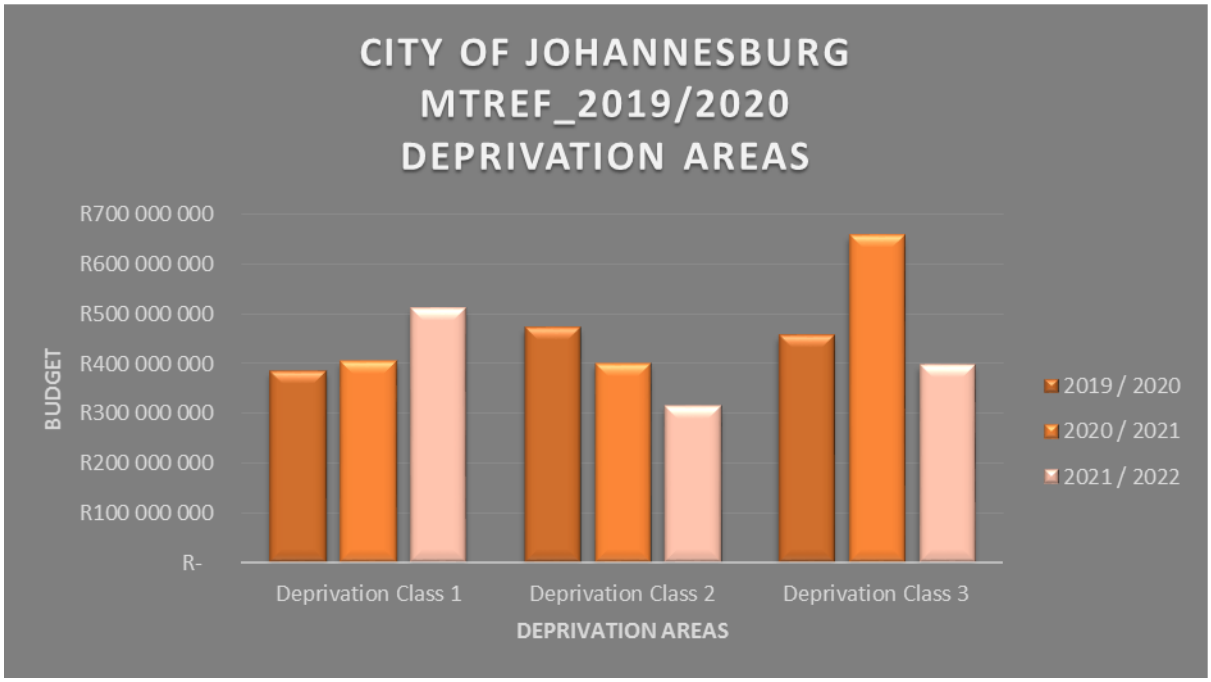
Graph 32 Average yearly capex per each 3 year MTREF

The graph above shows that the city spends most of the capital expenditure within the priority transformation zones and the inner-city. This is aligned to the planning policy as one of the aims of the Spatial Development Framework is to strengthen the inner-city of Johannesburg and revive it as a strong economic node of the city.



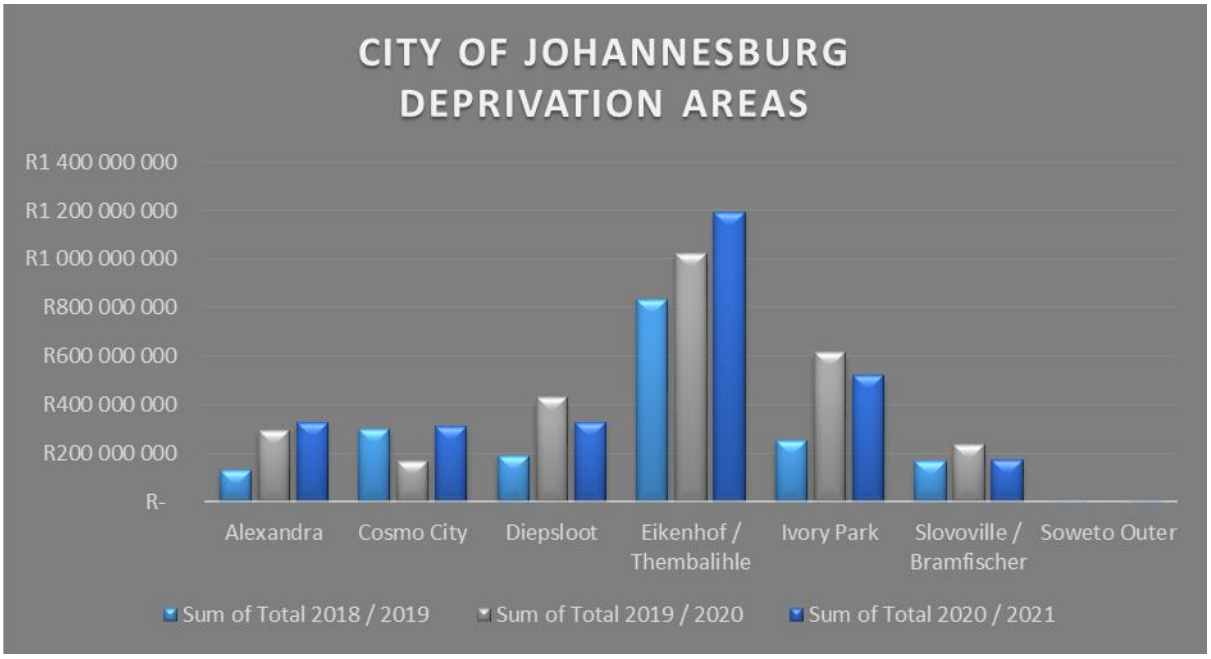
Graph 33 CoJ MTREF per SDF urban development zone2019/ 2020

The graph above is the planned expenditure of the city in the different development zones over the next three financial years. These show the intention the city has in terms of capital investment projects within the various areas. These are infrastructure interventions, upgrades and installations.



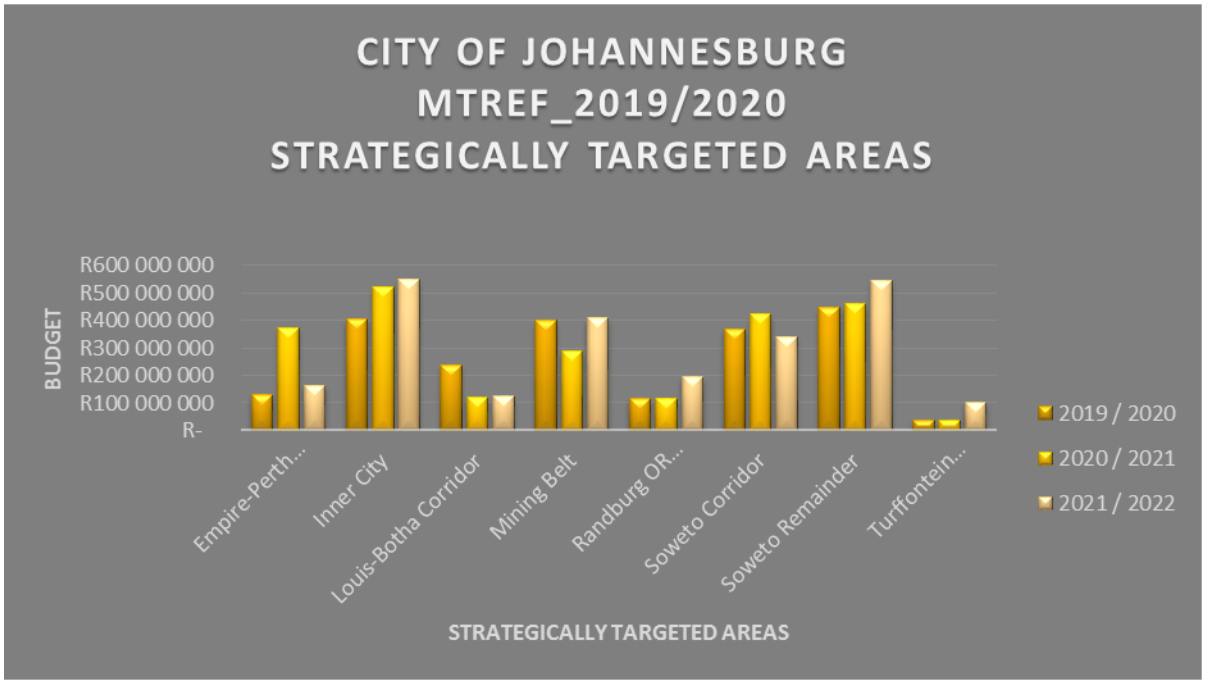
Graph 34 CoJ MTREF deprivation areas by class 2019/ 2020

The graph above shows that quite a large amount of the capital budget will be spent within the marginalized areas. The deprivation area classes in the graph above are the same as the former marginalized areas. In the graph they are referred to as per the 2016 SDF



Graph 35 CoJ MTREF deprivation areas by township 2019/ 2020

The graph above shows that infrastructure backlogs are a city priority because of the expenditure in places like Thembalihle/ Eikenhof.

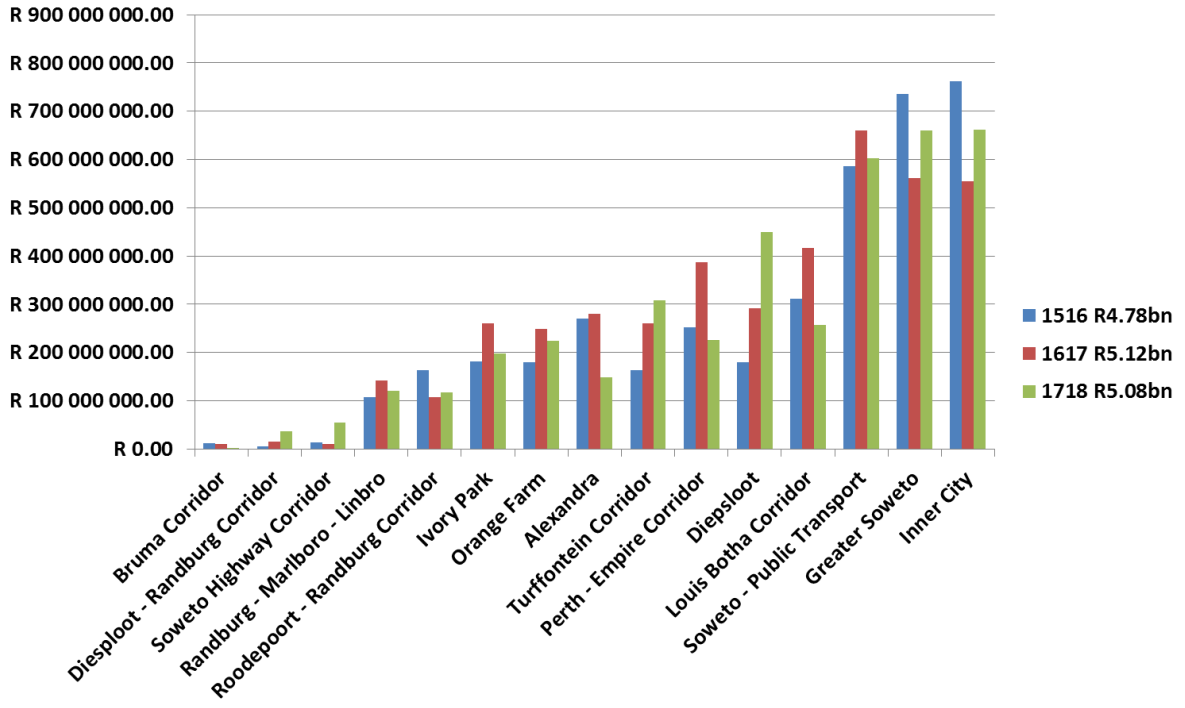


Graph 36 CoJ MTREF by SDF priority development area 2019/ 2020

The graph above indicates the strategically targeted areas of the city as per the Built Environment Performance Plan which corresponds closely with the SDF.

What is clear though is that the spatial policy is responding to the [13]areas of [14]demand although in different ways. The various actors within the city are mostly active in the zones where demand seems to be high and this is in line with what the spatial policy is saying in terms of where capital expenditure should go.

4.6.1 Capital Expenditure summary



Graph 37 CoJ MTREF Summary by priority development area 2015/ 2018

The Graph above shows where the budget of the city went between 2015 and 2018. This graph shows that the city spends across its priority areas which include the transformation zones and the deprivation areas where service delivery backlogs are being addressed. It is evident that although there are a few identified priority areas, not all of them get the same amount of budget allocated to them. The deprivation areas get a large share of the budget but Soweto (Greater) and Diepsloot get more than the other deprivation areas. The TOD corridors and the inner-city also share a large part of the capital budget but the inner-city and the Soweto TOD corridor have a larger share of the budget than the other transformation areas. But the inner-city is still the largest consumer of the budget and this aligns to the SDF and its focus on strengthening the inner city and returning it into a strong economic centre.

[13] Relates to market demand wheredeveloper interest is higher.

[14] The plan is somewhat following demand and not leading it. The changes in the SDF over time also indicate that the market has an influence on where the CoJ should be spending its capital expenditure.

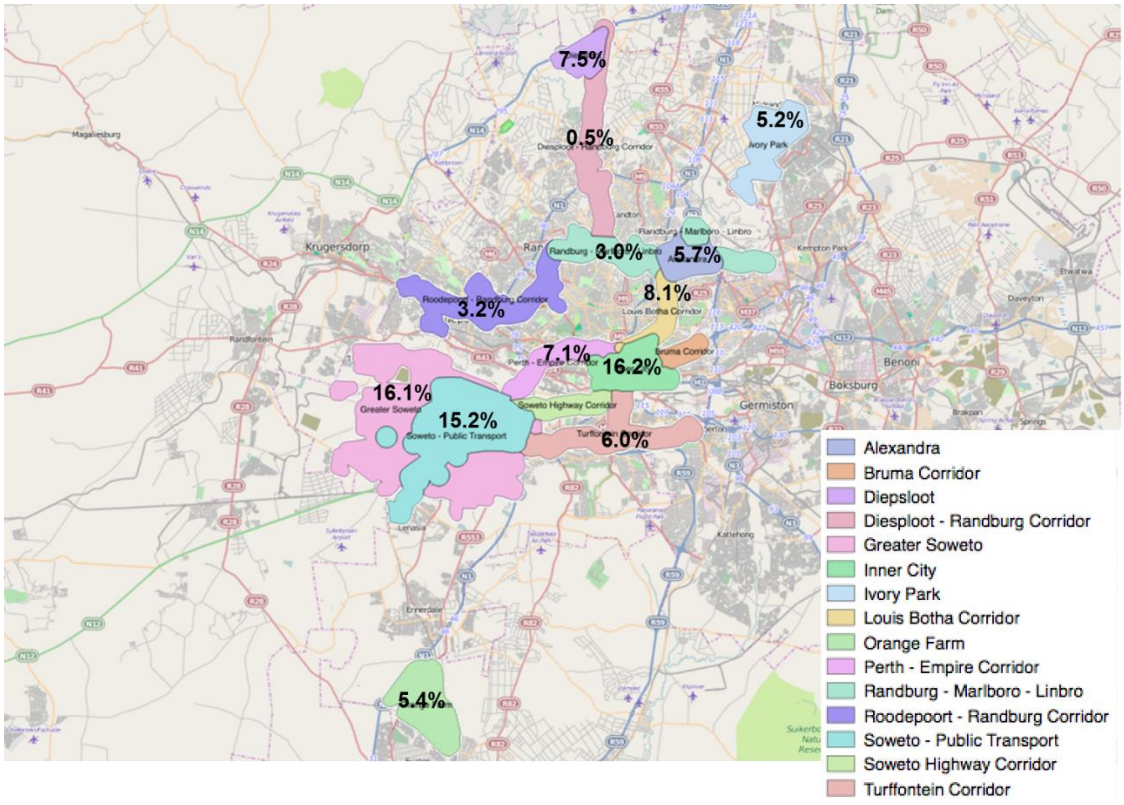


Figure 23 Summary of Citywide Capex spend by [15]percentage 2018/ 19 (CoJ, 2019)

The graphic above breaks down the percentage of the budget received by the priority investment areas of the city 2018/ 19. What is clear is the larger percentages of the budget that are spent in Soweto and the Inner city, which is a clear alignment with the spatial policy because of the focus of the SDF on these two areas.

4.7 Conclusion

The development application data points to development happening readily within the city. The marginalized areas continue to see mostly state capital expenditure aimed at [16]improving general wellbeing, addressing backlogs and trying to attract investment. The capital budget of the city in terms of infrastructure spend is being directed to the marginalized areas almost as much as the transformation areas which include some historically marginalized areas. The development application trends within the city in certain areas follow the spatial policy but alignment is based on proximity to established urban centres.

[15] The expenditure cannot add up to 100% in these zones as the money gets used addressing issues in other parts of the city not looked at in this graphic. The graphic just highlights key areas that are being focused on.
[16] This is mentioned in the SDF 2040 directly and it lays out that the City will aim to improve these elements of wellbeing and backlogs in order to attract investment.

5. Chapter 5: Analysing the Findings

5.1 Introduction

This section analyses the data and compares and summarises findings in relation to the literature. The data presented a picture of Johannesburg and the Spatial Development Framework that is quite complex and needs further analysis. The data showed that in some areas of the CoJ the spatial policy was in alignment with the development happening on the ground, while in other areas this was not happening.

5.2 Strategic Spatial Planning

Strategic spatial planning is a logical tool used to influence decision making within the development process (Oranje, 2010). From the literature it seems as if it is mostly a public sector led process although not in all cases. The spatial element as mentioned earlier in the literature is strongly linked to development location and infrastructure (Ahmad and Pienaar, 2014). The importance of this process is that it is a form of guidance for development.

Infrastructure is an outcome of this process and this makes the link between strategic spatial planning and infrastructure provision important for coordinated and sustained development looking at achieving longer term development goals (Todes 2008). The importance of the infrastructure link is that it brings a budgeting element to this process. The budgeting element allows public sector departments to plan and prioritise projects that are aimed at aiding the development process, while also looking to impact society positively through planned interventions and improving livelihoods (Ahmad and Pienaar, 2014). This means that strategic spatial planning has a strong focus on results and outputs and this link with implementation plays an important role in future planning and envisioning how urban areas are to grow and function.

The literature emphasises that strategic planning and by extension strategic spatial planning is a tool used to make decisions (Odendaal and McCann, 2016). In the spatial planning context these decisions have a direct impact on people's livelihoods. In most cases this impact is aimed at being positive and sustainable, therefore reaching their goal of sustainable development. This becomes important because for cities to grow in a sustainable manner there is a need to understand what they have currently in order to cater for and develop a better future. Therefore two key elements within strategic spatial plans include identifying key focus areas and tailoring interventions based on decisions to service the vision in the longer term (Odendaal and McCann, 2016). The vision of the plan and the decisions made as a result of it need to be adaptable and flexible because of the dynamic nature of strategic spatial planning. The plans because of their long-term focus need to be able to adjust and change as circumstance within the locale change.

5.3 Strategic Spatial Planning in Johannesburg

Planning in Johannesburg is done through spatial frameworks and this is similar to most of the larger cities within South Africa and they have the aim of remedying the challenges caused through the legacy of apartheid spatial planning, amongst other issues (Oranje, 2010). The main issues picked up within the Johannesburg area is the constant battle between supporting development especially private sector development and addressing the challenges of apartheid within the marginalized and previously disadvantaged areas (Oranje, 2010).

The areas that are predominately state led in terms of development are the former non-white townships, new RDP housing areas and informal settlements referred to as marginalized areas within the earlier Spatial Development Frameworks (Ahmand and Piernaar, 2014). The more private sector led areas of development are the more established urban centres situated in the former white areas. From the data on development applications it is clear to see that these contrasting areas have a split development trajectory which leads to investment especially in business related development

occurring in the historic urban centres. As a result what is visible is large levels of inequality and serious fragmentation within the city. This is partly why the spatial planning policy of the city looks to remedy this and target underprivileged areas for more focused development that is aimed at attracting investment to help curb the development challenges facing these areas (Ahmad and Pienaar, 2014).

The main issue identified through the data and the literature is that spatial planning has had difficulty in directing where development goes especially private sector development. It is difficult to direct where investors should invest (Odendaal and McCann, 2016). The spatial planning policy in this sense can be seen as more of a tool that guides public sector investment and acts as an indicative tool for private sector development (Odendaal and McCann, 2016; Todes, 2017). It indicates where the city will be intervening and spending capital budget in terms of infrastructure provision and less of a controlling agent (Odendaal and McCann, 2016). The data shows that there are areas of both alignment and misalignment in terms of the development picture on the ground and the vision of the Spatial Development Framework.

This is because on the one hand the UDB has been upheld by the CoJ and only limited amendments have been made to this. Therefore the regulatory element of the spatial policy in limiting certain areas where development can or cannot occur has been functional (Todes, 2001). On the other hand the development patterns as per the application data shows that formal private developments still seem to be happening in the more recognised urban centres and the areas of deprivation and the nodes within them are having fewer development applications directed to them and this indicates a weaker development trajectory.

The map below shows that most of the rezoning development applications within the city are to the north of the city and towards the more traditional economic centres that are close to the Randburg and Sandton areas. This shows evidence that development is still lagging behind in the nodes that are not within the or close to the traditional economic centres of the city. The marginalized areas also show limited application numbers as compared the traditional economic centres of the city.

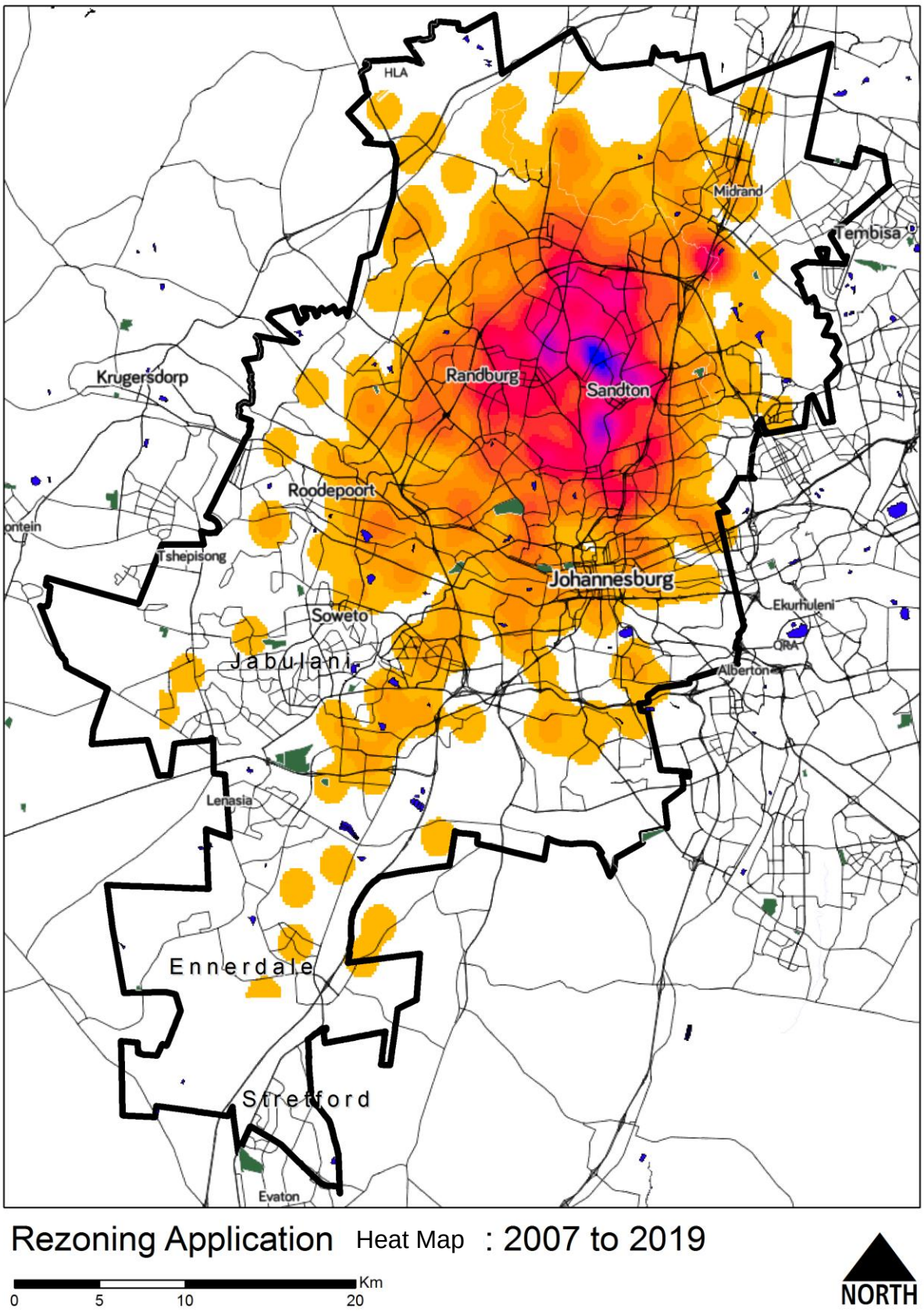


Figure 24 Heat map of rezoning applications by number (Map created by Masemula and Weakley, COJ, 2020)

Even when comparing the township establishment applications against rezoning applications it is still evident where a bulk of the applications within the city are situated. These are the areas that are seeing more development and investment from the private sector. The map below showing rezoning applications versus township establishment applications indicates this.

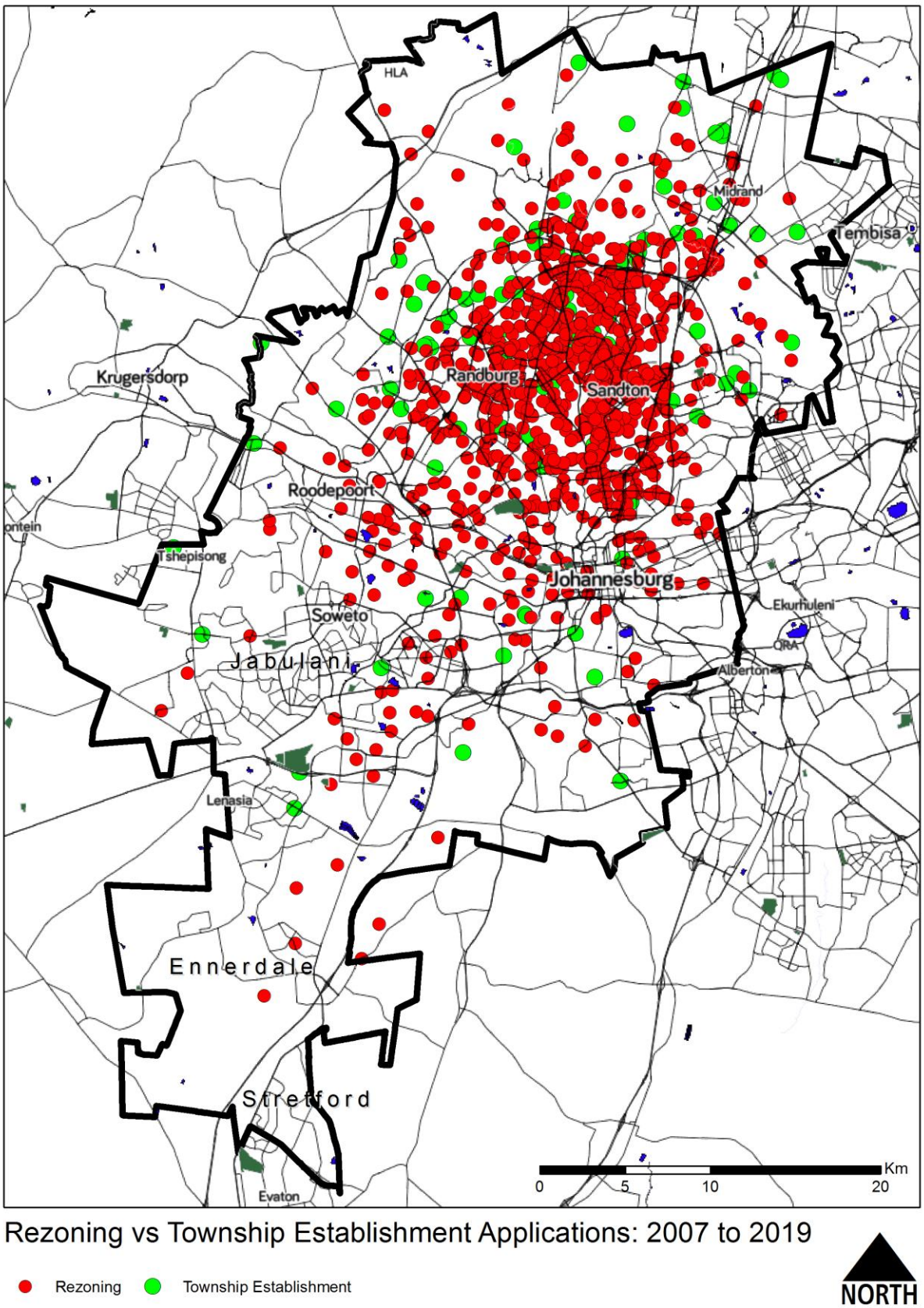


Figure 25 Rezoning applications versus township establishment applications (map created by Masemula and Weakley, COJ, 2020)

Even nodes of government focus like Jabulani are also lagging behind in terms of applications and general private sector investment and development as can be seen on the map above.

The difficulties in driving change and remedying the effects of apartheid are related to the inability of spatial planning to dictate development (Odendaal and McCann, 2016).. Municipal spatial planning is responsible for outlining the overall development vision of the City and should should ideally be able to lead where development occurs. There needs to be more work done around the ability of spatial plans to lead development especially private sector development. This is difficult because development and investment location are dependent on a lot more factors than just locality. These issues will have to be looked at and addressed in relation to spatial planning in Johannesburg if the change being envisioned is to be achieved.

Priority Investment Area	SDF Aim	Alignment to SDF	Challenges
Deprivation Areas	Address service delivery backlogs improve infrastructure and livelihoods. Attract and retain investment. Create economic development	Aligned in terms of infrastructure spend and attempts to address service delivery backlogs	limited development and reluctance of private sector investment within the deprivation areas
Inner-city	Create strong economic centre and core of Johannesburg, also attract and retain investment within the area	Aligned in terms of infrastructure spend and in attempts to create a strong economic core by attracting investment. Housing market investment increasing and a focus on local economic development and small and survivalist business support	Strong urban management issues and incivilities. Reluctance of business community to return to the inner city.
TOD Corridors	creating strong public transportation backbone and offering infrastructure provision to activate intense mixed use development along transit lines	Aligned in terms of infrastructure spend and the implementation of public transport projects along identified routes	Limited take up of development opportunities especially in areas of deprivation. Intensified mixed use development occurring slowly and in small patches. Some strong take up in transformation zones especially TOD areas.

UDB	Protecting critical biodiversity areas and limiting development beyond this boundary	Aligned in terms of limiting development and discouraging development within areas beyond this boundary	Facing consistent development pressure to expand into these areas. Political influence in adjusting UDB to include low cost housing delivery

Table 6 Summary of alignment to SDF

5.4 The Spatial Development Framework

The Johannesburg Spatial Development Framework is similar to other South African cities in its strategic spatial planning method as it is informed by the same legislative structure. The framework contains many of the elements mentioned within the literature as to what entails a strategic spatial plan. The CoJ has a long range vision and looks to link tangible outputs in terms of infrastructure provision to this vision that will help regulate and enhance development for the CoJ (Ahmad and Pienaar, 2014). The CoJ also links a large part of its infrastructure planning component to this process, which is an important part of the city's budget component (Ahmad and Pienaar, 2014). The CoJ through this spatial framework also focuses at both a high level and a more localised level in terms of CoJ planning and the support of local precinct plans that have specific outcomes and interventions attached to them.

The Johannesburg Spatial Development Framework also has a focus on identifying key strategic intervention areas (Ahmad and Pienaar, 2014). These are specific areas of the city where development enhancement is targeted and these areas are seen as areas of growth for the city (Ahmad and Pienaar, 2014). The framework also has areas where development is prohibited like areas that lie outside the urban development boundary. In this sense the framework looks to regulate development especially in trying to direct where development can and cannot happen (Ahmad and Pienaar, 2014).

The framework also has a particular focus on people and their livelihoods, especially because of the historical spatial planning challenges deliberately put in place during apartheid. So like most spatial plans within South Africa the aim is to address these and improve the livelihoods of the people within the previously disadvantaged areas that are directly affected by the effects of apartheid spatial policies (Oranje, 2010). In the case of Johannesburg areas have been identified and interventions tailored to address the specific problems affecting these areas and what comes across is a strong focus on addressing infrastructure backlogs and trying to create environments that are conducive for attracting investment and development.

Consolidation Zone Focus	Supported in Consolidation Zone	Not Supported in Consolidation Zone	Deprivation areas supported in Consolidation Zone
Lower to medium density suburban	Developments that do not require extensive bulk infrastructure upgrades	Developments that require bulk infrastructure roll out in peripheral areas	Engineering services and bulk infrastructure upgrades
Address deprivation area challenges		Housing developments in peripheral areas	Social infrastructure and public facilities
Compact polycentric approach: • Managed growth • Social and infrastructural backlogs		Low density sprawl	Informal settlement upgrades Public transport nodes and precincts
		Developments not in line with SDF	LED, Job creation and economic growth
			TOD development and Non-Motorised Transport

Table 7 Summary of what is and is not accepted in the SDF Consolidation Zone

What is clear though is that the framework has had some difficulties and in being able to influence where development happens especially private sector development. The findings show that the deprived and marginalized areas attract limited private sector development and that the main focus within these areas is public sector led development and a focus on infrastructure provision to improve livelihoods. The Spatial Development Framework has been able to regulate development in terms of keeping development out of areas that fall outside the UDB, reinforcing previous findings, this is evident when looking at figure 9 to 13 and graph 10 (see also Ahmad and Pienaar, 2014)

5.5 Plan Success and Evaluation

The main points raised within the literature point to a difficulty in measuring plan success and this is attributed mostly to a lack of post completion analysis. This means that it becomes challenging to decide if the plans have achieved their initial goals and objectives. This is seen as a major limitation within the planning process as there is no logical way to tell if a plan is working or not. Therefore plan success needs to be tracked and it needs to be tracked throughout the life cycle of the plan and post completion in order to get a clearer picture of the impact of the plan. The way plans are evaluated also becomes important because the plans must be monitored and evaluated in a way that will assist in measuring the output of the plan overtime in order to track its impact and success at certain mile stones. Implementation is an important part of the strategic planning process and in this regard it also becomes a key element within plan success

The key elements of plan success which are; control, quality and impact help in guiding criteria for evaluation for spatial frameworks and they can allow one to judge if a plan and its vision are aligning with what is happening on the ground. Strategic planning should be able to play a guiding role in this process and to a certain extent should be able to use this to impact and guide both development and investment. From the findings though one can see that this is not as easy as expected. In Johannesburg the same difficulties are being faced and the plans are not able to lead development and investment, which is what they are supposed to do. The lack of alignment shows a lack of success within the spatial plans in Johannesburg, especially within the marginalised areas, another issue being the lack of post implementation monitoring.

5.6 Infrastructure

Infrastructure planning facilitates the implementation of spatial planning outcomes and is usually the main output of most spatial plans and points to service delivery and the ability to guide where development should be going (Ahmad and Pienaar, 2014). In this sense infrastructure planning is an extension of spatial planning. It is one of the tools that are needed to achieve the goals for improved livelihoods (Magni, 2011). But this has not always been the case and spatial plans have not always guided infrastructure development. The Johannesburg case has been fairly consistent as there is evidence that infrastructure spend is going where the SDF has highlighted as priority capex areas. Sprawl has led to erratic distribution of infrastructure. In the case of South Africa this was further exacerbated by the deliberate marginalisation of certain areas during apartheid. For sustainability to be achieved the link between spatial planning and infrastructure should be strengthened. This will help improve efficiency in the provision and utilisation of infrastructure, therefore limiting the budget strains faced by municipalities.

What can be drawn from the findings is that spatial policy is having some success in directing where the City is spending its capital budget, but in some cases it is simply accommodating the plans of some line departments. The BEPP shows that most of the budget is going to the priority intervention areas, being the transformation zones. The budget is also placed within the marginalized areas as they still remain an area of focus in terms of infrastructure provision and servicing backlogs.

The map below shows where city is spending its capex and shows alignment in terms of public sector investment and the SDF.

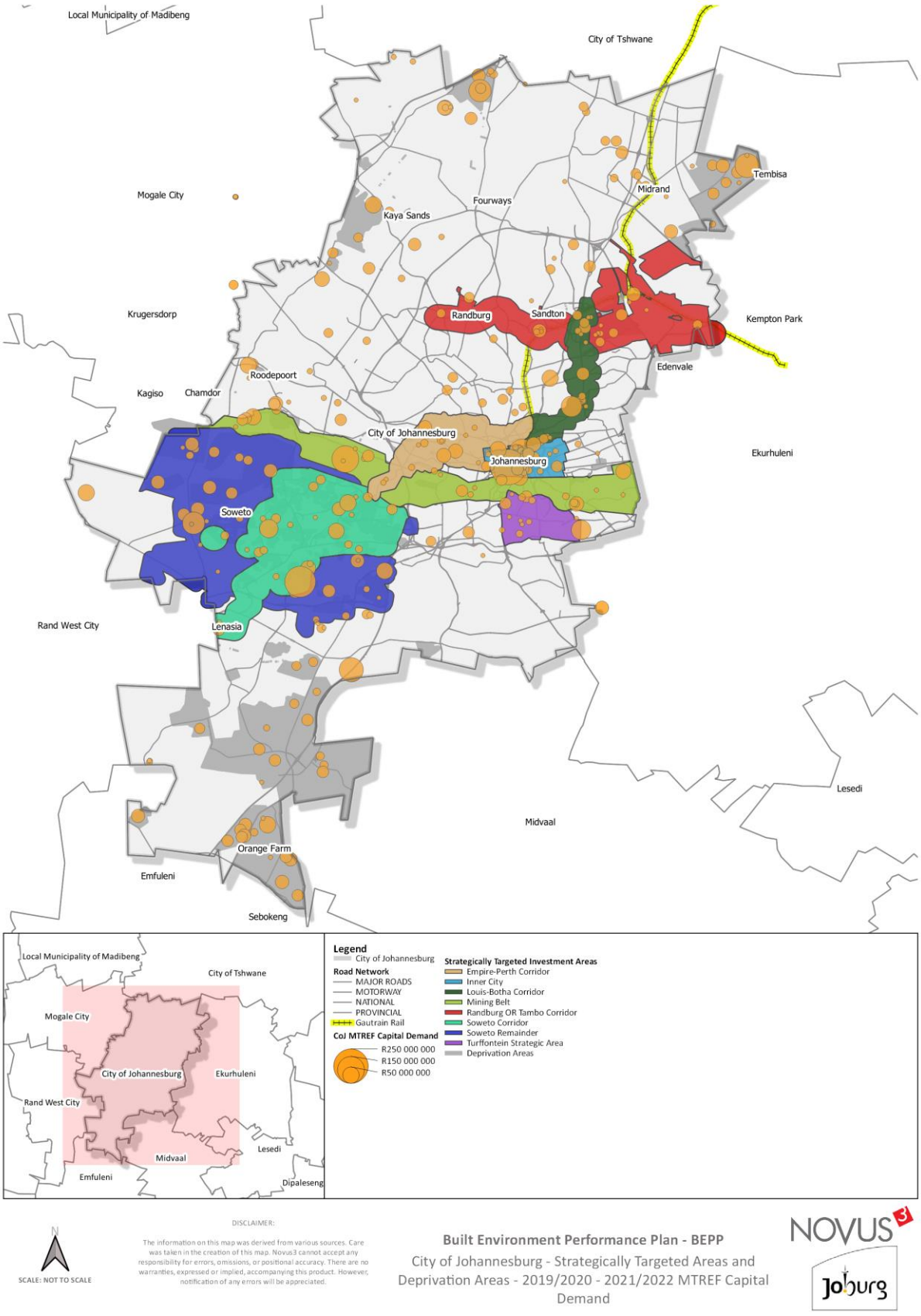


Figure 26 BEPP capex spend across the City (CoJ, 2019)

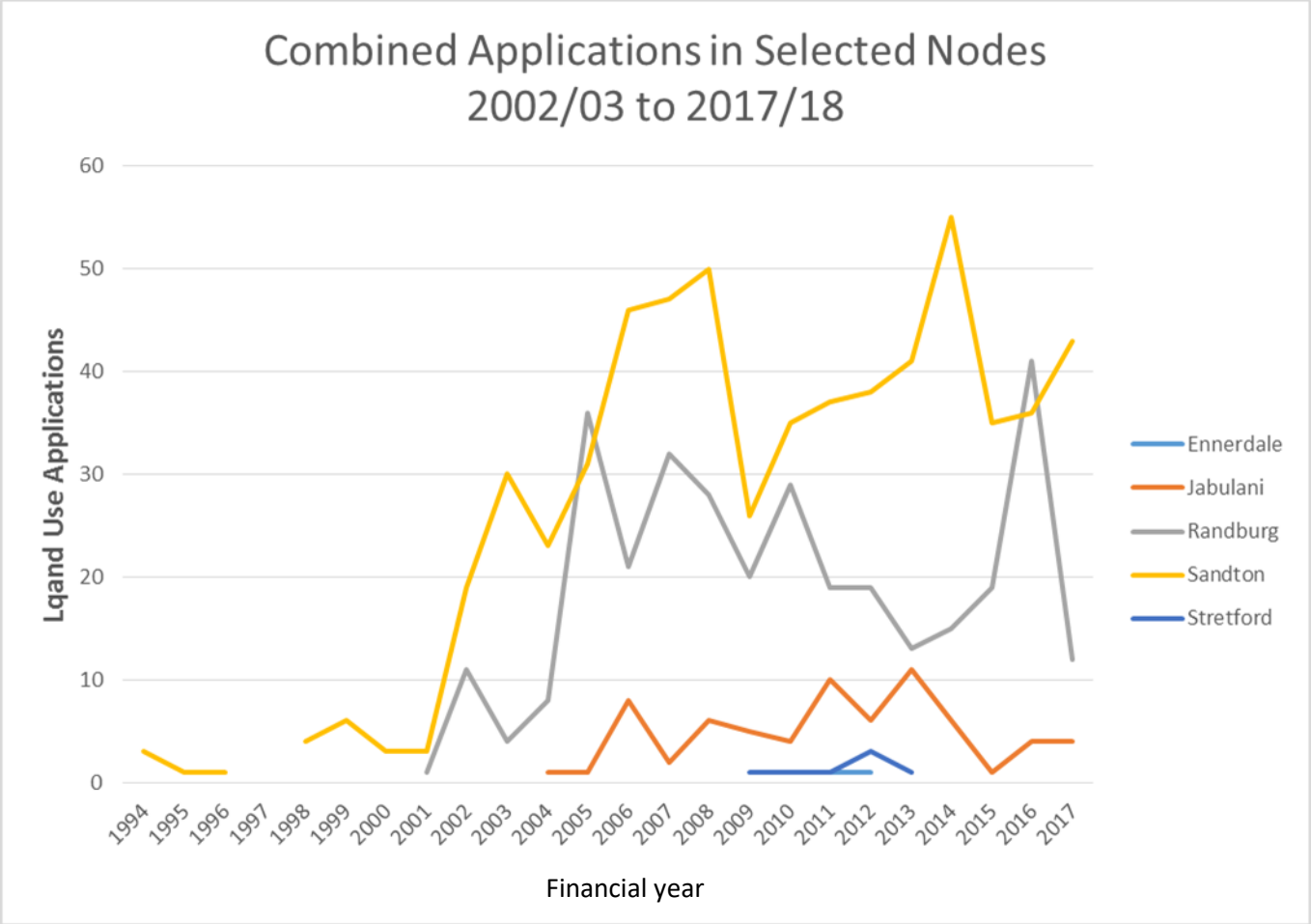
5.7 Townships

Townships are targeted for regeneration and urban renewal for them to be able to become places that are investor friendly (Moruntse, 2010). Most of the investment and development that happens within these townships is public sector driven and funded through public capital investment and infrastructure grants (Ahmad and Pienaar, 2014). These areas are targeted mostly because they are seen as areas that have potential for development and because of the sheer numbers within these townships, they could possibly hold the key for economic benefits if engaged well (Charman and Petersen, 2015). The drive for economic revitalisation within these areas is aimed at combating social issues like unemployment and other social ills linked to it. The drive for private sector investment is aimed at it activating the latent potential of these spaces and catalysing some form of larger economic activity (Ahmad and Pienaar, 2014). These difficulties and the need for development support have forced the townships to explore local economic development (Charman and Petersen, 2015).

For townships to transform there is a need for policy and more accurately spatial policy to guide or drive development within these areas (Ahmad and Pienaar, 2014). The policy needs to play a much more deliberate role in influencing or guiding development to areas that have been previously been disadvantaged. This has proved challenging as policy has found it difficult to direct development especially private sector development. These areas need to be touted as potential investment areas, areas where both business and general development can thrive. Programs like the NDPG have been driving these attempts within the townships (Maesela, 2018). The program looks to use spatial policy elements to try and drive developments within the townships (Ntombela, 2016). The idea of promoting nodal developments and pumping infrastructure into that node to attract development has yielded some results, especially within Johannesburg (Maesela, 2018). [17]Areas like Jabulani have had some success and have higher development application numbers than other nodes close to or within marginalized areas.

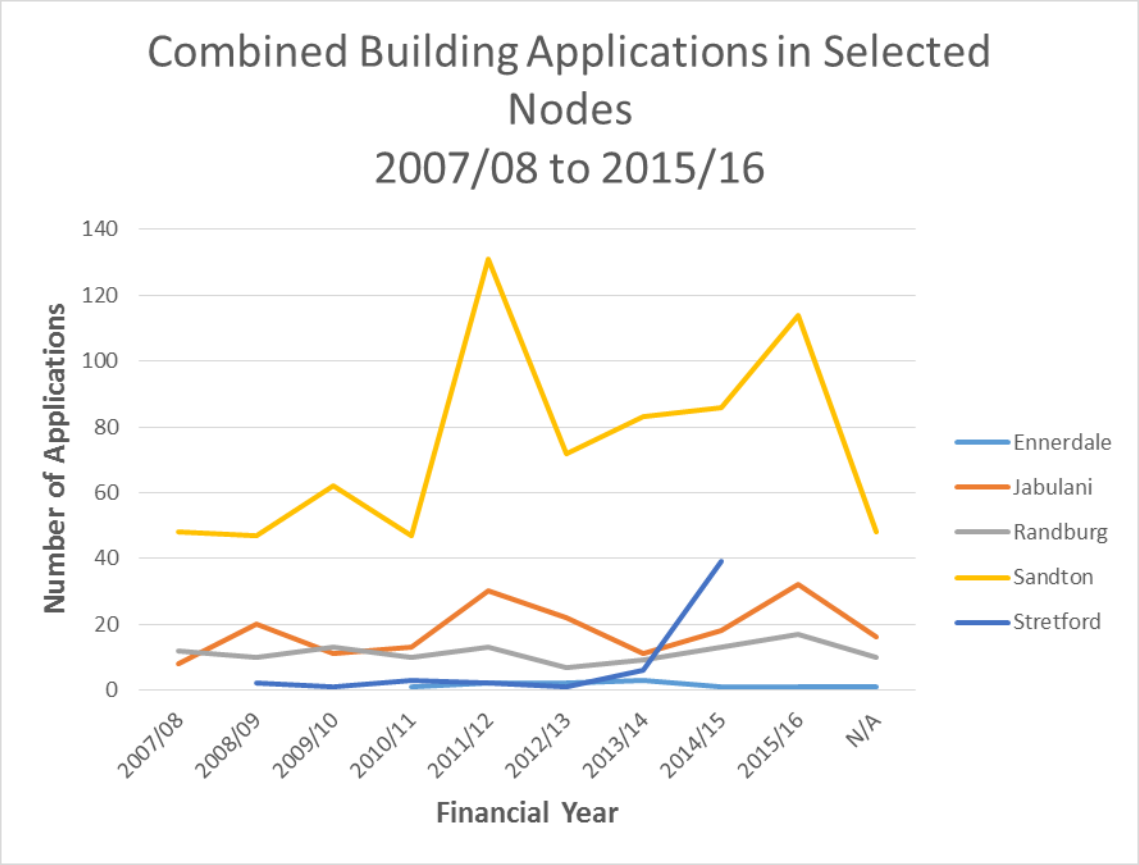
The graph below shows that Jabulani is performing better in terms of received formal applications as compared to Stretford and Ennerdale, but is facing difficulty when compared to the more historical economic centres like Sandton and Randburg. The graph shows a that there are a lot of peaks and troughs. This suggests that interest in development is impacted upon by external factors and this influences the interest in development take up. The graph shows a steep rise from about 2012 and then a drastic dip round 2015, suggesting that something impacted negatively on developer interest around 2015.

[17] The time frames suggest a relationship between the implementation of the NDPG and higher development application numbers



Graph 38 Combined nodal comparison of town planning applications

The building plan applications in the graph below also indicate the same pattern.



Graph 39 Combined nodal comparison of building plan applications

Overall the attempts have yielded limited results in terms attracting private sector investments into the townships because of the developmental problems they face. What is clear from the data presented is that a limited amount of formal development is happening within these areas and a majority of the formal development applications are in the more recognised economic centres. The literature tells a similar story to the data presented as it expresses the lack of desire in general for development to venture into the townships. This is based on risk and it is a venture that is generally new for most investors.

The Spatial Development Framework of Johannesburg had identified Soweto as an area of emphasis that needs focus and developmental assistance if it is to become a true district (CoJ, 2016). The Jabulani node is seen as an important economic centre for this area and the projects driven within that node through NDPG funding are aimed at realising this. Jabulani and Soweto as a whole is identified within the spatial policy as an area that has enough potential to be able to compete in the near future with the more recognised economic centres. The other townships and marginalized areas within the CoJ also have economic development elements that are mentioned by the spatial policy, but the majority of focus within these other areas is more about servicing the massive infrastructure backlogs faced by these areas. In comparison to the other marginalized areas of the city Soweto has a larger allocation of capital funds over a long period of time, and a lot more development has gone into this area because of its prioritisation in all SDFs since 2000. This can be seen for example in the large Transit Orientated Development (TOD) investments within the area to support nodal development on the back of a strong public transport system.

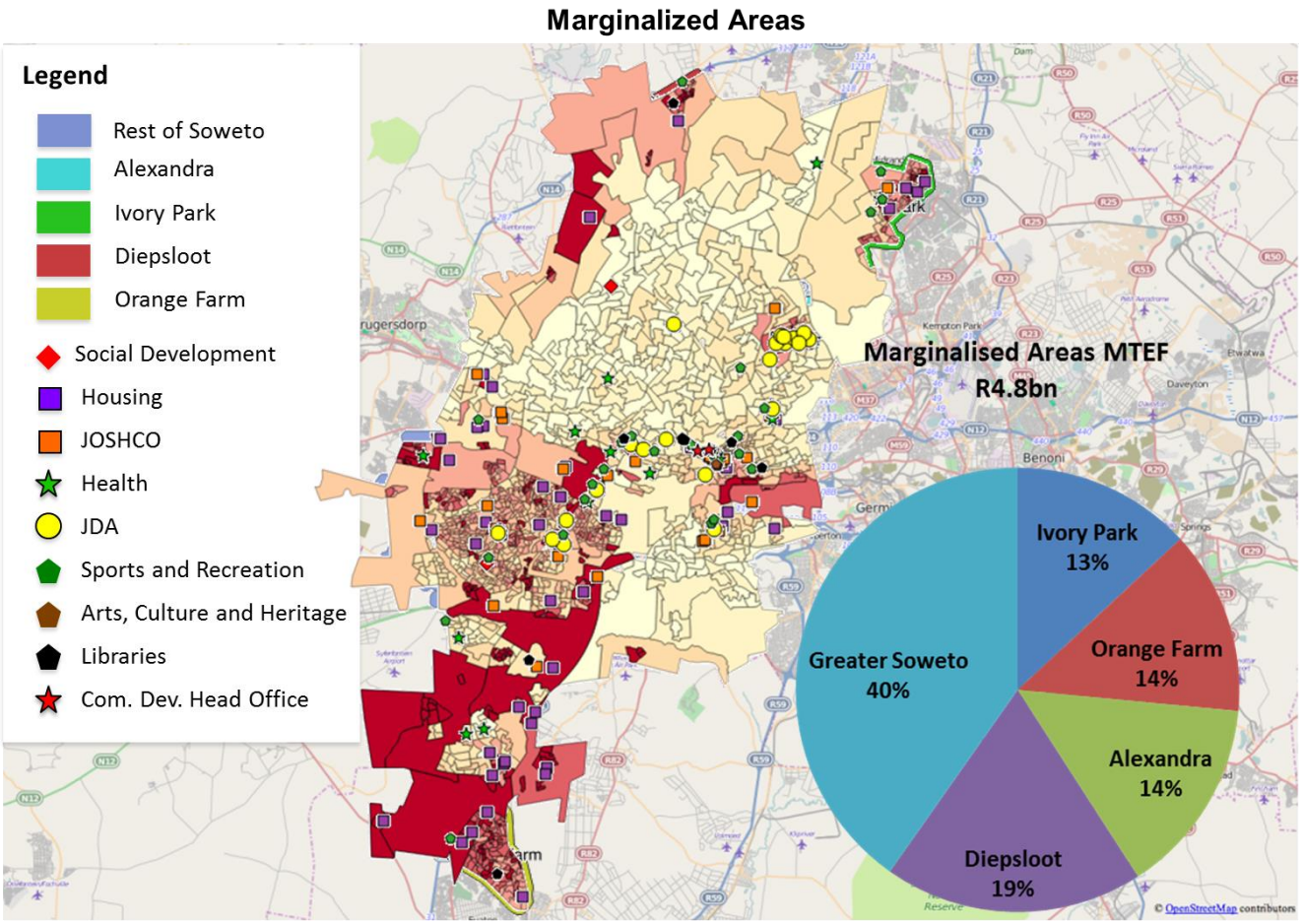


Figure 27 Marginalized areas MTEF budget breakdown by percentage and summary of CoJ entity projects

The info graphic above shows the breakdown of the Budget within the Marginalized areas and indicates that Soweto has most of the budget as compared to the other areas. It is sitting at about 40%.

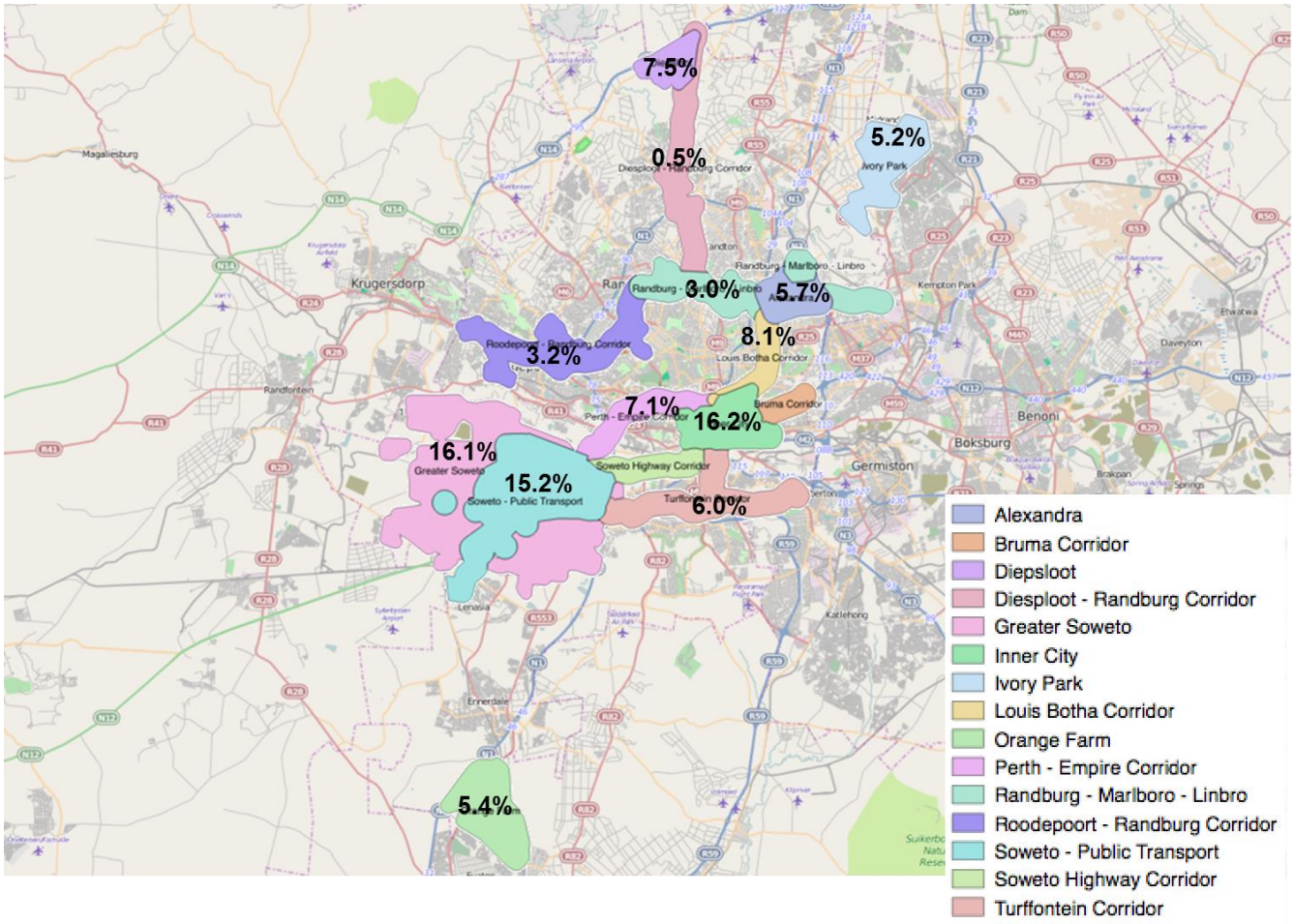


Figure 28 Summary of City wide Capex spend by percentage (CoJ, 2019)

5.8 Conclusion

The spatial framework of the CoJ of Johannesburg shows elements of generic spatial planning policy especially strategic spatial policy. It contains much of the focus points that global spatial policies have and even uses similar principles in planning for the future of the city. The shortfalls of the spatial policy are similar to the shortfalls experienced internationally. The difference is the impact that these shortfalls have on peoples' livelihoods. The failures of the spatial framework in the context of Johannesburg seem to be enhancing the problems entrenched through apartheid spatial planning. What can be seen is that the under development of the underprivileged areas and areas of marginalisation within the city is being perpetuated.

The spatial planning policy in the CoJ has elements that function well, but has shown weakness in other areas like creating socio economic change and driving development into areas that do not have a high level of development. The data showed that development within the CoJ has not changed much and that the traditional urban centres and areas of privilege remain the areas to which development is attracted. What is seen is that the efforts by government to try and improve the previously disadvantaged areas have had too little impact on changing the status quo. The areas of focus by the CoJ have had some change and impact in terms of development and certain nodes have benefitted from this but the development in general and investment attraction has had little change.

6. Conclusion and Recommendations

6.1 Introduction

This section will summarize the findings and provide a conclusion for the research report. The findings translated into answering the research questions that were raised at the beginning of the research report. This section will come up with recommendations that have come across from the analysis of the key findings.

6.2 Findings Summary

The research found that the consistency of the spatial development framework with the development applications is limited. This limitation rises because the development application data only lines up partially with the Spatial Development Framework. In certain areas the alignment and consistency is good while in other areas this is not so. What the spatial policy seems to have been able to do successfully is limiting development, because areas beyond the UDB and the environmental zones have remained fairly undeveloped as envisioned by the Spatial Development Framework, although some exceptions were made in terms of housing delivery especially south of the city. The main alignment that can be seen is the capital expenditure by the City in relation to the SDF. The capital budget seems to be spent in the priority investment areas of the city. This means that areas like the transformation zone and the deprivation areas in the consolidation zone are receiving a large part of the budget.

This is positive because Ahmad and Pienaar (2014) make it clear that the SDF should inform where the CoJ spends most of its budget in this should be in the selected priority areas (Ahmad and Pienaar, 2014). They further go on to say that in order to transform the city, the struggling marginalized areas need to be assisted with capital budget from the city to deal with any deficiencies they face. What can be seen from the study is that this is exactly what the capital expenditure is doing.

The spatial policy of the CoJ supports spatial transformation. The challenges arise when it comes to realising the impact of this on the ground. Although large amounts of money are spent in developing the townships and marginalized areas and also dealing with service delivery backlogs, overcoming the legacy of apartheid spatial planning remains difficult to achieve. These areas remain areas that are unattractive to private sector development in general. The limited numbers of development applications within the marginalized areas is an indication of the perceived lack of development appetite within these areas and because some of these areas are not identified as nodal points for growth and development. Ahmad and Pienaar (2011) allude to capital budget spend as the key to stimulating development in the marginalized areas. This however seems to have not had as much impact as anticipated as the marginalized area nodes have received capex, but still seem to be relatively unattractive to private developers in comparison to areas like Sandton.

The spatial policy has done little to change these perceptions and has also been unable to direct development, towards these areas as it is supposed to do. The spatial development framework in general has found it difficult to dictate where development should go in the city. The infrastructure spend by the municipality has also struggled to attract the desired investment to areas that are perceived as being risky and not conducive for private investment. Despite these challenges the municipality and other spheres of government continue to redevelop the townships and marginalized areas because they see the latent potential within these areas that could be used to improve the areas and the livelihoods of the people within them. The Johannesburg spatial policy sees this potential and has targeted one area for this, Soweto an area seen as having the potential to be a true district, and the potential is not being realised as envisioned by the spatial policy. Investment attraction and retention still remains a challenge.

The map below shows that a lot of government spend goes into the deprived areas of Johannesburg and the expenditure is from both the City and the Provincial government. The map shows that the transformation areas receive almost as much capital budget spend as the deprived areas. This is in line with the spatial policy of the city in terms of targeting priority areas and spending capex there.

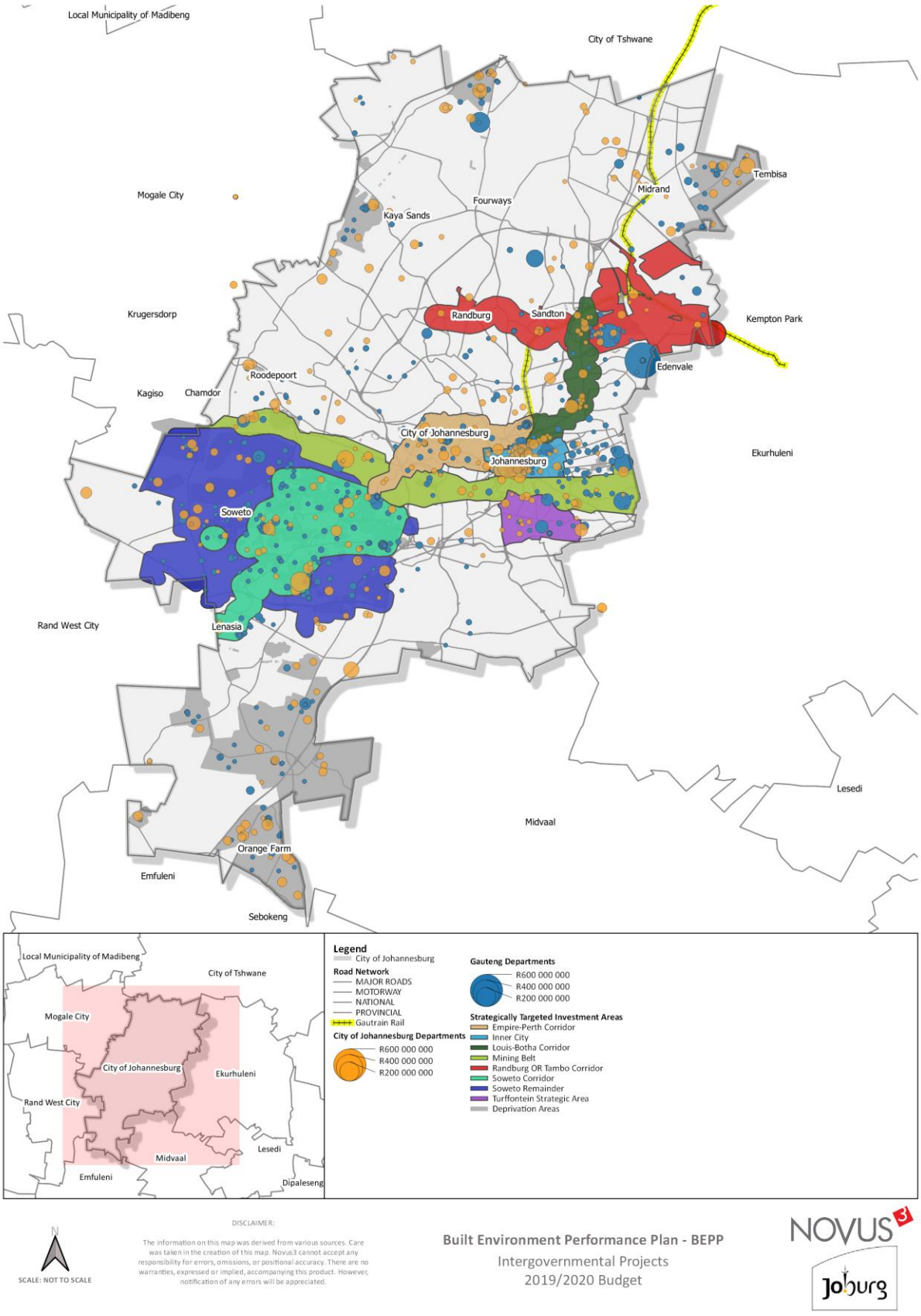


Figure 29 BEPP Projects CoJ versus Gauteng Province (CoJ, 2019)

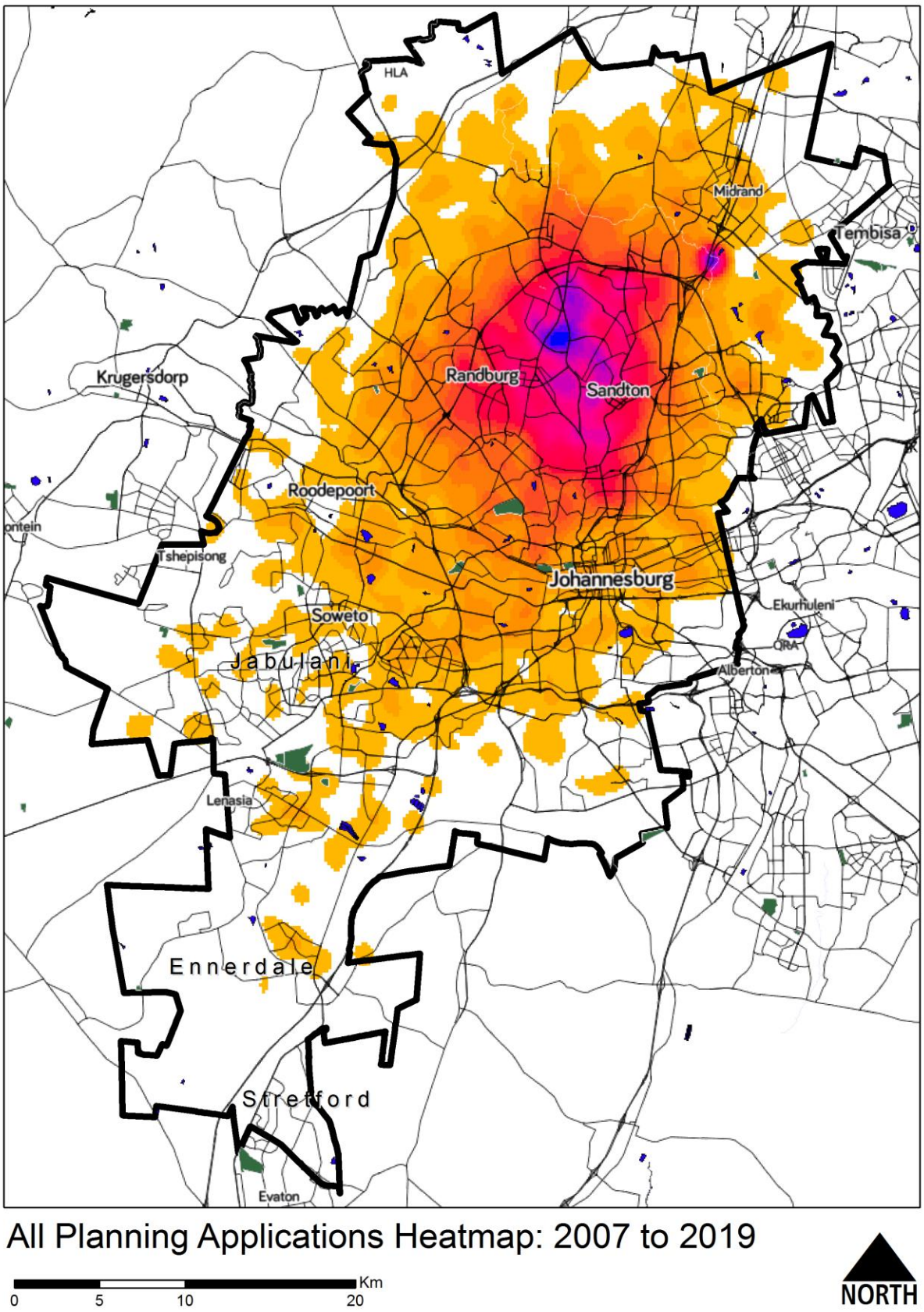
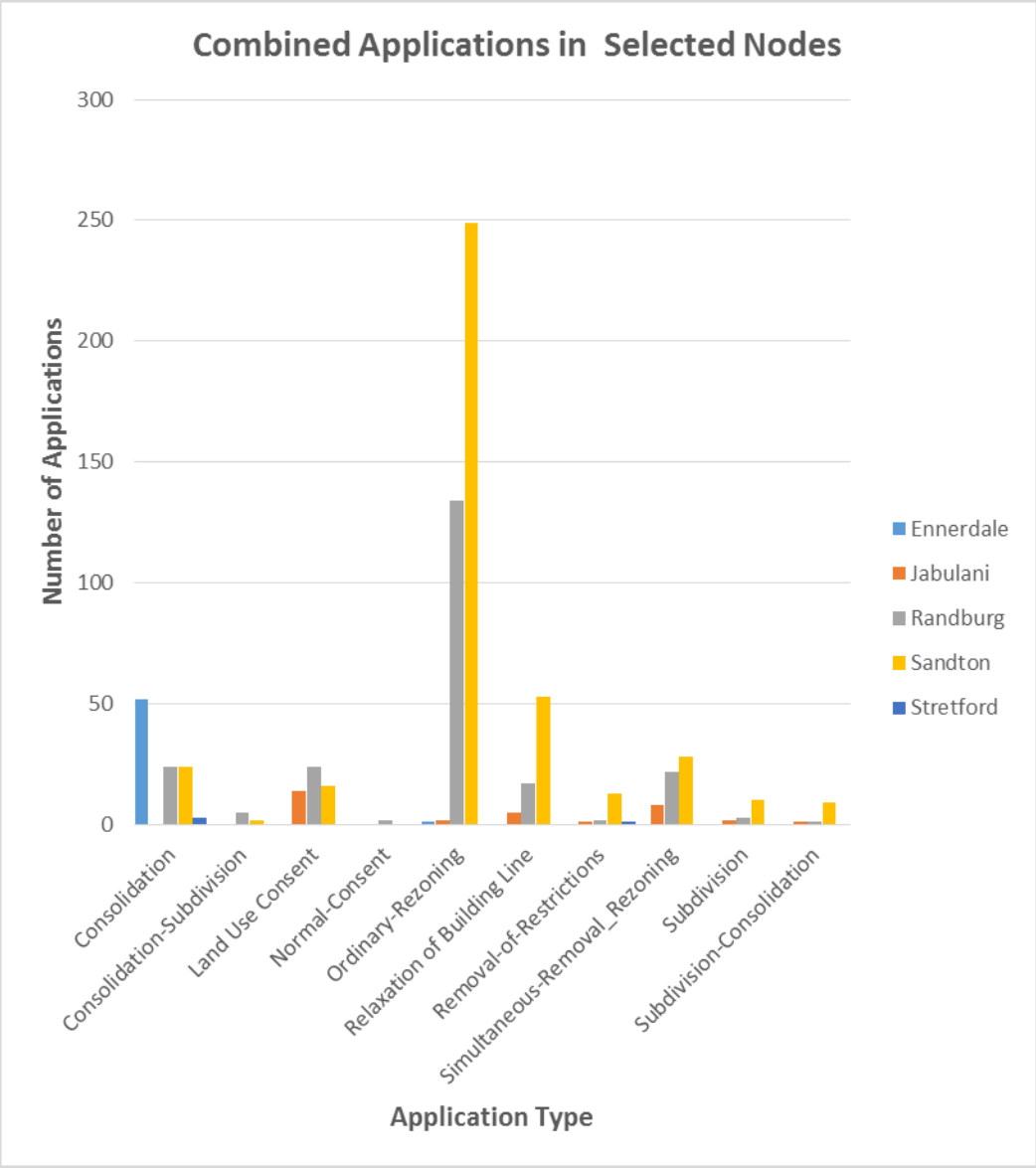


Figure 30 Heat Map showing all town planning applications from 2007 to 2019 (map created by Masemula and Weakley, COJ,2020)

The issue is in the development response when comparing the deprived areas to the transformation zones. The transformation zones seem to attract much more development and private sector investment than the marginalised areas, including the inner city. The rest of the consolidation zone that is not within the marginalized areas also seems to performing better than the deprivation areas. This can be seen when looking at the map above. The areas south of the city have few town planning applications compared to areas in the north.

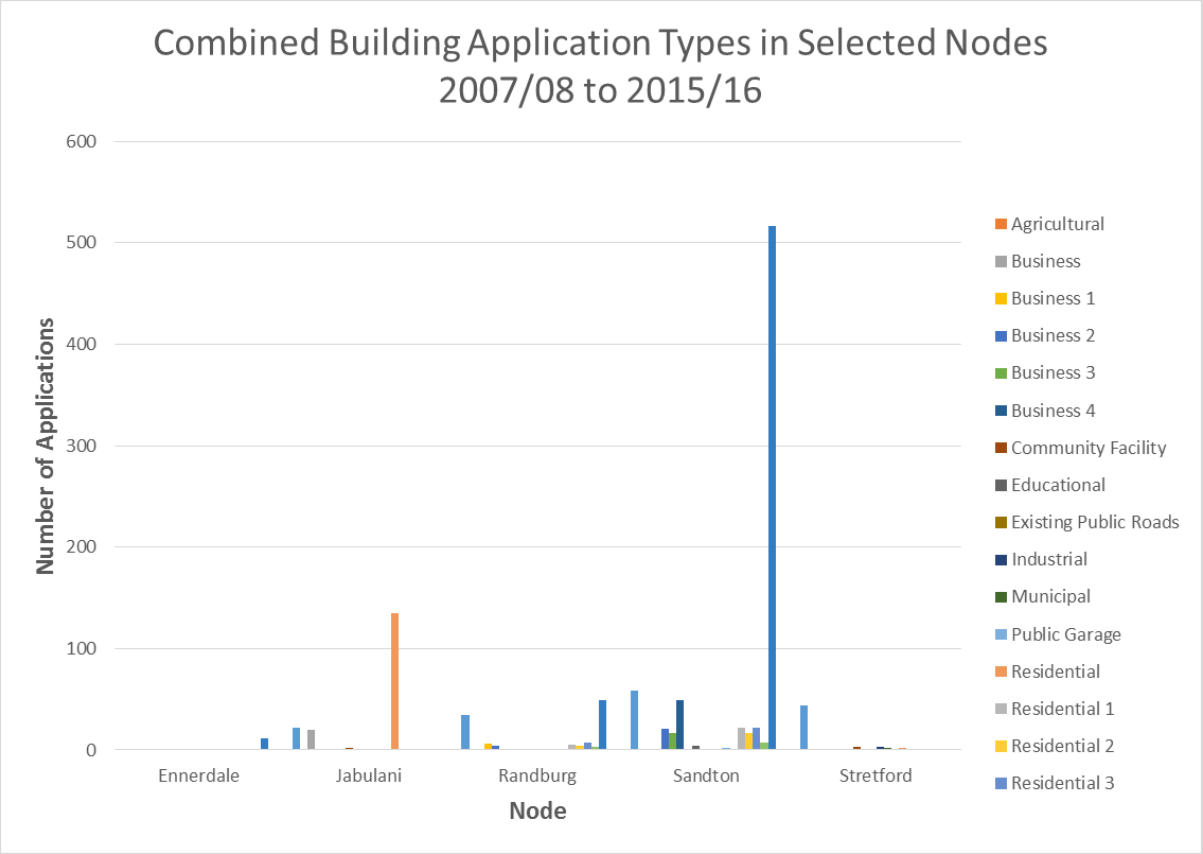
Generally what is evident from the findings is that the former township areas and the marginalized areas are less attractive to private developers in comparison to the wealthier and more established economic centres. Nodes close to or within the marginalized areas performed poorly in general in terms of development interest as compared to areas within the more established urban centres.

The graph below shows town planning application types within the nodes looked at in the findings section. This graph tells the same narrative that the marginalized nodes continue to lag behind in terms of development applications. And the lower number of rezoning applications points to limited land use diversity in the marginalized nodes.



Graph 40 Combined town planning applications for selected nodes by type

The building plan applications graph below reinforces this narrative and it shows that areas like Sandton have more business related applications as compared to the marginalized area nodes like Ennerdale. Jabulani although being a focus of the City and the NDPG also shows more residential building plan applications and this indicates limited business type development going towards the areas. Therefore one can see that the marginalized area nodes and Jabulani, which is seen as part of the Soweto emerging district by the SDF, are still showing limited signs of change and actual change in development patterns.



Graph 41 Combined building plan applications for selected nodes by type

6.3 Research Questions

To what extent are the trends displayed by the development application data consistent with the aims and objectives of the Spatial Development Framework?

The development application data looked at within the research report is not entirely consistent with the aims and objectives of the Spatial Development Framework of the City of Johannesburg. This is because in certain cases the data is consistent with the spatial policy and seems to be moving towards the overall development vision of the city.

The data showed that nodes that were located closer to the areas of wealth and recognised economic centres performed well in terms development applications numbers as compared to nodes closer to the marginalized areas. Some nodes like Jabulani which has been placed on the transformation zone shows better performance when compared to other nodes that are in the former marginalized areas.

What the report has revealed is that the municipality has spent substantial amounts of capital expenditure in these areas and invested largely in an attempt to try and catalyse development and an investment appetite within these areas of marginalisation.

The marginalised areas face challenges that are a barrier to development and investment and as a result they experience limited formal development as evidenced though the planning application process especially when it comes to the private sector. This is why the government and its various spheres are working towards remedying this situation through programmes like the NDPG which aim to simulate growth and development in the deprived areas.

What are the aims and objectives of Johannesburg's Spatial Development Framework particularly in relation to marginalized areas?

The spatial policy is pushing a transformative agenda that is aimed at trying to remedy the effects of apartheid spatial planning in many of the marginalized areas of the city. The focus is on addressing infrastructure backlogs and linking people to opportunities on the back of an affordable mass public transportation system.

What type of development is prevalent within Johannesburg as evidenced through development application data?

The marginalized areas struggle in comparison to the more established economic centres. The nodes that are within the more traditional economic centres actually see a larger number of applications as compared to nodes that are close to or within the marginalized areas. So in comparing other areas of the city to the marginalized areas one can see that in general there are lower levels of development compared to other areas of the city (COJ, 2016) and the number and variety of applications is also lower. Even areas like Soweto have much less development than the traditional economic centres. Despite large capex spend and government programmes directed at this area, the development applications are fairly limited and they only slightly outperform other nodes within marginalized areas. Therefore the envisioned development encouraged by the capex is not as expected.

To what extent is municipal infrastructure spend being directed towards marginalized areas?

In the case of Johannesburg one can see that a portion of the capital investment budget of the city over 25 % is going towards the marginalized areas. The marginalized areas fall within the consolidation zone and as the graphs indicated earlier in the document the consolidation zone receives quite a substantial portion of the 2019/ 2020 MTEF as compared to the other development zones of the Spatial Development Framework.

To what extent is municipal infrastructure spending able to influence growth and development within the City of Johannesburg?

What can be seen is that infrastructure spending within the City of Johannesburg has a limited ability to influence growth and development. This is because it only influences development in certain areas and fails to do so in others. This can be seen in the differing numbers of development applications for the various areas looked at, like the comparisons done between Randburg, Sandton, Jabulani, Ennerdale and Stretford. The findings painted a picture that the more recognised and established economic centres are the places where infrastructure spending is able to assist with growth and development. This means that certain areas are more likely to grow and develop than others. This is because the infrastructure spending within the marginalized areas has not encouraged growth and development sufficiently especially when it comes to private sector investment attraction and

retention. This is discouraging because private sector investment in needed to assist in developing these areas.

The municipality along with funding from other spheres of government has spent a large part of the capital infrastructure budget within these areas to try and attract this investment, but this has had limited success. The township areas like Jabulani may have developed in terms of infrastructure and social facilities, but the formal economy within these areas is still struggling and this may be a reason for the lack of business attraction. Ennerdale and Jabulani both have limited economic activity with Jabulani being better because of the presence of the large retail mall and a convenience centre within the node.

6.4 Recommendations

A significant recommendation is that the City of Johannesburg should deepen their information on development applications as they receive it .The study highlighted some limitations in the way the data is recorded and hence how it can be analysed. The study was unable to look at the size (in terms of area) of the development applications. The study also showed that there needs to be more detail in analysing development applications in terms of the type of development that each application represents and this would allow for a much richer analysis of the development patterns of the city. They will need to record and flag the type of development planned along with the development application received. The City will need to update their method of capturing application data. The City will have to make it easier to interpret the data and have the data spatially set out.

There needs to be more focus on recording the development trends of marginalized areas in particular. These need to be compared to the economic and social aspects of these areas over time. Ideally these should also be compared to the capex spend and assessed if the capex spend is having the desired impacts within these areas. There also need to be an analysis of the informal development within the marginalized areas so that when considering development trends within these areas, we are able to get a more all rounded view of what is happening within these areas and why.

Spatial planning needs to have a direct focus specifically on the marginalised areas, having smaller scale development frameworks that focus on these specific places. This will help in finding spatial solutions which can be supported through various policies and grants like the NDPG. The marginalized areas need to be approached in a manner that links them with the capital budget of the city, but they need to be differentiated from the general consolidation zone. Bundling them together with the consolidation zone doesn't show exactly what is happening in these areas - it paints a picture of development happening generally within the city and the challenges of these areas seem to be overlooked when they fall within the consolidation zone.

6.5 Conclusion

Spatial policy has a strong role to play in terms of where development should go and how infrastructure is planned and laid out for a municipality. This is because the spatial policy needs to plan for the future of the municipality which should be done in a sustainable manner that caters for the livelihoods of all that live within them. Public investment and spatial planning policy has had limited success in directing private development. In certain cases this has worked but in general it has been challenging for spatial policy to influence and direct the private sector.

This has translated into the marginalized areas and former black townships facing challenges of development. Development in these areas amongst other things is impacted on by the lack of investment going into these areas: without a form of economy and a diversification in land uses these areas will remain to struggle because of the legacy of apartheid. These areas were seen as dormitory

suburbs that need not have much economic activity as the more established white only areas as a result the mono use zoning and limited socio-economic opportunity has led to developmental challenges and a perpetuated legacy of apartheid and the issues that were related to it. For this situation to be remedied and transformation to be achieved from a spatial policy point of view, plans need to target and solve infrastructure and investment challenges. The townships need to be supported by policy that focuses on investment attraction and retention and also use LED systems to strengthen local economies and deal with social issues from a development perspective.

What we now know is that the SDF and its overall focus have not changed much between 2007/8 and 2016. This is because the main areas of focus and priority investment areas have stayed the same. Ahmad and Pienaar (2011) noted the focus of the capital budget being within the public transport management areas and the marginalized areas respectively. This is still the same although some of the priority TOD zones are now areas that were previously marginalized like in the case of Soweto. The SDF still focuses on priority areas within the transformation zone and the three categories of the deprivation areas.

What is of interest is that we now know that Soweto was seen as an area of potential because the capex spend in the area and the general public sector focus within this area has stimulated limited development, but has shown that there is potential for growth within this area. Although the nodes are still facing challenges, it can be seen through Jabulani that continued expenditure and focus within these areas may yield greater potential in the long run, like the development of the Jabulani mall. This is part of the reason why the City has shifted Soweto to a transformation zone, because there is some evidence, although limited, that capex spend and infrastructure upgrades and provision can unearth the potential of previously marginalized areas.

The focus on Soweto and the marginalized areas shows us that going forward these areas need to be supported and that development over time may happen. The development can only happen if the City continues to support these areas through the capital budget with the aim of unearthing the potential of these areas. The issue with these areas as noted by Ahmad and Pienaar (2014) is the perception of a lack of development and investment attraction. If these areas can show a glimmer of development potential, then they can start changing the developer perceptions of these areas. The changing perceptions may lead to a form of development appetite, past housing provision within these areas. There is a need to stimulate development that is diverse and mixed use as alluded to in the SDF.

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Annexure A: Ethics Certificate



SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESERCH ETHICS COMMITTEE

SCHOOL OF ARCHITECTURE & PLANNING

CLEARANCE CERTIFICATE
PROTOCOL NUMBER: SOAP070/06/2019

PROJECT TITLE:	Assessing the consistency of development in the city of Johannesburg
INVESTIGATOR/S:	Themba Heubert Masemula (Student No: 388612)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	Master of Science in Development Planning (MsCDP)
DATE CONSIDERED	11 August 2019
EXPIRY DATE:	11 August 2020
DECISION OF THE COMMITTEE:	Approved

CHAIRPERSON BCBoshoff
(Dr Brian Boshoff

DATE: 21/8/19

cc: Supervisor/s: Alison Todes

DECLARATION OF INVESTIGATORS

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature **Date** 21/08/2019

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