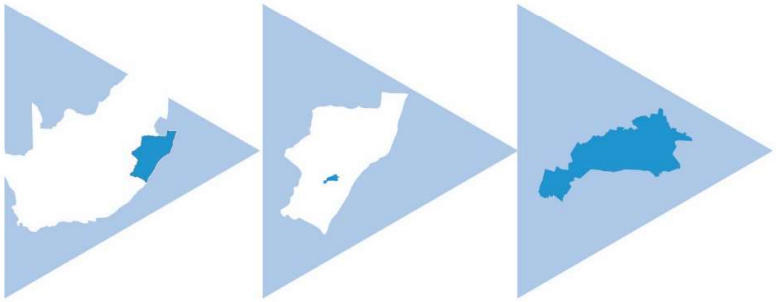
Msunduzi Municipality
Spatial Development Framework

Draft Spatial Development Framework report



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Abbreviations

ABM	:	Area Based Management
BRT	:	Bus Rapid Transit
CBAs	:	Critical Biodiversity Areas
CBD	:	Central Business District
CDS		City Development Strategy
CEF		Capital Expenditure Framework
CIF	:	Capital Investment Framework
CPTR	:	current public transport records
CSIR	:	Council for Scientific and Industrial Research
DDM		District Development Model
DOHS	:	Department of Human Settlements
DRDLR	:	Department of Rural Development and Land Reform
EMF	:	Environmental Management Framework
ESAs	:	Ecological Support Areas
GDP	:	gross domestic product
GEVDI	:	Greater Edendale Vulindlela Development Initiative
GVA	:	gross value added
ICT	:	information and communications technology
IDP	:	Integrated Development Plan
IGR		Intergovernmental relations
IRPTN	:	Integrated Rapid Public Transport Network
IUDG		Integrated Urban Development Grant
LED	:	local economic development
MoA	:	memorandum of agreement
MTREF		Medium Term Revenue and Expenditure Framework
NEMPAA	:	National Environmental Management Protected Areas Act (Act 57 of 2003)
NMT	:	non-motorised transport
NSDF	:	National Spatial Development Framework
PDWF		Peak Dry Weather Flow
PGDS	:	Provincial Growth Development Strategy
PSDF		Provincial Spatial Development Framework
SDF	:	Spatial Development Framework
SIP		Strategic Integrated Projects
SOEs	:	state-owned enterprises
SPLUMA	:	Spatial Planning Land-Use Management Act (Act 16 of 2013)
ULTRA		Upgrading of Land Tenure Rights Amendment bill
VIPs		Ventilated improved pit
WCWDM		Water Conservation and Water Demand Management

WHO		World Health Organisation
WMU		Waste Management Business Unit
WWTP	:	wastewater treatment plant
WWTW	:	wastewater treatment works

1 Introduction

Cities are constantly changing and growing. Their growth inevitably results in development pressures. Because of such pressures, the Msunduzi Municipality requires a strategy document to help it manage public and private development to ensure the best possible outcome for its residents. It is the Municipality's goal, amongst other things, to protect and enhance the municipality's key economic, social, and environmental resources, and subsequently to extend these resources to all its residents.

The Msunduzi Municipality appointed Zutari to review and prepare an updated spatial development framework (SDF) for the Municipality. The purpose of this assignment is to review the SDF that was approved in 2015, to prepare an updated SDF that is aligned with the provisions set out in the Spatial Planning and Land Use Management Act (Act 16 of 2013) (SPLUMA), and to incorporate into the updated SDF those changes and recommendations that were made when the SDF of 2015 was partially reviewed in 2017. Moreover, the goal is to further develop the SDF to ensure that it:

- depicts a spatial vision that is aligned with the vision for the Msunduzi Municipality
- guides the Msunduzi Municipality in making decisions, and exercising discretion, relating to spatial planning and land use management systems, and addressing historical spatial imbalances in development
- provides information to the public and private sectors in relation to areas of investment, identifies long-term risks of spatial patterns of growth and development, and provides suitable mitigation measures
- provides direction for strategic developments and infrastructure investment, taking into consideration environmental management measures.

The overall purpose of the Msunduzi SDF is to guide and manage urban growth, and to balance competing land use demands, by putting in place long-term mechanisms that enable a coherent development trajectory that will inherently shape the spatial form and structure of the municipality as a whole. The future growth path needs to underline the importance of sustainable future development. Therefore, the proposed development path must be flexible and adaptive, and must take into account the unpredictable economic, environmental, and social forces that make it difficult to accurately determine how fast the municipality will grow.

1.1 Purpose of Spatial Development Framework

An SDF is a strategic document aimed at influencing the overall spatial distribution of current and future land use in a municipality in order to help give effect to the municipality's objectives and thus to assist the municipality in realising its vision, all in keeping with the municipality's Integrated Development Plan (IDP). In terms of the Municipal Systems Act (Act 32 of 2000) (MSA), an SDF "must include the provision of basic guidelines for a land use management system for the Municipality." Also, according to the MSA, a municipal spatial development framework must be reviewed every five years.

The Msunduzi Municipality's SDF covers the area that falls within the Municipality's jurisdiction and will reflect a 30-year planning horizon (2020–2050). Section 21 of the SPLUMA sets out the contents of a municipal SDF. These requirements underpin the review and development of the Msunduzi SDF, and stipulate that the SDF must:

1. give effect to the development principles and applicable norms and standards set out in Chapter 2 of the SPLUMA
2. contain a medium-term and long-term spatial development vision statement of the municipality that indicates the desired spatial growth and development pattern

3. identify current and future structuring and restructuring elements of the spatial form of the Municipality
4. include an analysis of the spatial structure and identify spatial proposals
5. contain an estimation of the municipality's population growth for the next five years
6. include an estimation of the municipality's economic activity and employment trends
7. give an estimation of the housing demand across different socio-economic categories and spatial location, and of the proposed density of future housing developments
8. contain a spatial identification and quantification of engineering infrastructure requirements and service provision for existing and future developments for the next five years and beyond
9. identify areas where provincial inclusionary housing policy may be applicable
10. include a strategic assessment of environmental pressures and opportunities within the municipality, including the spatial location of environmentally sensitive areas of high to moderate agricultural potential
11. identify areas that require more detailed local or precinct plans by delineating areas where incremental upgrading can be implemented
12. contain a spatial expression of the co-ordination, alignment, and integration of the sector policies of all municipal departments
13. determine the purpose, desired impact, and structure of the land use management scheme to be applied in the municipality
14. contain a synthesis of the legislative and policy context by considering relevant national and provincial policy directives
15. include an implementation plan that consists of:
    a. sectoral requirements, including budgets and resources for implementation
    b. necessary amendments to a land use scheme
    c. specifications of institutional arrangements necessary for implementation
    d. specifications of implementation targets, including dates and monitoring indicators
    e. specifications, where necessary, of any arrangements for partnerships in the implementation process.

An SDF also leads a municipality's policy-driven land use management system. It will provide the framework for making long-term spatial decisions in terms of the Msunduzi Municipal Spatial Planning and Land Use Management By-Law, 2016. Based on the above, the SDF should be understood as a powerful tool for future city development.

1.2 Role of Municipal SDF

An SDF has a great role to play than merely the spatial representation of the sector plans of the IDP. The SDF needs to set the spatial strategy. In terms of Chapter 4 of SPLUMA: "A Municipal SDF must assist in integrating, coordinating, aligning and expressing development policies and plans emanating from the various sectors of the spheres of government as they apply within the municipal area". Therefore, it is critical that there is alignment between sectors, spheres of government as well as the public sector in order to achieve the vision and spatial strategies as per the Municipal SDF. The Municipal SDF furthermore provide guidance for decision making in terms of the Single Land Use Scheme for Msunduzi Municipality which is currently being prepared. It is important to note that an SDF does not provide or remove land use rights, but rather guides decisions associated with the management of such rights. When deciding on an application, the Municipal Planning Tribunal, or any other authority required or mandated to make a land development decision, must do so in a way that is consistent with the SDF.

1.3 Structure of this report

This Issues, Vision and Concept Framework report forms a bridge between the status quo report and the first draft of the updated SDF. The subsequent sections of this document will form part of the initial chapters of the SDF report. This report is structured according to the SDF guidelines compiled by the Department of Rural Development and Land Reform (DRDLR).

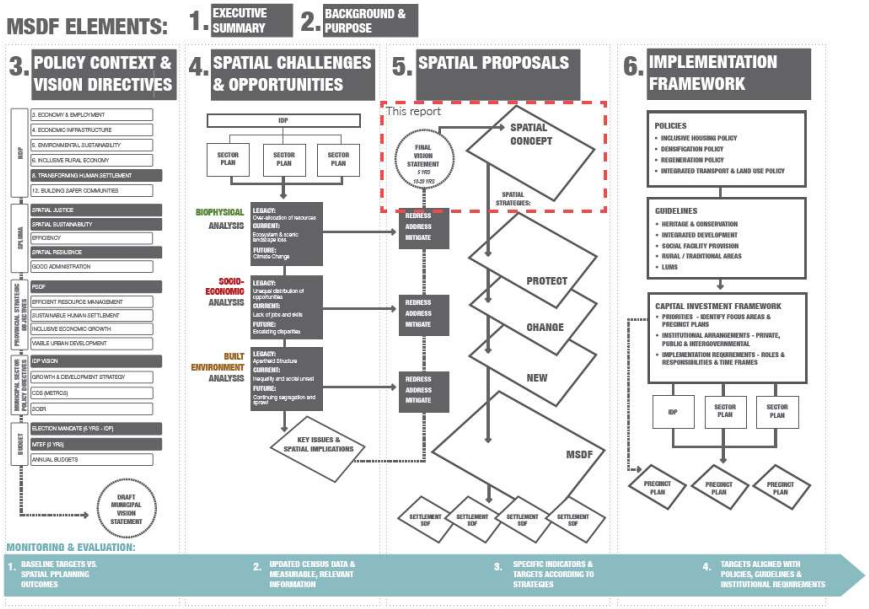


Figure 1: The six elements and structure of an SDF report (DRDLR, 2017)

The structure of the updated SDF is indicated in Table 1. This report constitutes the first three chapters of the SDF, as illustrated in the table. Moreover, this report has been prepared in accordance with the structure and methodology proposed in the national guidelines on the preparation of SDFs for municipalities.

Table 1: Structure of the final SDF

Chapter 1: Background and purpose of the SDF Chapter 1 outlines the background and requirements for the preparation of a municipal spatial development framework. It further provides an overview of the Msunduzi Municipality.
Chapter 2: Synthesis of key issues Chapter 2 provides a brief overview of the key issues that the Msunduzi Municipality currently faces and their spatial implications. The scoping of these developmental issues will have to be addressed to ensure the sustainable management of resources and future growth in the municipal area.
Chapter 3: Spatial vision, concept, and strategies The 2030 spatial vision, developed in a participatory exercise, is presented in this chapter. The conceptualisation of the vision into an overarching development concept and theory of change that will support the spatial development vision.
Chapter 4: Msunduzi Spatial Development Framework For each of the spatial focus areas, a spatial concept, together with development strategies and proposals, key interventions, and the investment priorities of the focus area, is presented.
Chapter 5: Implementation framework This chapter sets out the policies and guidelines for development as well as the capital investment plan and the capital expenditure framework. It further describes institutional arrangements and partnerships to implement the identified projects. Moreover, it contains a discussion of the monitoring and review section of the report that details how SDF proposals must inform the priorities, performance indicators, and targets of the IDP and of other relevant sector plans.

2 Overview of Msunduzi Municipality

2.1 Locational context

The Msunduzi Municipality is located within the uMgungundlovu District Municipality and lies approximately 85 km west of the Durban Port. The city of Pietermaritzburg, situated in the Msunduzi Municipality, is the second-largest city in the KwaZulu-Natal province and the fifth-largest city in South Africa. It is the capital of KwaZulu-Natal, and the main economic hub in the uMgungundlovu District Municipality and the Midlands. The N3 national highway (corridor) and the R56 provincial arterial route run through the municipality in an east–west and a north–south direction respectively. The municipality shares boundaries with the Mkhambathini Municipality to the east, Richmond Municipality to the south, Impendle Municipality to the south-west, uMngeni Municipality to the west, and uMshwathi Municipality to the north.

Managerially, the municipality is divided into four Area Based Management (ABM) areas, namely:

- Vulindlela
- Greater Edendale / Imbali
- CBD / Ashburton / Eastern Areas
- Northern Areas

ABM is implemented in a softcore manner, which implies that, although the departments are still centralised, the approach to development is coordinated through community-based planning.

GEDI was established in 2004 to facilitate the integrated and holistic development of the area. In 2013, GEDI was extended to include the Vulindlela tribal authority area and, in 2016, Ward 39 was included, collectively recognised at the Greater Edendale Vulindlela Development Initiative (GEVDI). GEVDI seeks to unlock the development potential of the Edendale–Vulindlela Complex and see its transformation into a functional and well-planned space as an integral component of the Msunduzi Municipality's spatial structure and order, based on a thorough understanding of the existing profile of the area and an analysis of the strengths, weaknesses, opportunities, and threats of the current situation.

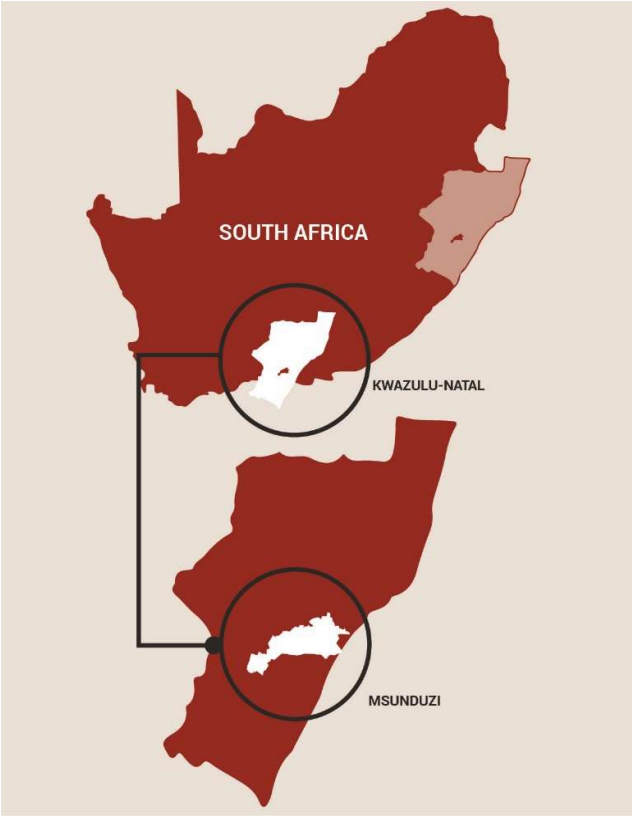


Figure 2:Location of Msunduzi Municipality in KwaZulu-Natal, South Africa

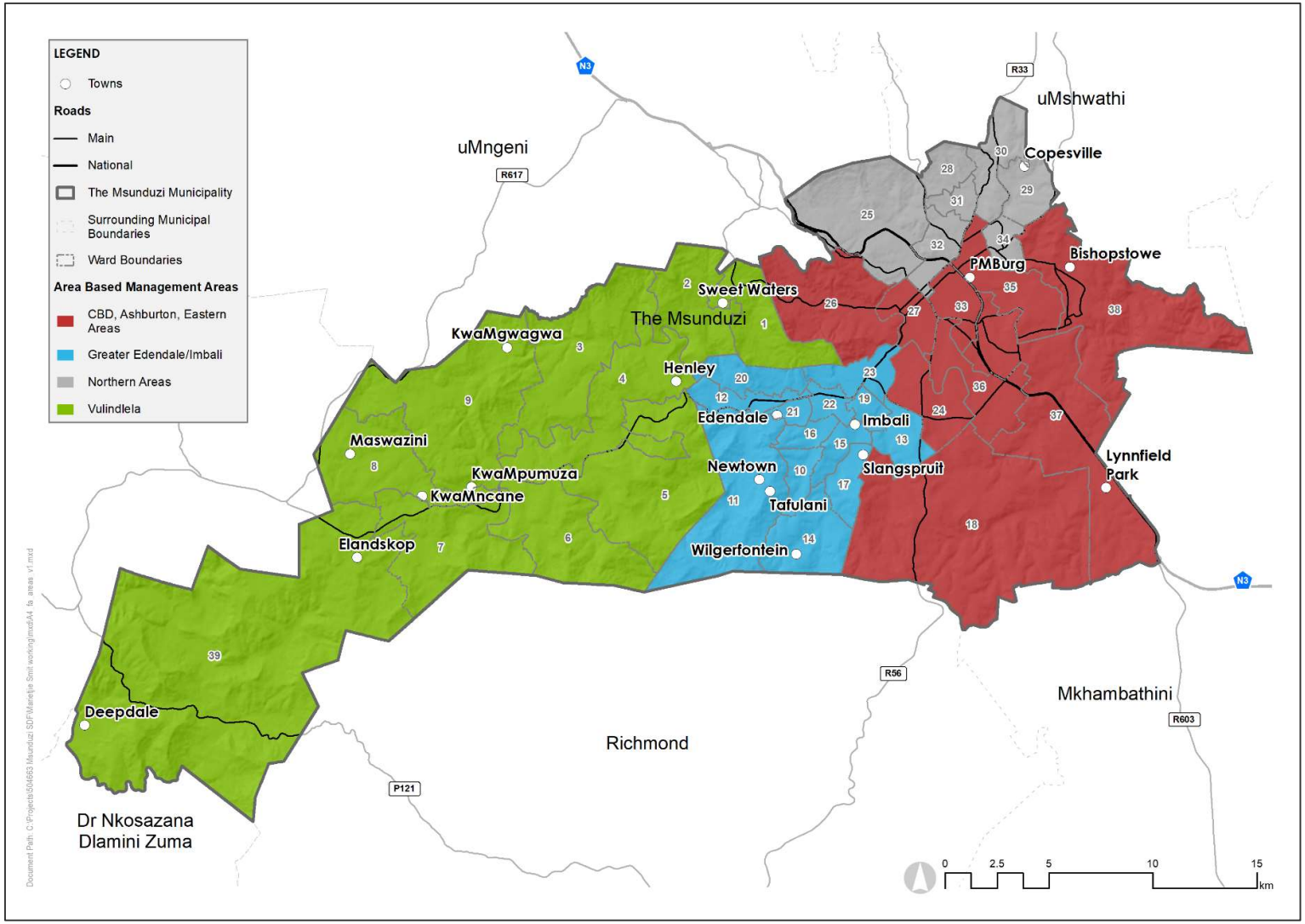


Figure 3: ABM boundaries

2.2 Regional context

The section considers Msunduzi Municipality's role within the regional context of its District, province and nation setting.

The Msunduzi Municipality accounts for approximately 61.1% of the district's population. It is a primary node in the uMgungundlovu district and fulfils a dominant role in the economy of the district, accounting for between 75% and 80% of its economy. It is viewed as a regional urban centre with potential for economic development and further growth. It is classified as a service economy. The municipality's status as the administrative centre as well as the major link between the coast and the hinterland affects its economy in a number of ways which generate opportunities. The municipality thus plays a significant role in the provincial space economy as part of the web of national and provincial corridors and nodes.

At a provincial level, Msunduzi is home to the second-largest urban centre in KwaZulu-Natal, namely Pietermaritzburg. Pietermaritzburg is the administrative and legislative capital of KwaZulu-Natal. It accounts for 38.9% of the Province's population. It has a total municipal population of approximately 679,039, an increase from 618,536 in 2011. Significantly, the Msunduzi Municipality is the third most populated, non-metropolitan municipality in South Africa. Its location along the N3, a national development corridor and SIP 2 (Under the guidance of the Presidential Infrastructure Coordinating Committee (PICC), the National Infrastructure Plan was developed. The plan identifies 18 strategic integrated projects (SIPS). SIP 2 (Durban–Free State–Gauteng logistics and industrial corridor) is focused on strengthening the logistics and transport corridor between South Africa's main industrial hubs), also makes it of national significance, as it allows the city to be linked to a number of key provincial and interprovincial transportation routes, thus strengthening its regional connectivity and role. Pietermaritzburg is located between the economic powerhouses Durban (in KwaZulu-Natal) and Johannesburg and Pretoria (in Gauteng). This strategic location helped the city establish and develop a very strong industrial base. Mkondeni is the primary industrial node in the Msunduzi Municipality. With the emergence of industrial nodes along the N3 at Camperdown (the Mkhambathini Municipality) and Cato Ridge and Hammersdale (eThekwini), the locational importance and the role the Msunduzi Municipality could play in the regional context become more pronounced.

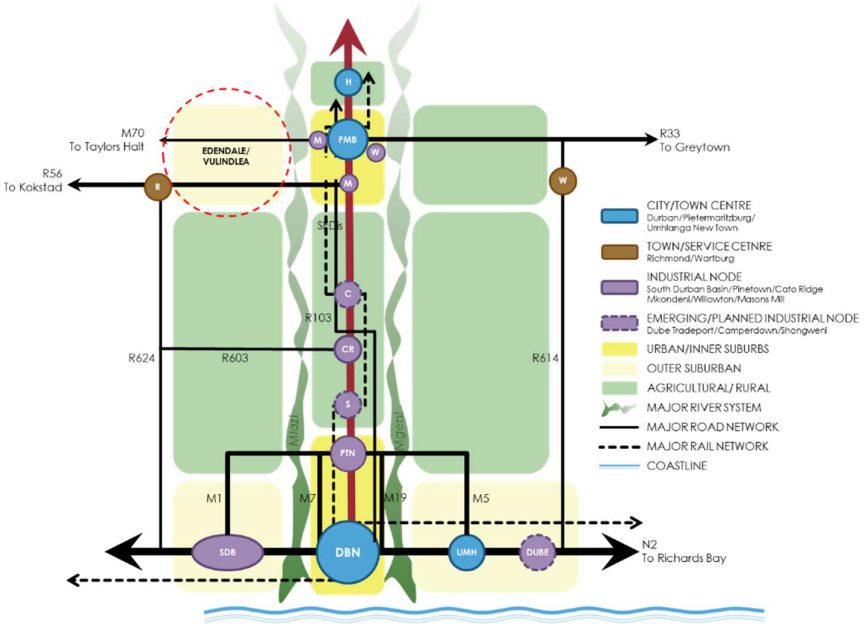


Figure 4: Regional connectivity

Msunduzi sits at a critical point of change. As the second-largest metropolitan complex in KwaZulu-Natal, it aspires towards achieving metropolitan status. It is for this reason that a very different SDF is required, one which breaks from the conventions of frameworks driven by land use, and the paralysis of processes based on an extensive status quo analysis, which has caused many SDFs to become nothing more than a reflection of what exists. The IDP vision forecasts the emergence of a metropolitan complex that gives the form

and function in which the structures of spatial relations are emphasised towards a unified political spatial economy.

2.2.1 N3 corridor

The N3 corridor is a relatively recent addition to the movement infrastructure of the Msunduzi Municipality, coming into service only around the 1970s. Spatial planning back then, together with the movement infrastructure of that period, guided the spatial economic development of the city, with higher-order activities generally being located on routes of national and regional significance, with these routes originally passing through the Pietermaritzburg CBD.

Because of its geographical location, the Msunduzi Municipality enjoys easy access to the N3 and thus to major harbours and airports. As a result, it has the potential to become well connected in the global economy. Moreover, because of its location, it provides connectivity and growth opportunities to surrounding municipalities and towns across various sectors, including tourism and agriculture. As such, it is essential that the physical connectivity between the different municipalities and towns be further improved to stimulate the economic linkages between them.

The Msunduzi Municipality and its surrounds are an important site of economic activity along the N3 corridor to the country's economic heartland in Gauteng. Being less than an hour's drive from Durban, the Msunduzi Municipality, centred on Pietermaritzburg, is often seen as being relatively well integrated in the province's economic hub. This view is supported by the many varied business linkages (e.g. automotive supply businesses) and by the high level of commuter traffic (growing volumes of private vehicle, and freight transport) and the different passenger transport modes (taxis and busses) in the area.

The N3 also forms part of Strategic Integrated Projects (SIPs), namely SIP2 (Durban–Free State–Gauteng logistics industrial corridor). SIP 2 assists in identifying the Msunduzi Municipality as one that presents further specialised development opportunities along the N3 corridor as a result of its advantage in terms of its location between the Port of Durban, Cato Ridge, and the N3 corridor, which links the Gauteng province with the Port of Durban. In this regard, it is useful to point out that the Msunduzi Municipality has duly aligned itself to such a development opportunity by advocating the case for upgrading the Msunduzi Airport, establishing a Msunduzi technology hub, and strengthening accessibility to such facilities through proposed interchange points along the N3.

Because modern business and industry are attracted to high visibility and connectivity along major movement infrastructure, the N3 spine provides opportunity for linking to a wider network and reinforces appropriate local and global connections. Currently, limited infrastructure along the route, in the form of multiple, full interchanges at key intervals, hinders the ability of new industry to develop and the use of space. Improving connectivity along the N3 by introducing new interchanges and upgrading existing interchanges will allow Msunduzi to grow and engage at a regional level.

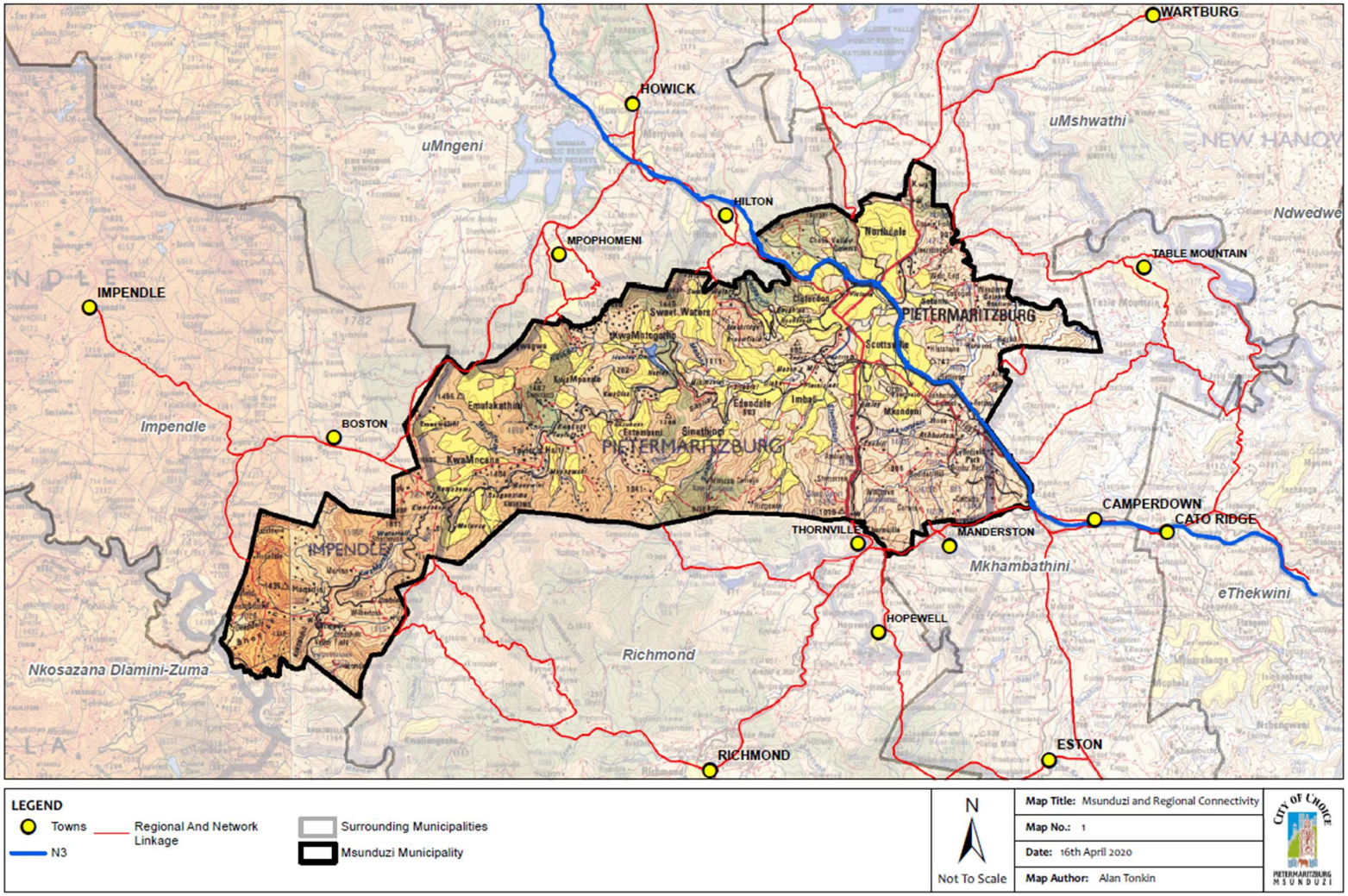


Figure 5: Msunduzi regional connectivity

3 Synthesis of key issues

This chapter is a summary of the Status Quo report and provides a synthesis of the key spatial issues in the Msunduzi Municipality. This summary was derived through an analysis of the biophysical, socio-economic, and built environment, along with input from stakeholders. The key issues identified in this section will play a critical role in informing the strategies that make up the Msunduzi Municipality's SDF.

3.1 Biophysical environment

An analysis of the biophysical environment emphasises the importance of natural resources to economic and social well-being and to development in the Msunduzi Municipality, as it provides for the basic needs of the municipality's residents and of those in the broader context. Currently, 46.3% of the land in the Msunduzi Municipality is classified as natural open space, which includes critical biodiversity areas, ecological support areas, critical linkages, agricultural potential, threatened eco-systems, and protected areas.

In terms of critical biodiversity, ecological support areas (ESAs), and critical linkages for landscape corridors, it is clear that Ward 39 contributes significantly to the functioning of the biophysical environment. In total, the CBAs, ESAs, and critical linkages in the Msunduzi Municipality measure 28,881 ha or 38.45% of the total area of the municipality.

Two areas along the Msunduzi and Richmond local municipal boundaries, as well as along the south-western parts of the Msunduzi Municipality, are earmarked as CBAs, as shown in Figure 6. The SDF should therefore aim to support areas classified as irreplaceable and optimal CBAs to ensure that the area is maintained in its natural state, with no or limited biodiversity loss.

ESAs are required to support and sustain the ecological functioning of CBAs. For terrestrial and aquatic environments, these areas are functional but not necessarily pristine natural areas. They are required, however, to ensure the persistence and maintenance of biodiversity patterns and ecological processes in the CBAs and contribute significantly to the maintenance of ecological infrastructure.

Three main areas have been identified as protected areas, which require protection and continuous intervention. The first is the nature reserve and protected area located in Ward 39 near Ncwadi. This area forms part of a larger nature reserve located in the Impendle Municipality. Along the southern municipal boundary (Wards 6, 7 and 11) is an area earmarked as bird species (ESA). This also forms part of a larger ESA located in the Richmond Municipality. The largest component of protected areas is located in and around Pietermaritzburg (the western parts of the CBD / Ashburton / Eastern Areas ABM), stretching along the N3.

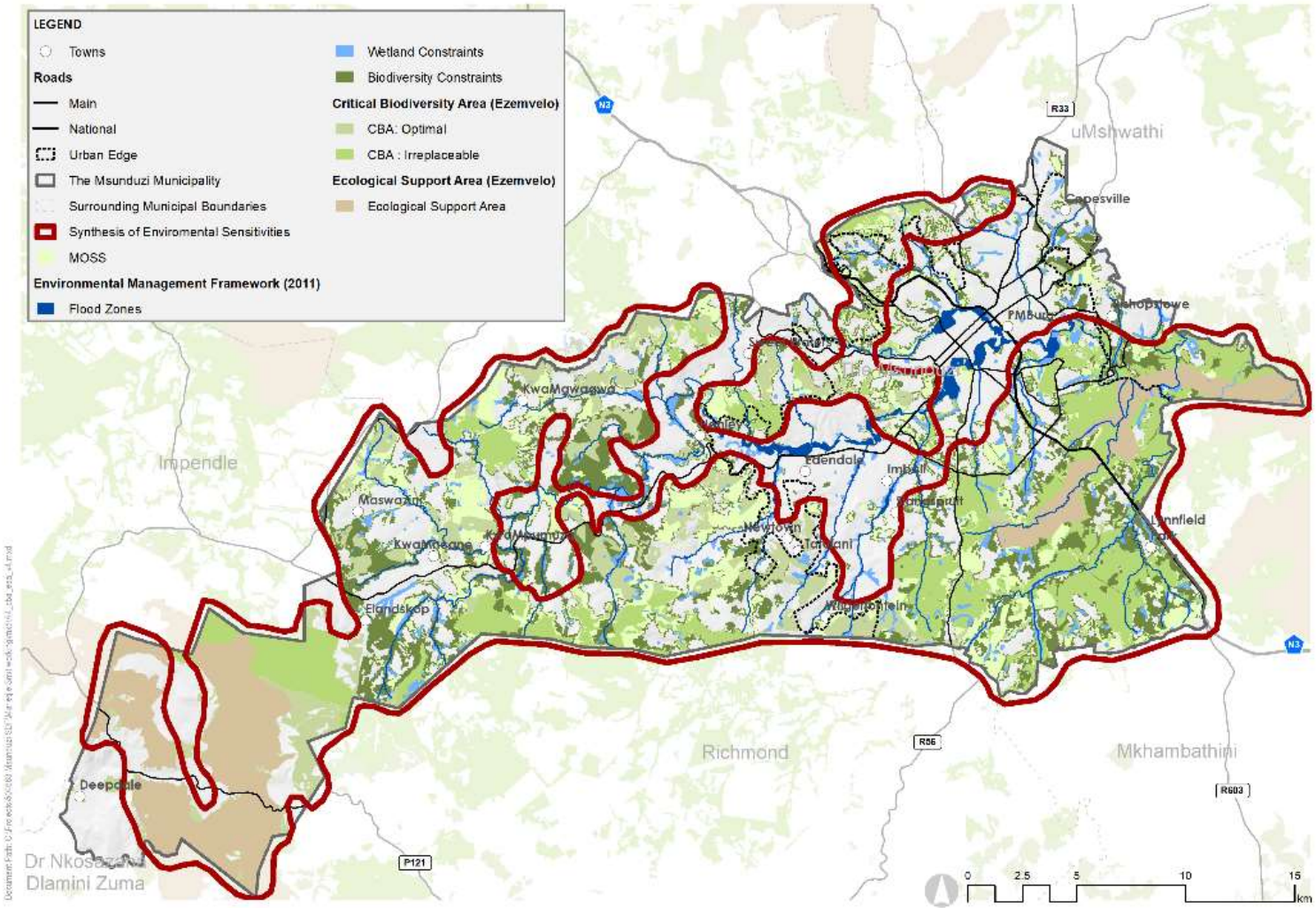


Figure 6: Environmental sensitivities

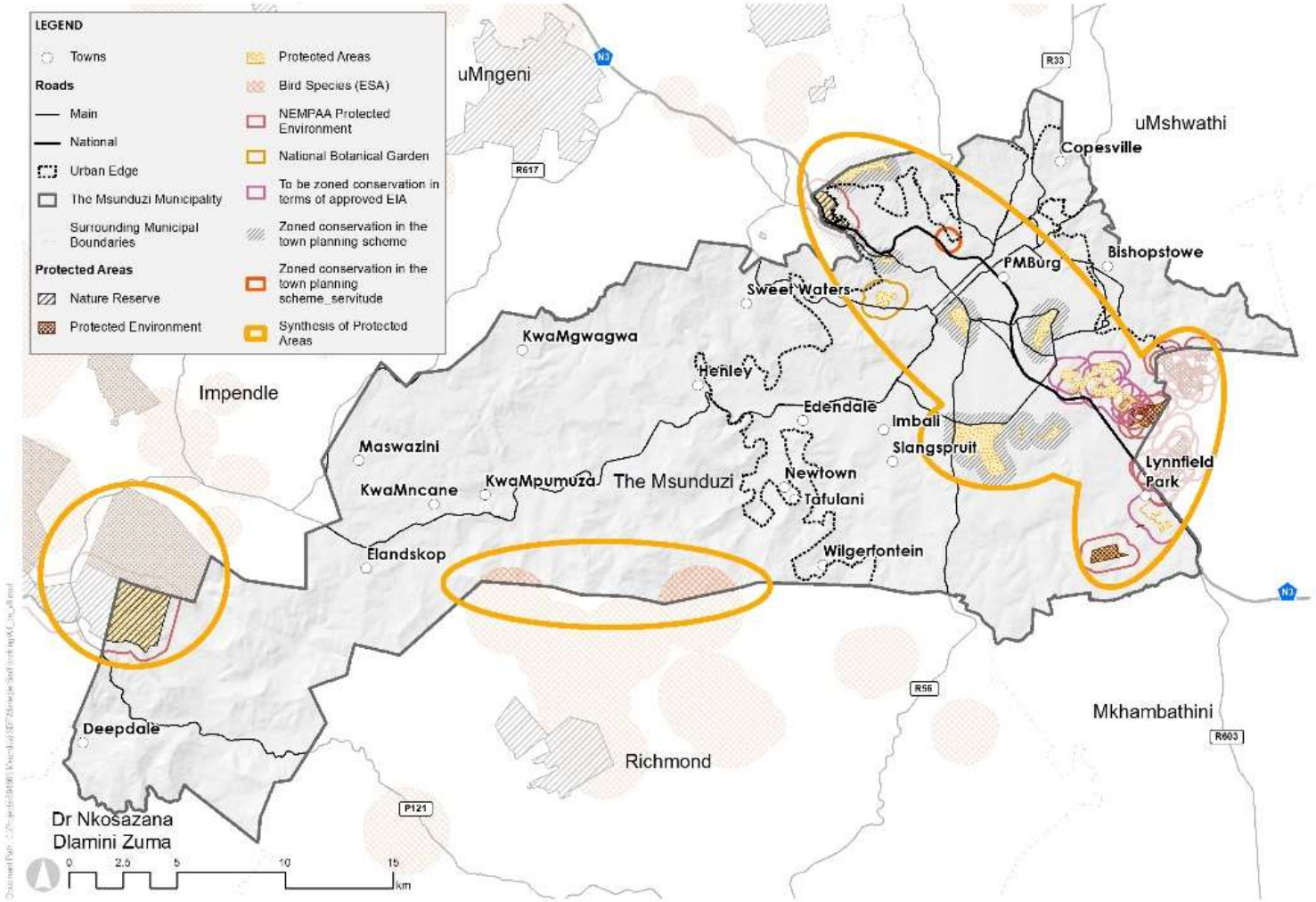


Figure 7: Protected areas

The Msunduzi Municipality has a high level of environmental vulnerability due to conflict between preserving the natural environment and land use changes that will allow for the growth of the population, urbanisation, and economic development. Increasing vulnerabilities can also be attributed to poor air quality and poor environmental governance. These environmental vulnerabilities will result in an increase in the occurrence of environmental disasters such as flooding, wildfires, heatwaves, and droughts.

The topography is characterised by the presence of many steep slopes unstable soils, rocky areas, and shale (approximately 16.5% of the municipality has a slope steeper than 1:4 degrees or 25%). The steep and rocky terrain negatively affects the development potential in certain areas. The steep slopes that affect development are predominantly located in Wards 25, 2, 20, 12, 11, 3, 9 and 39. These unfavourable environmental conditions tend to be less suitable for development or to make potential development more expensive, to the point of being unfeasible. The mountainous topography has limited expansion potential and has acted as a physical buffer, particularly in isolating the CBD and Ward 39. Integrating the urban fabric when faced with physical barriers such as slopes remains a major challenge for the Msunduzi Municipality. This is particularly relevant in the case of Ward 39, which is physically separated from the rest of the municipality by mountainous slopes. As a result, the primary access route from the CBD to Ward 39 goes through the Impendle Municipality. Furthermore, the topography has a considerable effect on development patterns, resulting in long winding roads and higher costs for infrastructure and service provision.

The largest river that flows through the Msunduzi Municipality is the uMsunduzi River and its associated tributaries. The tributaries that pass through the Msunduzi Municipality form part of the strategically important water catchment for the critical water supply dams of the Pietermaritzburg–Durban urban development node. The abundance of urban and industrial effluents in the water has caused the river's water quality and aquatic health to be poor. Most of the wetlands in the municipality are small, with an average size of approximately 1 ha. Despite their small scale, their continued existence is still threatened by rapidly expanding formal and informal development. Increased development activity has resulted in water that is of poor quality and that is thus regarded as unsuitable for human consumption, and in waste removal that is poor and that continues to increase water pollution and stormwater run-off.

Urban expansion in the municipality has also led to the degradation of large areas of land with high agricultural value. Unregulated and unsustainable land development has resulted in land degradation and increased water and soil contamination. Land degradation has further led to an increase in invasive alien vegetation, which has resulted in the loss of local landscape and scenic value. High agricultural potential land where existing commercial agriculture activity currently occurs is predominantly located towards Manderston and around Bishopstowe. These commercial agricultural activities include sugar cane production, livestock production, and game farming. Some subsistence dryland agricultural production occurs to the west of the Msunduzi Municipality, whilst commercial timber farming can be found towards the high-lying areas in the north as well as in the vicinity of Taylor's Halt.

In the Msunduzi Municipality there are three areas that demonstrate high and good agricultural potential, as illustrated in **Error! Reference source not found.**. These areas are on the periphery of the existing Pietermaritzburg urban development, towards the northern and eastern municipal boundaries, as well as along the R56 and along the Msunduzi, Richmond, and Mkhambathini municipal boundaries. Lastly, Ward 39 has large tracts of valuable potential agricultural land. In total, the valuable agricultural land (Category A and B) comprise 15.88% of the total area of the Msunduzi Municipality. Significant areas outside the urban edge have been permanently transformed (approximately 23.49% of the area of the municipality) especially areas around Sweetwaters, Maswazini, and KwaMncane. However, there are areas along the M70 near KwaMpumuza that are suitable for development. Other areas suitable for development are near Deepdale, near the western municipal boundary, and around Ashburton. A total of 16.11% of the land is categorised as suitable for development.

High-potential agricultural land should be retained for agricultural purposes in order to support the national food security goal. The high agricultural potential land situated within close proximity to the CBD could play a prominent role in improving Msunduzi Municipality's resilience around food production and security. It is therefore critical that the Msunduzi Municipality play an active role in protecting the natural environment and ensure that no development takes place in these areas. The SDF and other strategic plans should delineate the areas with high agricultural potential and the rezoning of this land should be considered only under special circumstances. Furthermore, the Municipality must prevent the subdivision of this land into small portions not suitable for commercial farming.

When considering the various environmentally sensitive areas discussed in earlier sections (as illustrated in Figures 6 – 8), it is evident that, when considered in totality, the northern, eastern, and western areas of the Msunduzi Municipality are impacted significantly and that future development in these areas should be carefully considered and guided in order to reduce the loss of sensitive environments. Future development should rather be focused towards the central parts of the municipality. Furthermore, policies and strategies should be developed to protect and enhance valuable agricultural land, which could contribute significantly towards job creation.

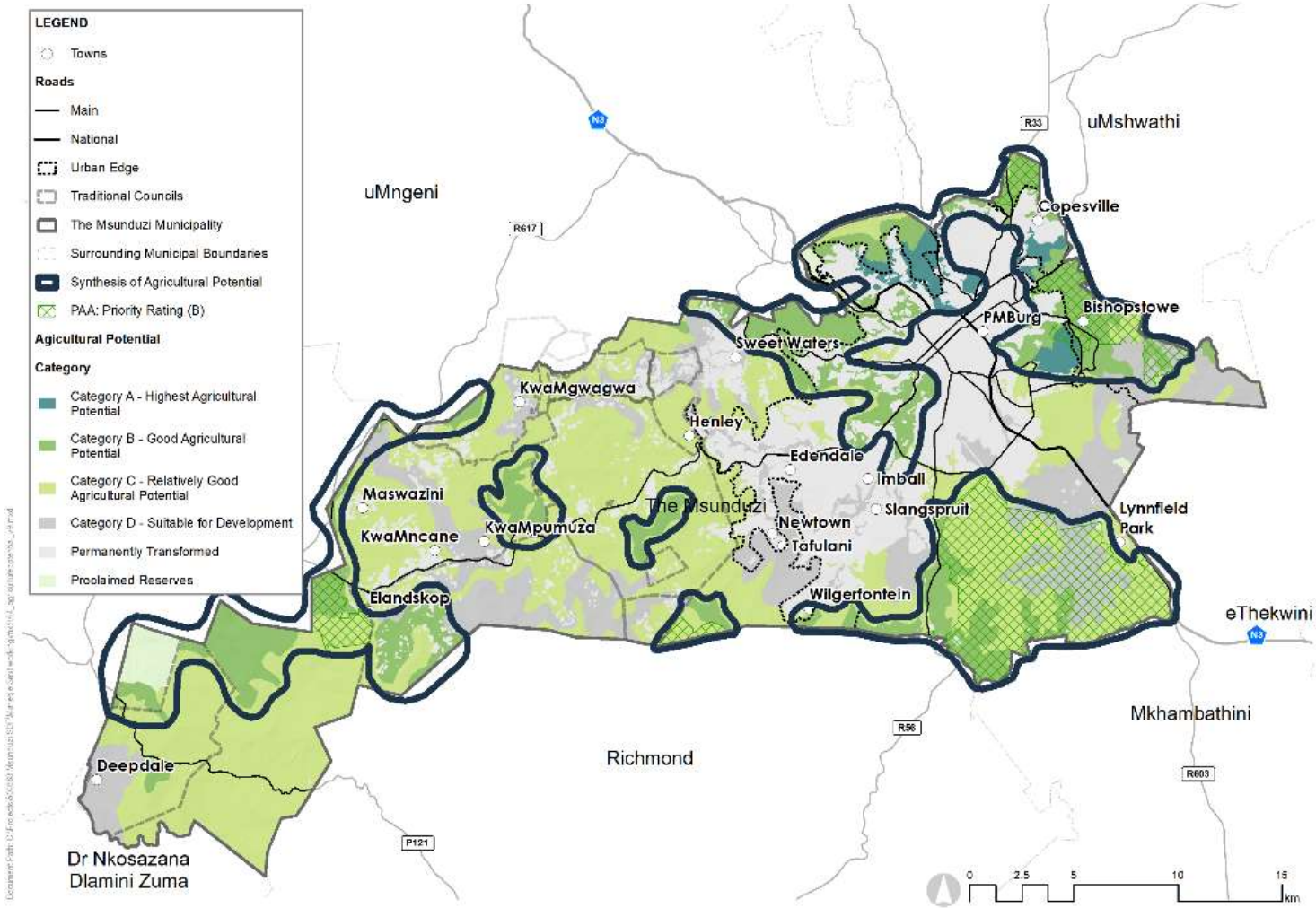


Figure 8: Agricultural potential

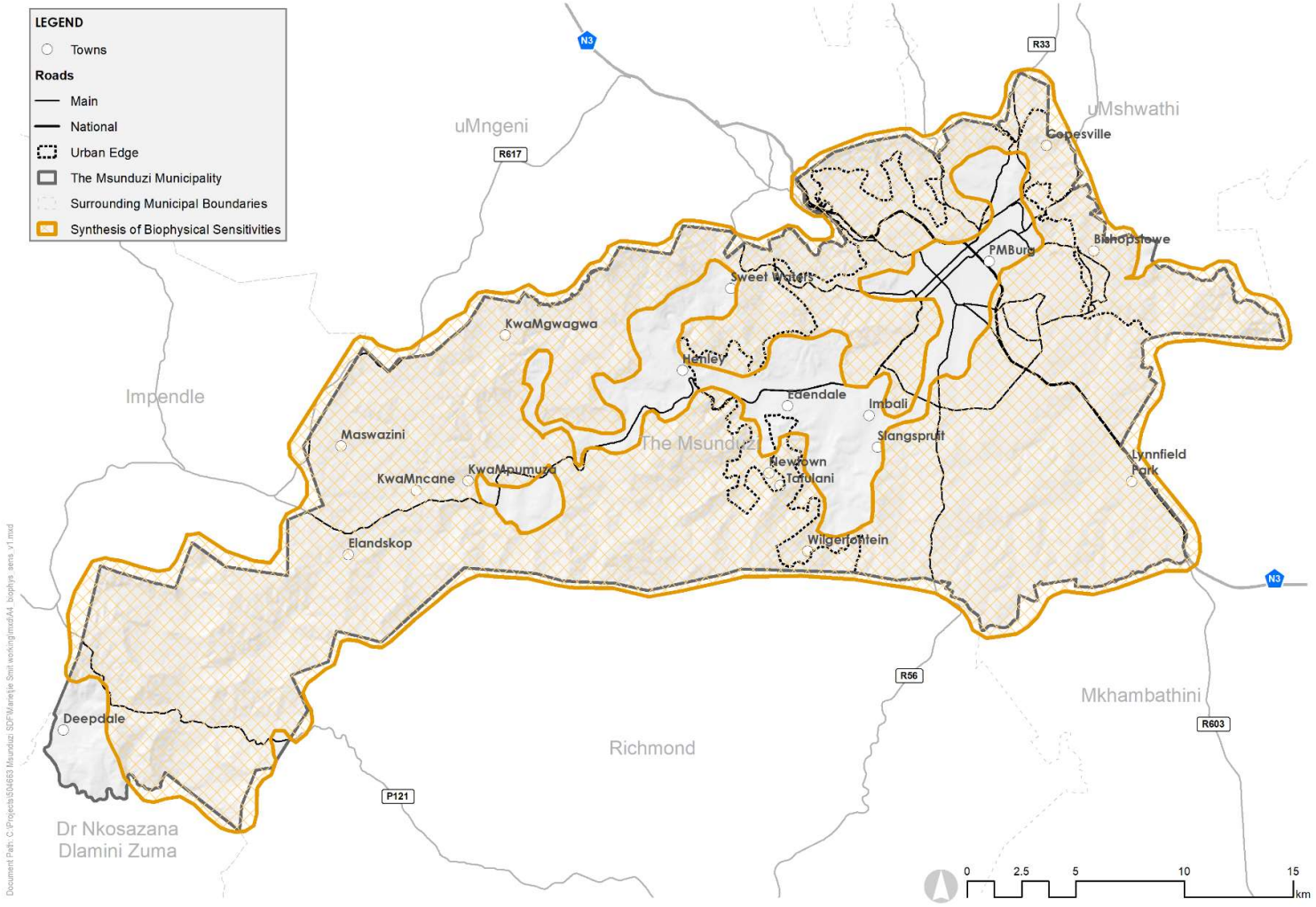


Figure 9: Areas with biophysical sensitivities

3.2 Socio-economic environment

3.2.1 Demographic profile and population projections

According to the IDP (2020/21), the population of the Msunduzi Municipality is expected to grow by 1.1% per annum between 2016 and 2021 and is expected to reach 702,865 people in 2021. The wards with the highest population density are wards 1 in Vulindlela ABM, wards 11, 13, 15 and 17 of the Greater Edendale and Imbali ABM, ward 18 in the CBD / Ashburton / Eatern Areas ABM and wards 29 and 30 located in the Northern Areas ABM. The Greater Edendale / Imbali ABM accounts for 34.3% of the total population. High population densities are also found in wards 2, 3, and 5. These wards are located outside the existing urban edge. During 2019/2020, the Msunduzi Municipality experienced a mortality rate of 4%, which is significantly lower than the average South African mortality rate of 9.435%. Although the mortality rate is relatively low, the current cemeteries are nearing capacity, which means that additional burial places are required. During the same period, the municipality also experienced in-migration, with people seeking housing opportunities, education, and jobs.

The Msunduzi Municipality has a very young population, the two highest age groups being 0–4 and 25–29. It also has more women than men. Notably, a high percentage of the overall population is under the age of 29. It is expected that the young population group will move into the employment sector within the next 10 to 20 years. The young population puts pressure on the provision of schooling and dependency in the municipality as well as requirements for health care. Whilst less than 2% of the population lives with disabilities, it is acknowledged that the infrastructure required to support people those who are disabled needs improvement.

Employment levels increased between 2011 and 2016 with nearly 66% of people employed in 2016. The sectors with the greatest employment include community services, trade manufacturing and finance. The ageing population over the next 10 to 20 years could potentially place strain on the economy if not sufficient employment opportunities are created.

Section 21(e) of SPLUMA requires the SDF to include population growth estimates for the next five years. However, the Msunduzi SDF has a long-term view. Consequently, the population projections will be extrapolated until 2050 using a growth model. The purpose of the growth model is to illustrate the change in population throughout the municipality, since changes in population affect the spatial dynamics in a municipality. Furthermore, population projections are critical in the development of an SDF, as they guide future planning in terms of new job opportunities, housing requirements, infrastructure demand, recreational spaces, etc.

Population growth is calculated by considering changes in births, deaths, and in- and out-migration. Additionally, past growth rates can be used to extrapolate future scenarios. The following information, presented in the status quo report, is considered in determining the growth scenarios:

- Deaths for the 12-month period prior to the 2016 Community Survey – 24,402;
- In-migration between 2011 and 2016 – 275,920, or 55,184 per annum; and
- Out-migration between 2011 and 2016 – 344,302, or 68,860 per annum.

The 2019 population growth rate for South Africa is 1.339% (The World Bank, 2020). Furthermore, Statistics South Africa reported an 8.9% growth rate for the Msunduzi Municipality between 2011 and 2016, which results in an average of 1.78% per annum. And the 2020/2021 IDP indicates an expected annual growth rate of 1.1% per annum between 2017 and 2021.

The 2020/2021 IDP furthermore indicates the growth rate scenarios given in Table 2.

Table 2: Growth model scenarios

Scenario	Implications
Low-growth scenario	• Population and economic growth rates achieved between 2011 and 2016 continue into the future. The expected population growth rate is expected to be similar to the South African growth rate of around 1% per annum. The economic growth rate of 0.1% is similar to the South African GDP rate in 2021.
Medium-growth scenario	• The population and economic growth rates are expected to be around 2% (African Development Bank Group, 2020) mainly due to a recovering economy post Covid-19.
High-growth scenario	• The optimistic investor sentiment is similar to economic conditions in 2014, with an anticipated population and economic growth rate of around 3%. This high growth rate is due to major investments made in infrastructure as well as a booming agricultural and manufacturing sector (African Development Bank Group, 2020).

The current population growth rate for South Africa is at 1.339% per annum and the historical population growth rate between 2011 and 2016 is reported at 1.78% per annum. Furthermore, the 2020/2021 IDP estimated a growth rate of 1.1%. Therefore, it is reasonable to assume a future population growth rate of around 1% (low growth scenario) in the short to medium term.

Figure 10 illustrates changes in population based on the three growth scenarios. Existing population data for 2021 was used as a basis for the calculations. The formula n1 = n0 x r^n was used to extrapolate the growth rates. In this formula, n1 represents the future date (i.e. 2030, 2040, and 2050), whilst n0 represents the base year (2021). The growth rate (i.e. 1.1%, 2.2%, and 3.3%) is represented by r and the difference between the future date and the base year by ^n.

The different growth rates have a significant impact on the 2050 population projections. The 1.1% growth scenario sees an increase of 262,420 people, while the population number increases significantly with the 2.2% (618,272 additional people) and 3.3% (1,099,245 additional people) growth rates. Based on these projections, the population will nearly double between 2021 and 2050, at a growth rate of 2.2%. This increase is expected to have a significant impact on the demand for housing, infrastructure, and commercial activity. Careful planning should be done to encourage growth whilst preserving the sensitive natural environment.

Figure 10: Msunduzi population growth projections based on the three scenarios

3.2.2 Spatial distribution of population growth

The ABM areas have different compositions in terms of population density, natural environment, commercial activity, and the quality of the urban environment. These factors play a role in determining the future population growth in the designated ABM areas.

Table 3 provides a summary of the average annual population growth rates expected until 2050 and Figure 11 illustrates the population growth per ABM area.

Table 3: Average annual anticipated population growth rates until 2050

ABM Area	Growth rate per annum
CBD / Ashburton and Eastern Areas	1.0%
Greater Edendale and Imbali	1.5%
Northern Areas	0.5%
Vulindlela	0.5%

The figures for the population per ABM area are extracted from the 2011 Census, as this is the only source with ward-based population information. The population projections per ABM are in line with those of the Municipality between 2011 and 2016 (1.78% annual growth) and the annual growth rate of 1.1% is applied for the period 2016 to 2021. From 2021, the relevant annual growth rates shown in Table 3 are applied. These growth rates are in line with the Msunduzi Municipality's anticipated growth rate of 1.1%.

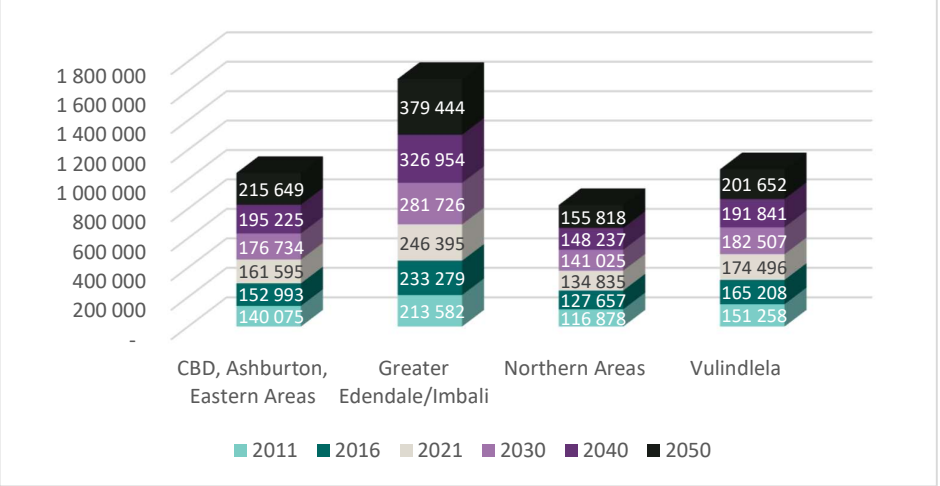


Figure 11: Population growth per ABM

StatsSA data is used to determine the income levels of the Msunduzi population. The table below provide an extract from the StatsSA income group area and an extrapolation until 2050. The population growth rates per ABM has also been used to extrapolate the income levels as illustrated below. The graph shows that Msunduzi's population is largely classified in the two lowest income groups. The implication of this is that there will be a larger dependence of this population on the government at all levels for education, health care, housing. The types of industries and job opportunities required to employ residents within the municipality will also need to correspond to the community's skill sets.

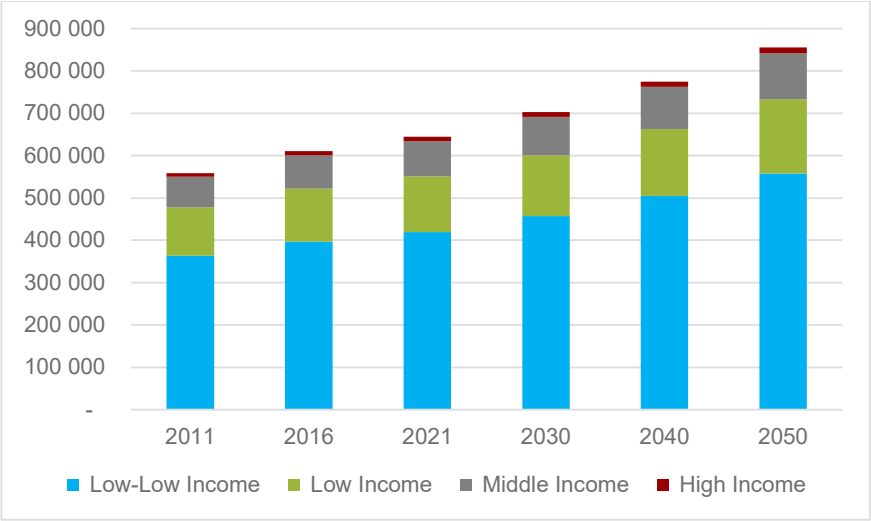


Figure 12: Income levels growth from 2011 to 2050

3.2.2.1 CBD / Ashburton and Eastern Areas ABM areas

The CBD / Ashburton and Eastern Area ABM areas have a significant amount of commercial activity in the CBD and industrial activity to the west of the N3 and R56. Ashburton, on the other hand, is characterised as a low-density residential neighbourhood. Over the years, the CBD has become stagnant, with ageing infrastructure, urban decay, and no significant catalytic projects undertaken by the local government or by private developers. As a result, many businesses have relocated to other nodes and suburbs. However, the 2014 Local Area Plan identified a number of strategic interventions aimed at regenerating the area. These interventions will have a positive impact on the area as well as associated property values, should they be implemented timeously. These interventions could also lead to private development and investment, which will further boost the ABM area.

As indicated previously, commercial and industrial activities are required to stimulate investment and, ultimately, the local economy. Given that most of these activities are located in the CBD / Ashburton and Eastern Areas ABM areas, it is expected that the economic growth rate of 3.46%, as reported in the 2015 SDF, will not be achieved. This is compounded by the impact the Covid-19 pandemic has on businesses. It is therefore reasonable to expect a lower growth rate for this ABM area. A growth rate of around 1%, similar to that of the South African economy, will be more likely in the short to medium term.

3.2.2.2 Greater Edendale and Imbali ABM

The urban form of the Greater Edendale and Imbali ABM area is heavily influenced by the topography of the area and the river corridors. As a result, the majority of the population is located towards the east and south-east of Edendale Road. Formalised, high-density residential areas are located towards the northern parts of the area, however, in close proximity to the Edendale centre. Because the Greater Edendale Vulindlela Development Initiative (GEVDI) operates in the ABM area, a significant number of urban regeneration projects have been identified in the area. It is expected that these projects will attract private investment.

With the number of catalytic projects currently underway in the ABM area, it is reasonable to assume that existing businesses may choose to relocate from other areas of the municipality. Furthermore, the area has been earmarked as a priority housing development area and is therefore a priority for human settlements projects. It is therefore reasonable to assume that a growth rate of slightly higher than the South African economic growth rate could be expected. A growth rate of 1.5% is considered reasonable.

3.2.2.3 Northern Areas ABM area

The Northern Areas ABM area is characterised by a variety of land uses. High-density residential areas are located along the flatter topography,

commercial activities are located towards the Pietermaritzburg CBD, and an industrial area is located towards the east of the ABM area. Furthermore, large tracts of environmentally sensitive areas can be found towards the south, north-west, and north-east of the ABM area. Historically, this ABM experienced slow growth. Slow growth is expected to continue. Therefore, a growth rate of 0.5% is deemed reasonable for the short to medium term.

3.2.2.4 Vulindlela ABM area

The Vulindlela ABM area is located in the western parts of the municipality. The area is characterised by rural, peri-urban, and relatively low-density residential areas. The urban form is significantly impacted by the undulating terrain. Furthermore, significant portions of the ABM area comprise arable agricultural land, which should be protected against human settlements. It is anticipated that this ABM area will grow at a rate of 0.5% per annum largely due to migration to the CBD and to Edendale for job opportunities.

3.2.3 Social facilities

The Msunduzi Municipality has a number of institutions of higher education, including the University of KwaZulu-Natal, universities of technology, FET colleges, and technical colleges. It is also home to a host of both private and government-owned institutions of primary and secondary education. Its primary and secondary schools are located predominantly in the Greater Edendale and Northern Areas. Primary and secondary schools are scattered throughout Vulindlela. Physical barriers such as topography, rivers, etc. should be considered during the identification of new educational facilities.

The geographic distribution of the levels of education per ABM area indicates higher levels of education in the CBD, Ashburton, and eastern areas than in Vulindlela. Because the Msunduzi Municipality has a very young population, sufficient educational facilities should be provided throughout the municipality.

The healthcare facilities in the Msunduzi Municipality are concentrated in Edendale, the CBD, and the Northern Areas. Vulindlela is the most deprived area, with only six clinics. The CSIR Guidelines for the Provision of Social Facilities in South African Human Settlements, 2012 (reprint November 2015) can be used as a guideline to guide the provision of healthcare facilities. However, it is critical to consider locational aspects in order to provide basic services to as great a number of people as possible. Because the Msunduzi Municipality has a very young population, it is fundamental that new healthcare facilities should be located in close proximity to residential areas so that they can be accessed by foot.

Whilst it is acknowledged that distribution and location of the various social throughout the municipal jurisdiction needs improvement in certain areas, the quality of these facilities and the service that they offer remains a challenge. The poor quality of services has been raised by the communities and should be addressed as a matter of importance.

A detailed analysis of all the social facilities will be conducted in the next phase of the SDF to determine capacity versus current and future demand per ABM.

3.2.4 Economy

Major contributors to the local economy include the government and community social and personal services, finance, insurance, real estate, business services, and manufacturing. There has been a decline in most of the sectors. However, the Msunduzi Municipality is busy implementing projects such as the proposed Government Precinct, the Ibhubesi Light Industrial Park in Ashburton, and various precinct plans in the Greater Edendale / Imbali ABM area to provide new opportunities for growth and investment. The majority of employment opportunities emanate from the CBD and Ashburton areas. The highest levels of unemployment occur in the Greater Edendale / Imbali area, followed by Vulindlela.

The COVID-19 pandemic and national lockdown had a significant impact on local businesses as well as imports and exports. The pandemic furthermore impacted on the ability of businesses to trade, employ new staff, and retain staff. As such, more people are dependent on government grants and require institutional support. Although the Msunduzi Municipality developed a number of policies and strategies to stimulate economic growth and job creation, physical hinderances impact on the future growth and employment opportunities, including poor road conditions and a lack of roads in some areas, a lack of electricity or high associated costs, and high service charges.

The regional space-economy of the Msunduzi Municipality and its surrounds is predominantly focused on key infrastructure projects outside disadvantaged communities and rural areas, which will reinforce existing spatial inequalities. The implementation of ICT infrastructure in rural areas and previously disadvantaged communities remains a challenge as a result of the geography and terrain of these areas. Climate change events will have a major impact on infrastructure. However, this may also be viewed as an opportunity for the Municipality to ensure the inclusion of climate-change adaptation and mitigation in infrastructure plans, which is currently lacking.

In addition to the above, the economy of the Msunduzi Municipality is dependent on a number of major sporting and cultural events. These events have a positive impact on local tourism establishments. In order to strengthen business tourism, the informal and small business sector, which has been neglected in the past, needs to be strengthened so it can contribute more to the economy. Infrastructural improvements will also boost the overall tourism economic contribution. The spatial implications of population and economic growth will be discussed in the draft SDF.

3.3 Built environment

The impact of colonial and apartheid spatial development policies is still seen today in the spatial segregation and inequality that is evident in built form of the Msunduzi Municipality, including that of the city of Pietermaritzburg.

Each of the four main cultural groups (i.e. Afrikaans, British, Indian, and African) contributed to the architecture of Pietermaritzburg, giving the city a unique architectural style. Some archaeological resources date back to the Stone Age (roughly 200,000 years ago). Historical and cultural resources in the Msunduzi Municipality include cemeteries, places of worship, and botanical gardens. Despite this rich heritage, there is a lack of formally recognised historical and cultural heritage resources of traditional African, Coloured, and Indian origin. In addition to this, the high demand for space for new developments is altering and even destroying some of the existing heritage resources. If such development without consideration for the cultural heritage are allowed to continue, the character of Pietermaritzburg and its surrounding areas that contain heritage resources could be altered and in so doing lose its cultural heritage and sense of place of the neighbourhoods. Furthermore, the development constraints posed by refurbishing historical buildings affect efforts to regenerate the declining CBD node. The urban form of Vulindlela is vastly different from that of Pietermaritzburg, the Greater Edendale, Imbali, and the Northern Areas. Housing typologies include those of traditional dwellings and, more importantly, Vulindlela lies under the Ingonyama Trust, which means that development will be managed by a joint municipal–traditional structure. Settlements in Vulindlela are relatively small and have a low density, with limited retail and commercial activities currently taking place in the centres.

The Msunduzi Municipality currently does not have a rural development strategy. However, the GEVDI plays a central role in unlocking the development potential of the Edendale–Vulindlela Complex and thus enabling spatial transformation.

The Greater Edendale area is currently the prime focus for land acquisition to facilitate mixed-use development as part of changing the apartheid landscape. The Msunduzi Municipality is in a process of title deed restoration. In terms of the Upgrading of Land Tenure Rights Amendment bill tenure, 1,412 properties will be upgraded in 2020 and title deed restoration will be completed between 2019 and 2022. The GEVDI is focused on reconfiguring and changing the development approach and the delivery of housing at scale by ensuring that it

results in the creation of sustainable human settlements. Improved housing and economic opportunities provided by the GEDVI are expected to encourage investment, increasing access to finance and marketing models, and ensuring that property can be accessed by all and used as an asset for wealth creation and empowerment.

With support from the DRDLR, great progress has been made in the Edendale–Vulindlela area in respect of the upgrading of tenure, resolution of tenure conflict and tenure insecurity, and conveyancing. In terms of spatial planning, land ownership has a major influence on land use and land management, which, in turn, affect the future economic potential of an area and the institutional arrangements necessary for sustained development.

According to the Human Settlement Sector Plan of 2020, the estimated housing backlog in the Municipality is 44,263. Although there has been an increase in home ownership between 2011 and 2016, from 17.42% to 57.2%, a significant portion of the population still lives in undesirable housing conditions. It is estimated that there are 23,613 backyard dwellers predominantly in townships. The 70 informal settlements in the Municipality account for 20,000 households and these settlements are concentrated in the Greater Edendale and northern areas. The settlements in Northdale, Woodlands, and Eastwood (Northern) areas Areas) are located along steep slopes, watercourses, and wetlands. Some informal settlements in Edendale are located on privately owned land and organised invasion has been occurring on municipal land in the Shenston–Ambleton area. A total of 18 plans have been prepared for the upgrading of these informal settlements. Although the number of people in tented accommodation decreased from 42,505 in 2011 to 27,460 in 2016, the IDP 2020/21 indicates that there are still between 13,000 and 14,000 applications for social housing on the waiting list.

Student accommodation is required in the Scottsville area due to the proximity to the University of KwaZulu-Natal (UKZN) and the Durban University of Technology (DUT). The Slangspruit Buffer is in the process of being transformed from low-cost housing to lower-middle-income suburb. Other areas that are becoming rapidly occupied include Thornview, Signal Hill, Lincoln Meade, and the area along the R56, which are being invaded. In terms of the middle-upper-income housing market, there was a spike in building plans passed for flats and townhouses in 2014. However, these units had not been completed when the number of completed units was reviewed in 2017. Applications in this market segment indicate that approval for low-density developments are approved and there is a significant delay between the timeframe from when building plans are passed until units are completed, as indicated in Figure 13 and Figure 14.

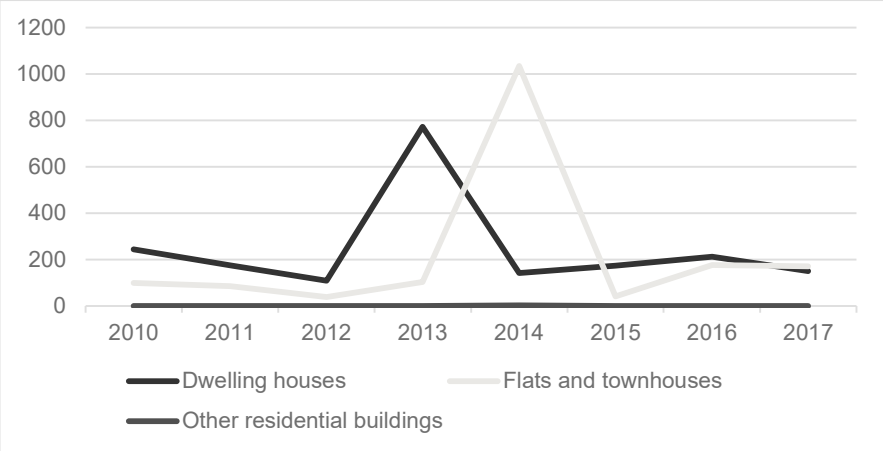


Figure 13: Residential building plans passed between 2010 and 2017

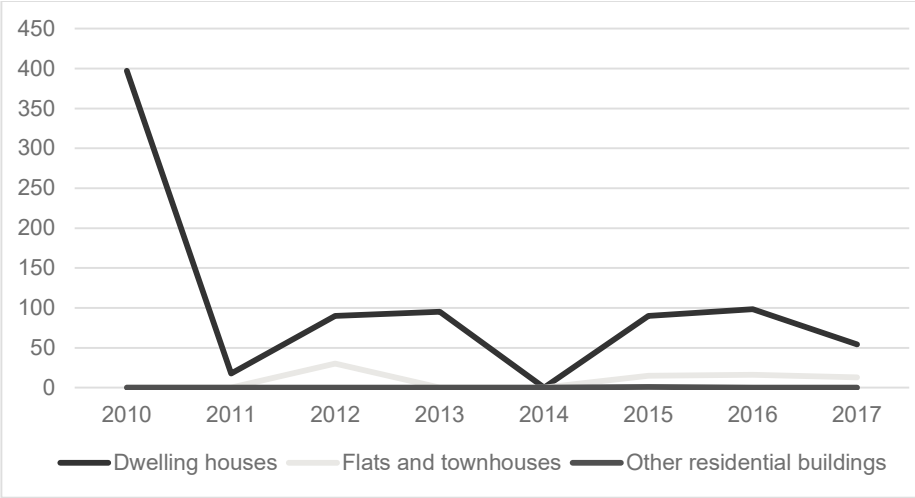


Figure 14: Residential buildings completed between 2010 and 2017

Rural housing projects in Vulindlela will deliver 25,000 units and a total area of 385 ha is allocated for the Henley Dam upmarket residential development. The Vulindlela Rural Housing Project is nearly complete. However, the number of households has increased significantly over the last few years. There are 45 housing projects in detailed planning stage, with an estimated yield of 43,463 housing opportunities over three years. These projects are located predominantly in the Greater Edendale area. There are 21 housing projects in implementation stage. These projects are intended to address the old housing stock in the Greater Edendale area and northern areas and are estimated to yield 5,590 housing opportunities. The social housing projects are in various stages and are estimated to yield 6,107 units. Approximately 17,102 rental or social housing units will be provided in the Greater Edendale area.

The Msunduzi Municipality is in the beginning stages of implementing its integrated rapid public transport network (IRPTN). The IRPTN will be focused on the five modes of transportation, namely rail, bus, minibus taxi, metered taxi, and non-motorised transport. Although there has been a significant focus on motorised transport, such as the establishment of bus rapid transit (BRT) routes, there is still room for improvement with regard to non-motorised transport (NMT), as a large percentage of the population still depends on NMT.

Acting as the Water Services Authority, the Municipality purchases water in bulk from Umgeni Water (UW), the water services provider, and distributes it to its consumers. Raw water is abstracted from the Midmar Dam, from where it is pumped to the Midmar water treatment plant (WTP), after which it gravitates to the DV Harris WTP, both of which are owned and operated by UW, the bulk services provider.

Ageing infrastructure is a key challenge for Msunduzi Water. Real losses in 2017/18 accounted for 32% of bulk water purchases. Such losses were only marginally fewer in 2018/19 at 30%. Approximately 65% of the Municipality's operational expenditure for water is made up of bulk water purchases from Umgeni Water, which leaves little for spending on water asset maintenance after other costs such as depreciation and departmental charges are subtracted from the remaining 35%. A comprehensive water conservation and water demand management plan for the next five years has been completed and is being actively worked upon with the funds allocated, but more funding will need to be allocated to operating expenditure in order to bring down this real loss percentage. Of course, this wastage has a direct impact on the municipality's raw water resources (the Midmar and Spring Grove dams), which are already oversubscribed, and the water demand growths of the Msunduzi Municipality and of eThekwini will exacerbate the situation in years to come.

UW operates the Darvil wastewater treatment plant (WWTP), whilst the Msunduzi Municipality owns, operates, and maintains the sewer reticulation and outfall. The Darvill WWTP serves the towns of Edendale and Pietermaritzburg mainly via waterborne sanitation. Vulindlela has no waterborne sanitation; it has only ventilated improved pit toilets (VIPs), whilst the Ashburton area has mainly conservancy tanks, with one small WWTP (0.2 Mℓ/d) currently serving Lynnfield Park.

Given the Darvill WWTW's current design capacity of 65 Ml/day, upgrades will have to be implemented to increase its capacity to an anticipated 120 Ml/day in order to facilitate new development in the regions that feed Darvill. Looking further into the future, with the ultimate Peak Dry Weather Flow (PPDWF) estimated at 213 Ml/day, a sizeable upgrade at Darvill and a new works at Ashburton to help service Ashburton and Lynnfield will be required.

There are three components to solid waste management in the municipality, namely solid waste collection and removal, solid waste disposal and, as of more recently, waste minimisation and diversion. The Msunduzi Municipality's Waste Management Business Unit (WMU) is responsible for these functions and provides the following services:

- solid waste collection and transportation to the landfill site
- management of garden sites (Prestbury, Link Road, Grange, Richie Road, Sobantu, South Road, Woodlands, and Eastwood)
- street sweeping
- maintenance of public conveniences (.g. public toilets in the CBD)
- collection of illegally dumped waste
- education and awareness
- waste minimisation and diversion from the New England Road Landfill Site (a new initiative).

The Msunduzi Municipality has one waste disposal facility, namely the New England Landfill Site. The site stretches across an area of 44 ha, 29 of which are currently being landfilled. The Municipality has recently adopted a waste minimisation and diversion strategy to extend the lifespan of the landfill site. Because the anticipated lifespan of the New England landfill is only five years, an alternative plan needs to be prioritised urgently in order to ensure that sufficient solid waste capacity is made available to facilitate new development throughout the Msunduzi Municipality. This should include new landfill options and diversions from landfill considerations that can also facilitate job creation in the municipality. The Msunduzi Municipality's Electricity Department has its power supplied by Eskom and distributes it across the region via a network of substations, most of which were noted as ageing and in need of upgrading in the 2017 Primary 132 kV Network Development Plan, Revision 4, by Nkanyezi Consulting (Pty) Ltd.

In the 2017 Network Development Plan Revision 5, recommendations were made by the consulting company that all three 132 kV networks should be reconfigured to provide alternative 132 kV network feeds, based on a firm (9n-1) failure criteria. Eskom was engaged in discussions to cover all in-feed options. Substations such as Archbell Street, Pine Street, Crossways, and Masons Mill were required to be prioritised due to the age of the network and its equipment, and due to the strategic importance of these particular substations. Without the necessary upgrades, limitations will be placed on the potential for new development in the municipality.

3.4 SWOT analysis

A SWOT diagram has been prepared to summarise the main issues identified in the preceding sections:

Table 4: SWOT analysis

STRENGTHS	WEAKNESSES
• The existing agri-business should be exploited to create new job opportunities and to create a value add for the municipality (e.g. the creation of a fresh produce market). • There is a variety of food production opportunities available. • Pietermaritzburg is strategically located along the N3 and SIP 2 and has good physical and non-physical connectivity. • The location of Pietermaritzburg and the Oribi airport along the N3 provides a gateway to global markets. • The Msunduzi Municipality has a strong cultural heritage. • There are very high secondary education levels, which will aid in entrepreneurship and job skills levels. • The existence of the IRPTN is beneficial to the Municipality – Phase 1 is currently in its implementation stage. • There is a large population within the municipal boundary (third-largest non-metropolitan area). • There are many open spaces and natural resources. • The soil is highly fertile. • The Msunduzi Municipality's location within the Midlands Meander tourism route.	• Undulating terrain is prevalent throughout the municipality, which limits developable land and increases housing and infrastructure costs. • Expanding urban areas impact on sensitive terrestrial biodiversity. • The educational facilities require maintenance. • The boundaries of the ABM areas are not conducive to effective implementation as they are not designated according to urban functionality • The boundaries of the ABM areas do not adequately fit the requirements of functional areas. • There is a lack of waste water treatment measures and waste is being dumped in the watercourses and biodiversity areas. • Very little infrastructure is available within the rural areas (ICT, paved roads, energy, etc.). • High in-migration to the municipality impacts on the capacity of social facilities, infrastructure, services, and job availability. • The low skills development of migrants impacts on the local economy. • Most social facilities are clustered around Greater Edendale / Imbali and Pietermaritzburg. • Social facilities are not easily accessible by people with disabilities. • The slow rate of housing provision results in growing illegal occupation. • Financial constraints and declining fiscal budgets. • There is a lack of land under municipal ownership to facilitate development. • There is a lack of funding to acquire the land required for urbanisation and transformation.

OPPORTUNITIES	THREATS
• Stimulate food production and expand value chains, as the soil in the area is ideal for arable agriculture. • Fully utilise agricultural land to improve local food security. • Increase tree plantations for agriculture and food production and counter the anticipated increase in annual temperature. • Encourage more resilient crops and practices to create a competitive advantage and enhance productivity. • Integrate the strong cultural heritage to create job opportunities and new tourism opportunities focused on business tourists. • Enhance tourism opportunities by including wetlands and the natural biodiversity and create open space networks and corridors. • Strengthen the informal economy and provide opportunities for entrepreneurs along the commercial ladder. • Regenerate the CBD and Slangspruit to retain and attract businesses. • Identify alternative forms of housing and higher-density development to quicken housing delivery. • Expand the BRT route to other ABM areas in order to connect residents to job opportunities. • The undulating topography and location along the Midlands Meander. • The government is moving away from housing delivery to integrated delivery. • Identify agricultural opportunities for local economic development. • Synchronise the SDF review with the launch of the DDM and the compilation of the KZN SDF to allow for the better alignment of strategies. • Edendale Urban Hub's contribution to SIP 7. • Msunduzi being identified as a government precinct.	• High-potential agricultural land is being developed to accommodate low-density residential developments. • An increase in veldfires will destroy the soil structure and seed banks. • Threatened ecosystems should be protected against urbanisation. • Watercourses should be protected against illegal dumping in order to enhance water quality. • Climate change causes extreme rainfall, which results in floods, increased run-off water, and soil erosion. • The lack of energy supply threatens the longevity of businesses contributing to the local economy. • There are high unemployment levels especially in Greater Edendale and Imbali. • The high crime rate, especially in the CBD, discourages new business ventures and contributes to the deterioration of the CBD. • There is a lack of funding for housing. • The Municipality's ability to refurbish the CBD is threatened due to heritage preservation requirements. • Fiscal constraints and declining fiscal budgets. • The physical barriers presented by the area's topography impede spatial transformation. • Planning alignment and coordination impact on the ability to deliver effectively. • Inter-governmental relations and the ability to align priorities (both within the municipality and other spheres of government). • Irregular/unauthorised expenditure and maladministration. • The uncontrolled land invasion and lack of law enforcement. • Lack of accessibility to Ward 39 and potential lack of integration due to isolation.

3.5 Land use budget analysis

A land use budget analysis is performed to project the anticipated land required for housing, social facilities, commercial, retail and agricultural facilities. This land demand is extrapolated from the population growth and provides an indication of additional land required by 2050. This land requirement will be allocated based on strategic locations and where there is the highest need for the various facilities.

3.5.1 Housing

The housing demand and associated land requirements (calculated at an average of 25du/ha) within each of the ABMs are illustrated below. The highest housing demand within Msunduzi Municipality is within the low-low- and low-income groups which suggests an urgent need for fully subsidised social and BNG housing opportunities.

The Municipality has commenced with a number of subsidised housing projects which are in various phases. It is assumed that the projects in **Pre-Feasibility and Feasibility phases** will be constructed between 2030 and 2040 whilst the projects currently in **implementation phase** will be available between 2021 and 2030. The **rental/social housing projects** are currently in the planning phase and is expected to be constructed around 2030. Furthermore, it is expectant that the remaining 18.3% of the **Vulindlela Rural Housing project** will be completed between 2021 and 2030. The Human Settlement Sector Plan indicates that approximately 20,000 households live in **informal settlements**.

Note: * No yield calculation has been provided for some identified projects.

Table 5: Household growth and land requirement per ABM

	CBD, Ashburton, Eastern Areas		
	Household growth	**Existing housing opportunities**	**Land required at 25du/ha**
2021	2,389	1,330	42
2030	4,205	5,553*	-54
2040	5,136	0	205
2050	5,674	0	227
	Greater Edendale/Imbali		
2021	3,643	2,195*	58
2030	9,814	20,730	-437
2040	12,563	0	503
2050	14,580	0	583
	Northern Areas		
2021	1,994	2,089*	-4
2030	1,720	1,251*	19
2040	2,003	0	80
2050	2,106	0	84

Vulindlela			
	Household growth	Existing housing opportunities	Land required at 25du/ha
2021	2,580	4,575	-80
2030	2,225	0	89
2040	2,593	0	104
2050	2,725	0	109

3.5.2 Social facilities

Based on the existing provision and projected population growth, the demand for community and social facilities were calculated based on the projected population increase and the Council for Scientific and Industrial Research (CSIR) Guidelines for the Provision of Social Facilities in South Africa (2015). The table below illustrates the land use / facility with the associated population threshold and existing number of facilities, the number of facilities required by 2050 as well as the area requirements. The maps are

Refer to Appendix A for the various social facilities maps.

Table 6: CSIR Standards for social facilities

CSIR Guidelines		
Facility	**Average threshold (Population)**	**Catchment area and / or acceptable travel distance (km)**
Hospitals	300,000 – 900,000	30km
Primary health clinic / health centre	100,000 – 140,000	5km
Fire Station	60,000 – 100,000	8 – 23 min response time
Police Station	60,000 – 100,000	8km urban area 16km peri-urban 24km other
Primary School	7,000	3km / 45min walking
Secondary School	12,500	3km / 45min walking
Social Services (SASSA) – Pay Point	Various	5km
Local Library	20,000 – 70,000	8 – 10km
Community Hall	60,000	10km

Table 7: Social Facilities future planning (Municipal Wide)

Municipal Wide					
Facility	**Existing**	**Future requirement**			
	2021	**Short term (2021 – 2030)**	**Medium term (2031 – 2040)**	**Long term (2041 – 2050)**	**TOTAL**
Hospitals	6	5	2	2	**9**
Community health centres	33	4	3	4	**11**
Fire Station	3	6	4	2	**12**
Police Station	8	4	2	2	**8**
Primary School	148	12	11	23	**46**
Secondary School	44	16	13	13	**42**
Social Services (SASSA) – Pay Point	3	9	8	4	**21**
Local Library	9	41	43	24	**108**
Community Hall	27	14	13	15	**42**

Table 8: Social Facilities future planning (CBD / Ashburton / Eastern Areas)

CBD / Ashburton / Eastern Areas					
Facility	**Existing**	**Future requirement**			
	2021	**Short term (2021 – 2030)**	**Medium term (2031 – 2040)**	**Long term (2041 – 2050)**	**TOTAL**
Hospitals	2	1	0	0	**1**
Primary health clinic / health centre	7	1	1	1	**3**
Fire Station	1	1	1	0	**2**
Police Station	4	0	0	0	**0**
Primary School	32	2	2	3	**7**
Secondary School	13	1	1	2	**4**
Social Services (SASSA) – Pay Point	0	2	2	1	**5**
Local Library	2	1	0	1	**2**
Community Hall	4	5	4	3	**12**

Table 9: Social Facilities future planning (Edendale / Imbali)

Edendale / Imbali					
Facility	**Existing**	**Future requirement**			
	2021	**Short term (2021 – 2030)**	**Medium term (2031 – 2040)**	**Long term (2041 – 2050)**	**TOTAL**
Hospitals	2	2	1	2	**5**
Primary health clinic / health centre	10	3	2	3	**8**
Fire Station	1	2	2	2	**6**
Police Station	1	2	2	2	**6**
Primary School	28	10	8	19	**37**
Secondary School	8	10	8	10	**28**
Social Services (SASSA) – Pay Point	1	4	4	3	**11**
Local Library	2	15	18	6	**39**
Community Hall	12	5	4	8	**17**

Table 10: Social Facilities future planning (Northern Areas)

Northern Areas					
Facility	**Existing**	**Future requirement**			
	2021	**Short term (2021 – 2030)**	**Medium term (2031 – 2040)**	**Long term (2041 – 2050)**	**TOTAL**
Hospitals	2	0	0	0	**0**
Primary health clinic / health centre	8	0	0	0	**0**
Fire Station	1	1	0	0	**1**
Police Station	2	0	0	0	**0**
Primary School	30	0	1	1	**2**
Secondary School	2	5	4	1	**10**
Social Services (SASSA) – Pay Point	2	1	0	0	**1**
Local Library	5	10	10	11	**31**
Community Hall	10	0	1	0	**1**

Table 11: Social Facilities future planning (Vulindlela)

Vulindlela					
Facility	**Existing**	**Future requirement**			
	2021	**Short term (2021 – 2030)**	**Medium term (2031 – 2040)**	**Long term (2041 – 2050)**	**TOTAL**
Hospitals	0	2	1	0	**3**
Primary health clinic / health centre	8	0	0	0	**0**
Fire Station	0	2	1	0	**3**
Police Station	1	2	0	0	**2**
Primary School	58	0	0	0	**0**
Secondary School	21	0	0	0	**0**
Muni Social Services (SASSA) – Pay Point	0	2	2	0	**4**
Local Library	0	15	15	6	**36**
Community Hall	1	4	4	4	**12**

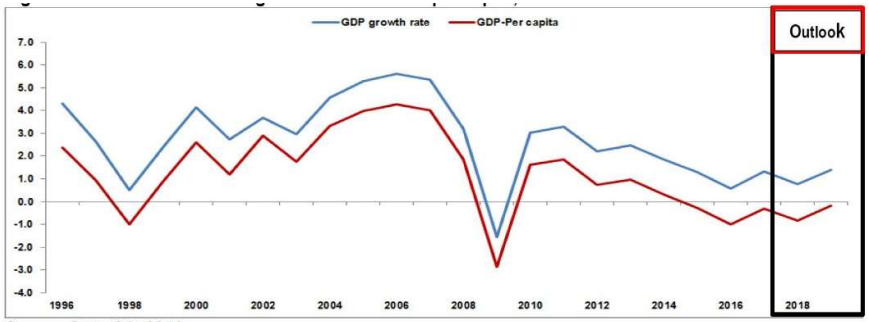
3.5.3 Commercial, retail and industrial demand

The following section provides an overview of the economic performance as it has an impact on the growth of the commercial and office, retail and industrial sectors. The performance of each sector will provide an indication of the spatial implications which should be considered in the preparation of the Msunduzi Municipal SDF.

3.5.3.1 Economic overview

The global economic outlook for 2019 has reportedly deteriorated and the World Bank indicates that the economic outlook will not improve due to "tightened financing conditions, moderated industrial production, trade tensions that have intensified, and some large emerging market and developing economies that have experienced significant market stress" (Socio-Economic Review and Outlook 2019/2020, p. 45).

South Africa's economy has also not performed optimally over the last few years. In 2008 we saw the global financial crisis and in 2016 the national GDP rate averaged at 0.3%. In 2018 South Africa found itself in a technical recession, however recorded a 2.2% growth in the latter part of 2018. The economic growth rate for expectations for 2019 and 2020 looked positive with an expected growth rate of 1.4% and 1.7% respectively. (Socio-Economic Review and Outlook 2019/2020, p. 50) The real economic growth is reported around 0.2% (GDP growth (annual %) - South Africa, 2021). Since 2010, the South African economy has grown by only 2% per annum while the GDP-per capita grew at an average of 0.5% per annum for the same period. The FNB forecast for Real GDP is estimated at 3% and 0.5% for 2021 and 2022 respectively (Propertywheel, 2020).

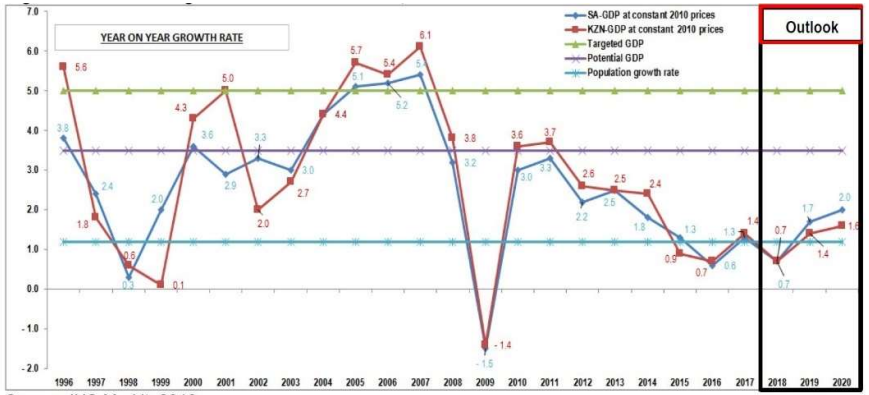


Source: Stats SA, 2018

Figure 15: South African GDP growth and GDP-per capita (1996 - 2019)

The national government has however put measures in place to stimulate the economy through infrastructure development, easing of visa regulation to enable business travel, additional public funds towards agriculture and the re-development of township economies.

KwaZulu-Natal's economic growth rate has declined considerably since 2011 and the provincial economy grew by approximately 2% between 2011 and 2017 and it is expected to remain around 1.2 – 1.8% This growth is very poor considering that KwaZulu-Natal is considered the second largest economic hub in South Africa in terms of GDP contribution.



Source: IHS Markit, 2019

Figure 16: Economic growth rate in KwaZulu-Natal and South Africa (1996 - 2020)

KwaZulu-Natal has a very poor community. The Socio-Economic Review and Outlook 2019/2020 prepared by the KwaZulu-Natal Provincial Government indicates that 40.2% of households in KwaZulu-Natal are categorized as lower income earners, earning between R0 and R54,000 per annum with only 27.1% in the emerging middle class earning between R96,000 and R360,000 per annum (Socio-Economic Review and Outlook 2019/2020, p. 24). This will place additional strain on the provincial government and the housing options as well as location of proposed human settlement projects proposed in the SDF needs to be reflect these conditions.

In terms of the Socio-Economic Review and Outlook (2019/2020) report prepared by the Province of KwaZulu-Natal, the average annual rates in the wholesale and commission trade, retail trade and repairs of goods and other business activities for the 10-year period 2007 – 2017 was 2.5%, 3.7% and 2.7% respectively. Considering the current economic climate, it is anticipated that these rates will remain fairly similar in the short to medium-term.

	KZN	Ethekwini	Ugu	uMgungundlovu	Uthukela	Umzinyathi	Amajuba	Zululand	Umkhanyakude	King Cetshwayo	iLembe	Harry Gwala
Agriculture and hunting	2.6	2.9	2.6	3.6	1.5	2.5	0.6	1.2	2.3	3.0	2.9	2.7
Forestry and logging	3.6	3.9	3.6	4.4	2.5	3.6	1.1	1.9	3.5	4.0	2.8	3.6
Fishing, operation of fish farms	5.5	5.6	5.3	6.2	4.3	4.7	3.6	3.2	5.1	5.8	5.6	5.8
Mining of coal and lignite	-1.2	0.3	0.0	0.7	-1.1	0.1	-2.4	-1.5	-0.3	0.3	0.0	2.1
Mining of gold and uranium ore	-6.8	-14.7	-3.3	-2.7	-3.4	-3.5	-4.5	-13.3	-4.3	-3.0	-3.5	-3.3
Mining of metal ores	4.5	4.7	4.4	4.8	3.9	5.4	3.2	3.2	4.1	4.7	4.5	4.7
Other mining and quarrying (incl 22)	1.6	1.8	1.5	2.0	0.8	0.8	0.0	0.3	1.1	1.8	1.6	1.4
Food, beverages and tobacco products	0.6	0.8	0.2	0.9	-0.3	0.2	-1.5	-1.3	0.1	0.6	0.8	0.2
Textiles, clothing and leather goods	0.8	0.8	0.7	1.3	0.6	1.0	-0.8	-0.9	0.5	1.3	0.9	0.8
Wood and wood products	0.6	0.8	0.2	0.9	-0.1	0.7	-1.4	-1.3	0.1	0.4	0.6	0.5
Fuel, petroleum, chemical and rubber products	1.1	1.1	0.9	2.0	0.8	0.8	-0.7	-0.8	0.6	1.3	1.2	0.7
Other non-metallic mineral products	-0.9	-0.8	-1.0	-0.6	-2.0	-1.5	-2.9	-3.1	-1.2	-0.8	-0.7	-1.3
Metal products, machinery and household appliances	-0.7	-0.4	-0.9	-0.3	-1.1	-1.3	-2.4	-2.7	-1.0	-0.6	-0.6	-0.7
Electrical machinery and apparatus	1.4	1.4	1.1	1.7	0.8	1.0	-0.5	-0.8	0.9	1.4	1.3	0.7
Electronic, sound/vision, medical & other appliances	3.2	3.2	2.9	3.5	2.7	2.6	1.3	0.9	3.0	3.2	3.3	3.0
Transport equipment	0.7	0.6	1.4	2.0	1.1	1.8	-0.3	-0.5	1.3	1.6	1.7	1.1
Furniture and other items NEC and recycling	0.3	0.4	0.0	0.7	-0.3	-0.1	-1.6	-1.6	-0.2	0.4	0.3	-0.3
Electricity, gas, steam and hot water supply	-1.4	-0.8	-1.8	-0.2	-4.2	-2.3	-3.4	-3.7	-2.6	-1.5	-1.4	-1.7
Collection, purification and distribution of water	-1.1	-0.7	-1.1	-0.2	-2.5	-1.8	-2.7	-2.7	-2.3	-0.8	-1.3	-0.9
Construction	3.6	4.1	3.0	3.6	2.4	2.5	1.1	1.1	2.4	3.2	3.2	2.9
Wholesale and commission trade	0.6	0.0	1.9	2.5	1.3	1.5	0.1	0.1	1.6	2.0	2.2	1.8
Retail trade and repairs of goods	3.2	3.3	3.1	3.7	2.6	2.8	1.3	1.4	2.5	3.3	3.3	3.0
Sale and repairs of motor vehicles, sale of fuel	2.2	2.5	1.6	2.2	1.1	1.5	-0.2	-0.2	1.3	1.8	1.9	1.2
Hotels and restaurants	1.2	1.3	1.0	1.8	0.0	0.9	-0.7	-0.8	0.8	1.3	1.3	2.2
Land and Water transport	1.1	1.5	0.5	1.2	0.2	0.2	-1.2	-1.2	0.2	0.8	0.8	0.6
Air transport and transport supporting activities	4.1	4.1	4.2	4.8	3.9	4.4	2.4	2.3	4.3	4.4	4.6	4.6
Post and telecommunication	5.0	4.8	5.5	6.0	4.9	5.3	3.7	3.6	5.2	5.5	5.7	5.5
Finance and Insurance	3.5	3.5	3.5	4.0	3.1	3.4	1.8	1.4	2.8	3.7	3.8	3.3
Real estate activities	1.5	1.0	0.9	2.1	3.7	5.8	2.2	1.5	4.2	1.2	4.0	4.5
Other business activities	2.4	2.6	2.1	2.7	1.7	1.8	0.4	0.2	1.4	2.3	2.3	2.0
Public administration and defence activities	3.4	3.7	3.4	3.9	2.9	2.8	1.5	1.0	2.8	3.6	3.5	3.4
Education	1.6	2.2	1.3	1.9	0.7	0.6	-0.5	-0.6	0.6	1.3	1.3	1.3
Health and social work	3.3	3.4	3.2	3.8	2.7	2.6	1.5	1.1	2.2	3.2	3.3	3.2
Other service activities	3.7	4.0	3.2	3.8	2.6	2.9	1.4	1.1	2.6	3.4	3.5	3.3

Source: IHS Markit, 2018

Figure 17: Sub-sector's average annual growth rates in KwaZulu-Natal (2007 - 2017)

Source: (Socio-Economic Review and Outlook 2019/2020, p. 110)

South Africa's construction industry has also been declining since 2017 and during 2019 it contracted by 3.3%. Forecasts indicate a growth of 1% between 2021 and 2021. This is mainly due to the impact of the COVID-19 (Businesswire, 2020). It is however reported that public and private sector investment in the transport and electrical infrastructure sectors could drive the industry's growth in the medium to long-term (Businesswire, 2020).

3.5.3.2 Commercial and office sector

Commercial space will remain under pressure in the short term which will lead to a very competitive business environment. Many commercial landlords may consider re-inventing the office space into mixed-use developments. The land use schemes and regulations should be flexible to anticipate future demands and thereby creating opportunity for investment.

Lower expected GDP in the short term creates the expectation of increased vacancy rates. This with financial pressure on tenants indicates an increase in vacancy rates in the short term. Furthermore, the low inflation rate (currently at 3.2%) will attract investors to areas with low vacancy rates and where good paying tenants are located.

Office vacancy rates in South Africa has been on the rise since 2013 and the Covid-19 pandemic cause this trend to increase dramatically. Due to the national office vacancy trend, the projection of future office space should be limited in order to reduce any oversupply of office space.

Figure 18: Office vacancy rate - long term trend

Source: (Office Vacancy Report, 2020, p. 4)

3.5.3.3 Retail sector

The retail sector is under significant pressure with the annualised trading density declining by 13.4% year on year until September 2020 (Retail Trends Report, 2020, p. 2). This is further exacerbated by emerging online retail trade and weak consumer finance. The increase demand for ecommerce will force supply chains adopting a more agile approach in order to stay relevant and competitive. This is already evident in major retail stores offering online shopping and home delivery options.

Figure 19: Annualised trading density growth - MSCI South Africa retail trading density index (Annualised sales/sqm growth; Current price terms; y/y)

Source: (Retail Trends Report, 2020, p. 3)

The average vacancy rate of shopping centres is approximately 6.9% (Retail Trends Report, 2020, p. 8). In the short to medium term more affordable community shopping centres may be desirable rather than larger regional centres.

The informal economy plays a vital role within the Province as well as within the Msunduzi Municipality. Approximately 34.6% of the labour force is employed informally or in informal employment (KwaZulu-Natal Provincial Spatial Development: Spatial Challenges and Opportunities, 2020, p. 35). The majority of enterprises within the townships are food related.

Spending patterns of people in the informal economy differs vastly from those in the formal economy. Households within the informal economy has little buying power and predominantly gets wages on a weekly basis, therefore buys small amounts of food on a weekly basis. Transport costs are also very costly to formal retail outlets; therefore, purchases are made at local spaza/house shops and street trades which are located within walking distance. Another factor affecting spending patterns are working hours. In many instances people in the townships has a long commute to job opportunities and therefore leave homes very early in the morning and arrives very late at night. Daily food is therefore purchased at street traders.

The spending patterns within the informal economy therefore has a spatial impact on the location of the township food economy. Firstly, food enterprises are located within walking distance to the residents, therefore home-based enterprises are dispersed throughout the neighbourhoods, secondly, these enterprises including spaza shops and street traders, sell small amounts of food, thirdly, the growth of their business is limited due to the relative small turn-over and access to credit, lastly, street traders especially, are located where high volume foot traffic is found e.g. near transport interchanges (taxi stops and train stations) as well as long main routes within the residential neighbourhood.

Retail trade and community services forms the backbone of the Msunduzi Municipality's informal sector. The majority of businesses in the informal economy sector has been operating between 5 – 10 years. On average traders within Msunduzi Municipality generate between R0 – R875 per week. The main goods sold comprise of clothing and fresh produce (Msunduzi Informal Economy and Street Trading Policy Review, 2020, p. 29).

The single biggest challenge experienced by traders is security due to the lack of formal structures. Strategic interventions to combat these challenges as well as to stimulate and grow the informal economy include the provision of

trading infrastructure and the provision of basic services. These interventions will furthermore assist in the beautification of Pietermaritzburg's CBD. It is also vital that policies support the township food economy to strengthen the livelihoods of these enterprises.

Due to the current economic conditions, it is vital that one strategically considers the volume of additional retail (formal and informal) space, target market and location. Furthermore, these strategies should be backed by simple policies which will lead to effective implementation and ultimately improve the community's livelihoods by creating more jobs.

3.5.4 Industrial sector

Manufacturing production declined by 3.5% year-on-year in November 2020 and a factory activity decline recorded over an 18-month period. Furthermore, industrial production contracted by 1.3% (Trading Economics, 2020). Figure 20 below provides an overview of the growth of manufacturing production for the past 4 years.

Figure 20: South Africa manufacturing production (2016 – 2020)

The vacancy rate of all industrial segments increased in 2019 with the national industrial vacancy rate recorded at 5% at the end of 2019. Manufacturing properties have the lowest vacancy rate at 1.6% whilst the vacancy rate for warehouse and distribution properties are recorded at 5.1%. Due to the COVID-19 pandemic it is expected that more tenants will move towards smaller box sizes due to challenging and uncertain macroeconomic forecasts. (Industrial Vacancy Report, 2020, p. 2). Additionally, prime industrial rentals declined, and it is expected that the more affordable industrial properties will perform better (Propertywheel, 2020).

Based on the current market performance it is expected that the industrial sector will perform weak in the short to medium term and industrial development strategies should focus on reducing existing vacancy rates rather than greenfield developments.

4 Strategic issues

In the preceding section of the report, overarching developmental trends and issues that have an impact on urban spatial form were described. In this section of the report, the more overarching and strategic aspects to spatial development are discussed in relation to their role that they play in the implementation of the SDF.

4.1 Rethinking urban practices

If a systems approach to development is adopted, it is accepted that development will not occur in isolation but will be contingent on many interdependent aspects. We therefore need to reassess our current urban practices so that we can adapt or enhance them to meet the SPLUMA objectives of spatial transformation.

4.1.1 GEVDI

Because of the government's policy of liberalisation and its encouragement of private-sector participation, government-sector entities have begun to create special-purpose vehicles (SPVs) for specific projects. An SPV is a that is responsible for planning, approving, implementing, and monitoring projects undertaken.

Like an SPV, GEVDI is a fixed focused approach formed for a special purpose. It was constituted and established to resemble the character and traits of an SPV, although it does not have the same legal standing and status. At the time of its establishment, considering the developmental curve of Edendale, it was considered most effective to retain and hold GEVDI as an internal municipal function. In this case, GEVDI functions as a sub-business unit within a municipal structure, where its composite function is cross-cutting and unique.

Its position allows it to command access to municipal resources and to channel and direct social capital investment into the Edendale and Vulindlela areas. Accordingly, it is responsible for using public reserves to leverage private-sector investment or creating a climate conducive to development within a clearly defined inclusive and integrated development agenda. The nature of its agenda and consequent urban practice (urbanism and place-making) and its way of functioning (as a system and a form of governance) demystify its definition and inner workings.

Moreover, GEVDI recognises the important role that fixed investment in general and public investment in particular play in achieving a sustainable city, where public-sector capital formation is an important contributor towards aggregate fixed investment and where there is a need to make choices about where to invest scarce resources in order to maximise the social and economic returns on investment.

GEVDI and the introduction of the Intergovernmental Strategic Committee call for a significant reorientation in approach in existing legislative parameters to public policy, development planning, and management within a context of new and emerging sets of realities, expectations, norms, values, and organisational practices, all of which describe the local "institutional culture" of significance to GEVDI and the post-apartheid transformation of Edendale–Vulindlela and Msunduzi. With the aforementioned in mind, GEVDI progressively seeks to refine its approach to incorporate area-specific issues, identify localised development opportunities, refocus its development programs, and advance a coherent land use management scheme.

The SDF recognises the success of GEVDI as a special-purpose delivery mechanism and an innovate urban practice that has enabled implementation.

4.2 Intergovernmental coordination, partnerships, and leveraging

To achieve the objectives set out in SPLUMA, an SDF must provide an integrated spatial direction for municipalities that is outcomes-led and makes explicit connections with budget prioritisation and implementation. An SDF must synthesise what is required to connect the investments of sectors (public and private) in space (who should invest where, and why) to achieve spatial transformation and inclusive growth. This requires joined-up thinking and genuine intergovernmental coordination. It is in this context that opportunities can be created for integrated solutions. Based on an outcomes-based approach, an SDF should demonstrate the spatial implications of divergent objectives and unintended impacts of one sector on another and highlight the catalytic potential of spatially coordinated efforts. It is widely accepted that a lack of coordination causes one sector's policies, funding regimes, and practices to exacerbate affordability challenges for other sectors (e.g. housing projects may burden municipal infrastructure or public transport viability). While an SDF cannot address the institutional, political, and resourcing aspects that underlie these practices, it must reflect on the spatial consequences of these aspects and frame an appropriate spatial response.

To be effective and transformative, an SDF needs to connect with all stakeholders investing and planning in municipal space and establish the spatial platform for integration and collaboration across spheres and departments. This need for intergovernmental coordination in planning, budgeting, and reporting has been identified as one of the most important benefits of the SDF process.

SPLUMA and the 2014 SDF Guidelines require that municipalities incorporate the plans and projects of all spheres of government into their SDFs. This typically requires municipalities to negotiate and confront the divergent and sometimes conflicting logics that propel various stakeholders at times.

All stakeholders operating within municipal boundaries need to be reminded that the constitutional mandate for spatial planning and land use management lies with municipalities. Municipalities should not have to solicit cooperation from these agencies, but instead, all sectors, spheres, and agencies planning, budgeting, and implementing projects should be required to report to, and obtain approval from, municipal authorities before funds are allocated to them.

4.2.1 Fiscal impact of development

The disconnect between SDF proposals and the fiscal and institutional capacity of the state is one of the central weakness of spatial planning and often the reason that such proposals remain paper products with little or no impact on investment decisions made by the state and private sector.

One element of the implementation of the Integrated Urban Development Framework (IUDF) is the introduction of a consolidated infrastructure grant and all 39 intermediate city municipalities are eligible for the grant from 2019/20. Section 21 of SPLUMA introduced the concept of a capital expenditure framework (CEF), which was described merely as the spatial depiction of a municipality's development programmes. With the establishment of the IUDF, the Department of Cooperative Governance issued a guide to preparing a CEF.

Most notably, the IUDG and the CEF guidelines move towards a programmatic approach, using the CEF as a basis for monitoring the IUDG. The key intentions for the CEF are therefore to:

- ensure that priorities identified in the SDF are translated into capital programmes
- promote long-term infrastructure planning for all infrastructure the municipality is responsible for that requires municipal funding
- promote infrastructure planning that is better integrated across sectors and spheres and within space
- promote a more integrated approach to planning within municipalities that brings together technical, financial, and planning expertise.

While the spatial proposal in an SDF must be ambitious in its objectives if the goals set out in SPLUMA are to be achieved, the implementation framework needs to recognise fiscal constraints and implementation capacities, and accommodate more strategic, inclusive, and incremental approaches to achieving these outcomes. Whether large-scale and catalytic, or strategic and incremental, the long-term financial impact of spatial proposals must be fully understood.

4.2.2 Rural development and land reform

The development of rural land is a vital matter that requires urgent and focused intervention in the SDF. The majority of land that lies outside the urban edge is owned by the Ingonyama Trust Board. The beneficiary traditional councils are responsible for land allocation procedures (which include long-term commercial leases), while the Msunduzi Municipality is responsible for the management of land use (through adopting land use schemes) and for the coherence of the urban environment. This division of authority in respect of allocation and land management has exacerbated the inappropriate expansion of development.

The Municipality adopted land use schemes (LUSs) for Msunduzi and Ashburton on 20 June 2018 and 4 October 2018 respectively in terms of SPLUMA, read together with Section 43 of the Msunduzi Municipality Spatial Planning and Land Use Management By-law, 2016. The Msunduzi LUS, 2018, includes the areas of Pietermaritzburg, Greater Edendale, and Sobantu, whilst the Ashburton LUS, 2018, includes Ashburton only. On 30 January 2019, the municipality adopted the “Land Use Management Policy for the areas outside the scheme”. This policy is an interim measure to deal with land use management in areas not currently covered by any land use scheme. The policy is aimed at encouraging sustainable development and redressing the socio-economic imbalances of the past and is considered a definite approach to beginning to introduce a land use management scheme (LUMS) until a wall-to-wall LUS can be adopted.

There are significant challenging practical implications when introducing one overarching LUMS in an administrative jurisdiction that suffers from the high degree of spatial inequality and disparity found in Msunduzi. This is not a simple matter, particularly when there is little correlation between the scheme and practical realities on the ground. In an effort to acknowledge traditional authority and any associated customary systems of land allocation, SPLUMA includes provisions in its regulations to give traditional authorities the choice to continue allocating land in the areas that they govern. This provision is meant to facilitate a collaborative relationship between traditional leaders and municipalities.

To respond to the challenges presented by inappropriate land development, and to fast-track land reform, GEVDI was established with the purpose to secure and advance the development of an inclusive, liveable, productive, and sustainable Edendale–Vulindlela complex as both an integral and an integrated component of the Msunduzi Municipality and the city landscape. As a kind of SPV, GEVDI has made large strides towards improving Msunduzi’s advancement of rural development and land reform.

4.2.3 District Development Model

In his 2019 Presidency Budget Speech (2019), the President identified the “pattern of operating in silos” as a challenge that has led to a “lack of coherence in planning, budgeting and implementation and has made monitoring and oversight of government programmes difficult”. Consequences of these challenges are the inefficient delivery of services and a reduced impact on poverty, inequality, and employment.

In response, Cabinet approved and adopted the District Development Model (DDM) on 21 August 2019. According to the President, the DDM will serve as a unique form of social compacting that involves all key players in every district and metro space to unlock development and economic opportunities. It builds on the White Paper on Local Government (1998), which identifies the role of local government as critical in “rebuilding local communities and

environments as the basis for a democratic, integrated, prosperous and truly no-racial society".

The objectives set out in the DDM are to improve cross-boundary infrastructure planning, ensure the better integration of a wider network of human settlements, and support the sharing of economic assets to secure economies of scale.

The DDM also uses and enhances the Intergovernmental Relations Framework Act (Act 13 of 2005) by facilitating joint planning, budgeting, implementation, monitoring, and evaluation between and amongst all spheres of government. To this end, the successful functioning of local government is critical to the DDM but insufficient on its own without more cohesive governance and overall government coordination and functioning. The DMM is aimed at enhancing state capacity and institutional powers and functions, including the ability to work cooperatively so that there is greater cohesion and positive development impact.

In giving effect to the vision of a joined-up government that positively impacts lives at local level, the DDM is premised on institutionalising a programmatic approach to intergovernmental relations (IGR). It has four key strategic objectives:

- to improve integrated planning across government through the formulation and implementation of single joined-up plans for 52 IGR impact zones
- to enable streamlined and effective local government capacity-building by consolidating and strategically coordinating capacity-building initiatives and programmes at district level
- to ensure that municipalities are enabled to perform their mandated functions and duties effectively and efficiently by mobilising and making available expertise, key skilled personnel, and systems that can be shared between district and local municipalities as needed
- to monitor the effectiveness of government and the spatial and developmental impact of effective government on communities in the 52 IGR impact zones.

Therefore, the DDM is expected to be a practical IGR mechanism that will enable all spheres of government to work jointly with communities and stakeholders so they can plan, budget, and implement together.

4.2.4 Disaster and risk management

After being reported in December 2019, COVID-19 expanded rapidly to a global phenomenon, impacting countries around the world. The World Health Organization (WHO) declared it a pandemic on 11 March 2020, and the South African government declared a national state of disaster on 15 March 2020. A 21-day lockdown was enforced across South Africa, starting 27 March 2020, followed by a slow easing of restrictions at rates that varied by district and metropolitan area in five stages. After the 21-day period, the country was moved to Level 5 of the lockdown for 35 days. The country was then moved in quick succession to Level 4 on 1 May 2020, Level 3 on 1 June, Level 2 on 18 August 2020, and Level 1 on 21 September 2020. The national state of disaster was extended to 15 December 2020.

The pandemic brought with it social and economic crises that required urgent intervention through emergency measures. This necessary response placed additional stress on the municipality's already strained economy and labour markets.

At a national level, the President announced an ameliorating package of R501 billion, R370 billion of which was meant to be a fiscal stimulus to mitigate the expected contraction in the economy of between 6% to 8% in this year.

At a local level, the recommended methodology for the development of the Post-Lockdown Recovery Plan was that local government should focus both internally and externally on ways to provide a streamlined, coordinated, and systemic approach and thus to ensure uninterrupted service delivery to the communities.

In keeping with the recommended methodology, the Msunduzi Economic Recovery Plan:

- proposes a range of measures to stimulate economic activity, restore investor confidence, and reduce unemployment
- addresses the urgent challenges that affect the lives of vulnerable community members
- supports a liveable, safe, and resource-efficient city that is socially integrated, economically inclusive, and globally competitive, and where residents can actively participate in urban life.

In this plan, the municipality has revised its approach to local economy by adopting two distinct plans:

- a 12-month economic recovery plan
- a 5-year plan.

As part of the 12-month plan, the Municipality will ensure its financial sustainability while investing in the joint economic future. The 5-year plan will be focused on reviewing and implementing the Msunduzi City Development Strategy. Due to the immense impact that COVID-19 will have on society and business, it is necessary to review the City Development Strategy.

In its response plan, the Msunduzi Municipality focused on the rural, township, and informal economy, taking into account that this economy is the cornerstone of the survival of the people living in the rural areas and the townships. The Municipality is attempting to create a more holistic integrated and inclusive development framework for the post-apartheid reintegration and development of the region. This will be done by creating an extra-ordinary environment for construction and infrastructure development. The Municipality aims to achieve this by:

- waiving all development application fees until 30 June 2021
- developing a bold investment incentive scheme to be brought to Council
- reducing time taken to release strategic land and time taken to process catalytic projects, focusing on high-impact projects
- accelerating the implementation of government projects
- mandating the Sustainable Development and City Entities Portfolio Committee to convene webinars with developers to provide information and support as part of a series of webinars organised by the Municipality
- identifying projects that need to move to construction within 10 months

- prioritising and supporting high-impact development in line with the recovery plan through an expedited measure to grant land use rights and municipal infrastructure provision

The Economic Recovery Plan provides a renewed focus on decisive interventions to ensure accelerated and shared economic growth, poverty alleviation, improved service delivery, and the eradication of historical inequalities such as spatial inequalities. It also stimulates public interest in, and action towards, agreed future outcomes, including a platform for development dialogue.

In setting out the objectives for Msunduzi's economic recovery, the plan has clear implications for the SDF:

- Call for a clear, shared spatial vision
- Urgency to put frameworks in place to respond appropriately and mitigate socio-economic effects as far as possible
- Policy and Structural transformation: for Msunduzi this means changes in the economy that will generate higher productivity
- Determined action is required to reverse the deterioration of the public finances by narrowing the budget deficit, containing debt and growing the economy faster and in a sustainable manner. Municipalities to exercise caution when they prepare their 2020/21 MTREF budgets to ensure synergy with national economic and fiscal prudency.
- Focusing on releasing strategic land that will result in high impact projects and development.
- Focus on Access to core services
- focus on improving access to affordable housing and public space like upgrading more informal settlements in place.
- Integrated Green and Blue spaces: planning should bring open spaces, watersheds, forests and parks into the heart of how we think about and plan our cities.
- Increased regional planning.
- More City-Level, Granular Data: To help cities harness the power of big data – in response to this crisis but also other long-term sustainability and equity challenges

4.2.5 Cross-border alignment

Each municipality has its own individual role to play within the broader regional context, however, it still needs to function and contribute towards coherent and cohesive regional development. Municipalities are dependent on one another and should co-operate to establish a consistent approach to key elements to ensure that their systems' functionality is maintained and managed sustainably and is resilient. There is an increasing focus for municipalities to understand the implications that development within their boundaries will have from a broader context.

From this perspective, the spatial considerations contained in the SDFs of neighbouring municipalities will not only inform, but also impact on the Msunduzi Municipality's SDF proposals, particularly with regards to:

- maintaining and managing the integrity of linear green or open spaces
- understanding the regional settlement hierarchy and positioning of major nodes and their sustainable growth in relation to one another
- managing alien invasive species to reduce the risk and spreading of fires and to enhance water supply as a shared resource
- managing disasters and risks to the environment
- managing land use
- protecting and aligning cultural, tourism, and scenic landscapes, routes, and passes
- protecting cultures and values across borders
- enabling trade linkages, especially along the N3, to ensure the cross-border movement of goods and people
- cooperating with other municipalities to ensure good service delivery (e.g. joint fire and emergency responses in outlying areas, and agricultural benefits and programmes)

- sharing access to social and community facilities, especially in outlying areas
- protecting raw resources (water, minerals, etc.).

4.2.5.1 Mkhambathini Municipal SDF (2019)

The Mkhambathini Municipality borders the Msunduzi Municipality in the east. The N3 connects Pietermaritzburg with Camperdown and thus offers major development opportunities for the Msunduzi and Mkhambathini municipalities. The proposed Umlaas interchange will have a positive effect on development along the R338, drawing traffic off the N3 to serve other areas of these municipalities, and possibly resulting in investment opportunities. The area that lies east of the N3 is categorised as a CBA area as well as scattered protected areas and there should be alignment in the Msunduzi SDF in order to protect the sensitive environment.

The Msunduzi Municipality offers a much wider range of commercial, social, and professional services than the neighbouring area of Mkhambathini, which relies on job opportunities the Msunduzi Municipality provides. Co-operation between the Msunduzi and Mkhambathini Municipalities is required to promote the proper management of the Umlaas interchange and the Lion Park turn-off to ensure that economic opportunities benefit both municipalities.

Manderston is earmarked as a satellite or incipient municipal development node and lies within close proximity to the Msunduzi Municipality. Alignment between the municipalities should take place and, where possible, Manderston should provide social, civic, and commercial activities to Msunduzi's outlying areas.

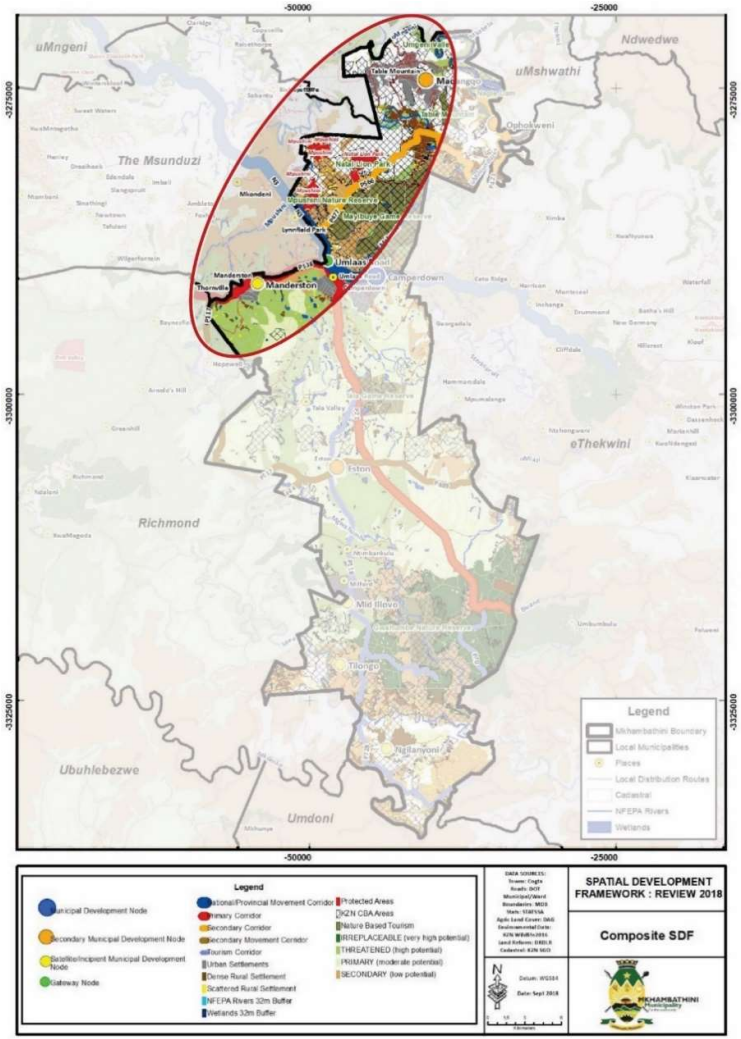


Figure 21: Mkhambathini Composite SDF (2018)

(Adapted from: (Mkhambathini Municipality, 2019, p. 85)

4.2.5.2 Richmond Municipal SDF (2016)

The Richmond Municipality borders the Msunduzi Municipality in the south. Thornville is located along the border between the Msunduzi and Richmond municipalities and is earmarked as a community development node. The R56 connects Thornville and Pietermaritzburg and is earmarked as a primary corridor. The Richmond Municipal SDF indicates that this is an area of opportunity for agri-business or commercial uses.

The SDF indicates a tertiary corridor west of Sevontein, which connects Richmond with the Msunduzi Municipality. The area around Sevontein is earmarked as a tertiary development area and alignment between the municipalities is required to unlock the full potential as envisioned in the SDF. Furthermore, the area between the Msunduzi and Richmond municipal borders is predominantly agricultural, with some heritage assets and CBA areas scattered throughout.

The SDF of the abutting Richmond Municipality presents the area as a secondary node, and this facilitates a potential wall-to-wall land use designation.

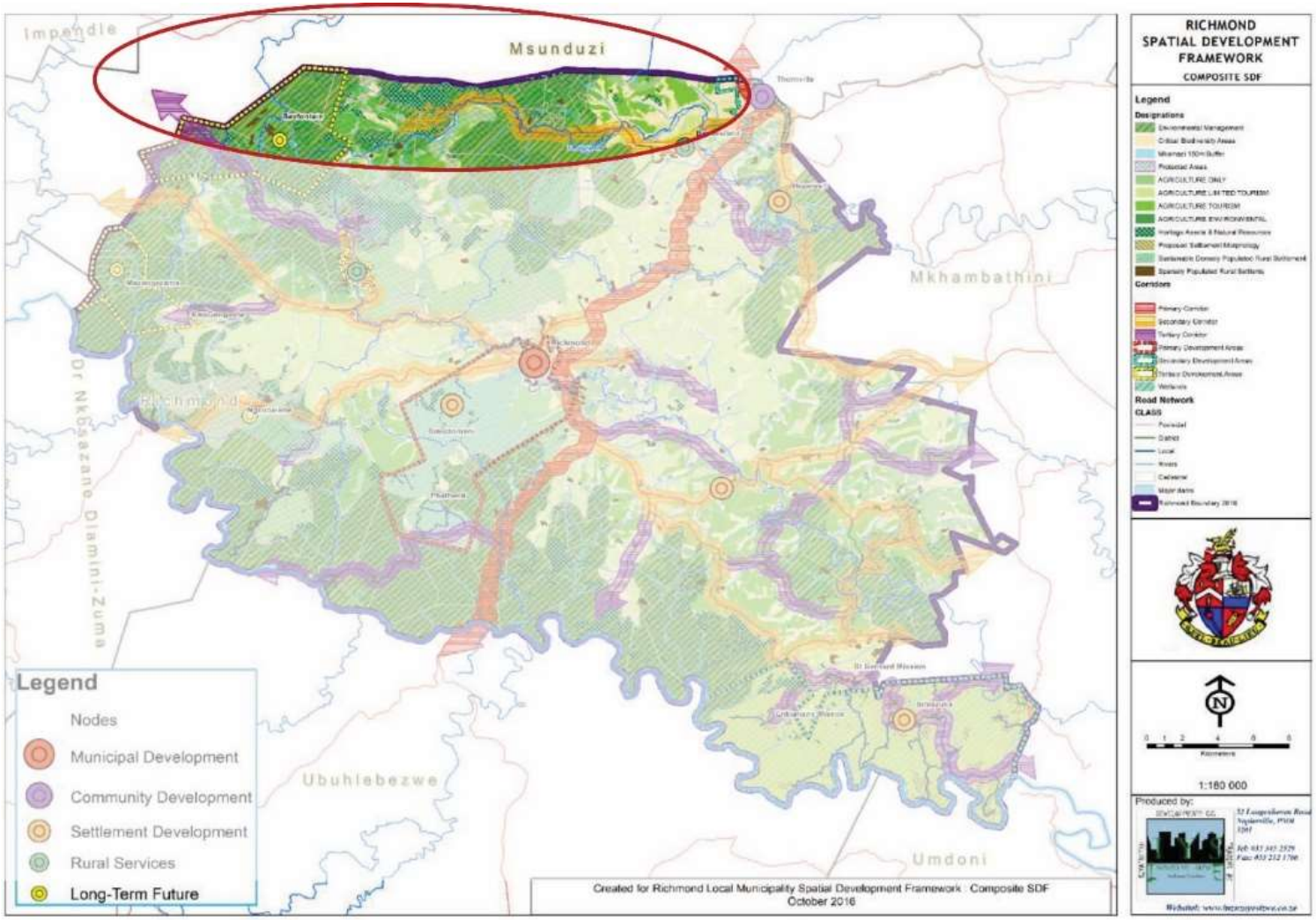


Figure 22: Richmond Composite SDF (2016)

(Adapted from: (Richmond Municipality, 2019, p. 30)

4.2.5.3 Impendle Municipal Spatial Development Management Plan (2018)

The Impendle Municipality is located to the west of the Msunduzi Municipality. Impendle is the main urban development node within the municipality which is connected to Msunduzi Municipality via the R617. The R617 is classified in the Impendle Municipal SDF as a regional access corridor. This road and its role as a regional corridor plays a critical function from Msunduzi's perspective as it is the only linkage between Ward 39 and the rest of Msunduzi Municipality. The implication of Ward 39 having only one access point to the main economic nodes of the Msunduzi Municipality is that strong alignment must be fostered to with Impendle Muncipality to avoid any further isolation of Ward 39.

Impendle has also indicated that money flows out of the municipality, towards and into Msunduzi Municipality. The implication is to anticipate not only economic flows, but also in-migration of people from Impendle to Msunduzi looking for economic opportunities.

4.2.5.4 uMngeni Municipality

The uMngeni Municipality is located to the north of the Msunduzi Municipality. Within the Municipality, Howick has been identified as a primary node and is connected to Musunduzi Municipality via the N3. The N3 has been identified as a provincial corridor. Furthermore, the R617, which is located along the northern border of the Msunduzi Municipality, is classified as a primary corridor that carries regional importance. .

The uMngeni Municipality's interface with the Msunduzi Municipality can be considered in an urban linkage along the N3, the Old Howick Road, and the Sweetwaters area. There is a proposed commercial node at the Msunduzi–Sweetwaters intersection (along Dennis Shepstone Drive). It is anticipated that the traffic from Edendale to Hilton and Howick will increase dramatically due to this proposal.

Traditional areas in the Vulindlela area, to the south-east of the uMngeni Municipality, have strong linkages with Mpophomeni. There are rural linkages into the Claridge area. The evidence of urban settlement along the southern boundary of the uMngeni Municipality thus reflects the possibility that rural residents who reside in the northern region of the Msunduzi Municipality are dependent on the services provided in the nearby urban settlements of the uMngeni Municipality. The existing urban areas are located along the main routes and the areas towards the outlying areas are predominantly agricultural with some eco-tourism that takes place.

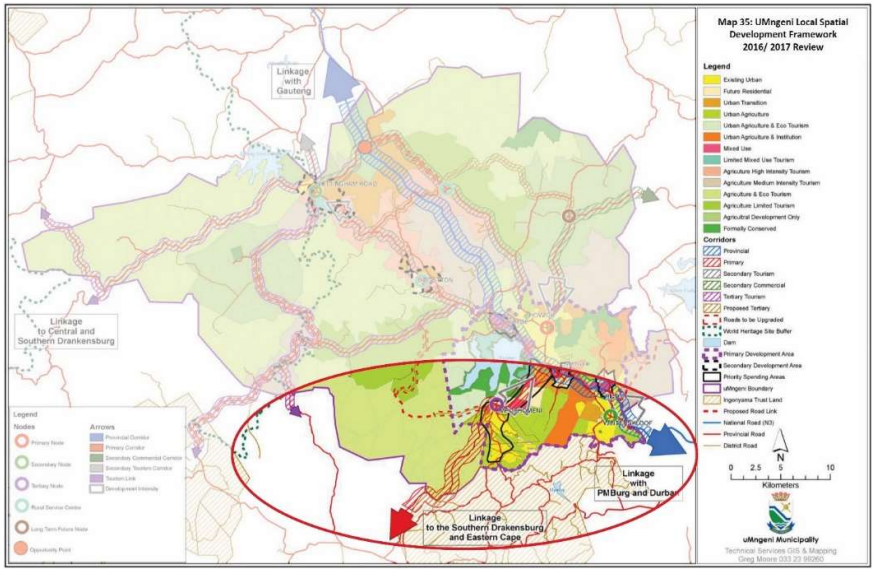


Figure 23: uMngeni Local Spatial Development Framework SDF (2016/2017 Review)

(Adapted from (uMngeni Municipality, 2016, p. 110)*)*

4.2.5.5 uMshwathi Municipality

The uMshwathi Municipality is located towards the north of the Msunduzi Municipality. Two primary service nodes have been identified in the uMshwathi Municipality. These nodes are connected to the Msunduzi Municipality via the R614 and the R33. The R33 is classified as a primary corridor and the R614 as a secondary corridor.

The consideration for cross border alignment with the uMngeni Municipality is focused primarily on the Albert Falls area. The location of the Albert Falls Dam node (AFD) is located in the south-western part of the uMshwathi Municipality and is bordered by the uMngeni Municipality to the west and the Msunduzi Municipality to the south. To strengthen this link, the District SDF proposes a tourism link road upgrade along the P9.

It is important to note that a portion of land south-west of the Albert Falls Dam is located within the uMngeni Municipality. This area was included because it forms the immediate catchment for the Albert Falls Dam, and the dam is recognised as a strategic asset to the uMshwathi Municipality and to the uMngeni Municipality in terms of its value for tourism and recreation and to the province in terms of its role as a water storage facility. Alignment of development initiatives in the interface area will be critical for the sustainable development of the area.

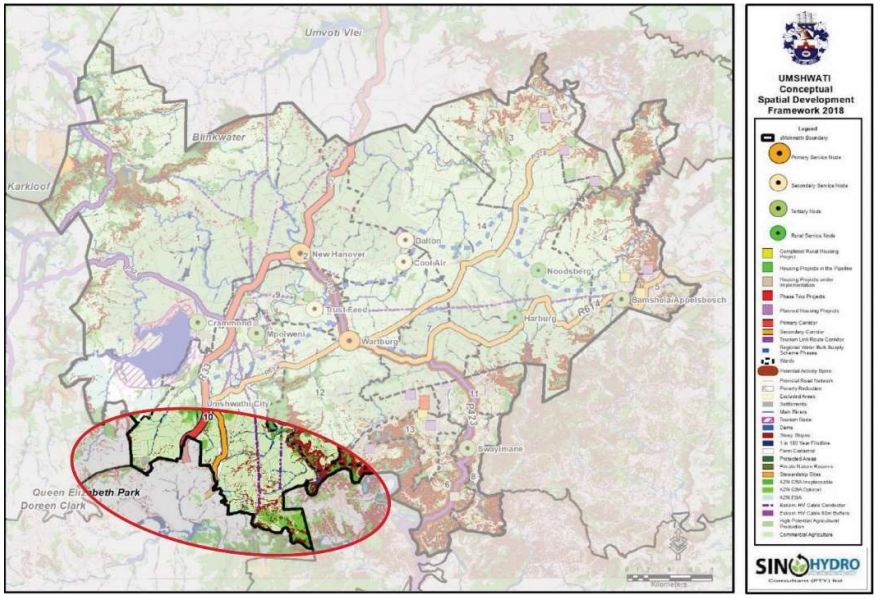


Figure 24: uMshwathi Conceptual Spatial Development Framework (2018)

(Adapted from: (uMshwathi Municipality, 2020, p. 271)*)*

4.2.5.6 Dr Nkosazana Dlamini-Zuma Municipality

The area between the Msunduzi Municipality and the Dr Nkosazana Dlamini-Zuma Municipality is predominantly agricultural. Whilst settlements exist up to the furthermost extents of Vulindlela, large ridges fragment the villages from the agriculturally dominated land uses surrounding them in the adjoining municipality.

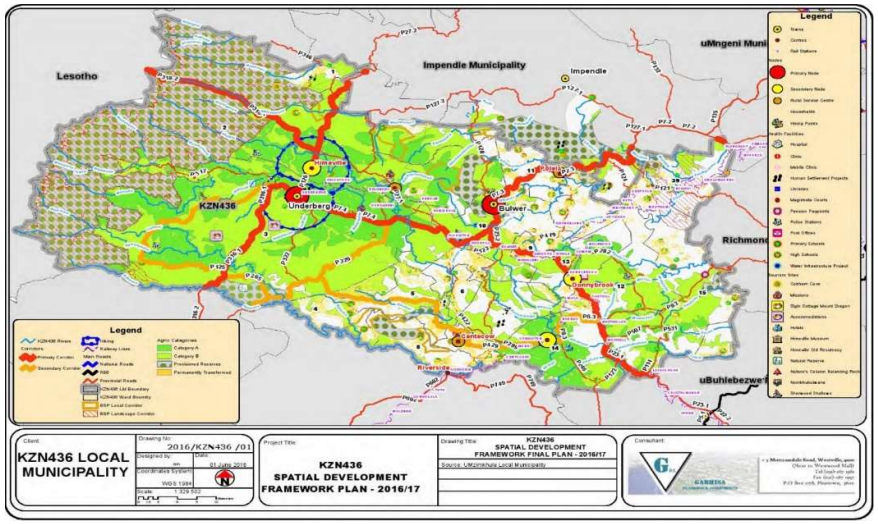


Figure 25: Dr Nkosazana Dlamini-Zuma Municipal Spatial Development Framework Plan 2016/17

(Dr. Nkosazana Dlamini-Zuma Municipality, 2020, p. 375)

4.2.5.7 Alignments with Msunduzi Municipality

The implications of the surrounding SDFs and their proposals are demonstrated conceptually in Figure 26.

More specifically, Table 12 illustrates alignments and misalignments between the Msunduzi Municipality's SDF of 2015 and the SDFs of the surrounding municipalities.

Table 12: Alignments with Msunduzi Municipality

Alignment	Misalignment
Protected agricultural land along the eastern boundary	Amendment of the corridor categorisation
Agricultural land along the outlying areas	Environmental management along the southern boundary
	Expansion of residential areas from Taylor's Halt and Nkabini southward to connect with the development areas

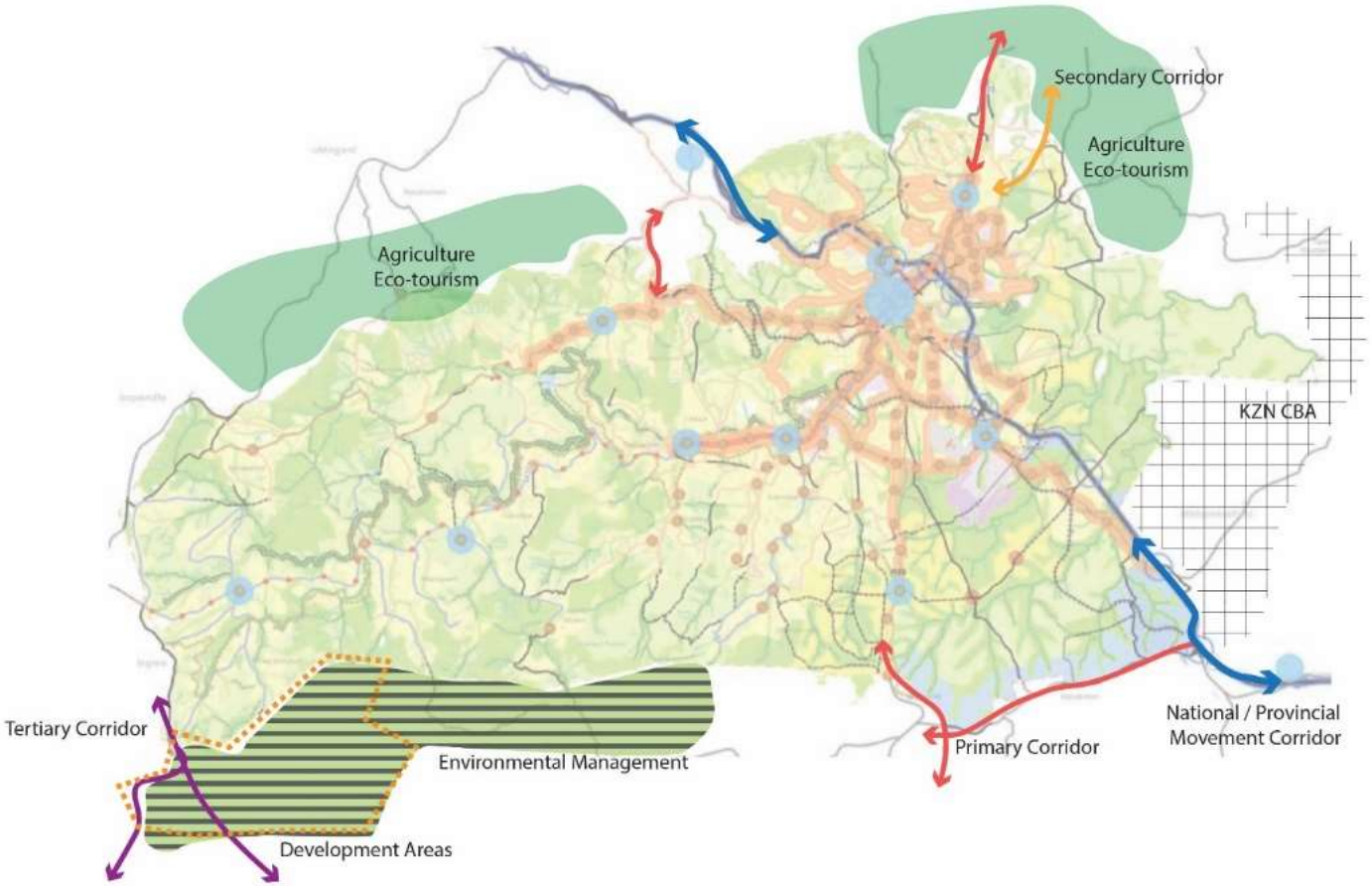


Figure 26: Municipal alignment

5 Spatial vision

5.1 Vision directives

The SDF is not a document that stands in isolation. It should consider the objectives of national, regional and local visions and translate them into a spatial strategy for Msunduzi Municipality. The vision and principles of the Msunduzi Municipality should not only embrace the development principles of SPLUMA but also promote a future-oriented approach to planning and service delivery in order to realise its vision of becoming a "City of Choice, Second to None".

This section of the report highlights the key policy directives that have informed the vision of the SDF.

5.1.1 SPLUMA principles

SPLUMA reinforces and unifies the National Development Plan's vision and policies in respect of using spatial planning to create conditions that are conducive to promoting social and spatial cohesion and reducing poverty and inequality. SPLUMA has set out normative principles that are intended to guide all land development, planning, and decision-making to ensure that it is coherent. The formulation of this SDF is therefore guided by these normative principles (Table 13).

Table 13: SPLUMA development principles (adapted from SPLUMA, 2013)

SPLUMA principle	Description
Spatial justice	Past spatial and other development imbalances must be redressed through improved access to, and the use of, land by previously disadvantaged communities and individuals.
Spatial sustainability	Spatial planning and land use management systems must promote the principles of socio-economic and environmental sustainability.
Efficiency	Land development must optimise the use of existing resources and the accompanying infrastructure, while development application processes and timeframes must be efficient and streamlined in order to promote growth and employment.
Spatial resilience	Sustainable livelihoods must be ensured in communities that are likely to suffer the impacts of economic and environmental shocks.
Good administration	All spheres of government must ensure an integrated approach to land development and all departments must provide their sector inputs and must comply when preparing or amending SDFs.

5.1.2 IDP 2020/21

With the introduction of SPLUMA, the relationship between an SDF and the IDP has been redefined. The SDF is no longer just a spatail articulation of the IDP. The expectation is that the SDF now guides (from an evidence and spatial targeting based approach) what the long term vision of a municipality should be and that the IDP then becomes a five year implementation plan of the SDF to mobilise financial and human resources. Msunduzi Municipality's IDP is still considered to be the document that gives direction to the municipality. It is therefore imperative to consider the vision and outcomes of the IDP to ensure alignment, where appropriate.

The IDP has outlined a strategic approach that will help determine the direction in which the Municipality is moving. In assessing the status quo and performance of the municipality, the IDP has identified key issues in the following areas:

- basic service delivery
- local economic development
- municipal transformation and institutional development
- good governance
- financial viability and management
- cross-cutting interventions.

In addressing these challenges, the vision set out in Msunduzi's IDP is to "**develop a safe, vibrant city in which to live, learn, raise a family, work, play and do business"**. To achieve this vision, the IDP sets out six strategic city-wide outcomes that the Msunduzi Municipality should deliver. These outcomes are shown in Table 14.

Table 14: IDP's six strategic city-wide outcomes for Msunduzi Municipality

Outcomes	Focal areas
A well-serviced city (for all citizens)	Water and sanitation service delivery Energy supply provision Implementation of waste management
An accessible, connected city	Roads construction and maintenance Transport management Human settlement development Telecommunications connectivity Social infrastructure distribution.
A clean, green city	Renewable energy supplies Public open space creation Urban renewal Greening promotion
A friendly, safe city	Social cohesion Safety and security
An economically prosperous city	Job creation
A financially viable and well-governed city	Financial viability Good governance

Further to the above, the following planning and development principles underpin the Msunduzi IDP and should inform the SDF strategies:

- A compact urban form is desirable.
- Urban sprawl should be discouraged by encouraging settlement at existing and proposed nodes and settlement corridors, whilst also promoting densification.
- Future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent to, or that link, the main growth centre.
- New development should be directed towards logical infill areas.
- Development and investment should be focused on localities of economic growth and economic potential.
- Planning and subsequent development must strive to provide the highest level of accessibility to resources, services, and opportunities.
- Basic services (water, sanitation, access, and energy) must be provided to all households.
- There must be a balance between urban and rural land development and the two should complement each other.
- Prime and unique agricultural land, the environment, and other protected lands must be protected and land must be used safely.
- If there is a need for low-income housing, it must be provided in close proximity to areas of opportunity.
- The principle of self-sufficiency must be promoted. Development must be located in a way that reduces the need to travel, especially by car, and enables people, as far as possible, to meet their needs locally.

5.1.3 City Development Strategy

Msunduzi's City Development Strategy (CDS) is developed in a complementary manner to support the IDP. It is not a comprehensive plan but is instead a selection of strategic or catalytic thrusts that are intended to address key problems and contribute towards achieving the Msunduzi Municipality's vision, as set out in the IDP. It is therefore critical that the SDF take the strategic and catalytic thrusts as proposed in the CDS in order to ensure alignment.

The CDS identifies eight strategic priorities that underpin the strategy, the first four being necessary conditions for setting the scene to create an enabling environment (priorities 1 to 4 in Figure 27). The last four levers (priorities 5 to 8) allude to conditions that are required for creating an improved environment within the Msunduzi Municipality that allows for a happier, safer, cleaner, and greener city.

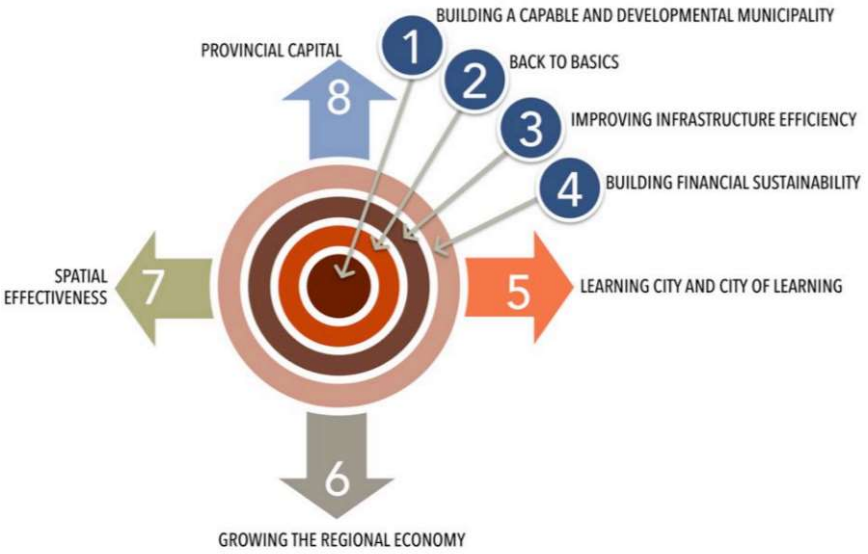


Figure 27: Overview of Msunduzi CDS Strategy

5.2 Spatial development vision

In considering the key issues and challenges faced by the Municipality it is clear that achieving spatial transformation and equality remain a key focus. However, before the Msunduzi Municipality can fully address this, there is first a need to reclaim and stabilise the City in order to address the issues of maladministration and uncontrolled land development. Once the Municipality has taken back control of the city, it can then focus on strengthening and high-performance growth. To guide this development agenda, the SDF needs a strong and clear spatial vision to steer it. The following two-part spatial vision has been formulated to support Msunduzi Municipality's spatial transformation objectives.

Figure 28: Msunduzi spatial development vision

5.2.1 Theory of change

To help the Msunduzi Municipality achieve its vision, the SDF must be underpinned by a strong and measurable change management strategy. The SDF thus proposes a theory of change that lends itself to an outcomes-led planning approach that will support spatial targeting and enable investment coordination. The SDF's theory of change is indicated in Figure 29.

To achieve its vision, the SDF will set out to firstly Reclaim the City over the short term (year 1 - 10) and thereafter Take the City Forward (year 10 - 20). These two phases will be focused over the short and long term, respectively, but will are not mutually exclusive and may also occur with some degree of overlap.

The strategic drivers for the first 10 years of the SDF, to help the Msunduzi Municipality to **Reclaim the City,** are focused on improving the **functional** governance to manage the **transformation**, **regeneration** and **restructuring** of the urban and rural areas. Once this base has been established, the long-term goal to **Take the City Forward** can be realised. The strategic drivers to support this will be focused on improving Msunduzi Municipality's **performance**, **efficiency**, **attractiveness** and **management of urban growth**. Both of these phases are underpinned by the principles of having a **people-centred** approach that supports **cohesive** urban and rural development.

In a programmatic approach, each of the strategic drivers is underpinned by proposed actions that will contribute towards achieving the vision. The actions will be translated into specific strategies at the ABM level of the SDF. The full breakdown of strategic drivers supporting the theory of change are detailed in Table 15

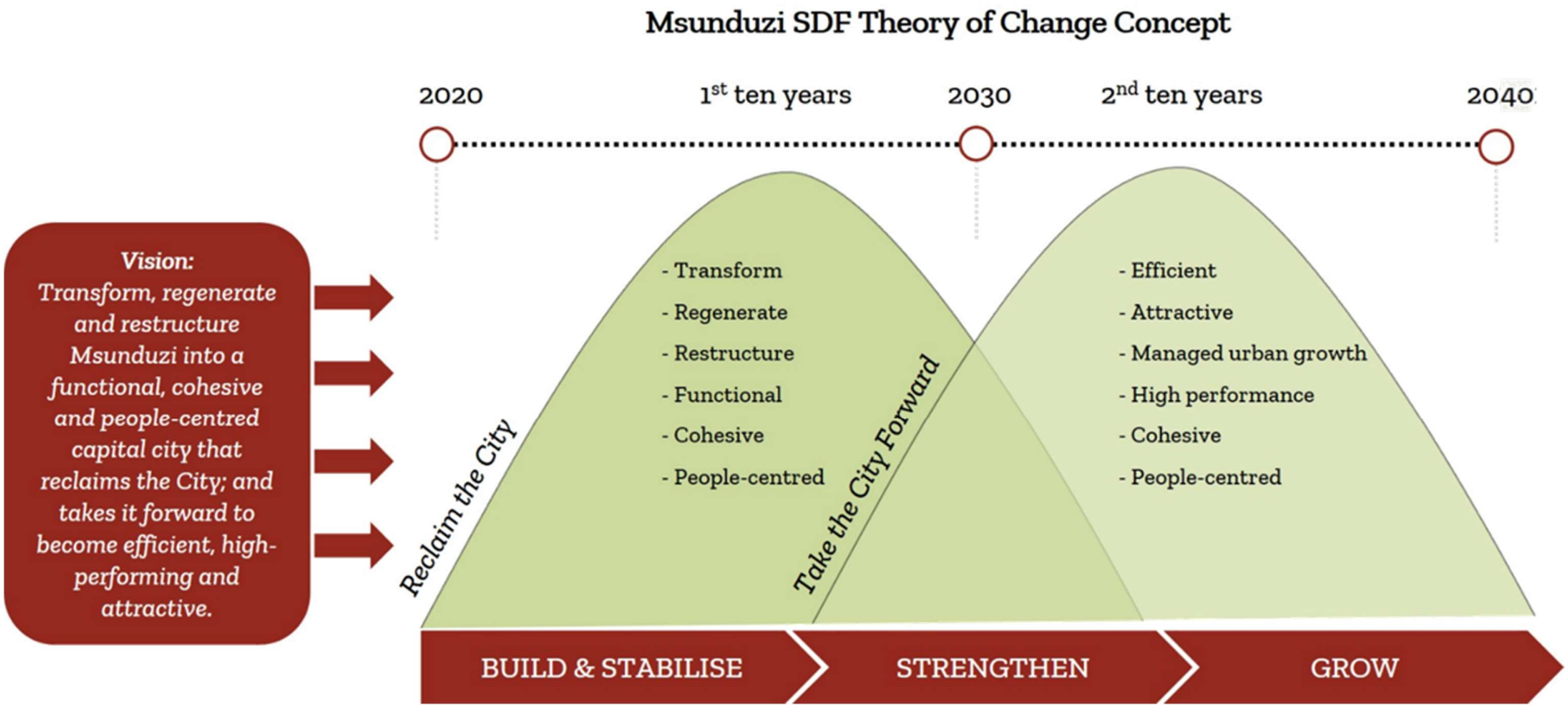


Figure 29: SDF Theory of Change

Table 15: Strategic drivers supporting the theory of change

Reclaim the City (build and strengthen)		Take the City forward (grow)	
Strategic drivers	**Action**	**Strategic drivers**	**Actions**
Transform	• Reinvent or reimagine the City, its function regionally, and the function of its nodes internally; • Uplift marginalised areas; • Effect economic growth transformation; • Reinforce Msunduzi as a dominant economic space; • Reinforce Msunduzi's capital city and government sector status; • Plan and implement with environmental sustainability and climate change in mind; • Improve the resilience of the Msunduzi Municipality and its residence.	Efficient	• Promote resource and energy efficient practices; • Encourage smart technologies and installation of ICT; • Advocate for greater financial sustainability; • Plan and implement with environmental sustainability and climate change in mind; • Consider revenue enhancement initiatives.
Regenerate	• Revitalise investor interest and confidence in the CBD; • Create more liveable environments for communities; • Create vibrant urban spaces • Encourage and support the reinvestment and maintenance of brownfields and infrastructure over greenfields; • Conserve and regenerate the municipality's cultural heritage; • Support recycling or upcycling.	Attractive	• Undertake public–private partnerships; • Improve inter-governmental relationships; • Attract CBD investment; • Secure new investment into the municipality.
Restructure	• Address spatial inequality and injustice; • Ensure a well-connected city; • Enhance regional or global connectivity; • Improve rural and urban integration; • Manage sprawl and informality; • Support growth through a compact poly-centric city model.	Managed urban growth	• Support resilient urban development; • Support densification or intensification.
Functional	• Strive towards a well-governed municipality; • Support environmentally sustainability; • Improve urban areas through quality place-making; • Consider (and improve) disaster & risk management.	High performance	• Advocate and support good governance; • Promote efficient urban management practices; • Support and enforce good administration; • Encourage transparency; • Enforce accountability; • Be uncompromising on financial viability.

Reclaim the City (build and strengthen)		Take the City forward (grow)	
Strategic drivers	**Action**	**Strategic drivers**	**Actions**
Cohesive	• Support development that enables better integrations; • Support development that is sustainable; • Support development that is resilient.	Cohesive	• Support development that enables better integrations; • Support development that is sustainable; • Support development that is resilient.
People-centred	• Create a city that is more equitable; • Improve access to jobs, social & basic services, economic opportunities; • Encourage development that is more Inclusive; • Encourage participative planning; • Adopt Community Based Action Planning.	People-centred	• Create a city that is more equitable; • Improve access to jobs, social & basic services, economic opportunities; • Encourage development that is more Inclusive; • Encourage participative planning; • Adopt Community Based Action Planning

6 Spatial structuring elements

The following section will expand on the spatial structuring elements identified to give effect to the strategic drivers which are geared toward improving Msunduzi Municipality's performance, efficiency, attractiveness and management of urban growth.

6.1 Nodes

A node is an area in which economic activities are concentrated to service the surrounding population. Urban development should, as far as possible, be clustered in and around nodes. Ideal locations for nodes are along major mobility routes, at modal interchanges and where similar activities are clustered together to provide maximum accessibility. Nodes should create areas of agglomeration advantages that are able to attract business and economic developments. Well-functioning urban nodes are vibrant areas that comprise shopping, work, social and cultural opportunities and public transport facilities in high-quality, safe public environments. Furthermore, nodes should encourage mixed-use development and high-intensity activities. Nodes are characterised or ordered based on their function and prominence and the level of activity and investment in them. This interaction and connectivity between nodes are illustrated in Figure 30.

It is imperative that the nodal designations proposed by the Msunduzi SDF be aligned with the strategic direction of the Provincial SDF (PSDF), the District SDF and other documents like the Urban Network Strategy.

The PSDF classifies Pietermaritzburg as a Level 2 node, whilst the District SDF lists it as a city node. The following hierarchy of nodes can be found in or are proposed for the Msunduzi Municipality.

6.1.1 Compact polycentric municipality

Cities and large towns are key drivers in the development of municipalities. A balanced and harmonious urban environment is created where a symbiotic relationship exists between cities and towns. These towns have a functional network and leverage from each other's economic power to create functional centres for investment and job creation. A compact polycentric model aims to increase density and promote diversity, economic opportunities and accessibility thereby reducing travel distances and associated costs.

Msunduzi Municipality is a prime example of an urban environment where the compact core (Pietermaritzburg) and its surrounding areas of economic potential (i.e. Edendale and Northern Areas) are connected via a strong public transport network. These areas should furthermore be strengthened and supported by high density residential areas and lower densities should be located further from the economic centres. Figure 30 provides and illustration of the compact polycentric model and the relationships and connectivity between the hierarchy of nodes.

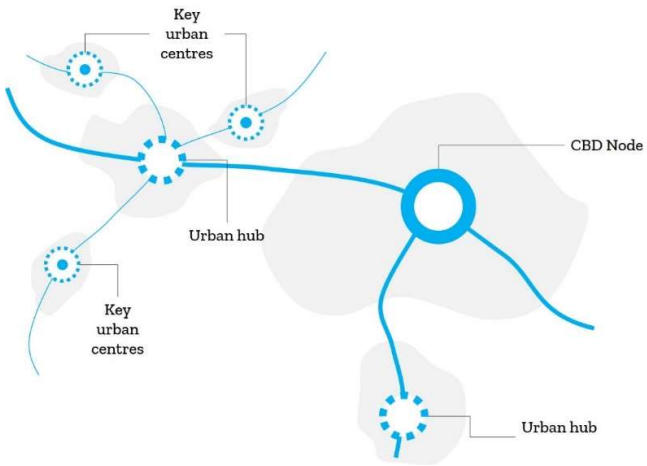


Figure 30: Hierarchy and connectivity of nodes (adapted from the Urban Network Strategy)

Nodal typology				
CBD node	**Function / Role**	This node is the economic hub and the prime location for higher order office, small retail development and where a variety of goods, services and speciality products are offered. It should be an environment that contains industry and stimulate innovation for local business development. High density and high-rise residential development should be promoted, and it should be the host for the predominant health, education and other community facilities. Public transport should be a focus within this node and offer facilities and amenities within walking distance to the public.		
	Town / Settlement	Pietermaritzburg		
Urban hub	**Function / Role**	Is a precinct within the marginalized peripheral township that is at the point of maximum connectivity, clustered around a transport hub. These are envisaged to serve as town centres to the townships in which they are located.		
	Town / Settlement	Edendale; and Northdale		
Key urban centres	**Function / Role**	A strong linkage should exist between the key urban centres and the urban hub and the CBD node. This node should offer strong economic base for industry and serve the neighbouring suburbs as well. It should contain a high-level of community facilities which are accessibly by public transport facilities. High density residential development should be promoted.		
	Town / Settlement	Liberty Mall/Chatterton Rd Athlone Circle Government precinct	Scottsville Hayfields	Umlaas Rd Airport/Hilcove/Market Rd

Urban centres	**Function / Role**	Urban centres provide services at a more local level. Small business opportunities for local entrepreneurs should be encouraged. Strong public transport linkages should connect the urban centres to the key urban centres.		
	Town / Settlement	Quarry/Copesville	Dumbuza	Brewery
		Ezinketheni	George Town	Willow
		Northway mall	Quarry node	Taylor's Halt
		Southgate mall	Thwala Rd	Sweet Waters
		Ibhubesi/Lynnfield Park	Sinathingi	KwaMncane
		Ambleton/France	Unit H	Ncwadi
		Archie Gumede	Machibisa	Grimthorpe
		Mayors Walk	Caluza	FJ Sitole
Peri-urban service centre	**Function / Role**	The urban centres are characterised by urban areas with a rural character and as such provide basic services and community facilities to the local community. Facilities should be within walking distance.		
	Town / Settlement	R56/Thornville Gezubuso KwaDlozi KwaMpande KaNzakane		

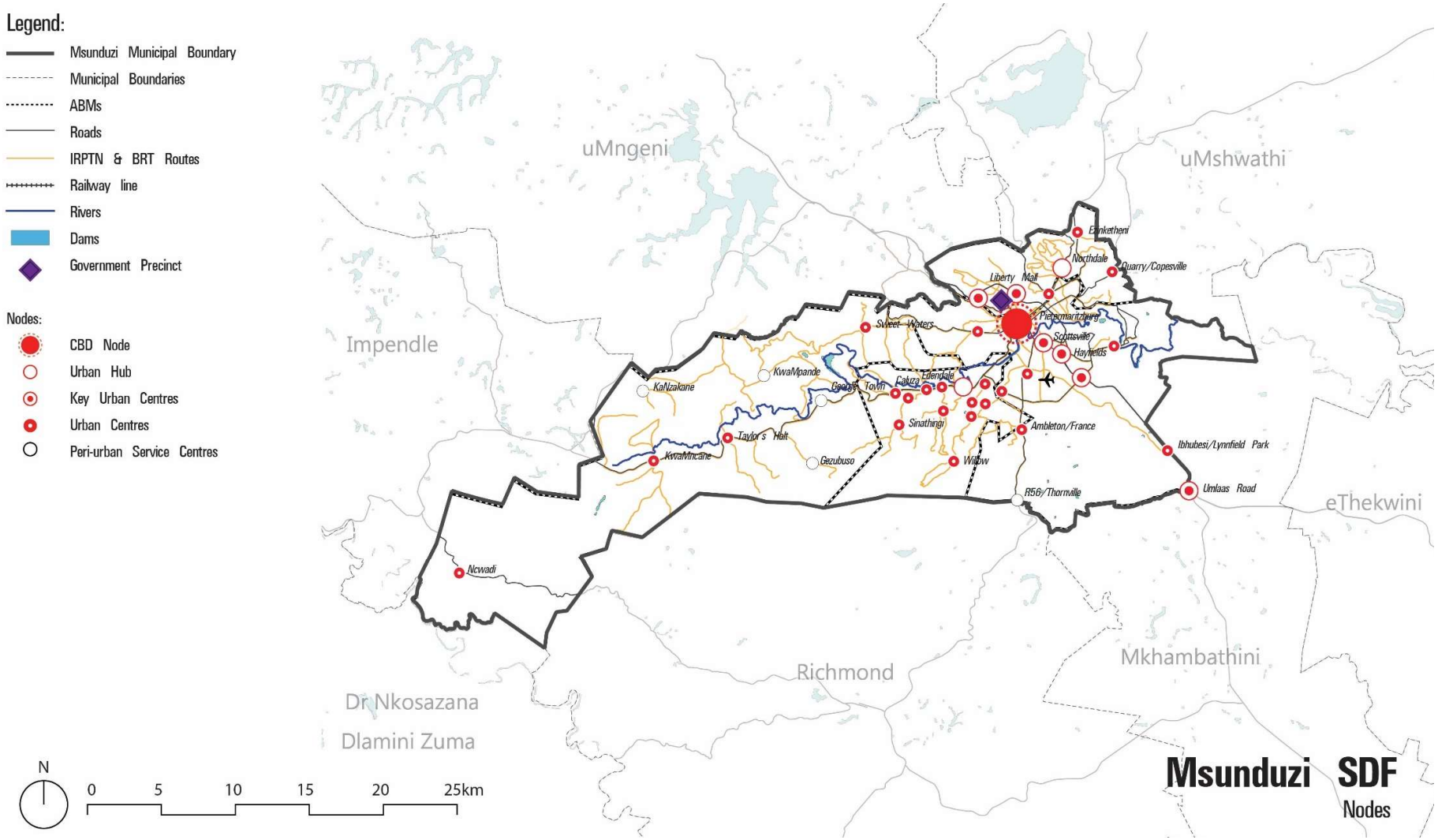


Figure 31: Nodes

6.2 Corridors

Higher-order nodes are generally connected via corridors. Corridors facilitate the ease of movement of people, goods, and services between nodes. Main corridors should act as a conduit for public transport (IRPTN), with public transport facilities along the corridor to connect the various urban areas. Higher-order corridors often cross municipal boundaries and therefore require joint planning to enable the effective allocation of budget and expenditure to create a positive development impact and cohesive urban environment. Furthermore, corridors are characterised or ordered based on their function within the urban environment.

Just like nodes, corridors should be aligned with the strategic direction of the PSDF and the District SDF. The PSDF identified the following corridors:

- The N3 is classified as a primary corridor with national importance.
- The R33 and the R56 between New Hanover and Richmond are classified as regional corridors.
- The R617, the road connecting Pietermaritzburg and Impendle is classified as a regional corridor.

The District SDF identifies the N3 Corridor, a Tourism Corridor and an Alternative Development Corridor within Msunduzi Municipality.

In considering the PSDF, the District SDF, the surrounding municipality's SDF proposals and the findings from the Status Quo, five corridors have been identified within Msunduzi Municipality.

Corridor typology	Function / Role	Identified Corridor
Primary Corridor	The main function of the primary corridor is to serve as a long-distance movement system for the transportation of goods and services between the port of Durban and Gauteng.	N3
Regional Corridor	Regional corridors connect Msunduzi Municipality with the surrounding municipalities. • These routes promote development into areas that exhibit strong growth potential and offer attractive conditions for public–private partnerships.	Edendale Road (M70), Richmond Road (R56) and New Greytown Road (R33).
Environmental Corridor	• Vast tracts of environmentally sensitive areas are located near Ncwadi. For this reason, an environmental corridor has been identified along which these environmental sensitivities should be protected through targeted interventions.	P121; and P8-2.
Alternative Development Corridor	• Unregulated development along Msunduzi's central northern boundary has become seamless with development in the surrounding municipalities. The socio-economic movement of people, goods and services has caused this corridor to be identified as an area for priority investment in order to catalyse economic growth and development.	P334, Edendale Road M70, R617, D174, D16 and D156.
Tourism Corridor	A tourism corridor connects the culturally significant places in Pietermaritzburg with those in uMngeni. This corridor, one of the routes making up of the Midlands Meander, connects regional tourist attractions such as trails, scenic routes, and historical sites.	Old Howick Road R103, Dennis Shepstone Drive M80, District Drive P367 and Zeederberg Road R617

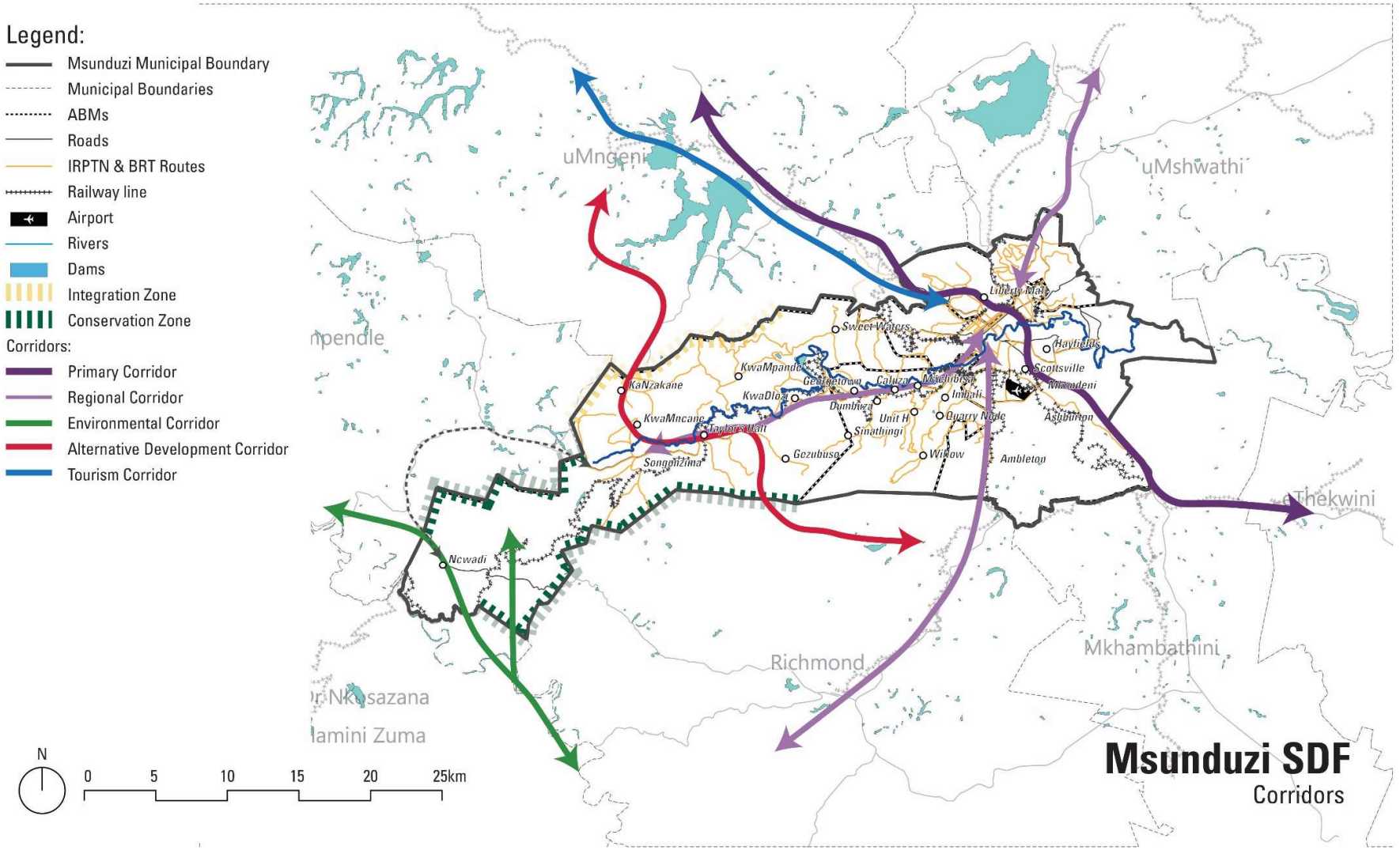


Figure 32: Corridors

6.3 Surfaces

Surfaces refer to the natural open spaces and include mountains and ridges, rivers and dams, environmentally sensitive areas, and nature reserves. These surfaces play a critical role in the ecological functioning of the municipality's biodiversity and should therefore be protected against intrusive, irresponsible, and ad hoc development. These surfaces furthermore play a critical role in the local economy (important to industry, food security, water provision for human consumption, etc.)

The conversion of the natural open spaces for residential and economic activities should be limited and strategies like high density development should rather be promoted in order to protect the ecological functioning of the natural open spaces. Furthermore, alternative development technologies should be adapted to build resilient and socio-ecological settlements that are able to adapt to environmental and climate change.

The Broad Provincial Spatial Planning Categories (BPSPCs) provides a guideline in terms of what type of development can occur within the SPCs.

Spatial Planning Category	Broad Intended Land Use and Interventions
Conservation Corridors	Proposed regional critical conservation areas which are linked in a continuous system of ecosystems and bioregions traversing the province between the Drakensberg and the Indian Ocean. These areas were identified combining existing environmentally protected areas as well as conservation corridors proposed by Ezemvelo KZN Wildlife, through combining extensive environmental research into bio-resources throughout the province as part of the formulation of a Critical Biodiversity Plan for the province. These Conservation Corridors are not suggested as absolute "no-go" areas, but rather highlighted as areas of environmental significance to the sustainable development of the entire province. Where economic opportunity (such as tourism development) and high social need exist within these Conservation Corridors, it implies both that the rich natural environment should contribute to the address such needs and potential, and further that any interventions in these areas need to consider the impact on such important regional ecological corridors. These corridors are however perceived as areas where extensive densification would be discouraged, and sensitive development promoted.
Biodiversity Priority Areas	Areas with a significantly high biodiversity value expressed in the number of species and sensitive environments as identified through extensive research by Ezemvelo KZN Wildlife. These areas are most often located in close proximity to the identified Conservation Corridors and may serve as an additional buffer to these corridors. These areas too are not (at a provincial level) proposed as absolute "no-go" areas but are identified to indicate areas where extensive densification would be discouraged, and sensitive development promoted.
Areas of Economic Value Adding	The key economic centres and areas where all of the variety of economic sectors (Agriculture, Tourism, Manufacturing, Services) are prevalent and perceived to have good potential to be further expanded on. These areas are visibly linked to high accessibility areas with existing bulk infrastructure and relatively high population densities which would both contribute to the economic expansion and benefit from interventions in these areas. Due to these factors, further economic processing and value

	adding at a provincial level, are mainly proposed within these identified areas.
Areas of Economic Support	A number of regions resembled areas of good economic potential in more than just one of the key provincial economic sectors. Due to the fact that these areas represent a larger distribution across the entire province than the core areas of economic value adding, these zones are considered important areas of Economic Support. Typical interventions in these areas would include economic prioritisation of development, labour force interventions (e.g. skills development), key economic infrastructure investment and area promotion.
Areas of Agricultural Development	Relatively high agricultural production areas, which are not located within biodiversity areas of combined with other potential economic sectors are highlighted by this category to identify and promote areas with the potential to make a significant contribution through agricultural production. Although successful farming practices are already occurring on some of these areas, it is proposed that underutilised agricultural land within these zones are more effectively utilised for sustainable agricultural production. Associated interventions may include agriculture specific infrastructure, skills development, market access interventions etc.
Areas of High Social Need	The highest ranges of combined social need when considering the population density, dependency ratio as the provincial index of multiple deprivation is illustrated by this category of high social need. These areas broadly the areas where the most intensive social interventions area required, and this category is further overlayed above all other categories to provide a spatial reference to the types of interventions which might be pursued towards addressing the concentrated social need within these areas. As example where high social need is identified within an area earmarked as a conservation corridor, this firstly provides a reference to the fact that social conditions of communities will need to be addressed if any conservation is to be promoted within such areas. Further it suggests that the effective utilisation of the high biodiversity within such areas might be harnessed towards addressing social need through example conservation tourism.
Mandated Service Delivery Areas	The areas which are not representative of any of the above-mentioned categories are classified as undifferentiated areas. It is acknowledged that these areas also have communities residing on them with economic potential and environmental resources, however, based on the approach followed these areas weren't differentiated to the same degree as the identified preceding categories. It is therefore important that this category is not neglected from public and private interventions and as the various departmental programmes are inclusive in nature, these areas should also benefit from it. It is anticipated that the intensity of such programmes and the total portion of resource allocation to these areas would be less than the identified categories as well as the key intervention areas identified previously.

Source: Provincial Spatial Development Framework, August 2011

The Msunduzi Final Draft Environmental Management Framework dated May 2010 identified environmental management zones and provides guidelines for land management as summarised below.

Environmental Management Zone	Guideline for land use
Wetland Conservation and Buffer Zones	Wetland are deemed to be no-go areas in terms of development. Specialist investigations including wetland delineation and functionality assessments must be undertaken to inform any proposed development application process on or within a reasonable distance of any wetland area. A 20-meter wetland buffer is delineated and proposed development within this buffer should be accompanied by specialist studies.
Biodiversity Conservation Zones	Any development within protected areas is subject to an EIA. High biodiversity constraint areas have a very high development constraint and care should be taken to ensure that large scale transformation does not occur and that the ecological functioning of these sites is not lost. Any development proposed within this zone must be subject to a pre-feasibility assessment. Biodiversity resources on-site should be identified within biodiversity development constraint areas before development occurs to determine the impact of the proposed development.
Flood Risk Zone	A detailed flood line assessment and hydrological and ecological assessment should be conducted where development is proposed within a flood zone and precautions should be made to protect the infrastructure and people of the proposed development. Care must be taken to ensure that the functioning of the flood zone areas is not compromised. A flood risk assessment should be conducted for proposed developments within close proximity to a drainage line or small stream. No development which would alter the flow of water into a catchment system should be allowed.
Agricultural Zone	Areas with **high agricultural potential** should be reserved for agricultural production and food security as such these areas should not be sub-divided and care should be taken so that it does not loose viability for sustainable agricultural production. These areas should, therefore, not be developed for purposes other than agriculture. Extensive agriculture such as grazing or subsistence gardening may occur within areas with **low agricultural potential**.
Slopes	No development should occur on **extremely steep slopes** (greater than 26.6 degrees) and land use should focus on open space and aesthetic appeal. Development within **steep slopes** (18.43 to 26.6 degrees) should only occur if it is deemed safe and is necessary. Agricultural practices should be avoided and any development that will increase potential erosion and run-off impacts. Therefore, only up-market development that can demonstrate how these aspects will be mitigated should be allowed.

	Some development may occur on **moderate slopes** (10 to 18.43 degrees) once geotechnical studies have been conducted. Cultivation should be avoided and where large areas are cleared the measures for rehabilitations should be provided. Development is not constrained on **gentle slopes** (o to 10 degrees), however, a geotechnical study should be conducted to ensure the land can accommodate the proposed development.
Water Quality	Development (future and present) within **high water quality constrained catchments** should demonstrate how they intend to improve water quality within the catchment. Activities in these catchments are severely constrained and only activities that would result in positive impacts to water quality should be undertaken. Development within **medium water quality constrained catchments** should not add to cumulative water quality impacts. Development within **low water quality constrained catchments** should maintain the current state of the catchment. This catchment provides opportunities for development such as water-based recreation and tourism.
Air Quality	A Tier 3 Air Quality Assessment should be undertaken in **high air quality constrained areas** before any development may occur. Developments that will result in unacceptable air pollutant emissions should not be allowed. Social facilities such as schools and hospitals, sensitive to poor air quality are also not
	recommended for this area. A Tier 2 Air Quality Assessment should be undertaken in **medium air quality constrained areas** before any development may occur. Developments or social facilities that may be very sensitive to poor air quality should not be placed in the **medium air quality constrained areas**. Development sensitive to air quality such as schools and hospitals should be encouraged in the **low air quality constrained areas**. A Tier 1 Air Quality Assessment should be undertaken for proposed developments.
Cultural Heritage Zones	Developments taking place within a **cultural heritage zone**, must take care not to detract from or negatively impact on the cultural heritage of the zone and Amafa aKwaZulu-Natali should be consulted. The existence of archaeological sites does not preclude development of an area but any earth moving activities will need to be managed to ensure that cultural artefacts are not lost. Cultural heritage assessments must be undertaken in accordance with the requirements of the KZN Heritage Resources Act. Amafa aKwaZulu-Natali should be consulted prior to any transformation of buildings older than 60 years.
Service Delivery Zones	New developments in the **low service delivery zone** must ensure that bulk service requirements are met prior to development occurs. High density development should not be supported until sustainable basic services can be provided.

	New developments within the **medium service delivery zone** must ensure that bulk service requirements are met prior to development occurs and upgrading of existing services should occur where required. High density development should not be supported until sustainable basic services can be provided. Services within the **high service delivery zone** may require upgrading of existing services. Services within the **very high service delivery zone** may require upgrading of existing services. Land use is therefore not limited by the existence of basic services but rather by their capacity.

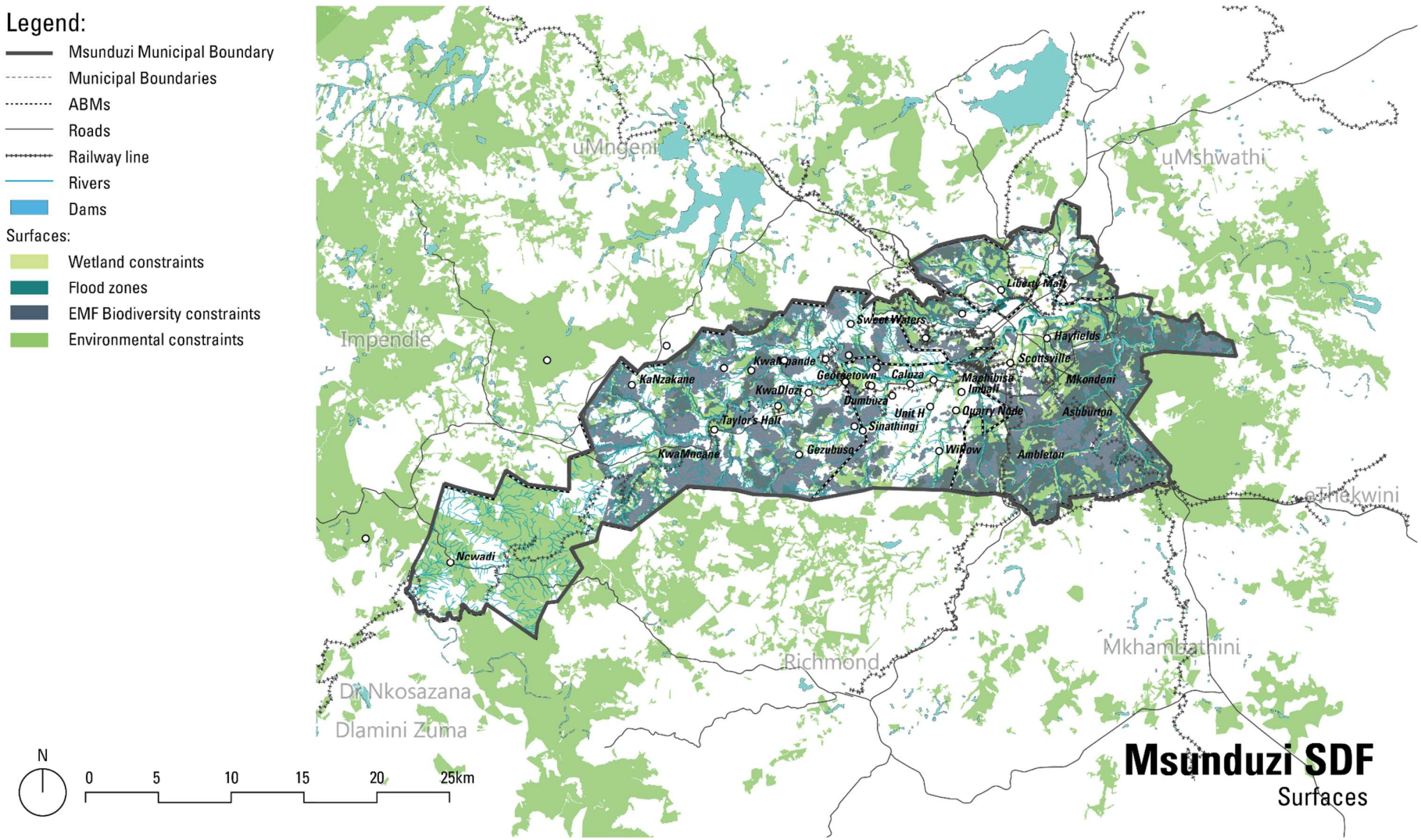


Figure 33: Surfaces

6.4 Tourism and cultural heritage

Msunduzi Municipality is rich in tourism and cultural heritage and is described as a 'tourism staging post and have been positioned to take advantage of the growing trend of event-driven tourist' (Local Economic Development Strategic Plan, 2014, p. 14). From a tourism perspective, Pietermaritzburg is re-branded as an events city focusing on sporting, agricultural and artistic events. A tourism strategy has been developed for the Msunduzi Municipality and the approach has a wider focus than improving the available tourism products and services by addressing the efficient functioning of the tourism industry as a whole (Local Economic Development Strategic Plan, 2014, p. 52).

South African National Heritage Legislation makes provision for the protection of all natural and man-made heritage objects and intangible heritage. This includes rare phenomena like interesting rock formations, mountains, vistas, trees, biospheres, buildings, ruins, roads, animal or man-made tracks, fields, drifts, dams and furrows, graves, artwork, marked or unmarked places of worship or other religious or cultural uses. It also includes intangible heritage like folklore, folk art, folk dances, traditions, written and aural history, place names etc. In general, South African National Heritage Legislation stipulates that anything older than 60 years is regarded as of potential heritage value and may therefore not be destroyed or altered without written permission by the South African National Heritage Council.

The tourism and cultural heritages places form an important part of the spatial environment and development proposals can, if not managed, have a negative impact on the sense of place. The tourism and cultural heritage places can be enhanced when it is quality places, easily accessible and forms part of a larger network of places. Additionally, the tourism sector plays an important role in job creation and aids economic growth. Msunduzi's natural and cultural strengths include:

- Historical tourism – Msunduzi has more than 50 national monuments;
- Cultural and heritage tourism - township tourism, especially in relation to the struggle for liberation and the historic input made by the Indian community and pioneering Boers and colonial British (Tourism Sector Strategy, 2013, p. 28);
- Event based tourism – includes activities like the Comrades Marathon, Duzi Canoe Marathon, the Mountain Bike World Cup, etc.;
- Government related tourism – Msunduzi is the seat of Provincial Government;
- Scenic tourism – Msunduzi has beautiful botanical gardens and is furthermore the gateway to the Midlands and the Drakensberg routes. It also has a variety of fauna and flora. The Snathing Forest and the New Politique plantation south of Edendale is an ideal opportunity to boost eco-tourism within the municipality.

In order to protect the sense of place of these tourism and cultural heritage within Msunduzi Municipality it is proposed that new developments should consider heritage resources as part of the environmental impact assessment process, buildings and objects older than 60-years old should be protected, conserved and maintained. It is further suggested that linkages between tourism destinations should be created to strengthen the tourism attraction within the Municipality.

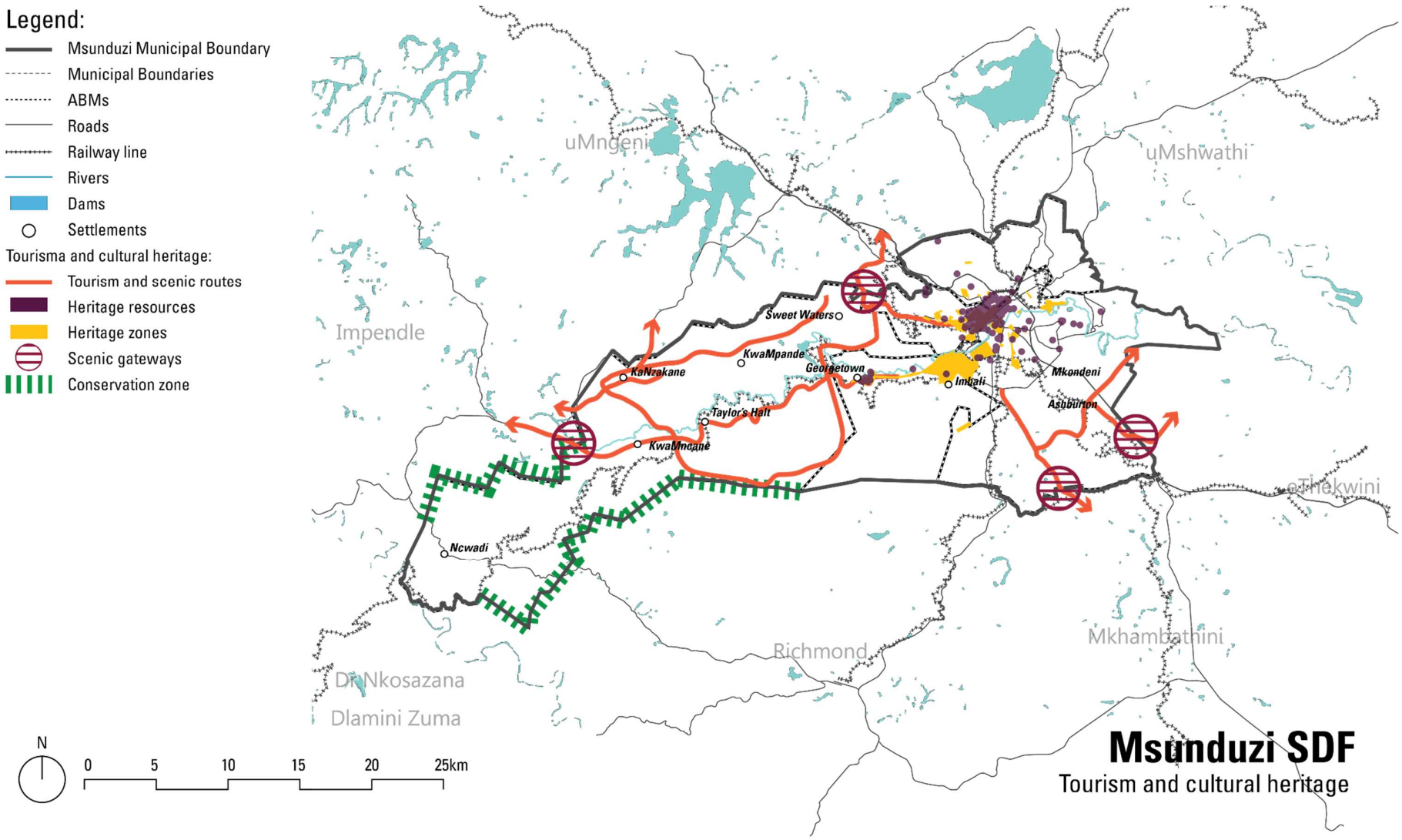


Figure 34: Tourism and cultural heritage

7 Concept framework

The SDF concept framework is a visual representation of the SDF's vision. The concept framework aims to reinforce the vision of transforming, regenerating and restructuring of Msunduzi to create a Municipality that is efficient and attractive. Furthermore, the concept framework is underpinned by the strategic drivers that will reclaim the city.

Spatial structuring elements will ultimately give effect to the strategic drivers. If these structuring elements provides structure and order to Msunduzi Municipal spatial realm: hierarchy of settlements and nodes which direct investment, corridors which aid in the movement of people and goods, identification of natural environments which should be protected, etc. Each of the spatial structuring elements will be discussed in more detail in the following section.

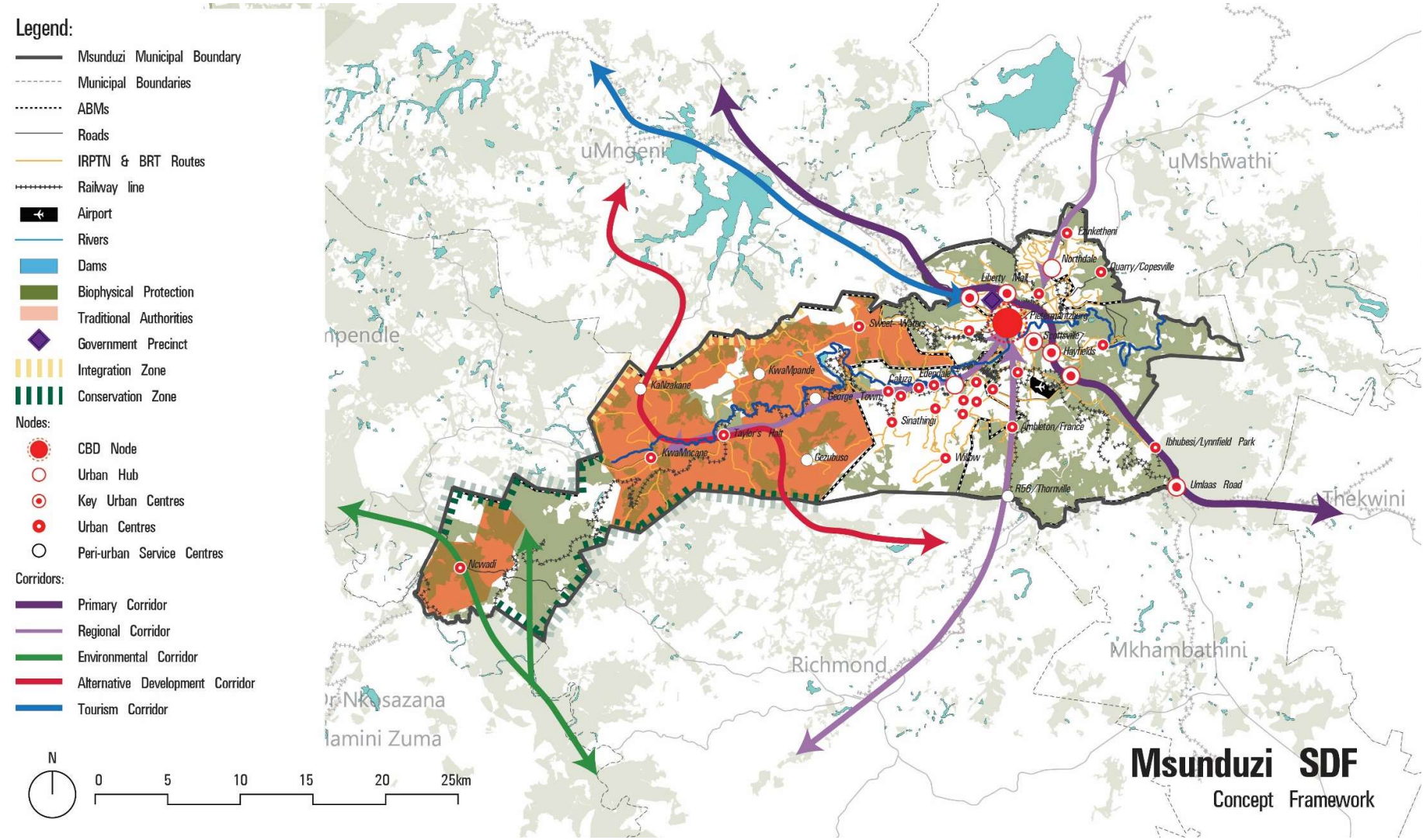


Figure 35: Concept Framework